**Camera Front-End Specifications**

Image Sensor (inch)

1/2,3 Inch CMOS

Number of Sensors

1

Mega Pixels

12,4

Gain in dB

0 to 36

Shutter speed

1/4 to 1/10000

White Balance modes

FAW, AWA, 3200K, 5600K, Manual

Color Matrix adjustment

Yes

Wide Dynamic Range Mode (WDR)

Yes

User selected function buttons

Yes, 13 (9 Buttons 4 Cross shaped)

User Customizes Menu

Yes

**Optical Specifications**

Lens mount

Internal

Optical Zoom X times

12

Dynamic Zoom x times

24

Lens F Number

1.2 to 3.5

Lens ratio from / to

4.67mm to 56.04mm

Lens ratio equivalent to 35mm

29.6mm to 355mm

Auto Focus

Yes

Special Auto Focus Features

Area Focus, Near/Far Modes, Face

Optical Image stabilization

Yes

Filter Diameter in mm

62mm

Build in ND Filters

2 Filters: 1/4, 1/16

**Recording Formats**

Media

SDHC/SDXC

Media Class

4K/70 Mbps,HD and below Class 10
4K/150Mbps UHS1-U3 (no UHS-2)

Recording slots

2

Encoder

H.264

File Format MOV

Yes

File Format AVCHD

Yes

Video Codec MPEG4 AVC/H264 4K/HD

Yes

Video Codec AVCHD

Yes

Recording specials

4:2:2 HD Record (H.264,50Mbps)

Simultaneous recording on 2 cards

Yes

Simultaneous recording in 2 modes

Yes

Recording Resolution Formats

Resolution 3840 x 2160

Yes, 29,97p/25p/23.98p

Resolution 1920 x 1080

Yes, 60p/50p/30p/25p/24p/1080i60/i50

Resolution 1440 x 1080

Yes, 60i/50i

Resolution 1280 x720

Yes, 60p/50/30p/25p/24p

Resolution 720 x 576

Yes, 50i

Resolution 960 x 540

Yes, 30p/25p/24p

Resolution 480 x 270

Yes, 30p/25p/24p

High Speed Recording

Yes

High Speed Recording Modes

1920x1080 QuickTime (MPEG-4, AVC/H.264)
120fps/100fps

Recording Data rate 1

150 Mbps (UHD)

Recording Data rate 2

70 Mbps (UHD)

Recording Data rate 3

8,17,24,28 Mbps (AVCHD)

Recording Data rate 4

35 Mbps (UHQ)

Recording Data rate 5

50 Mbps (XHQ/YUV422)

Recording Data rate 6

8 Mbps (SD)

Recording Data rate 7

9,8,5,3,1.2,0.8,0.3,0.2 (WEB)

SD Recording

Yes

Interval Recording

Yes

Pre Rec (retro) recording

Yes, 5 sec. (4K)
5,10,15 sec. (HD/SD)

Clip Trimming

Yes

Audio Channels

2

Audio Recording modes

LPCM 2ch, 48 kHz/16 bit (4k/HD/SD MOV), AC3 2ch (AVCHD), μlow 2ch (Proxy)

**IP Section of the Product**

IP Main Connection

USB A Host

IP Connection supports

Ethernet, WIFI - and LTE USB Adapters

IP Features Live-Streaming

Yes

IP Features Remote

Yes, Via Web-Browser (no apps needed)

IP Features FTP

Yes, Different protocols

IP Features Meta-Data

Yes, Local and Remote editing and data exchange

Live-Streaming Bitrates

1920 x 1080 (59.94i/50i) Audio AAC 128 k 12/8/5/3 Mbps
1280 x 720 (59.94p/50p) Audio AAC 128 k 12/8/5/3 Mbps
1280 x 720 (29.97p/25p) Audio AAC 128 k 8/5/3/1.5 Mbps
720 x 480 (59.94i) 720 x 576 (50i) Audio AAC 128 k/64 k 8/5/3/1.5/0.8/0.3 Mbps
640 x 360 (29.97p/25p) Audio AAC 128 k/64k 3/1.5/0.8/0.3 Mbps

Live-Streaming Protocols

RTMP, MPEG2-TS/UDP, MPEG2-TS/RTP, RTSP/RTP, ZIXI

Live-Streaming Single cast

Yes

Live-Streaming Multicast

Yes

Live-Streaming reconnect

Yes

Live-Streaming and simultaneous REC

Yes

Live-Streaming Pre-sets of destinations

4

FTP Protocol formats

FTP / SFTP / FTPS

FTP upload during REC

Yes

FTP servers presets

4

Meta-Data presets of servers

4

Note for all kind of USB Adapters

The connection to a network will be made by the USB Host Port of the camcorder (on the right back end side of the camcorder).
Please select the device which you are going to use:
WIFI dongle / 3G/4G dongle or a CAT Network adapter.The Adapter you going to be use must be a registered Adapter (see attached compatible list), cause all of these Adapter needs dedicate drivers, which to be implemented into the camcorder.In the case for LTE adapters, there must be done a pre-set of these dongles in your local PC first!

Recommendation for WIFI USB Adapters (EU only)

Please Note: Sometimes the Manufacturers change the Revision of the Chip-sets, but product name not changed, we can´t track such issues so may its possible that such a dongles even its mentioned here, may not work.
The Adapters below are work able in the 2,4 GHz and 5 GHz infrastructure.

WIFI Dongle 1

Sitecom WLA.1001

WIFI Dongle 2

EnGenius EUB1200AC /Realtek RTL8812AU

WIFI Dongle 3

ASUS USB1200AC /Realtek RTL8812AU

WIFI Dongle 4

D-LINK DWA-172 (revA1) /Realtek RTL8811AU

WIFI Dongle 5

EDIMAX EW-781UTC /Realtek RTL8811AU

WIFI Dongle 6

D-LINK DWA-171(revA1) /Realtek 8811AU

WIFI Dongle 7

TP-LINK Archer T4U /AC1200 Realtek8811AU not T4U V2.0 AC1300!!

WIFI Dongle 8

Wideland (over Amazon) ACWIFI DEWIFIC001A

Recommendation for Ethernet adapters

Ethernet Dongle 1

EDIMAX EU-4208

Ethernet Dongle 2

Sitecom LN-030 V2 not Sitecom LN-030 V3

Ethernet Dongle 3

Hamlet HNU2GTX

Ethernet Dongle 4

D-LINK DUB-E100 (rev C1)

Recommendation for 3G/4G (LTE) Adapters

Dear Customer, for the most countries we have a recommendation of adapters, please download our info sheet for LTE support, below you find a special recommendation, which should work in the most countries.

LTE Specials 1

Universal LTE dongle
Huawei E8372LTE Wingle
so far works with Telekom/O2/Vodafon , others not tested yet.

**Special Features**

Overlay for Sports

Yes

Overlay for Broadcast-News

Yes

Fix Templates

Yes, 1. TYPE1: Field hockey, wrestling and others, with overlay
2. TYPE2: Volleyball and others, overlay with no clock
3. Basketball
4. Baseball
5. American Football

Self Modify Templates via SDP Generator

Yes, For Sports and News

Text support

Yes

Logo support

Yes

Watermark

Yes, Free Position

Full Screen Graphics

Yes, PNG or JPG Files Max 50 Images

LIVE Logo

Yes, Self design

Overlay output selection

Yes, REC
LIVE out
Stream

External Scoreboard support via IP

Yes, Scorebot

**IN-OUT´s Connections**

OUT HDSDI

Yes, 3G HDSDI

OUT HDSDI Format max.

1080/60p,50p 8 Bit 4:2:2 EE

OUT HDMI

Yes

OUT HDMI Format max.

2160/30p,25p,24p 8 bit 4:2:2 EE
1080/60p,50p 8 bit 4:2:2 EE

OUT AV

Yes, 3.5mm mini jack

OUT Audio Line

Yes, 1 times 3.5mm mini jack

OUT Audio Headphone

Yes, 1 times 3.5mm mini jack

IN Audio XLR MIC/LINE

Yes, 2 times supports LINE and MIC Level with +48V

IN Audio AUX

Yes, 1 times 3.5mm mini jack

Build in Microphones

Yes, Stereo MIC

Wired remote IN

Yes, serial LANC 2.5mm mini jack

USB HOST

Yes

USB Data Exchange (Storage)

Yes

**EVF and LCD**

Operation Panel Type

LCD

Operation Panel Resolution

920K

Operation Panel Size diagonal in inch

3.5

Electronic Viewfinder (EVF) Type

LCOS

Electronic Viewfinder (EVF) Resolution

1,56M

Electronic Viewfinder (EVF) Size diagonal in inch

0.24

**Power and Enviroment Spec´s**

Power AC

Yes, DV12V(AC Adapter)

Power DC

Yes, 12 Volt, Battery 7,4V

Battery types

SSL-JVC50 / SSL-JVC75 IDX

Power consumption

Approximate 7,9W with VF in 4K REC mode, default settings

Operation Temperature in Celsius degrees

0 to 40

Storage Temperature in Celsius degrees

-20 to 50

Operation Humidity in %

30 to 80

Storage Humidity under %

85

**Mechanical Informations**

Weight in kg

1,6 include battery

Measurements (WxHxD) in mm

W 149 x H 191 x D 307

Handle removable

Yes

**Include Package**

Battery

Yes, 1 SSL-JVC50

AC/DC adapter

Yes

Handle unit

Yes, with Professional Audio XLR support

Instructions

Yes