

Birds eye camera

My interest in camera systems began when the guy from Morelo collecting my van suggested I get a passenger side down view mirror to cover the blind spot. This idea led me to search for a new mirror system and to discover the birds eye camera. The more I researched the more I saw other big vans had had them retro-fitted and they were being used as reference implementations on the supplier's websites.

The more we have travelled, the more we see them and especially on of the larger vans. All quite bizarre really, as I had asked Andreas when we were at the factory about more cameras and he told me they were not necessary.

Initially, I had expected the camera system to be installed by the VB suspension specialist in Doncaster when our van goes back in for its retro ActiveAir upgrade. They install the Dometic birds eye systems. I understand the Dometic is a Chinese analogue system.

I ended up at the Omni Vue site because they showed a Concorde with a bird's eye system installed and when I spoke to Neil (the owner), he said they had fitted units on a Morelo. Not sure whose though

Neil seemed very enthusiastic and knowledgeable.

I found their website* confusing and it was not really obvious what I was buying. That said, Neil provided copious technical information on why the HD Camos was much better than the competition.

*Now Updated

Omni Vue is the product name (with it's own website) and Trailer Vision is the UK agent for Camos. Trailer Vision also installs the same systems into HGV, large plant, etc. They also have a number of other camera / detection solutions. Camos is a Korean company and the full solution is from Camos – that is the software is theirs too which is important on the set up side. Camos have a European (the guy who deals with Morelo) and a UK agent (Neil).

On my recent visit to the factory, I discovered that Morelo have now standardised on the Camos units albeit Morelo install the analogue units not the HD / digital system I have in my van. Mine has a 7-inch monitor mounted behind the dash. I'm going to upgrade this unit when the 10-inch digital monitor becomes available.

At the time of installation, Trailer Vision used a separate installer - VTech Systems. I insisted on single source and their best engineer - Kes - he was outstanding- I worried about the wiring routing, cupboard and dash removal, drilling of the van, etc. Call me Mr Paranoid.

My install does not have colour coded cameras yet! I was in a hurry to get away and Trailer Vision didn't paint the cameras! The full install took a day; they came to my home. I insisted Neil did the calibration while Kes the installer was very accomplished, tidy and caring.

In essence, the system has 4 cameras - one in the middle of each face of the van - the images are then superimposed by an ECU, manipulated and then displayed. I have all my cameras at roof height though I have seen vans where the front one is mounted in the bonnet and not at roof height.

You can define your own reversing grid bar for the 3 positions. The system is remarkably accurate - I set the first red bar at 5cm, the next at 1m and the 3rd at 2m. At first, it's a little weird if the main door is open as the door size is accentuated by the 180 deg camera perspective. See picture.

I implemented this system as a personal insurance for when I'm driving to reduce the likelihood of damage; Jan and I always used to reverse and the position the van together. So, I bought it as a glorified reversing camera. I still expected Jan to help with the positioning.

I'm flabbergasted just how good it is and it is actually part of the driving experience; of all the toys on the van this is the best addition. I do have twin reversing cameras, proximity alarms and the 2-rear facing auxiliary night lights. But I would not reverse the van or previous vans without Jan in attendance. So good is the Camos system that Jan's role is pretty much redundant now and most positioning scenarios are a simple operation.

When driving, I use the birds eye view and rear view (a different perspective to the Morelo reverse camera) when driving. This is not the same perspective as when reversing with the reverse grid visible.

You can change the views easily on a toggle button. And, the perspective changes when you indicate right, left, hazards or reverse. This helps too with the low blind spot for overtakes to ensure no one coming up to overtake

The real beauty is the clarity of the 4 corners. It's so easy to rotate the van at full lock and see the front lower corners as the van pivots around the back.

In driving mode, the birds eye helps the positioning within a lane; really? Well extremely helpful in the German contra flows where the lane width is just slightly wider than the HGV sizing; the nett effect is that you can drive the vehicle by focusing on the outer lane markings and the camera display is directly in the line of view negating the need for constant head movements across the 4 mirrors and you have the birds eye perspective to show where you are in the lane.

Of course, the front down mirrors looking at the van front can be misleading; the birds eye removes any doubt providing absolute clarity on the front-end view.

Helpful scenarios:

- Petrol stations and the fuelling rigs and concrete upstands
- From the aerial view you can align yourself accurately at the grey / black waste stations

The system is set up by placing two large mats marked up with grid lines at the front and back of the van; the camera images are superimposed so that the van outline is accurately defined by removing / smoothing parallax distortions using the installation software. Once the van outline is defined a "standard" roof is superimposed from a library; Neil did not have a Morelo with my roof configuration; (obviously, the cameras are not high enough to see the roof 😊 in). Initially, I was disappointed not to have my exact Morelo profile; however, this proved a positive later when I realised that on the chosen overlay the solar panels align with my wate outlet positions.

You can select from a range of standard displays e.g. birds' eye and front, birds' eye and rear, and so on. Or you can configure your own views. I went with the standard options.

My display is crystal clear but my failing eye sight / laziness, I'd like a 10-inch monitor and it being slightly closer (extended arm on bracket). Very occasionally in Croatia the sun has reduced the screen quality through glare. Kes offered to mount the display on the A pillar; now I have the system, I like where mine is fixed.

The switch that scrolls through the display is very neat and is a finger away from the retarder lever control.

Hope this helps.

The views

This is the base picture showing the Morelo parked on our drive. Please note, the bollard at the rear wheel – positioned so I know where the turning point is. Note the low walls and the small bricks delineating the grass lawn and the driveway.



I have my camera mounted behind the dash. I was given the option to have it fixed to the A frame. The 7 inch digital display sits neatly on the dash INLINE with the left driving mirror and looking up the left road / motorway lane markings.

There is a 10-inch-high res monitor coming out soon. I will upgrade and bring the monitor forward a little



This shows the screen page control which I had fitted so it's not a stretch and in my easy arm reach – so its in the same sweep as when I sue the retarder control.

Obviously, this can be placed anywhere.

This control enables you to page through the pre-set screen displays so you can choose a particular view.

PLEASE NOTE – the system is wired into my indicators, hazards and reverse. The screen dynamically changes to utilise the side camera on turn indicator i.e. if I indicate left, the left camera and the front view camera operate.

You pre define what your standard view is i.e. what comes on when the ignition goes on.



There is a 180 deg fish eye camera mounted “centrally” on each face of the van. Including the back. The images from each of the 4 caemaeras is “knitted together” by the ecu to create the birds eye view. I will get the aluminium camera bodies painted when I have some mathcing paint.



Here is the top view. In this picture, the van door is open creating the distorted view of the door. Initially disconcerting, but not noticed in operation as we drive with the door closed. More importantly you can see the beacon / cone and the walling, bushes / plants and delienation of the lawn and drive.

This is NOT the actual top of the Morelo. The way the system is set up is to define the outline of the van accurately, remove parallax and then superimpose a top view on the van outline. I choose this one as the solar panels align with the rear axle (for turning) and I can see the waste pipe line.



This is the reverse camera and like on the Morelo there are 2 reverse views. One for reversing and one for driving. The reverse grid is configurable. I have set my red marker at 5 cm off the back of the van. The yellow grid line is at 1m and the green at 2m.



I've initiated the left indicator and the view has changed. Ive chosen to have the birds eye in the right pane on all pages. So, when overtaking abroad, I indicate and you are immediately warned if there are any cars overtaking in your blind spot.



I've put the right indicator on.



Image from set up. This shows birds eye and front view. You can see the wipers. This was not the final set up as the van outline was not correct.