






		CAMERAS				CONVERTERS			
									
		DV or HDV Camcorders	HD Webcams: Logitech C920, MS Lifecam	IP cameras (ONVIF only)	Basler scientific cameras	Blackmagic H.264 Pro Recorder	AVerMedia Live Gamer Portable	DV or HDV Canopus converter	Composite to USB converter
Connections		FireWire	USB 2.0	Ethernet (RJ45)	Ethernet (RJ45), USB 3.0	<u>Input</u> Composite, HDMI, SDI <u>Output to PC</u> USB 2.0	<u>Input</u> HDMI <u>Output to PC</u> USB 2.0	<u>Input</u> Composite, HDMI <u>Output to PC</u> FireWire	<u>Input</u> Composite <u>Output to PC</u> USB 2.0
Max. cable length		20 m	1.5 m (extendable)	100 m	100 m	Composite: 30m HDMI 5m SDI: 100m USB: 5m	HDMI 5m USB: 5m	Composite: 30m HDMI: 5m Firewire: 20m	Composite: 30m USB: 5m
Dual camera input		✓	✓	✓	✓	✓	✗	✓	✓ Not recommended
Video stream		DV/HDV	MJPG	H.264	BYGB	H.264	H.264	DV/HDV	RCB/YUV
IMAGE QUALITY	Zoom	✓	Limited digital zoom	✓	✓	Defined by video source			
	Focus	Manual	Automatic	Manual	Manual	Defined by video source			
	Shutter speed	Max 1/10000	Basic control	Max 1/30000	Max 1/1000000	Defined by video source			
	Frame rate	Max 60 fps	Max 30 fps	Max 120 fps	Max 120fps (SD)	Defined by source	30fps with 1080p input 60 fps – 720p input	Defined by source	Defined by source
	Resolution	480i/1080i	Max 1080p	Max 1080p	Max 1080p	Defined by source	Defined by source	Defined by source	Defined by source
Installation procedure		Plug & Play	Minimal procedure	Advanced procedure	Advanced procedure	Minimal procedure	Minimal procedure	Plug & Play	Plug & Play
System requirements		Recommended	Minimum	Recommended	Recommended	Minimum	Minimum	Recommended	Recommended
LIVE TAGGING FEATURES	Live encoding <sup>1</sup>	DV ✓ HDV ✓	✓	✓	n/a	✓	✓	DV ✓ HDV ✓	✓
	Pause recording <sup>2</sup>	DV ✓ HDV ✗	✗	✗	n/a	✗	✗	DV ✓ HDV ✗	✗
	Time shifted recording <sup>3</sup>	DV ✓ HDV ✓	✗	✓	n/a	✓	✓	DV ✓ HDV ✓	✗
	Publish event clips <sup>4</sup>	DV ✓ HDV ✓	✗	✓	n/a	✓	✓	DV ✓ HDV ✓	✗

1 The Video Recorder and Tag Live tools can encode video while recording. Dartfish.tv users can save a lot of time by using their channel's encoding profile when recording.  
 2 Pause recording lets you exclude parts of the game from the recording without creating multiple video files.  
 3 Time shifted recording allows you to review earlier parts of the recording while continuing to record.  
 4 Use Publish Event clips to create video files from events while continuing to record



	Budget in US\$ (indicative price)	Pros	Cons	Use cases and notes
 HD webcams: Logitech C920 MS Lifecam Studio	50 - 100	<ul style="list-style-type: none"> <li>+ Low price</li> <li>+ Good video quality</li> <li>+ USB 2 connection (no additional power required)</li> <li>+ Attaches to a tripod</li> </ul>	<ul style="list-style-type: none"> <li>- Limited digital Zoom only</li> <li>- MS Lifecam requires manual driver selection in Windows 8</li> <li>- 30 frames per second too low for some</li> </ul>	<ul style="list-style-type: none"> <li>- Bike fitting</li> <li>- Gait analysis</li> <li>- Other static camera use</li> </ul>
 DV / HDV camera	250 – 1,000	<ul style="list-style-type: none"> <li>+ Versatility</li> <li>+ Video quality (HDV)</li> <li>+ Fire wire direct connection</li> <li>+ Manual focus / zoom</li> </ul>	<ul style="list-style-type: none"> <li>- DV/HDV camcorders no longer available</li> <li>- Latest laptops don't have Firewire</li> </ul>	<ul style="list-style-type: none"> <li>- Swing analysis (Golf, Tennis)</li> <li>- General video analysis</li> </ul>
 ONVIF IP camera	500 – 3,000	<ul style="list-style-type: none"> <li>+ Video quality</li> <li>+ Compression</li> <li>+ Outdoor usage</li> <li>+ Fixed placement</li> </ul>	<ul style="list-style-type: none"> <li>- Installation</li> <li>- Configuration</li> <li>- Flexibility with manual focus</li> <li>- Not mobile</li> </ul>	<ul style="list-style-type: none"> <li>- Infrastructure projects (schools, gyms arenas) with multiple camera usage</li> <li>- Swing analysis (Golf, Tennis)</li> <li>- Bike fitting</li> <li>- Gait analysis</li> </ul>
 Basler camera	1,000 – 3,000	<ul style="list-style-type: none"> <li>+ Shutter speed</li> <li>+ Frame rate</li> <li>+ Video quality and image accuracy</li> </ul>	<ul style="list-style-type: none"> <li>- Installation</li> <li>- Configuration</li> <li>- Flexibility with manual focus</li> <li>- Heavy video stream (requires high end PC / Laptop)</li> </ul>	<ul style="list-style-type: none"> <li>- Applications where high frame rate and image accuracy are important</li> </ul>
 USB converter	70 – 150 + camera	<ul style="list-style-type: none"> <li>+ Capture analog AV stream from any camcorder</li> <li>+ No additional power required</li> <li>+ Capture video from any analog source</li> </ul>	<ul style="list-style-type: none"> <li>- Uncompressed video stream</li> <li>- Video quality (SD resolution)</li> </ul>	<ul style="list-style-type: none"> <li>- A low budget converter but SD quality may be a limitation</li> </ul>
 AVerMedia Live Gamer Portable	120-170 + camera	<ul style="list-style-type: none"> <li>+ Capture HD stream from any camcorder</li> <li>+ Encodes and compresses video</li> <li>+ Good price for HD converter</li> <li>+ No power supply required</li> </ul>	<ul style="list-style-type: none"> <li>- 30 fps captured from 1080p sources</li> <li>- Bit rate may be too low quality for large displays</li> <li>- Dual camera recording not possible</li> </ul>	<ul style="list-style-type: none"> <li>- Lower cost than Blackmagic but loses the professional configurability</li> </ul>
 Canopus converter	200 - 600 + camera	<ul style="list-style-type: none"> <li>+ Enable use of any camcorder</li> <li>+ Professional quality converter</li> </ul>	<ul style="list-style-type: none"> <li>- Availability of fire wire input on Laptops</li> <li>- Additional power cable may be required</li> </ul>	<ul style="list-style-type: none"> <li>- Only included here for those still using firewire</li> </ul>
 Blackmagic H.264 Pro Recorder	450 + camera	<ul style="list-style-type: none"> <li>+ Video quality</li> <li>+ Compression</li> <li>+ Flexibility of input choice (HDMI, Composite in)</li> <li>+ SDI / HD-SDI Input for TV-Signal</li> </ul>	<ul style="list-style-type: none"> <li>- Latency of displaying image on screen</li> <li>- Additional power cable is required</li> <li>- Cost</li> </ul>	<ul style="list-style-type: none"> <li>- Professional quality solution which allows configuration of quality and other inputs such as SDI</li> </ul>