In this issue

CQ-DATV dotMOBI

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Editorial

I see we have passed the 120,000 downloads. If you have contributed to CQ-DATV in any way please give yourself a pat on the back. Getting a new magazine up and running from scratch and producing this level of interest, in a hobby such as ours is incredible.

Did anyone ever doubt that cyber distribution was the way forward, even CQ-TV now has a 74% cyber distribution (figures revealed at CAT 15). What a brilliant move, introducing that method of distribution that was: now who was that man, let me think. Technology is advancing every day and producing wonderful opportunities, one of which is a free ATV monthly magazine.

ATV has never had it so good, but don't forget our facebook page. We have just shy of 100 members and you could be the 100th person to join.

In this issue, an in-depth look at Easy Capture USB Dongles by Tjalling PE1RQM. Something a lot of us use and take for granted. Also not one, but two looks at producing good steady camera work for those of you that want to do more than radiate a 4 digit code up your aerial.

A look at the new DATV repeater put together by the Mt. Diablo Amateur Radio Club, and, on the lighter side, a funny story about the Super Duper Computer Store.

Enough of us, please enjoy CQ DATV 28.

TV Amateur is a German Language ATV Magazine It is published 4 times a year and if you would like to subscribe go to http://www.agaf.de/

W6CX, the ATV repeater run by the Mt. Diablo Amateur Radio Club, has switched to a digital output signal. The first weekly ATV net transmitted in digital format was Thursday, September 10th, at 8 PM local time. The signal is in DVB-S format, with four sub-channels available from the repeater (one of which is the live input video). Video quality from the DATV signal is excellent, whether the input is in AM, FM, or DVB-S mode. The first all-digital ATV signal on the net was from Jim K6SOE, who checked in with a DVB-S signal and had flawless video quality. There are a few details of the repeater that are still being adjusted or improved, so things should only get better from here.

Repeater signal details:

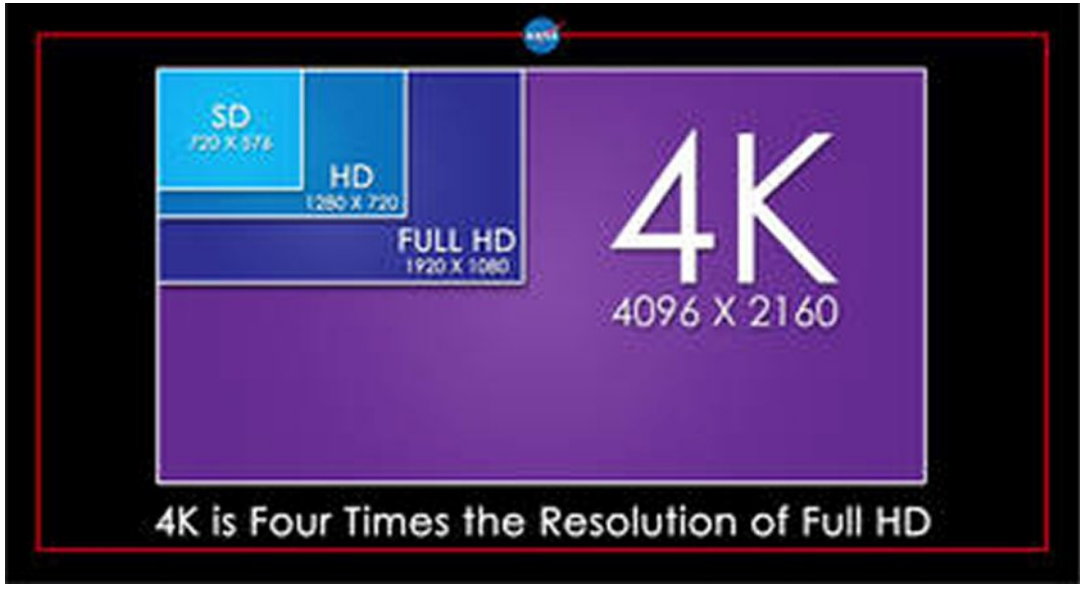
- *Frequency 1244 MHz (will show up as 3906 MHz on a C-band DVB receiver)*
- *Symbol rate 3.200 Msymbols/second*
- *FEC 3/4*

The repeater can be seen on the BATC streaming-video Web site. A shortcut to that feed is this address: w6cxatv.net/live

Chris W6ATV

NASA, Harmonic launch first non-commercial UHD channel in North America

NASA is partnering with Harmonic, a worldwide leader in video delivery infrastructure, to launch NASA TV UHD, the first ever non-commercial consumer ultra-high definition (UHD) channel in North America. The partnership is the result of a Space Act Agreement between Harmonic and the agency's Marshall Space Flight Center in Huntsville, Alabama.



Credits: NASA TV / Mark Hailey

Using an end-to-end UHD video delivery system from Harmonic, NASA Television will have the capability to deliver linear 2160p60 video content, allowing viewers to enjoy footage on a wide range of television and internet-connected devices. The new UHD channel is expected to launch on Nov. 1, following preliminary tests.

"Partnering with Harmonic gives NASA an outlet for its UHD content, which has four times the resolution of HD and is the next iteration of digital television," said Robert Jacobs, deputy associate administrator for NASA's Office of Communications at the agency's headquarters in Washington.

Leveraging the 8-megapixel resolution of UHD, the channel will showcase the breathtaking beauty and grandeur of space. NASA TV UHD video will be sourced from high-resolution

images and video generated on the International Space Station and other current NASA missions, as well as re-mastered footage from historical missions.

Harmonic currently is in discussions with pay TV operators to carry the channel on the satellite, cable and optical networks for consumer access. The channel also will stream on the Internet, which will require at least 13 MBps access connectivity to receive the signal and enjoy the UHD experience.

"As NASA reaches new heights and reveals the unknown, the NASA TV UHD channel can bring that journey to life in every home. And as organisations at the forefront of innovation, together we are leading the adoption of this exciting technology," said Peter Alexander, chief marketing officer at Harmonic. "As the leader in UHD development, Harmonic provides a complete solution for Ultra HD video production and delivery, enabling content and service providers to offer better video quality at a low total cost of ownership."

For more information on NASA TV programming, visit:
http://www.nasa.gov/nasatv

Aussie balloon lost in polar sea

The pico balloon PS-52 from Melbourne travelled just north of New Zealand, then turned south, but encountered poor weather in the Antarctic region.

Launched on Saturday September 5, it was tracked on HF by the weak signal modes of JT9 and WSPR, via a solar powered 25 mW transmitter.

Andy VK3YT says the balloon reached the Southern Ocean on Monday, and after being tossed around for a few hours by a rough weather front, it had a rapid loss of altitude, and went down.

PS-52 reaffirmed such foil party-type balloons that normally float at high-attitude in the jet-stream flow had to cope with weather when at such relatively low altitudes.

Jim Linton VK3PC

ISS CubeSat deployment

CubeSats set in a Satellite Install Case

Masahiro Arai JN1GKZ reports CubeSats may be deployed from the International Space Station on September 17.

On the AMSAT Bulletin Board he writes:
JAXA has announced CubeSats will deploy from the ISS via the J-SSOD on 17th September but the CubeSat name is not

shown in the announcement. However, NASA's ISS On-Orbit Status Report 09/09/15 shows the following:

JAXA-Small Satellite Orbital Deployer (SSOD) #4
Install: Kelly installed the J-SSOD#4 on the Slide Table with the Multi-Purpose Experiment Platform (MPEP) attached.

The J-SSOD #4 has two satellites that will be deployed next week. The first satellite is designed to observe the Ultraviolet (UV) spectrum during the Orionid meteor shower in October. The second satellite, sponsored by the University of Brasilia and the Brazilian government focuses on meteorological data collection.

Multi-Purpose Experiment Platform (MPEP) with Satellite Install Cases is installed on the airlock's slide table.

So, the first one must be S-CUBE and the second is SERPENS.

SERPENS operates in the amateur band. The IARU Satellite Frequency Coordination page shows:

Downlink: 145.980 MHz 1k2 and 437.365 MHz 9k6

S-CUBE seems not to operate in an amateur band.
AMSAT-UK *http://amsat-uk.org/*

TX Factor GB2RS News

All the very latest Amateur Radio news is now available via the TX Factor GB2RS weekly podcast.

Need to catch up with all the latest developments and news in amateur radio?

Make sure you subscribe by visiting www.txfactor.co.uk [4] or, via iTunes by searching the iTunes Podcast section for TX Talk.

News broadcasts are made available every Saturday and the TX Factor website also holds an archive of previous podcasts should you wish to recap on a previous weeks' news!

GB2RS News for 13 September 2015 is read by Bob McCreadie - G0FGX

BATC DTX1

The beta firmware that extends the BATC DXTX1 digital DATV transmitter to cover 2m is to be withdrawn. There is an insoluble issue in the hardware which is delivering an unacceptably poor MER at 2m, this is as low as 7db's and is due to IQ imbalance.

The TS Dock add-on board, which is RF frequency agnostic will however still be supported.

BATC Youtube streamer

The BATC has started to make videos available for viewing on Youtube.

This makes use of their HTML5 player so the videos can be viewed on systems (that are thankfully flash free) other than Windows.

Point you browser at:

https://www.youtube.com/channel/UCUWLnUZllytlcCFd93tnBzw

Mark your calendar and start making plans to attend the premier technical conference of the year, the 34th Annual ARRL and TAPR Digital Communications Conference to be held October 9-11, 2015. in Arlington Heights, IL (Chicago).

The conference location is the DoubleTree by Hilton Chicago - Arlington Heights

The ARRL and TAPR Digital Communications Conference is an international forum for radio amateurs to meet, publish their work, and present new ideas and techniques.

Presenters and attendees will have the opportunity to exchange ideas and learn about recent hardware and software advances, theories, experimental results, and practical applications.

Topics include, but are not limited to:

Software Defined Radio (SDR)

digital voice (D-Star, P25, Mototrbo, CODEC2, FreeDV)

digital satellite communications

Global Position System (GPS)

precision timing

Automatic Packet Reporting System(tm)(APRS)

short messaging (a mode of APRS)

Digital Signal Processing (DSP)

HF digital modes

Internet interoperability with Amateur Radio networks

spread spectrum

IEEE 802.11 and other Part 15 license-exempt systems adaptable for Amateur Radio

using TCP/IP networking over Amateur Radio

mesh and peer to peer wireless networking

emergency and Homeland Defense backup digital communications

using Linux in Amateur Radio

updates on AX.25 and other wireless networking protocols.

Simple Steadicams

The very best and the very worst TV camera work comes from hand held cameras. Tripod mounted cameras sit somewhere in the middle. Tripod pictures produce steady pictures and limited camera work EG panning, zooming never seems to look right on small cameras and is best done off shot. What looks wrong with tripod work is the representatives of the shots and it reduces the look of anything to that of two dimensions. It is now called the CCTV look, which is perhaps is a little harsh.

Hand-held allows the camera to move around the scene or the subject and give a truly three dimensional image, but the camera work needs to be good or you get hose pipe camera work, have a look at the demonstrations on
http://www.tiffen.com/steadicam.html
and
https://vimeo.com/60974401

Convinced ! These images are produced by a full jacket mount traditional steadicam, which first appeared in the 1970's and is attributed to the American cinematographer Garrett Brown. Garrett's invention was a device that could smooth out hand-held action shots. The result won an Academy Award and made its feature film debut on the movie "Bound for Glory," and rose to prominence in the films "Rocky" and "The Shining."

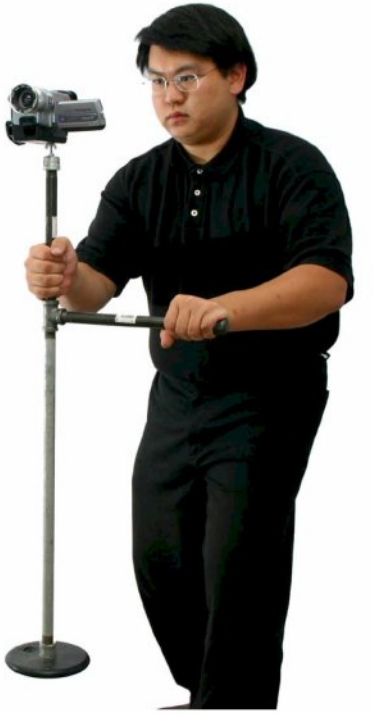
The camera work is to die for, but as you can see from the full jacket rig, its expensive and you need special training to use the equipment. There has to be a but and the but is, small bridge cameras and go-pro cameras are scaling down what is required in camera grip (grip is the word for everything that bolts onto a movie camera with the exception of the lens). As the cameras shrink so does the grip and even more important so does the price of any grip. Go Pro's have a unique mount, so some of their kit is specific to the go-pro camera range, but just follow this link for the most inexpensive steadicam for a Go-Pro camera.
https://www.youtube.com/watch?v=jIxVBileNDU

Ok in the comments somebody complained about wind moving the camera, but at that price there has to be limitations..

There is also a version for the iPhone

http://www.videoguys.com/blog/cool-gadgets/steadicam-smoothee-video-review/

Then there is the non gimbals version just some good grips, but still retaining the pendulum weight.



Chung Lees poor man's Steadicam for the home constructor http://14dollarstabilizer.org/

I had another imminent family wedding and I wanted to video it using the new Samsung NX500, I would have loved a steadicam as I had in mind lots of hand held camera work, mainly because it was a large wedding with other photographers present, not really the place to use a tripod, or wear a steadicam jacket (not that I am trained and I was the father of the Groom so it would have spoiled the look of my suit).

Monopod

I mulled it over for a day and decided to purchase a monopod, which I hoped would double for a tripod and produce similar results to Johnny Chung Lees poor man's steadicam, without the weights and extra handle.

The monopod would also be useful for shots over peoples heads by holding it vertical above my head. I should say that the Samsung provides two options for a viewfinder in this mode. The first option is to tilt the rear OLED screen down so you can see it and the second is a remote viewfinder in the shape of a mobile phone App. I will leave that to another issue, but the tilted OLED screen, was sufficient to see what the camera was framed up on, at about two feet above my head, would not be ideal for setting focus, but the only focus option in movie mode is auto, so its point and shoot.

Did it work we yes and no, it was good for short shots of around 20 seconds, no so good for a longer shot of a String Quartet or a folk group, where I wanted a whole song to edit

Monopod in use as for aerial shots

in some vision only shots, the cutaways had to be positioned to cover up a couple of wobbles and blocked shots, caused by people constantly walking across the filming, this was a problem of using a stills camera in movie mode, people do not realise you are filming they just think you are framing up a still.

There were other problems, the speeches were positioned up against a window and as such were back lit, I thought I could sort it out in the edit with a little tweaking, but unbeknown it had caused the auto-focus to hunt on one or two occasions, as I was unaware I had no covering shots.

For all hand-held work you need a wide lens (as per the last issue). I used the Samsung lens 16mm to 50mm zoom set to 16mm, so the full auto package was working, see CQ-DATV 27. It crops to a longer focal length than 16mm. I had in mind to shoot everything in 4K and this was the first snag, in that the lens magnification increases for both of the 4k modes and then it then settles down for the HD formats. So if you want the widest possible lens setting to help with hand-held shots then my advice is stick to HD. The two highest resolution settings appear to use a smaller part of the sensor. The only possible explanation must be the bucket brigade speed in moving of the information from the sensor to storage. More pixels, require more speed in clearing them from the sensor (see image next page).

The different movie settings on the NX 500, the camera position and lens settings were constant only the movie size setting was changed.

Apologies for the model. The lovely Georgina from the last shoot was away on holiday and what the modelling agency sent round was well, a little disappointing, in that he ate us out of Honey and spent far too long on the phone to Christopher Robin'.

I did learn however “It is more fun to talk with someone who doesn’t use long, difficult words but rather short, easy words like “What about lunch?”. Every shoot is different.

Next issue I will get around to HEVC (x265) filming and how to process and work with this format.

Movie settings from top to bottom:-

1. DC 24p (4096 x 2160)

2. UHD 25p (3840 x 2160)

3. FHD 50p (1920 x 1080)

4. FHD 25p (1920 x 1080)

5. FHD 24p (1920 x 1080)

Easycap USB dongle video capture for amateur television

by Tjalling PE1RQM *http://www.pe1rqm.nl/*

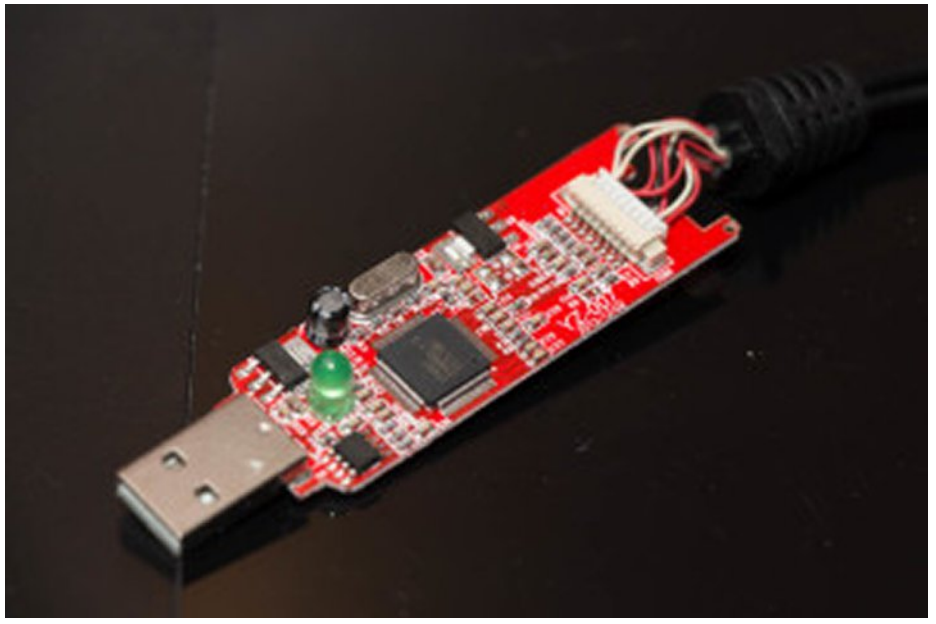
An inexpensive solution for capturing analog PAL video is the Easycap.

There are different versions and each chipset has different characteristics. One is as useful as the other. Especially for amateur television (ATV) are special requirements, such as the lack of a noise squelch and quickly lock the horizontal and vertical synchronisation.

The UTV007 chip seems the best choice for our purpose.

Here is a brief description of various chipsets. If you have any questions, please use the *contact form* on my site.

Easy Caps with UTV007 chip (DC60-007)

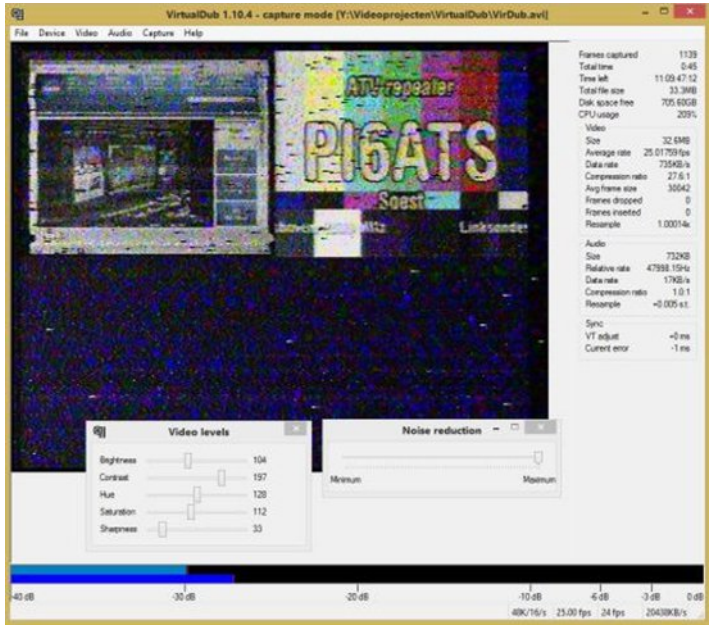


Both the video input processor, the controller, the video decoder, USB bridge and the audio capture are all in one chip on the UTV007. This is on the CD and referred to as an DC60-007.

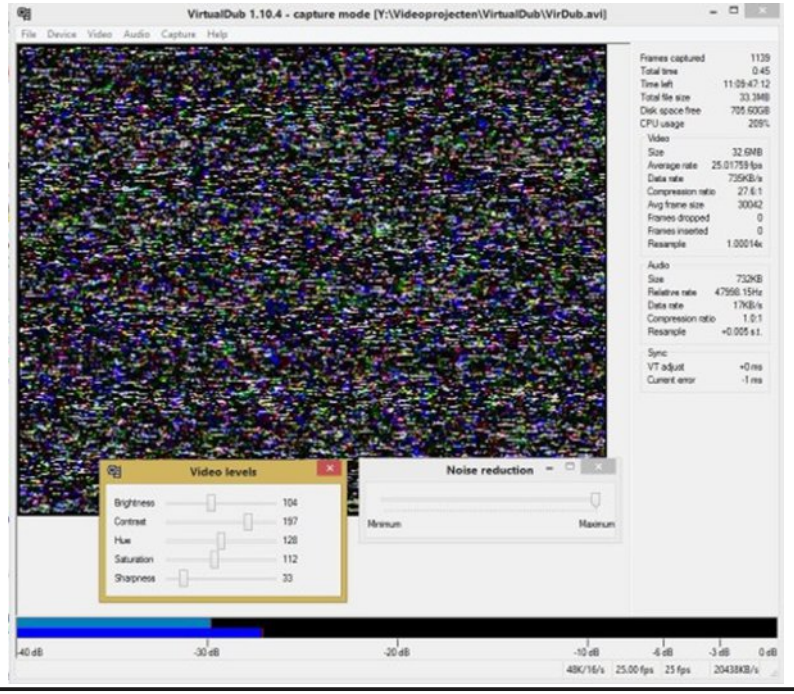
Audio capture also available with the same chip (48kHz 16bit stereo) and must be recognised by the capture software as such. The audio capture thus presents itself not as an audio device in Windows' sound management. The driver for this Easycap UTV007 will present itself as a USB TV tuner in Windows Device Manager.

The UTV007 chip can capture the full PAL SD resolution of 720 × 576 pixels. Audio synchronisation can sometimes be a problem being in Virtualdub. You need to experiment in the timing settings, but I have had some problems with weird effects when I synchronised audio with the video.

Performance with poor reception ATV is very good: very stable and quite fast in colour.



And no noise squelch:



Good features of the chipset UTV007:

- *No noise squelch for video*
- *Unaffected by bad sync detection. The video appears perfectly still like using a good digital time base corrector. So ideal with poor signals.*
- *The chip supports all arrangements for brightness, contrast, hue, saturation and sharpness.*
- *The sharpness setting is ideal to reduce noise, obviously with some sharpness loss. Ideal for weak signals (coarse noise).*
- *In Virtualdub you can add a noise reduction, which works well for fine noise.*
- *There is a stereo audio input present, so that any recorded audio is always in sync with the video (not a big problem if you use your sound card as input). Incidentally, this is precisely the point at which you know that all is not going well in Virtualdub. I am still investigating. Input is welcome.*
- *The chip can also handle S-video. In my testing it but it did not look very good, but it can also be an institution. In Virtualdub I had to "tuner" is the input. S-Video was not there. Possibly there is something wrong in this area and in other capture tools the S-video picture was good. But otherwise, just use the composite video input (yellow). ATV is already composite.*

- *Suitability for analog ATV: Very good*
- *image quality: Very good*
- *internal ADC (audio): Well*
- *Loose ADC (audio): N*
- *Suitable for Skype? Probably not*

Easy Caps SAA7113H compatible with video input processor

This information is still under investigation and may not quite correct:

Most Easy Caps (or other names) that have no UTV007 chip, have one thing in common: the video input processor, which is compatible with the SAA7113H NXP (formerly Philips Semiconductors). I will call these "7113". The video decoder / controller is available in several variants from various manufacturers. This also applies to the way the 7113 is used: 4 channels or 1 channel Composite Composite S-video input. And then there's the variety of software, drivers, firmware, etc., and only the better models have a "real" sound chip on board, such as a Cirrus Logic 5340. If the audio chip is omitted, a built-in ADC will then The controller can be used with usually a terrible sound quality as a result.

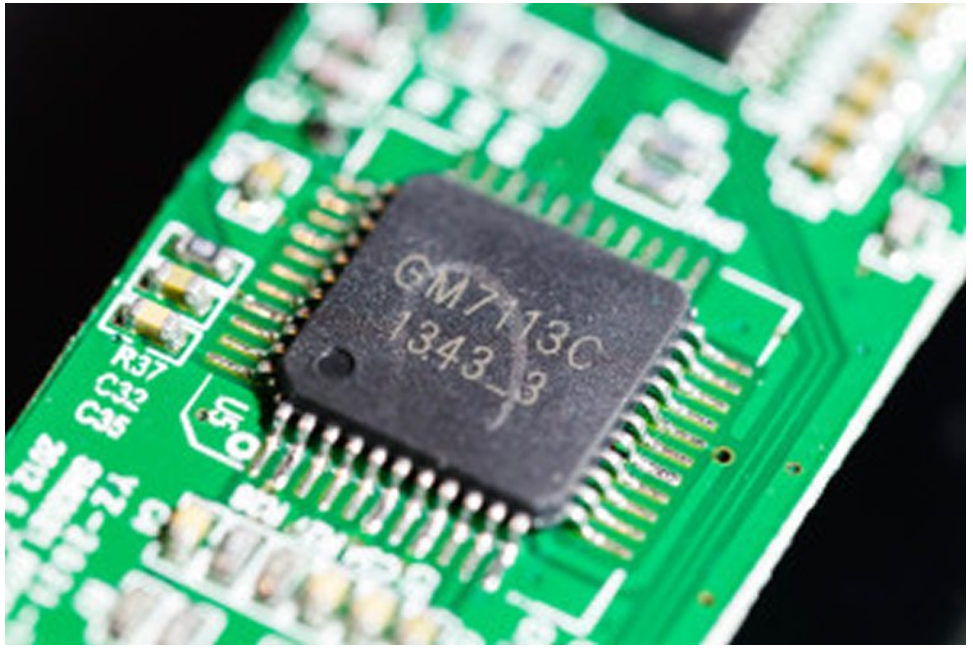
All this variety makes choosing very difficult. Moreover, it is hardly obvious which version you get, because the vendors do not provide information about the chips used.

Most 7113-based Easy Caps are as follows:

- *Video Source SAA7113H compatible video input processor (SAA7113H, GM7113C, SC8113)*
- *Video decoder / controller / USB bridge from various manufacturers such as somagic SMI-2021, the Syntek STK1106 and Empia EM2860. These chips also come in for webcams.*
- *Audio A97 compatible chip (option only available on the better models)*
- *USB bus computer*

How useful they are for amateur television is still being investigated, but what is known is already described below.

SAA7113H info



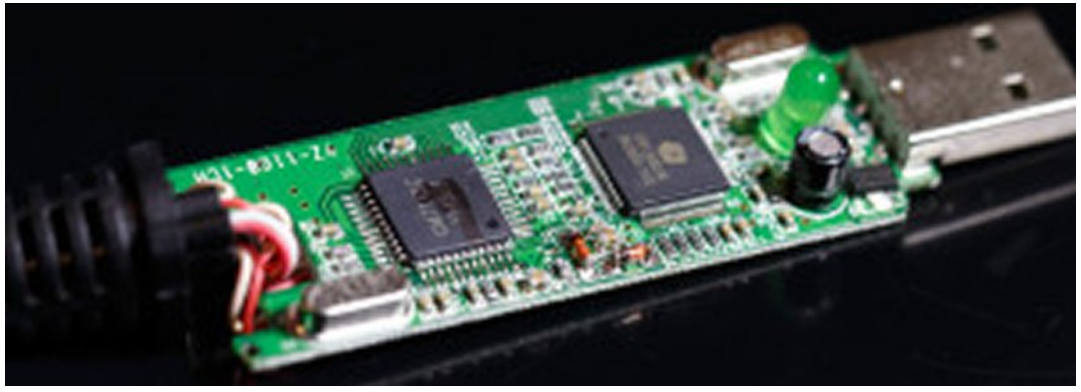
This is the chip in which receives the incoming video. It takes care of all preprocessing. It is a 9-bit video input processor. There are four analog channels available and there are also 4-channel versions of the Easycap.

Usually there is only one channel is used. The other inputs can then be used as an S-video input (Y / C). There is a separate video decoder and controller necessary to utilise the video data.

These are the chips from Syntek, somagic, Empia, etc. Or the clones (GM7113C example) are just as good as the Philips still needs to be investigated. What is already known is that the video decoder behind the 7113 is also partly responsible for the image quality.

Datasheet SAA7113H

STK1106 info (DC60)



The Syntek STK1106 is a kind of controller, video decoder and USB bridge in a single chip. The video input processor is there and it is often a GM7113, which very much resembles a Philips SAA7113H. The chip sends the raw video data to the Syntek decoder, which processes it further and translates it into a USB connector. The Syntek Easycap is also often sold as DC60.

Assessing the audio: Syntek has its own audio capture ADC on board. However, this is very limited, because it was designed as a microphone input for webcam applications. The sample rate is limited to 8 kHz, both channels are combined to form mono and bit depth is only 8 bit. For capturing video, this is far below par and we also want stereo audio at line level. The better models, therefore, have an additional chip on board, an audio codec. There are very cheap Easy Caps where it is so lacking and despite you do a red and white tulip have cable, you still will be surprised by much too hard mono rushing creaking sound stream. So pay attention if your model does have an audio codec. This built-in 8-bit ADC, the temptation is great for manufacturers to get in there ...

Assessing the video for the GM7113 and STK1106 chipset:

The video does not synchronise easily if the reception is poor. At that time, the colors and brightness are not in order. Only when the synchronisation is insufficient, the image quality is fair to good. But you have to have a strong signal. There is no noise squelch for picture available, so you can also pick up faint beeps. Though you do suffer from these synchronisation problems (rolling or walking and pulling oblique image).

- *Suitability for analog ATV: Moderate*
- *Image quality: Moderately - Well*
- *Internal ADC (audio): Poor*
- *Loose ADC (audio): not tested and will depend chip*
- *Usable for Skype? Probably not*

Links for the STK1106:

- *Syntek website*
- *For Syntec STK1160 there is a separate talk: http://www.linuxtv.org/wiki/index.php/Stk1160*
- *Syntek STK1160 drivers (not tested), plus many useful links*
- *Photos of the Easycap with Syntek STK1106 / GM7113 chipset inside*
- *Syntek STK1106 Windows driver*

SMI-2021 info (DC60-2021)

The somagic SMI-2021 is a kind of controller, video decoder and USB bridge in a single chip. It is very similar to the Syntek, but the drivers are often worse. The video input processor is there and it is often a GM7113, which very much

resembles a Philips SAA7113. This chip will send the raw video data to the decoder, which processes it further and is translated into a USB current.

I have not yet found drivers for Windows 8.1 x64. The Windows 7 x64 driver worked well. Also this controller uses the 007 name in its device ID (SMBL007 to be exact), which you should not confuse with the UTV007. Once installed, the device name SMI Capture or something similar to that name.

The somagic Easy Caps are also sometimes sold as DC60, but are regarded as the fake version (the Syntek is the original). The CD is often DC60-2021.

Assessing the Audio: For audio somagic used with the SMI in 2021 a separate audio codec chip. The SMI-2021 can use these as an integrated audio codec audio source (audio better than running in sync with the video). The audio quality is therefore often good. It is not know whether the SMI-2021 has its own ADC, which can be sometimes possibly misused. I have not yet encountered.

Assessing the video for the GM7113 and SMI-2021 chipset:

The video is suppressed if the reception is poor. So you see no noise. This is very undesirable for analog amateur television. So you really need a strong signal.

Once you have an image, the image quality is poor. The chip always seems to do deinterlacing, so you're missing half the vertical resolution. And you can see the sharpness and you get jagged diagonal lines like this in picture walk. The dynamic range seems very limited. The STK1106 as reviewed above, is a little better in this area.

- *Suitability for analog ATV: Poor*
- *Image quality: Moderate*
- *Internal ADC (audio): not applicable as far as I know*
- *Loose ADC (audio): I've heard two versions which sounded good.*
- *Usable for Skype?: Not tested yet*

Links for the SMI-2021:

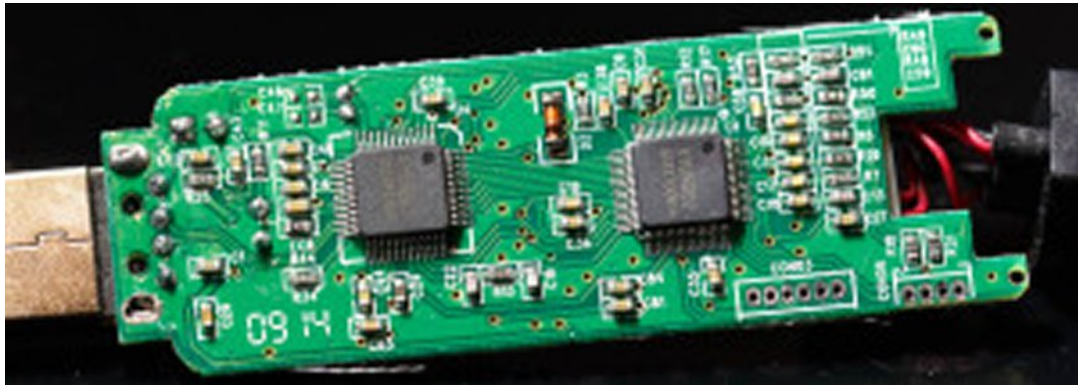
- *Somagic website*
- *Photos of a 4-channel version with somagic EasyCap chip inside*
- *Photos of a one-channel version with somagic EasyCap chip inside (Chris PA3CRX his copy)*

Empia info EM2860

The EM2860 Empia is a kind of controller, video decoder and USB bridge in a single chip. The video input processor is there and is often a SC8113, which, I think, is very much like a Philips SAA7113. This chip will send the raw video data to the decoder, which processes it further and is then translated into a USB current. It is quite likely that the Empia uses a separate audio chip.

Download datasheet

Easy Caps with a XYUSB01 / 02 chipset



Video:
This is a kind of webcam chip, a MJPG (Motion JPEG) stream outputs with a resolution of 640 × 480 pixels and a variable frame rate up to 60 fps and standard approximately 25 frames per second. Probably progressive scan, so you already have deinterlaced video directly at the input: the vertical resolution is halved and then the remaining lines are duplicated stupidly to get the aspect ratio correct. Therefore some diagonal lines may appear coarse and the picture is generally less sharp.

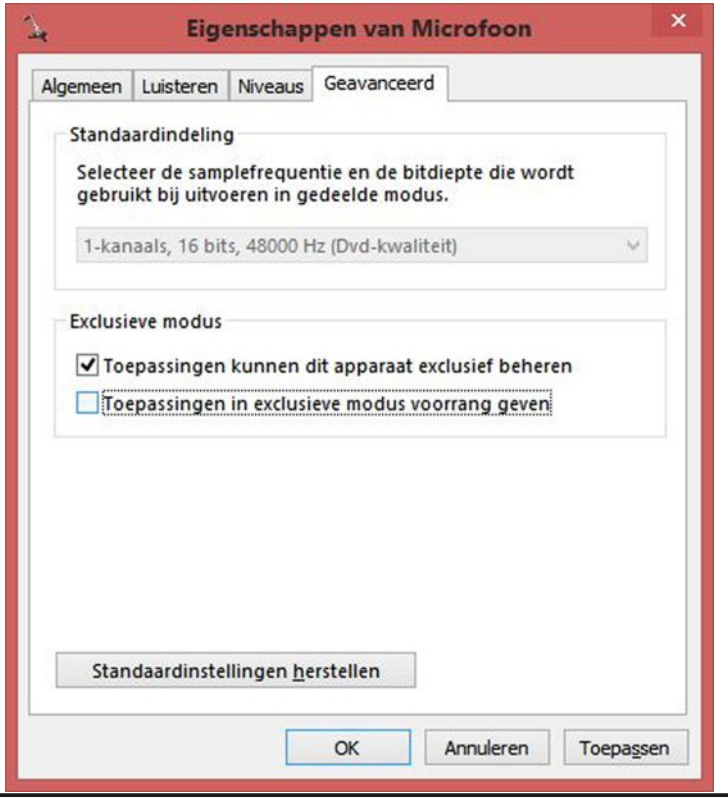
There is a noise squelch present, but it opens very quickly.

My first impression is that the image quality is not the best, but there are still quite reasonable amateur television footage can be recorded. I must still investigate with more resources.

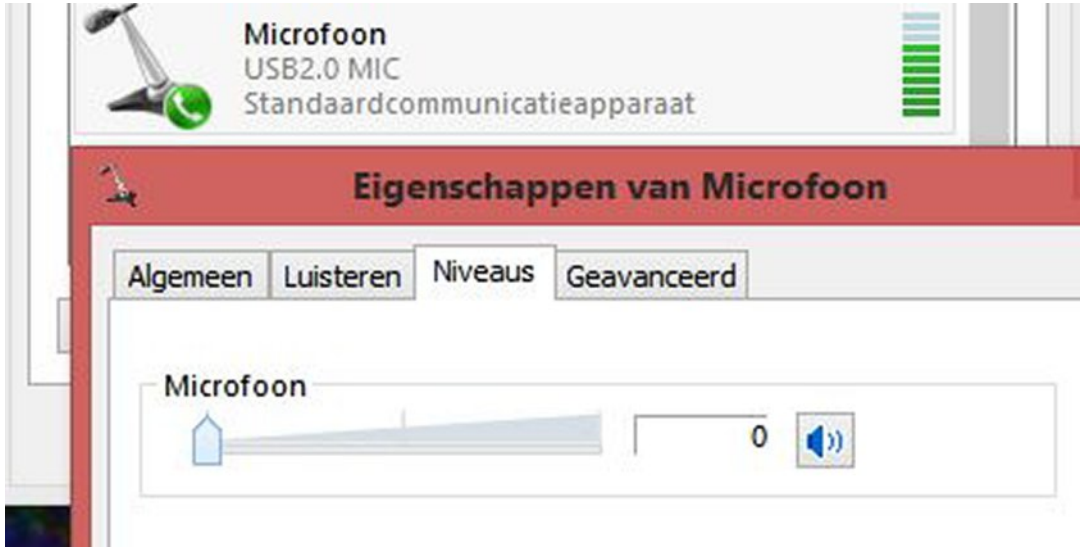
Audio:
Because this is a webcam driver, the chip includes an internal audio device that also acts as a separate recording device in Windows. Probably this means one of the depicted chips for audio and the other for video.

This is audio chip is intended as a microphone input and is therefore not stereo. Yet there are stereo phono plugs to this Easycap. How do they do that? Well, you're screwed before your eyes: they add both audio channels into a single mono channel and this goes to the mono audio chip. But for amateur television it seems the audio chip is perfectly usable, since we often only use one audio channel. Sound quality seems okay because its a reasonable ADC at 16bit 48kHz. The signal to noise ratio falls a lot with it, provided you bring the levels in order (see below). The sound quality is a little flat. Not much low and high, but it does not sound bad.

Look! A first channel audio device. Luckily 48kHz 16bit!



By default, the audio level is too high, because it was actually a microphone input. If you set the level in Windows sound control down, the audio may be recorded without distortion. If the level is still too high, you will need to use attenuator resistors or a potentiometer.



Turn down the level on the recording device in Windows. Look for Microphone USB2.0 or something similar and look at the meter or incoming audio.

- *Suitability for analog ATV: Pretty*
- *Image quality: Pretty*
- *Internal ADC (audio): Pretty*
- *Loose ADC (audio): N*
- *Suitable for Skype ?: Yes*

Other chipsets that I have not tested

If you have one of these chip (set)s, please let me know. Then I can also still be included in the test.

- FY1201N

Purchasing:

There are several models in the same housing with the same name, but still with a different chipset. They are sold on eBay and other vendors under the name Easycap, DC60-007 or Easiercap. It is unclear what chipset you unfortunately may get. There are also 4-channel versions, but it has more of a CCTV goal. Also, this 4-channel versions, a Syntek or somagic chip and not the desired UTV007. The four channel versions are not very useful in normal capture tools such as VirtualDub.

Best for amateur television is the UTV007. This is often (but again, not always) sold in blister packs. There's a yellow CD-tje at (they have all the way), but the difference is in the name of the CD (important!): "DC60-007". Sometimes you can recognise the yellow CD on Ebay. The price is between € 5 and € 15, -. The software provided with UTV007 was Honestech HD DVR, but I suspect that some versions of Ulead may be included.

In poorer somagic Easy Caps have Ulead VideoStudio 10 SE (which in itself is better software, but the somagic chip is crap). Somagic CDs often have the imprint DC60-2021, so leave those things.

Syntek Easy Caps are sometimes reasonable and also comes with Ulead. The print is then often only DC60 (without addition).

These Conrad appeared as Leon to have a UTV007 chip (tip, be it at your own risk): *Link* (link worked in any case end in January 2015) << I also have a Conrad Basetech purchased in May 2015 and that indeed is the good !

Search Google with this search and you make the best chance of success (including the quotes): "DC60-007" or "UTV007". Also try on Ebay or Aliexpress.

Be warned: even if you are outside the above characteristics, then you can still get the wrong chipset. May not even unusable, but in each case, a chipset that is different from the UTV007. I had ordered a new one in December 2014 and it turned out to be a "EasierCap" instead of a EasyCap. He was sold as a EasyCap. Mine has the Syntek STK1160 chipset. Chris PA3CRX also received a EasierCap with somagic SMI 2021CBE chipset.

I would like to hear your experiences with the chipset you have.

Capturing

Capturing digitising and recording the video source and is possible with various programs. This article will describe a small selection of these programs. The starting point is that the programs must work with at least one particular model EasyCap.

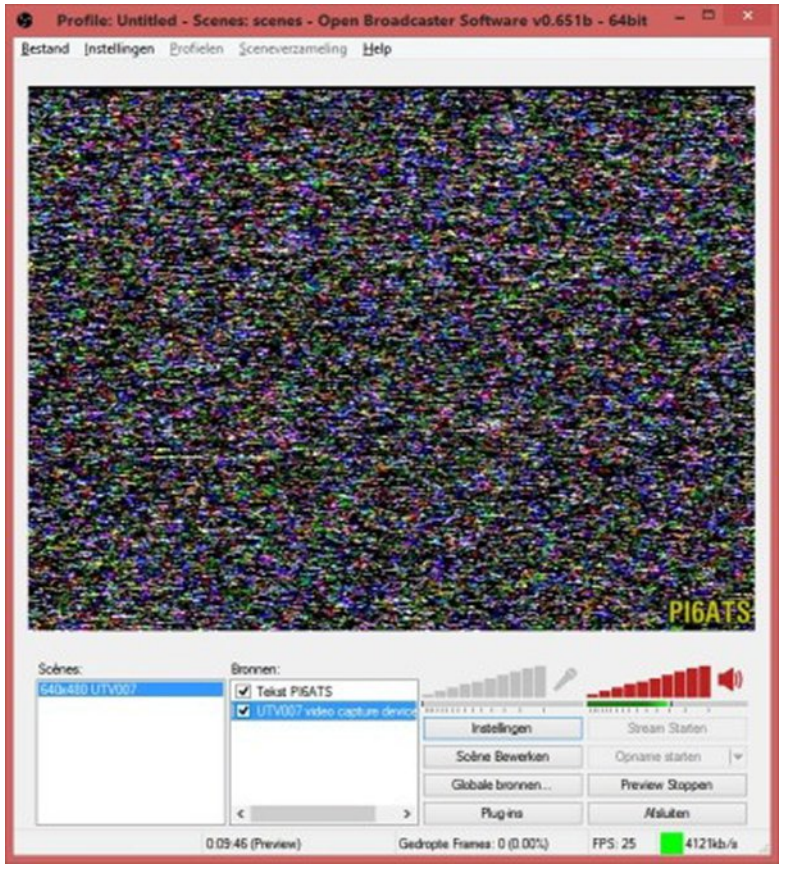
Audio / video synchronising can sometimes not go well with some Easy Caps. I'm still experimenting with various settings. My site will be regularly updated with new tips.

Open Broadcast Software *https://obsproject.com/*

This is a comprehensive open source package designed to stream all kinds of picture elements, or to record.

With this program, the contents of your desktop "screen capture", but also capturing video capture devices like Easycap is possible.

There may also be a plurality of picture elements are at the same time get captured, which are placed on one surface. Thus you can create a composition, which calls the program a "scene".



Open Broadcaster software

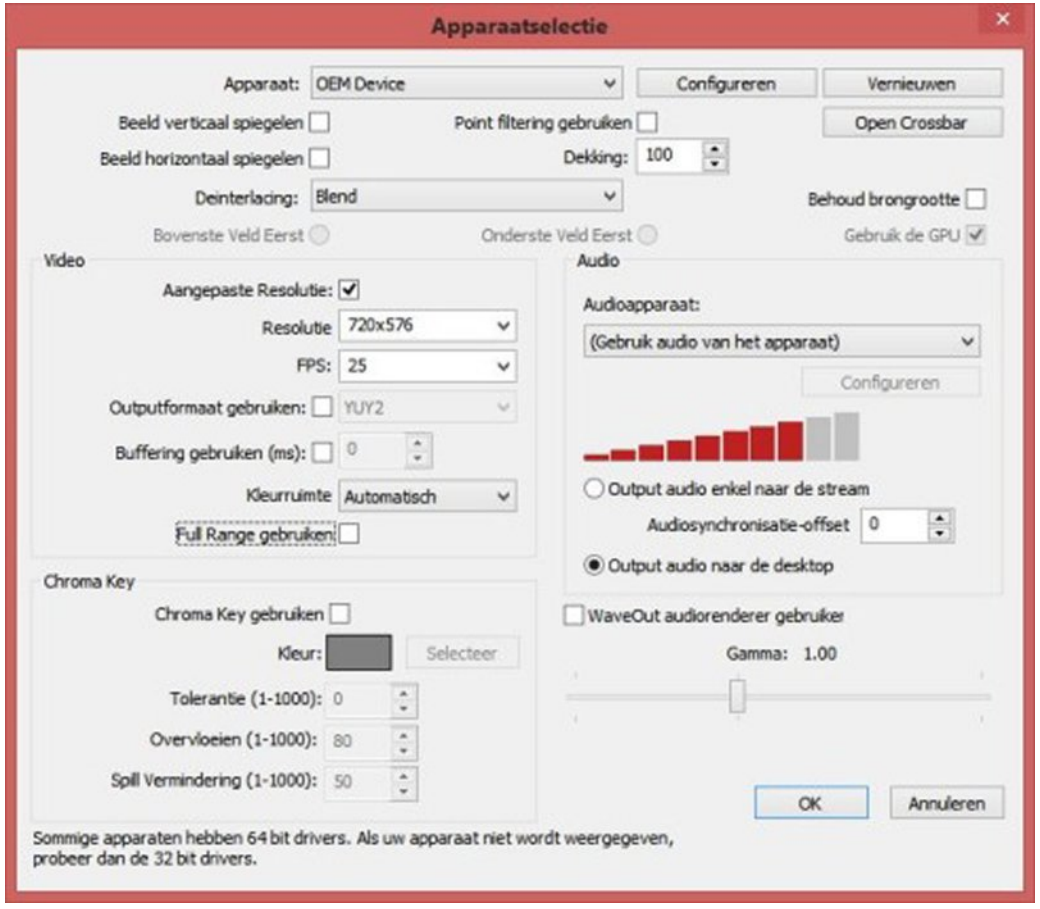
The program goes very well with modern hardware and uses all possible accelerations that may be in your system. For encoding you can choose your hardware encoders, such as Quick Sync and NVENC. Because the program encodes in real-time, you don't have to do that afterwards anymore (according to the following chapter). Audio / video synchronisation seems to not easily go wrong with this program.

Here are some configuration tips. Due to the settings to be set in such a manner that, for example, the scene is recorded on 640 × 480 pixels, may then on this surface Easycap the image to be placed. Optionally add a text and you have a beautiful scene.

Scale elements by "Scene Edit" button and then on the red lines with SHIFT and CTRL to shift.

Adding the Easycap the scene:

in the box of the "Resources" Click the right mouse button and select "Add", "Video Capture Device". Enter a name, as I did with "UTV007 video capture device". After that you enter a large screen. Look below but the options selected by me. That is first and foremost a good starting point:



! The crossbar setting is often not stored and must after startup of the software are reset to Composite (otherwise you only see only black screen because the Easycap than the S-Video input is watching)

All settings related to the Scene, are configured in the "Settings" menu. When video you choose, for example, 640 x 480 and 25 fps. In "Encoding" you can choose for example x264 (which is still better than the hardware encoders, but creates more CPU load).

I CBR both checked out and the bitrate is set to 4000kb / s (which can probably be lower if you think little noise record deal and to save disk space).

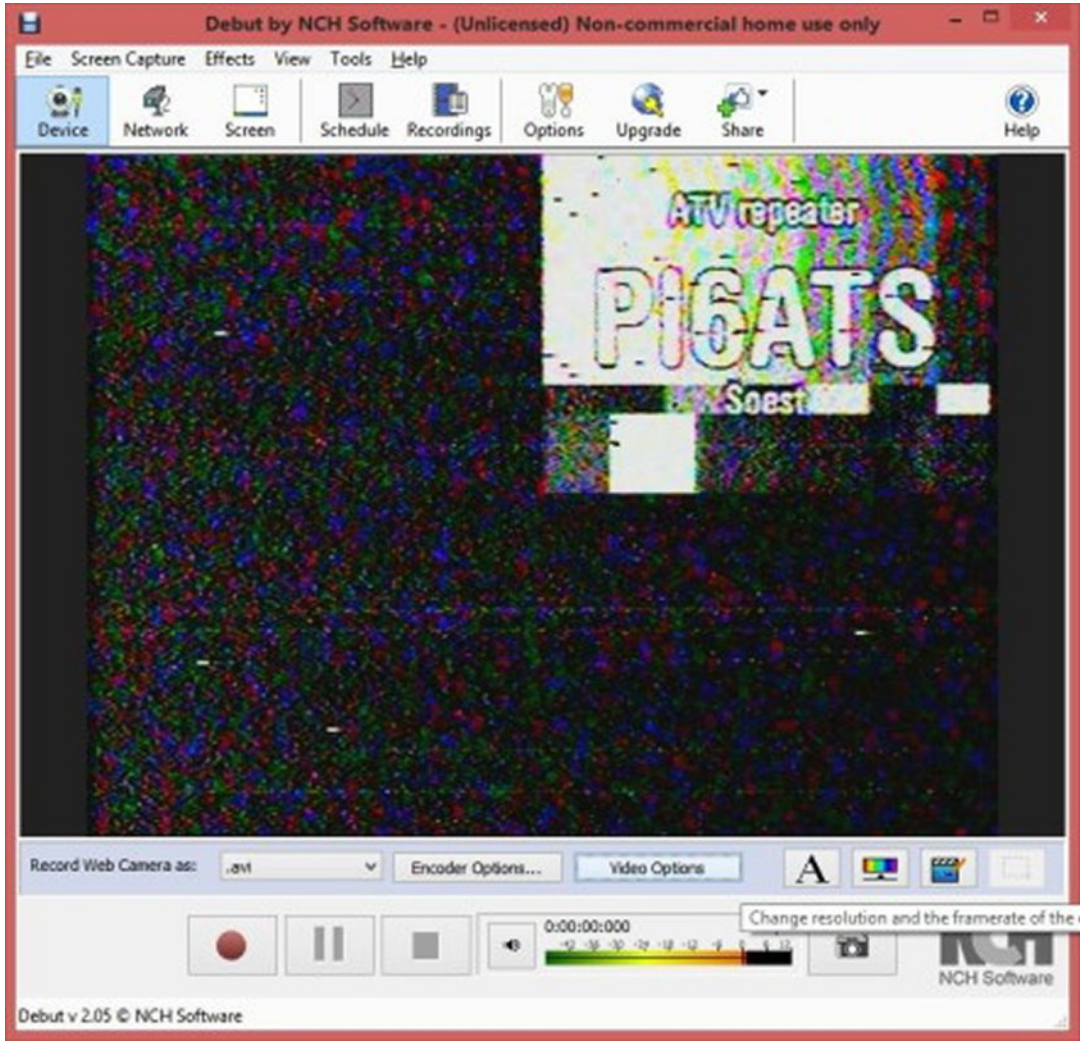
Play continued but with some settings.

Questions about this software? Please only contact with the button in the menu on my website, or ask your question in the comment form.

Debut Video Capture Software
http://www.nchsoftware.com/capture/

I do not have good experiences with it yet, but the free version seems for some Easy Caps useful.

The program you will occasionally try to persuade you to buy the Pro version. But apart from that, it seems to work fine.



Debut by NCH SoftwareDebut by NCH Software

Virtualdub *http://www.virtualdub.org/*

Use the 32 bit version of Virtualdub, the 64 bit version has sometimes worse compatibility with drivers and filters (which is separate from your operating system, whether it is 64 or 32 bit). That allows me to experiment on yourself.

The capture module is in the "File" menu and then "Capture AVI".

In Virtualdub have to Easy Caps always for preview are chosen instead of Overlay, otherwise you might see a distorted image (key P).

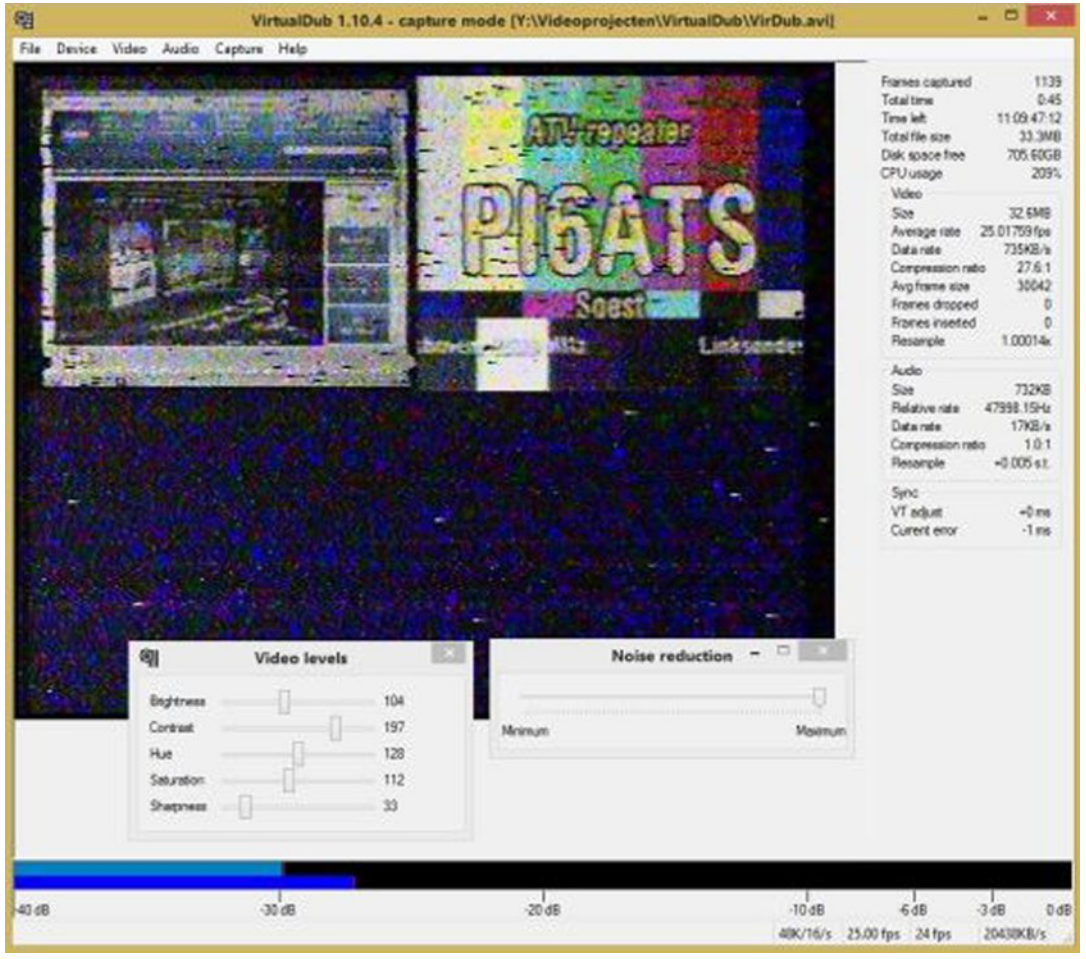
Click the "Video" menu and then "Capture Filter" and choose an institution that stands for PAL / B and composite video.

If you have a Syntek and you see weird colors, then go back to "Video" menu and then "Capture Filter" and click on the "Video Amplifiers" tab. Click on the bottom default and only then if the sliders above something else.

If you want to remove the black edges on the sides, choose "Video" menu and then "Cropping". Attention, preview acceleration does not always work more if you have done this. Your image can then remain stationary. Turn this feature off if you had chosen.

The audio settings have yet to explain. Play in any case, what the timing in the "Capture" if you have very strange effects noticed in the pitch of the audio. Try "Sync video to audio by adjusting video timing".

Anyway Virtualdub is rather poor in the synchronization of audio and video. You will have to experiment in this area a lot.



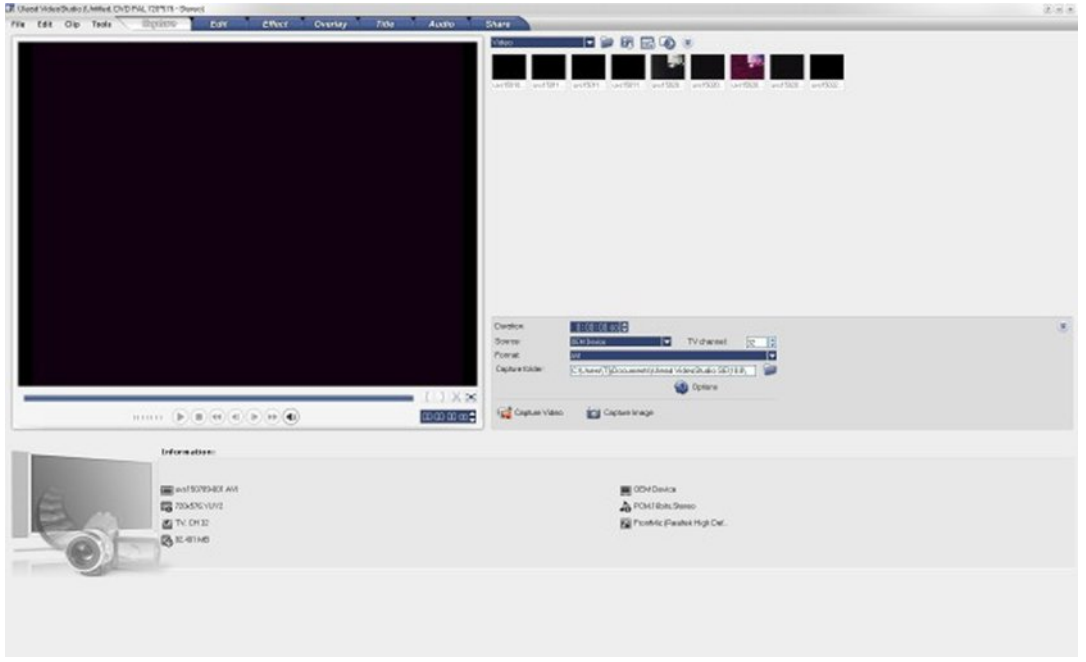
Virtualdub Capture Module

Ulead VideoStudio

This program is regularly supplied with various Easy Caps. Sometimes version 8SE and sometimes version 10SE.

The program also appears to work, but is not compatible with all Easy Caps.

I sometimes have trouble seeing during image capturing device and the audio is getting re-initialized. Thus, you lose touch settings if you go even to another screen.



Ulead VideoStudio 10SE

CyberLink PowerDirector *http://www.cyberlink.com/*

Leon CyberLink PowerDirector, which seems to work well with the UTV007 EasyCap. I have not tested this myself, but Cyberlink software usually works well with modern hardware. This package is clearly much more than just a capture tool, you can edit them especially. It is not free software.

Encoding

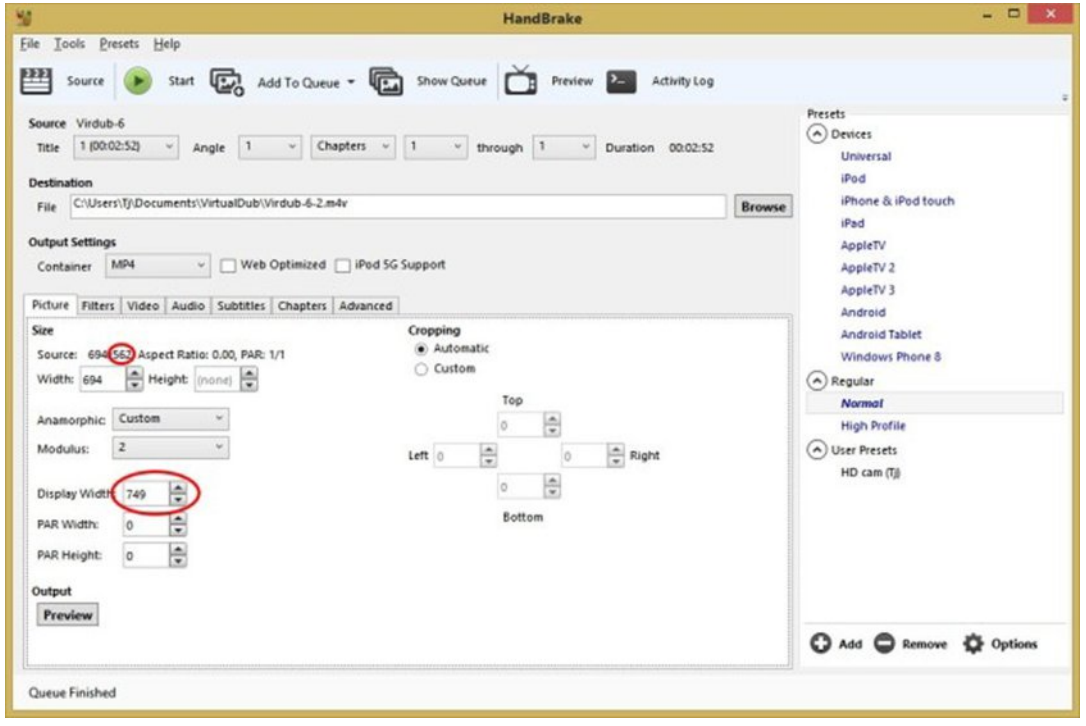
If you rough AVIs have not yet compressed recorded, for example in Virtualdub, you can HandBrake used to compress the video. HandBrake uses the open source x264 and x265 codecs and are known for their high quality. HandBrake itself is also open source and it costs you nothing to use it.

The following figures are based on a development release, so this may differ slightly from the stable version that is available for general use.

Once the result (AVI) from Virtualdub is encoded in HandBrake, the encoder must be set to the correct Display Aspect Ratio *http://en.wikipedia.org/wiki/Pixel_aspect_ratio*. This is necessary, because we are dealing with PAL SD standard. That could after loading the video source in the tab "picture" which by default is open. Under "Anamorphic" to "Custom". Let modulus at 2 stand. Underneath is "Display Width". The number you have to complete it, you can calculate simple.

See what the vertical resolution of your video, what you see behind source at the top of the "Picture" tab (see figure below to the small circle). That number divide by 3. Multiply that number in turn 4.

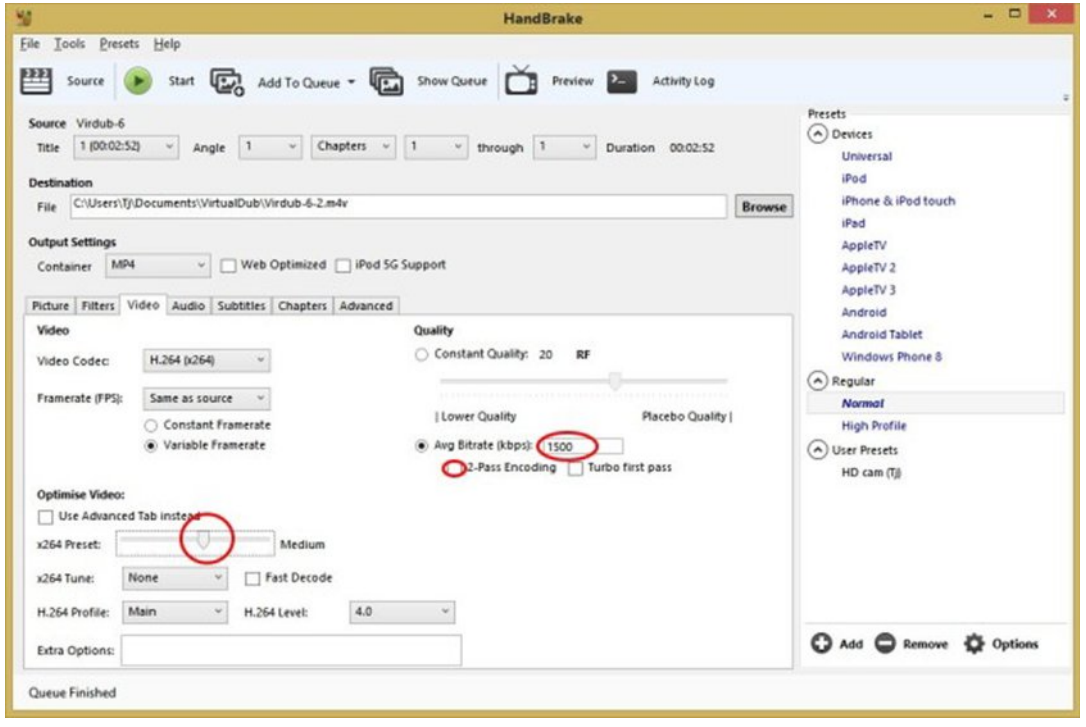
In my example, the vertical resolution 562 pixels, so I fill in the Display Width 749 (rounded to a whole number). The horizontal resolution is this so magnified by the media player software. The image is made slightly wider.



Another example: if you have your video is not cropped in virtualdub, then the vertical resolution 576 pixels if you'd been setting the EasyCap well. That divided by 192. That is three times four is 768 pixels for the Display Width. Your video will then nicely in 4: 3 ratio images are played and you seem not squeezed horizontally.

This display aspect ratio correction for your player is intended for analog PAL images only in 4: 3 SD format. And we are doing with the EasyCap. This correction is done only in the view. Your video retains its original horizontal resolution (in my case 694 pixels).

In the tab "Video" you can set the bitrate and how quickly the video must be encoded ('X264 preset slider "). The faster you choose, the lower the quality will be at the specified bitrate. That is the slider that lower left shown in the figure below. Medium is usually a good starting point. Not quite turn it to the right, because then you're not ready next year.



You have a choice of two positions with regard to quality. Quality based is the most easy to set up and I can therefore recommend to use. Check the radio button at "Constant Quality". The encoder then determines itself on the basis of the video content is a correct bitrate (number of bits per second). The default value of 20 is a good starting point. However, there is an alternative, namely to choose the bitrate itself:

At "Avg bitrate" you choose in which case a value of between 500 and 8,000 for PAL SD video. Since we encode in h264, you can usually make do with a bit rate of 1500 kbps. Put the first round to actively "Avg bitrate" (average bitrate, average bitrate so). If you have a lot of noise in the image, the number might be higher. But precisely because we have chosen for average bitrate, the encoder will automatically allocate more bitrate if it detects image noise.

2 pass encoding can also increase quality work, but it does take more time again. The progress bar will go twice to 100%.

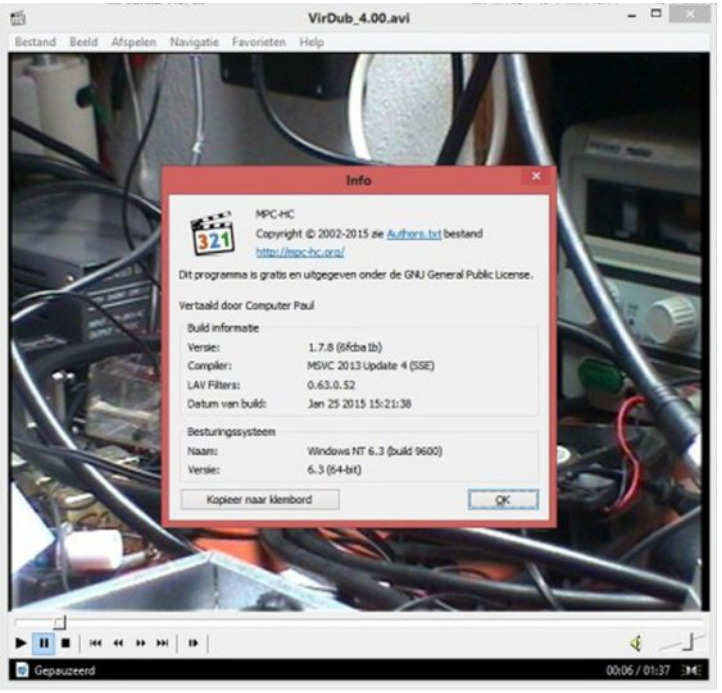
Play

Good media players MediaPlayer Classic HomeHinema (MPC-HC) and VLC Media Player (VideoLAN). Obviously, there are still more good players and it especially should you follow your own preference.

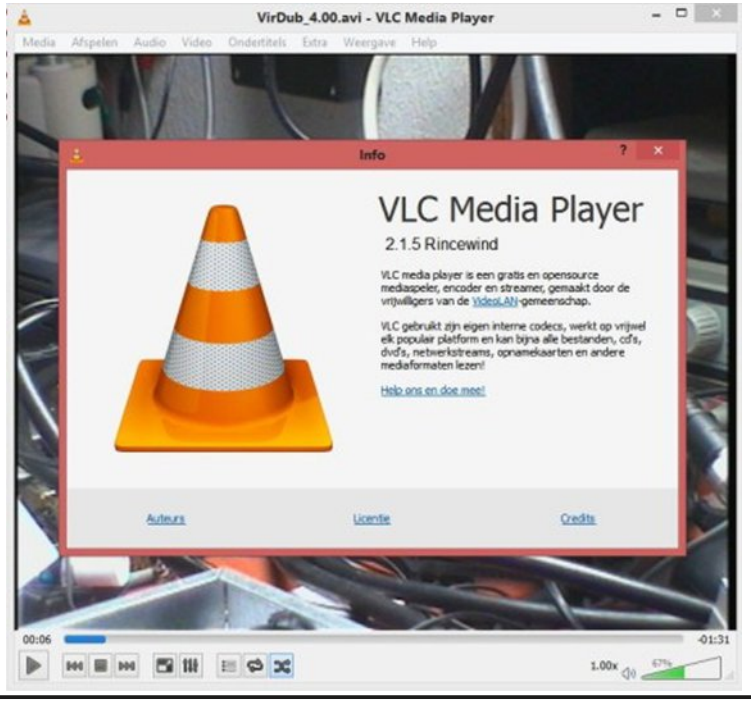
Other Links:

Very instructive page, which also explains the different chipsets. And how do you get the Easycap in Linux working:
http://www.linuxtv.org/wiki/index.php/Easycap

EasyCap forum
http://easycapexpertti.phpbb3now.com/index.php
(beware of the popups, the skip button is right)



Above - Media Player Classic Home Cinema
Below - VLC Media Player



Write for the CQ-DATV Magazine

CQ-DATV NEEDS YOU!

Without reader input CQ-DATV would be an empty PDF file (which I don't think many people would find particularly interesting). We are always looking for articles, reports, anything! Even small things like letters and desktop screens help fill the magazine.

Guidelines

The single rule for an article is that it must somehow be linked to ATV or one of its many derivatives, CCTV, repeaters, aerials/dishes etc. Write your article in whichever software you choose. I would recommend LibreOffice (this is cross platform). But please spell and grammar-check it!

Language

If your first language is not English, don't worry. We will translate your copy using online translation software and then one of the proofreaders will smooth it into English and correct any grammatical or spelling errors that these translation services sometimes create.

Writing

There is no word limit for articles, but be advised that long articles may be split across several issues. In your article, please indicate where you would like a particular image to be placed. We will try to adhere to this, but page layout may require us to move them around a bit. Please do not use any formatting.

Images

Images should be the best resolution possible, not cropped or reduced in size and in PNG format (preferred), or JPG with low compression.Images can be embedded in the document to show their position, but must also be included as separate image files. (PNG or JPG)

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Please also check the Information page at the end of the magazine.

When you are ready to submit your article, please email it to:-
editor@cq-datv.mobi

Wearable Gimbal Stabiliser

By Ian Pawson

Feiyu FY WG 3 axis Wearable Gimbal Stabiliser for Gopro Hero 3+ 4 with LCD Touch Bacpac and AEE xiaomi.

Product Description

The FY WG is a miniaturised version of Feiyu Tech's best selling gimbal, offering exceptional stabilisation technology in a wearable form factor for action cameras.

It is lightweight, feature rich and capable of capturing immersive and fully stabilised footage.

Designed with extensibiity in mind, a GoPro T-Clamp adaptor is packaged with every gimbal. Users cn attach the gimbal to any accessory supporting the GoPro three-prong mount. The gimbal body also contains two 1/4"-20 tripod mounts, allowing the gimbal to be mounted in different orientations to all universal tripod screw mount accessories (Including helmets, bikes, selfie sticks and other accessories).

Compatible with GoPro 3/4/Hero (with optional mounting space for GoPro LCD BacPac), Yi Cam, AEE and other cameras with similar dimensions.

A single button control scheme is introduced to streamline the gimbals control. New circuit design allows the gimbal to consume less than 10 micro amps of power on standby, making the WG one of the most energy efficient gimbal ever made.

No matter how your camera is mounted (left or right aligned, upright or inverted) the FY WG is capable of identifying the mounting position and making the appropriate adjustments to its configuration.

Features

1. *Heading Following Mode - Pitch and roll locking, heading smooth rotation follow the direction of the handheld.*
2. *Heading And Pitch Following Mode - Roll locking ,heading and pitch smooth rotation follow the direction of the handheld.*
3. *Locking Mode - Heading ,pitch and roll locking.*
4. *Special Working Condition (Inversion Mode)*

Included

- *FY-WG 3 Axis Steady Camera Gimbal*
- *2x 3.7v 900mAh 18350 Batteries*
- *Battery Charger*
- *GoPro 3 Prong Mounting Adaptor*
- *USB Cable*
- *Camera mounting accessories*
- *Carry case*
- *Quick Start Gui*

A review and demonstration video can be seen at
https://www.youtube.com/watch?v=AmGfGIybNs8

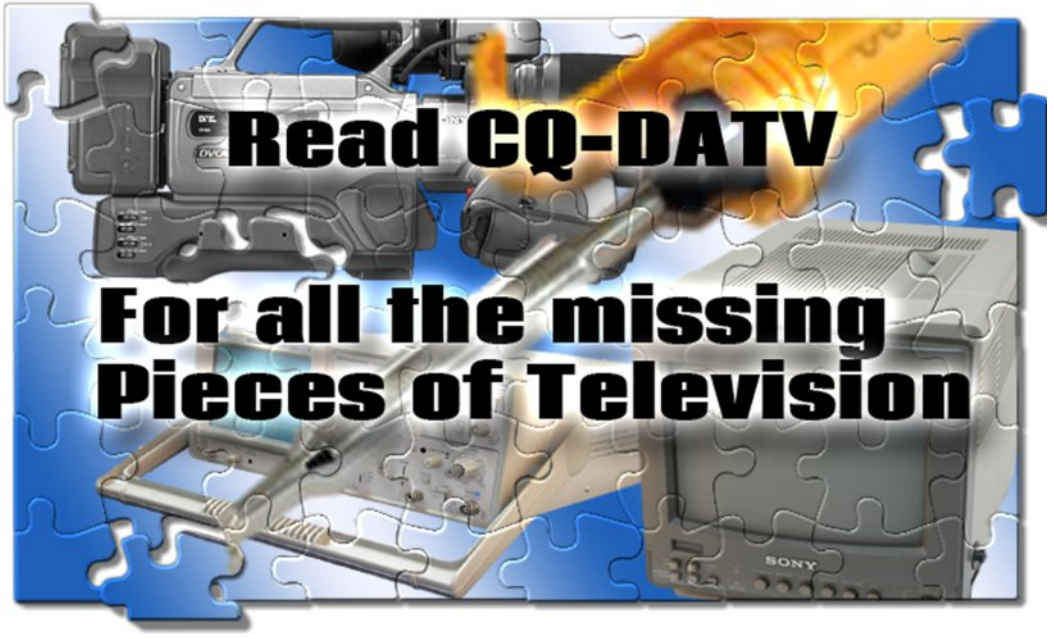
Also available is the Sinvitron® FeiYu G4 3 Axis Handheld Gimbal Brushless Handle Steadycam Steady Camera Mount

Features

- *Lightweight, easy to carry, simple to use.*
- *Special thumb screw with full protection against loss design.*
- *Compatible with GoPro3 LCD backpack and the cameras with the same size.*
- *All the wires were hidden, with comfortable weight and size used by hand.*

Kindly remember: you should first amount the GOPRO to gimbal,then put on the batteries and power on. Otherwise it will cause the phenomena of gimbal disorderly shaking.

A demonstration video can be seen at
https://www.youtube.com/watch?v=7snrg3dW2Sw



Super Duper Computer Store

Abbott and Costello....real hams! You have to be old enough to remember Abbott and Costello, and too old to REALLY understand computers, to fully appreciate this. For those of us who sometimes get flustered by our computers, please read on... If Bud Abbott and Lou Costello were alive today, their infamous sketch, 'Who's on First?' might have turned out something like this:

COSTELLO CALLS TO BUY A COMPUTER FROM ABBOTT

ABBOTT: Super Duper computer store. Can I help you?

COSTELLO: Thanks I'm setting up an office in my den and I'm thinking about buying a computer.

ABBOTT: Mac?

COSTELLO: No, the name's Lou.

ABBOTT: Your computer?

COSTELLO: I don't own a computer. I want to buy one.

ABBOTT: Mac?

COSTELLO: I told you, my name's Lou.

ABBOTT: What about Windows?

COSTELLO: Why? Will it get stuffy in here?

ABBOTT: Do you want a computer with Windows?

COSTELLO: I don't know. What will I see when I look at the windows?

ABBOTT: Wallpaper.

COSTELLO: Never mind the windows... I need a computer and software.

ABBOTT: Software for Windows?

COSTELLO: No. On the computer! I need something I can use to write proposals, track expenses and run my business. What do you have?

ABBOTT: Office.

COSTELLO: Yeah, for my office. Can you recommend anything?

ABBOTT: I just did.

COSTELLO: You just did what?

ABBOTT: Recommend something.

COSTELLO: You recommended something?

ABBOTT: Yes.

COSTELLO: For my office?

ABBOTT: Yes.

COSTELLO: OK, what did you recommend for my office?

ABBOTT: Office.

COSTELLO: Yes, for my office!

ABBOTT: I recommend Office with Windows...

COSTELLO: I already have an office with windows! OK, let's just say I'm sitting at my computer and I want to type a proposal. What do I need?

ABBOTT: Word.

COSTELLO: What word?

ABBOTT: Word in Office.

COSTELLO: The only word in office is office.

ABBOTT: The Word in Office for Windows.

COSTELLO: Which word in office for windows?

ABBOTT: The Word you get when you click the blue 'W'.

COSTELLO: I'm going to click your blue 'w' if you don't start with some straight answers. What about financial bookkeeping? You have anything I can track my money with?

ABBOTT: Money.

COSTELLO: That's right. What do you have?

ABBOTT: Money.

COSTELLO: I need money to track my money?

ABBOTT: It comes bundled with your computer.

COSTELLO: What's bundled with my computer?

ABBOTT: Money.

COSTELLO: Money comes with my computer?

ABBOTT: Yes. No extra charge.

COSTELLO: I get a bundle of money with my computer? How much?

ABBOTT: One copy.

COSTELLO: Isn't it illegal to copy money?

ABBOTT: Microsoft gave us a license to copy Money.

COSTELLO: They can give you a license to copy money?

ABBOTT: Why not? THEY OWN IT!

(A few days later)

ABBOTT: Super Duper computer store. Can I help you?

COSTELLO: How do I turn my computer off?

ABBOTT: Click on 'START'.....

(Author unknown)

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Images should be in PNG format if possible and the best quality available. Do not resize or compress images, we will do all the rework necessary to publish them.

If you are sending a construction project, please include the dimensions of any pcb's and make the pcb image black and white, not greyscale.

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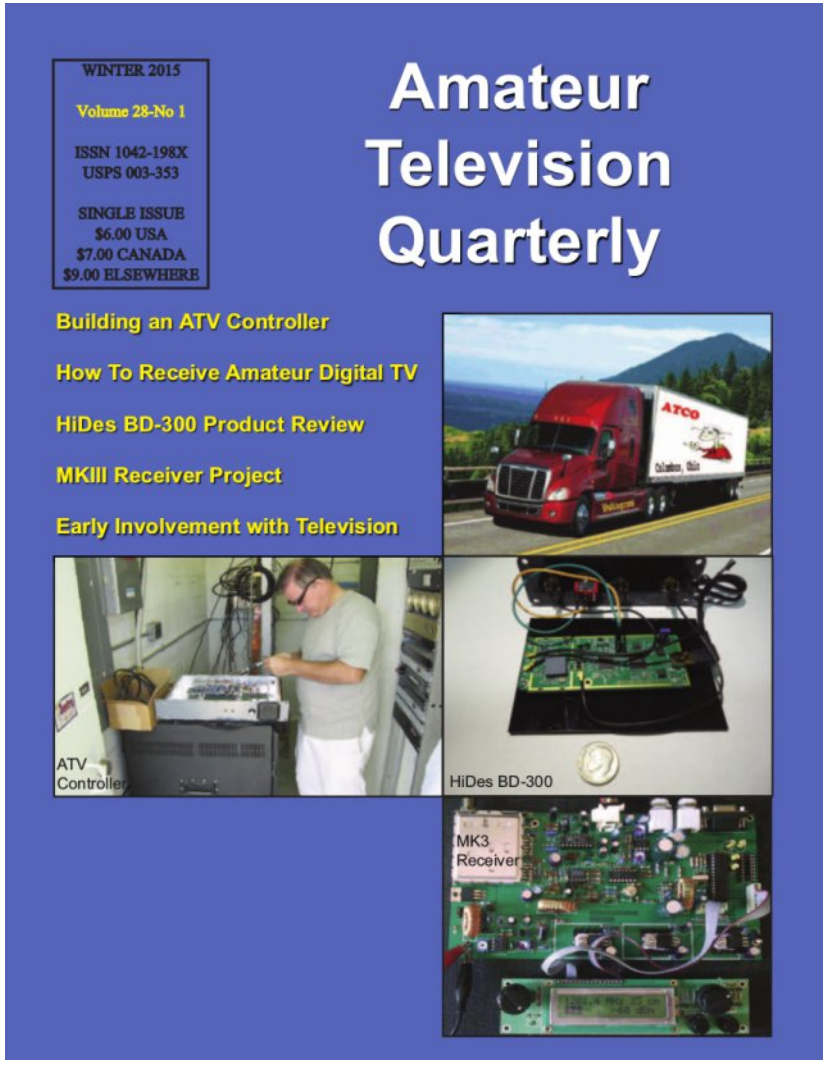

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