

Camera choice? Vintage or not so vintage?

I have been collecting cameras and caring for them for a good number of years now and I am often asked if they still work. This can be a problem for the older cameras, but less of a problem for those that are just middle aged! Sometimes I explain that like retired fire engines, they may pump a bit of water now and then, but they don't put out fires any more!

Recently I took two of my retired cameras to the "RSGB BGM" to help with the production and streaming to the internet. So in the event they did, by analogy, "put a fire out" again! This got me to thinking as to what the serious ATVer might get from the use of Ex Broadcast cameras, so here is a description of the Philips (BTS) LDK90 cameras that I used.



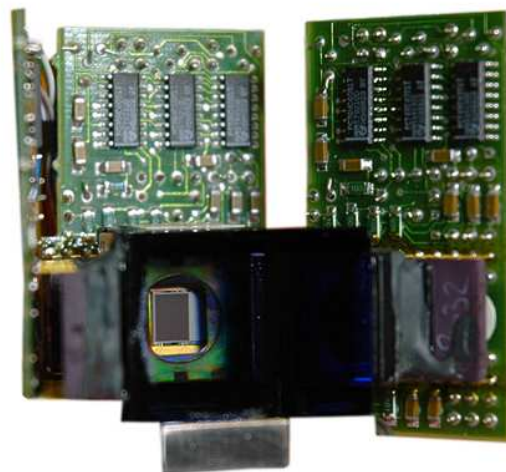
The Philips (BTS) LDK90

It might sound strange, but one of the advantages of the LDK90 is its size; small enough to pick up and wear on the shoulder, but big enough to avoid shakes and jerky movement. The lens gives smooth "rate" controlled zoom action and the controls are ergonomically placed on the lens side grip. The camera has a monocular viewfinder with adjustments for position and correction adjustment for those with vision problems. There is a large 5"

viewfinder option so that the camera can be used in "studio mode". The idea is to give smooth pictures thus avoiding the dreadfully amateurish wobbly vision!

The lens

The lens is worth special consideration. My LDK90 has a nice Canon lens with an 18x6.2 range plus the x2 extender. The minimum zoom setting of 6.2 is not quite as wide as today's cameras but still wide enough to be useful in hand held mode. If you consider how hard it is to hold a camera steady when zoomed in tight, the opposite is true and with a very wide angle lens it is easy to offer what appears to be a steady shot. A drawback with this is that barrel distortion is very noticeable on wide angle close ups, especially of faces. In your face really! Back to the lens, it also has the remote zoom demand control ZSD31M and focus servo, FPM-70 with its control the FPD-40. These make studio style tripod operation easy.



Behind the lens is the prism block, the light splitter, and through it you can see the 3 CCD's.

The camera

Technically the LDK90 is a first generation Broadcast CCD camera, no tubes, no lag, no comet tails, no registration, and the only automatics are White, Black and Iris. To get professional results the iris and the exposure has to be carefully and thoughtfully used. On the lens there is a button for auto iris which you can dab before the shot starts so the exposure is set and does not change thus spoiling the take. There is no auto focus! In some ways it is similar to the comparison between a small point and click still camera and the extended control options available in an SLR still camera.

The LDK90 is a Multi role camera with a wide range of options

- Stand alone ENG with a self contained recorder back.
- Stand alone with plain video output.
- Single camera EFP with multicore to remote control unit.
- Triax operation to studio or OB unit.
- The LDK90 is a “two part” camera with a choice of the “back” according to need.

There are BNCs (proper connectors) for genlock in and video and monitor out, an XLR4 for 12v. DC input, headset jack, external microphone XLR (programme) and selection of other connectors according to role. The whole thing is therefore robust and able to with stand the rigours or broadcast life. The camera can be powered from an internal battery, external belt battery, or via the multi core camera cable from the RCU/PSU. The current consumption is about 1amp at 12volts for the basic camera.



This is the rear of the EFP back with connectors for VTR and or CCU.



The RCU/PSU with the principal controls on the front panel, on the rear are cues & talkback etc.

The LDK90 uses a Frame Transfer CCD type NXA 1000 (FT4). This has 604 pixels per line in 625 or 610 pixels per line in 525 lines. This uses a rotating shutter, blanking the incoming light during the frame pull-down period. It was fully described in the SMPTE journal of March 1991. There is a microprocessor to deal with the housekeeping and menu systems.

Maintenance

This is possible, but not at all easy! Once you open the water resistant side panels you find a row of plug in cards that are well covered with surface mount components. These are of a size where it is still feasible to replace them, when and if, you have figured out which part is at fault. The LDK90 is now pushing a quarter of a century old and you should not expect perfect reliability. Servicing is not for the fainthearted. The maintenance handbook is some 3 inches thick! A good tactic is to have a second, or even a third, camera as a donor for spare parts.



With the side panel removed you can see some of the dozens of “adjustments”!

In broadcast use

In the UK the BBC and Granada had the LDK90. As well as studio use the BBC used them a lot for outside broadcasts often as a radio camera with a modified camera back that had the adaptations needed for radio working. Apart from the outgoing video transmitter there was a data receiver and interface circuits so that the camera exposure, black level, colour balance and cues could be controlled from a central point. A mix of production talkback, programme sound and engineering talkback would have been on a separate walkie talkie with headset.

Other choices

Although I have written about the Philips LDK90, there are equally excellent products made by Sony, Ikegami, Panasonic, JVC and others. Many of these are newer and have a better specification than the LDK90. I hope to write more on these for future CQ-TVs.

Where to get a Not-so-Vintage camera? The obvious answer is E-Bay, but this needs to be treated with more than a bit of caution! Most cameras when they have finished their broadcast life are still usable for low end broadcast and they still command a good price. The secret is to catch them as they leave the second owner and before they get to badly treated. Sometimes they come out of service in batches, say 6, and a small group of amateurs can often make up 3 or 4 nice workers from that batch and have some spares to boot!

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