

# A Bird in the Hand

Celebrating a century of excellence from Vinten



▲ GTC President Dick Hibberd operating a 419 ped with Mark III head

While the Vinten name has been associated with television since the earliest days of TV, the company pre-dates television by many years, celebrating its centenary on 1 January this year. The GTC is immensely grateful to Vinten for its continuing support since the very start of the Guild, and as Zerb's tribute to a much valued sponsor, Dudley Darby looks back at the company's long history of innovation and engineering excellence.



▲ William Vinten, lived 1880-1937

## Edwardian times

Vinten was established by 29-year-old William Charles Vinten as 'W. Vinten - Gear Cutting, Engraving, Small Accurate Die and Press Toolmaker'. William, or Bill, had always had an interest in engineering and, as a 13-year-old, had set up his own bicycle repair business, under the name of Halifax Brothers, mending friends' bicycles for sixpence a time.

After an apprenticeship served

By now, newly married to wife Ellen, and being something of a workaholic, Bill had set up a small workshop in their flat to take on freelance projects, one of which was producing steel punches and dies for perforating cinematographic film for Charles Urban. By 1908, William was running Urban's workshop producing machinery for the two-colour Kinemacolor system. It was Urban who suggested that Bill take on the

“the company's first order was from Urban and it was for “25 Kinemacolor Machines (heavy type)” at £25 each”

partly with Frederick Lamplough, the builder of an unsuccessful steam car, Bill moved on to Vickers' Armament Factory where he rapidly acquired a reputation as a talented precision engineer.

His ambition to get into the film industry had already been fired by a film of the 1896 Derby screened within 24 hours of the race, and in the early 1900s, he started work for the camera maker R. W. Paul. In the middle of the decade Bill moved on to Newman & Gaurdia where he would build spring-driven cine-cameras.



▲ The very first order - for 25 Kinemacolor Machines

workshop in his own right, and so, with a £600 loan from his mother, the Vinten company was born on 1 January 1910 at Urbanora House, Wardour Street, London.

Vinten's first order was from Urban for “25 Kinemacolor Machines (heavy type)” at £25 each.

At first, camera repairs comprised most of the company's work, but soon Vinten-designed equipment started to appear. A Step by Step film printer was one of the first products which initially used a gas mantle for its light source, later evolving to a moveable electric lamp giving ten print values.

Vinten's first patents were both projector related (a fire hazard-

up of a separate company purely to manufacture valve assemblies. This problem had been solved over a weekend, with Ellen and young son Charles helping to produce samples to be tested on the Monday.

During the War, Britain's Royal Flying Corps required an aerial cine camera, so in 1915 Bill designed his Model B, the first ever all-metal camera built to withstand buffeting from slipstream and weather. The camera had a pivot at its centre of gravity to allow it to be positioned vertically with the minimum of effort. Development also continued towards producing a studio camera when peace came.

“the Model H appeared in 1931 and within four years had become one of the most popular studio cameras”

reducing film feed in 1913, and a two-speed drive that allowed cinemas to use a single projector to show both monochrome and colour films the year after). Meanwhile, Bill Vinten had begun work on the design of his first camera in 1911. The Model A was a hand-cranked wooden box camera with top-mounted side by side magazines, running speed and footage indicators, plus a focusing control.

## First World War

Then came the First World War. The Government took over the Vinten workshops which were put to use producing aircraft and aero-engine parts. Such was Bill's engineering flair, that a solution he came up with to a problem aircraft manufacturer Sopwith had with engine valves seizing up in their guides, was so successful that it led to expansion into adjacent premises and the setting

This project came to fruition before the end of the decade. The revolutionary Model C had a four-lens turret, a direct viewfinder, automatic and manual fades, dual speeds, and pan and tilt mechanisms. The pan and tilt mechanism and film feed were patented in 1919. The camera failed commercially though due in part to the reluctance of cameramen to accept a single-claw camera with magazines outside the casing; a bodged demonstration; and its hefty price tag, some three times that of conventional cameras. It was, however, very stable, so was used for titling, one camera remaining in service until 1976. The camera's ability to cope with vast variations in weather also found favour in both Africa and Asia, and a modified version was used for the Friese-Greene colour system of the 1920s.

## Twenties and thirties

The 1920s were difficult. The company had its workshops back but, with the demise of Kinemacolor, work was short so it had to make ends meet with work for the motor industry. At one point the workforce was reduced to just three. However, Bill's two eldest children, Charles and Maisie, joined the company in 1927, just about the time the inertia-controlled Gyro Head appeared. This was used to follow the leading horse at the Derby in close-up with a long focal length lens.

Then the Wardour Street lease expired. Faced with a three-fold increase in rent, the company moved



▲ HS300 Camera on Vinten Mk III head



▲ An early Model C camera which was still in use until 1976 for titling



▲ Model H camera

in with Topical Films Ltd while they investigated sites to build adjacent factories. Cricklewood was chosen in 1929 as it was half-way between Wardour Street and the recently opened Elstree Studios. The new factory was built by August of that year, complete with living accommodation for Bill's family. To protect their investment, and their home, the business became a limited liability company, W. Vinten Ltd.

By the 1930s, cinema had become enormously popular. Most film-making was US-based, but copies of films for distribution had to be produced. W. Vinten Ltd virtually cornered the market in provision of large, custom-built processing machines. The 'talkies' had arrived, so Vinten produced turntables to play the 16" disks in sync with the film - not a very successful

“by 1937 Vinten machines were processing some three-quarters of all films shown in the United Kingdom”

system. When optical sound tracks appeared, the old processors became obsolete. Enter the Vinten Rotary Picture and Sound Track Printer and a Negative Grading Machine. By 1937 Vinten machines were processing some three-quarters of all films shown in the United Kingdom.

Bill Vinten had been reluctant to design another camera, but Wally Sadler, his long-time fitting shop foreman, and Bill Haggett, Elstree's camera department head, managed to convince him that with the 'talkies' a new silent-running camera was needed. The Model H appeared in 1931 and within four years had become one of the most popular studio cameras.

## Dawn of television

Vinten's first brush with television occurred in 1936. One of the systems

Baird used was Intermediate Film. It used a Model H modified to take 17.5mm film which was rapidly processed and played out on a telecine. On the pretext of needing maintenance, the shrewd Bill Vinten managed to recover the camera (which hadn't been paid for) from Alexandra Palace shortly before Baird's company was declared bankrupt. Vinten had a foot in both camps though. They'd supplied camera mounts and booms for the EMI studio at Alexandra Palace as well.

A bet in a pub with Harry Stringer at RAE Farnborough led to Bill and Charles developing the HS-300 high speed camera capable of 300 pictures per second. Unfortunately, Bill didn't see the project come to fruition in 1938. Long hours and addiction to work had taken its toll, leading to his

death on 16 November 1937. His wife, Ellen, took over as Chairman.

## World War II and after

Film industry equipment production virtually ceased with the outbreak of World War II, but Charles managed to secure a role for the company as a specialised manufacturer under the Ministry of Aircraft Production, thereby safeguarding its independence from Government control. Production of the Williamson-designed F-24 aerial reconnaissance camera constituted the majority of their work, but the HS-300 also found use in various projects, including testing of Barnes Wallis' bouncing bomb.

Some work continued on camera developments with peacetime in mind. The Vintens' youngest son, also called Bill, by then a film cameraman,



GEORGE FLEISHER

▲ Vinten Motorised TV Theatre circa 1964. The cameraman is Tim Healy and the tracker Dave Lawson (a former GTC Education Officer). Operating the ped is Harry Kicks

had advised on a design started by Ivor Dunningham in the 1930s, recommending inclusion of an optical rangefinder coupled with the lens to allow focusing without using a tape measure. The Everest camera, Vinten's postwar flagship product, also featured a new viewing system later taken up by most other camera manufacturers, a mirrored shutter at 45° reflecting the picture onto a ground glass screen when the shutter was closed. The Pathfinder, a Vinten-modified Houston Fearless dolly, accompanied it and the wartime-developed Normandy newsreel camera also attracted postwar sales.

film and mirrors. Positionally this was inaccurate, so the BBC requested an intermittent transport which Vinten duly produced, although this was something of a failure and was to lead to internal disagreements over the company's future involvement in television.

**Into the fifties**

Ellen had died in 1947 and daughter Maisie had become Chairman, while Charles took on various jobs in the factory as well as continuing as Managing Director. The company's aerial reconnaissance work continued to evolve, culminating in the 70mm

would run the company and Bill would take charge of developing the film and television equipment ranges.

The Pathfinder was further modified for television as the Pathfinder II, but the BBC wanted a motorised dolly to improve manoeuvrability. The resulting product was the first dolly designed specifically for television, the Vinten Motorised.

**Revolutionary 419 and Mk 3**

Around 1953 a BBC committee which included Laurie Duley, an ex-GTC Chairman, specified parameters for a single person-operated highly mobile flexible mounting with good height range. Various companies were approached. Bill Vinten favoured a hydraulic approach which the hydraulics industry said couldn't be done. Not deterred, Bill Vinten, Ivor Dunningham and Ted Galione achieved it. The 419 pedestal had arrived. Initially, the three column stages weren't linked, and steering was by tiller or a foot-operated swivel. In 1956, two prototypes were delivered for £800 each (a loss-making fixed price contract). After addition of a ring steer and linking the columns, the 419 was to become the preferred studio mounting for the next two decades

(see image on page 47).

Television also needed a better pan and tilt head. The Mk I, a modified film head, lacked tilt range, while the Mk II used springs but didn't allow a balanced tilt. Then Bill Vinten came up with the idea of cams and rollers to allow the load's centre of gravity to move in a horizontal line, the camera thus staying in balance throughout its tilt range. The Mk III was a masterpiece. Together with its derivatives (the Mk 3a with improved tilt friction control, Mk 5 and Mk 7) it sold 17,000 units before production ceased.

Lighter pedestals using springs and weights were added to the product range, the 552 Spring Pedestal providing some interesting moments



▲ F95 aerial reconnaissance camera which used 70mm film

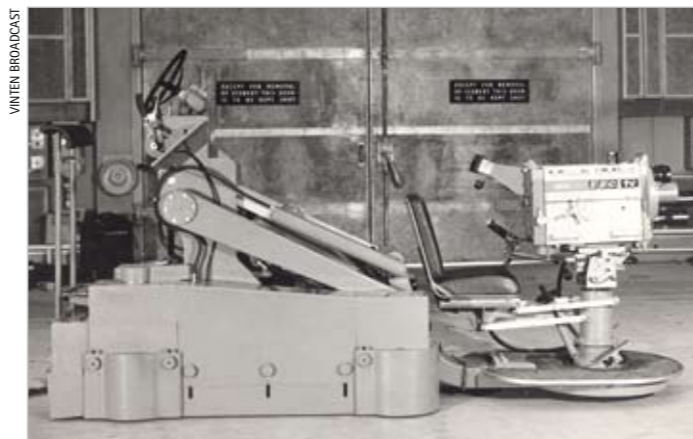
when trying to adjust the springs to compensate for a load change. For some time, obtaining castings to Vinten's exacting tolerances had been problematical, so Bill Vinten installed a foundry to take the work in-house. Its first job was producing castings for the Heavy Duty Tripod delivered around 1955. These could be seen on outside broadcasts for decades, with many still in use today.

Then, in 1958, an unexpected request arrived from Royalty. Unimpressed by the bulk of the dolly used for her first Christmas Message from Sandringham the previous year, the Queen had asked if something

Meanwhile, back on the TV side, a new, more versatile crane, the Heron, had been developed and was starting to appear in BBC studios by the early 1960s. Monochrome cameras were getting lighter, so new lighter pedestals and a lightweight head came into being. Not all developments were successful. A prototype hover pedestal, based on the 419, had excellent frictionless tracking capabilities but produced incredible amounts of noise and blew debris everywhere.

**Move to Suffolk**

Obtaining planning consent for factory expansion had proved difficult, so a



▲ Prototype Heron with hand-operated brakes, later replaced with a foot pedal

majority of the Board decided on a move to a new site. In 1962, Bury St Edmunds in Suffolk was chosen, the move taking place in the summer of 1964 with some 130 staff relocating with the company. As well as supervising the move, Bill Vinten was also working on a BBC specification that had been declined by all other companies. This would culminate in the Peregrine which placed the camera on a motorised jib and removed the cameraman to a seat beside the tracker. Much has been written about this doomed beast, Bill Vinten himself contributing an article about it in Issue 5 of the Guild's Journal in 1977. The concept was ahead of its time, but the servos were sadly lacking.

lighter and less obtrusive could be found. Vinten duly obliged with the Lightweight OB Dolly, designed and produced in a matter of months. It was around this time that the famous bird names started to appear on Vinten products. Bill Vinten explains how this came about elsewhere in this issue (see page 47). The use of Roman numerals to denote versions also started to disappear.

**The sixties**

By 1960 the company had tripled its turnover since the end of World War II and had a thriving military order book for its film camera developments, mainly related to aerial reconnaissance, but also in the testing and calibration fields, notably with development of the Bristol Brabazon and monitoring performance of some of the early jets. It wasn't, however, immune to the Government's defence cuts, some orders being cancelled or curtailed. As American domination of the military market increased, supplying complete systems all the components of which were American, a short-lived alliance with Mitchell was formed, and the company took on specialists to go into the reconnaissance systems business.

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**Seventies and eighties**

W. Vinten Ltd. decided to go public in 1972, a decision partly precipitated by Charles' illness and wish to dispose of his shares, but also with an eye to leaving the company less vulnerable should his illness be terminal, resulting in crippling death duties. The Stock Market flotation was one of the last before the market broke in December 1972, but was successful. In the following decade, profits increased six-fold and the share price rose

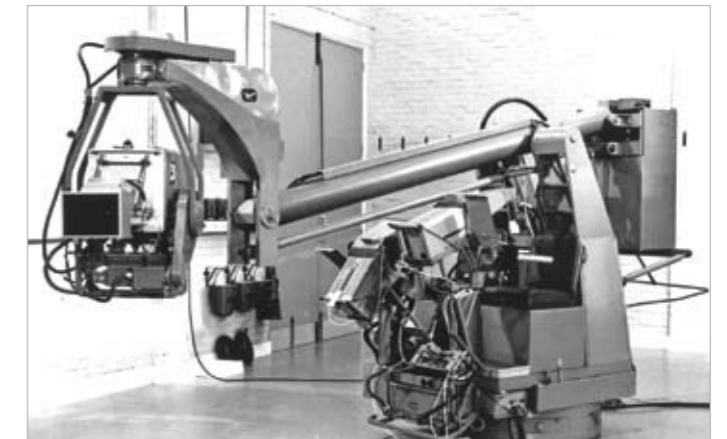
500 per cent.

With colour, heavier cameras appeared. Bill and Ted Galione had experimented with different hydraulic fluids to increase the carrying capacity of the 419, but were surprised to find that better results were achieved with no fluid at all, and with two rams instead of three. This led to the design of the Fulmar pedestal capable of supporting a 350 pound payload. Members of the fledgling GTC were so impressed that it was given the Guild's first ever Television Cameramen's Award in 1974.<sup>1</sup>

Television sales were not expected to be very high though. Mike Martin,

Fulmar proved much more popular both in the USA and worldwide. The Low-angle Dolly and other lightweight pedestals appeared, along with the removable column Plover and tubular construction Falcon crane with its hydraulic jib for outside broadcasts.

New lightweight cameras needed lightweight mountings. Ted Galione had the idea of a simple pump-up craneable mount while using a sprayer in his garden; the Portage was the result. Bill Vinten contributed the Dolphin Arm, and between them they produced the Swan head using the same principle employed by Bill's father on his Model B camera. The



▲ The Peregrine with remote head carrying a full-size 4 1/2" Image Orthicon camera

“the Mk III was a masterpiece. Together with its derivatives (the Mk 3a with improved tilt friction control, Mk 5 and Mk 7) 17,000 units were sold before production ceased”

who had been taken on in 1970 to sell instrumentation cameras, also picked up the television business, and by the early 80s had set up a worldwide sales network for television products. The American news market wanted a cheaper, single-stage pedestal, so the Tern was developed. In the event, the

Merlin (built before the Dolphin, but appearing later), like the Peregrine but with a mechanical solution, removed the cameraman from behind the camera. It wasn't universally popular, but found acceptance in some areas of television where it could produce more exotic shots than a pedestal.



▲ GTC visit to the Vinten factory in the mid seventies. L to R: GTC president Dick Hibberd sporting a beard, Don MacKay, Ted Galione and Bill Vinten



▲ The first heads in the Vision range: Vision 10, 20 and 30. The heads were designed by Richard Lindsay, principal designer after Ted Galione's retirement

The 1970s and 80s saw acquisitions aimed at diversifying the product base. The Vinten Group was formed in 1973 to look after the investment side of

launched two years later. Perfect Balance was to be the theme of head development from then on winning various awards for the company.<sup>2</sup>

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the business. Moves had been made into microfiche products, radiation monitoring badges, Didak (an early educational AV teaching system), a betting shop camera, even an attempt to develop the Wallis Autogyro for military and civil use. The mid-80s were disastrous for Vinten, mainly through the failure of a project bought in with SIG Davall. Its projected video recorder design was found to be monumentally flawed and ended up costing the company well over £3 million.

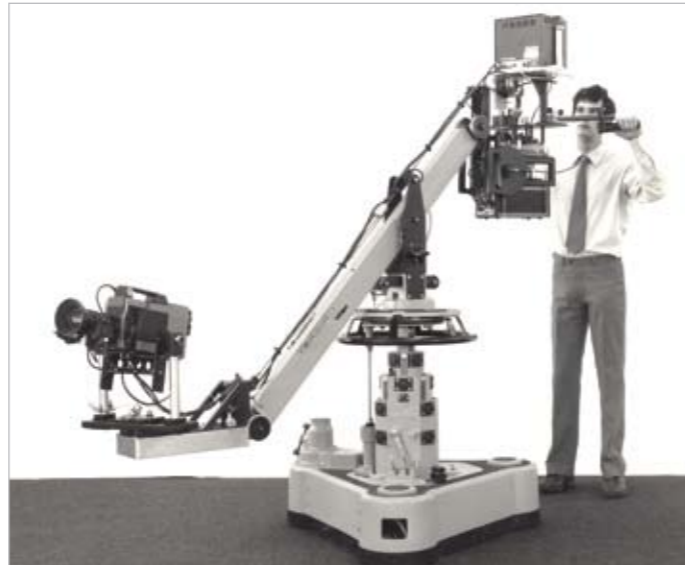
A robotic project, the Microswift system for BBC News under Rob Saltarelli, was delivered in the early 80s but was too expensive for most broadcasters. Less expensive developments of the system were more successful at the end of the decade. Vinten's robotic pan and tilt head, a post head, was designed by Richard Lindsay who had also been working on the old problem of maintaining perfect balance over a 180° tilt range using a spring. He solved the problem, producing the Cormorant head in 1984, later to become the Vision 30, one of the Vision range of heads

The military and broadcast sides of the business had diverged in terms of production techniques and development, so in 1988 the company was split into Vinten Broadcast Ltd. and W. Vinten Ltd. The military part moved to premises just down the road.

**End of an era**

The Vinten family's involvement with the company came to an end in 1992 with Bill Vinten's retirement at the age of 72. Precision work had been taken over by numerically controlled machines, but as in the early days, the operators were responsible for their own quality control. New drag systems appeared, new tripods and accessories, then in 1994 a new heavyweight head using a pantograph system to achieve perfect balance, the Vector 70.

By 1995 Vinten Group had acquired a myriad of companies including Vinten's rival, Sachtler, and become the founding company of The Vitec Group plc. Vinten Broadcast's new four-stage low pressure pedestal, the Quattro, appeared in 1996 with further developments for OBs and later a more compact version, the



▲ Pedestal-mounted Merlin arm with operator behind



▲ A partially assembled Quattro SL base

Quattro SL. Development of the Vector range produced the 700 improving on the 70's drag performance. A sprung head joined the range (the 950) and electronics were added to give readouts from some of the heads and pedestals to provide data for image stabilisers and virtual set operations, in particular with Vinten Radamec (formed after the acquisition of Radamec). A new Vision AS range of heads has recently appeared.

Richard Lindsay, designer of many of Vinten's current offerings, retired in May 2010. He had maintained Bill Vinten Snr's principles of innovation and high quality engineering to the end of the company's first century.

Those principles carry Vinten forward and the GTC wishes them well as they enter their next century.

<sup>1</sup> The Television Cameramen's Award was originally given for equipment, but was later replaced by the Seal of Approval, the Television Cameramen's Award then being awarded to individuals for their contribution to the art and craft of the Television Cameraman.

<sup>2</sup> The most recent award, a Queen's Award for Enterprise in the Innovation category for development of Perfect Balance was presented on 13 July this year at Vinten's headquarters.



▲ Numerically controlled milling machine producing small parts from brass rod



▲ New Quattro casting



▲ Perfect Balance – a Vision 250 partially assembled

**Fact File**

Dudley Darby worked for BBC TV from 1963–2001 on camera, mainly multicamera in the studios. He also undertook operational evaluations of equipment, and was involved with H&S as a safety rep. He has been freelance since 2001 on both studio multicamera and location single camera shoots.



Photo courtesy of SIS Live & BBC Sport

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