

The ACS logo is a stylized, handwritten-style 'ACS' in black, positioned in the top right corner of the page. It is set against a background of blue, wavy, horizontal lines that sweep across the top of the page.

A Royal Wedding

In April 2011 Aerial Camera Systems (ACS) was chosen to provide over twenty remote head systems and camera channels for the BBC, Sky News and ITN, not forgetting the world's media, for the television coverage of the Royal Wedding of Prince William and Katherine Middleton. Locations and kit supplied were varied but it was perhaps within Westminster Abbey itself that our crew met their biggest challenge, fulfilling the majority of camera positions that were to broadcast the ceremony world-wide.

The Royal Wedding of Prince William and Katherine Middleton represented the largest single deployment of the ACS SMARThead™ (remote head) camera system to date. A total of twenty heads and cameras were used with ACS Technical Director, Sam Heaphy, and his team delivering sixteen of these located at Westminster Abbey. ACS have developed a close working relationship with BBC Events over the last five years working on many Royal, State and ceremonial events during this period, all of which have made use of SMARThead™. This certainly helped a great deal in planning and appreciating the unique conditions that exist within the Abbey.

The advantages of using the SMARThead™ for the wedding and similar events are a combination of features. The first being that from the outset the head was designed to be truly compact and make use of compact camera types as small as possible such as the Sony T kit equipped cameras and brick style cameras

(Sony HDC-P1). This reduces the physical footprint of the camera system but retains full 2/3 inch HD broadcast quality matching seamlessly with the other OB supplied camera channels. The large quantity of remotes minimised the amount of manned camera positions whilst offering a wide range of shot selection and placement.

All the SMARTheads™ used in the Abbey were equipped with brick style Sony HDC-P1's (12) and Ikegami HDL-51 (4). When used with brick cameras the SMARThead's™ dedicated fibre system requires only single standard SMPTE cable to each camera. This provides all power, control data, racking data, HD SDI, gen lock and even 4 audio channels. Traditionally, remote heads require a camera cable, data/control and power. The saving in time and effort in reducing from three cables to one serving sixteen camera positions is considerable and helped a great deal for this event.

The SMARThead™ fibre system consists of a CCU style structure which is not normally available to brick cameras. These are packaged in highly integrated 'fly away' style flight cases that offer a lot of engineering versatility in how they are used on-site. Few, if any, OB trucks can accommodate large numbers of extra CCU channels internally. Consequently, the SMARThead™ fibre system is intended to act as practical bolt on to the OB with the racks being placed outside and using the tailboard to integrate with the truck. Camera RCP's are placed with the vision engineers and special multi-core breakouts using standard audio 8 pairs have been built to reduce cable mess and allow flexibility in distance between the OB truck and the racks.



SMARThead™ with 40x lens

During the Royal Wedding ACS used one of its tender vehicles to accommodate all sixteen channels of base stations (CCU's) and other engineering components. The vehicle acted as an engineering monitoring point and also as a field shop to maintain all the equipment on site. All the required HD, RCP and other signalling was run to the main Visions OB truck using video and data multis. In addition Visions supplied a truck normally used for VT and graphics applications to serve as a twelve position remote operating space. Each cameraman having his own return, TX and in some cases auxiliary feeds since some operators were controlling more than one camera.

The Royal Wedding posed some scheduling difficulties for the BBC because of the Easter weekend which preceded it. It would have been impossible for the Abbey to close its doors to the public over this time just to allow TV access to rig the building. It was therefore decided that the BBC would provide comprehensive coverage of the Royal Maundy service scheduled for the Thursday of the previous week. Consequently, a majority of the wedding cameras were used for the coverage of the Service including thirteen SMARTheads™. This event allowed for a 'stress testing' of the production facilities and in retrospect for all concerned it would have been unthinkable to have undertaken the wedding coverage in any other way given the timescale.



Many of the SMARThead™ positions in the Abbey had been previously used on other events but new locations were also chosen. Spectacular shots were achieved including a dramatic high shot over the Sacarium for the first time in HD with the shot developing to show the incredible scale of the internal

architecture of Westminster. Shots of the bells peeling was a first and this involved significant rigging as well as utilising an audio channel in the SMARThead™ fibre system to give the sound boys an ear destroying feed of the bells at close quarters.

A SMARThead™ accessory development incorporating a Canon HJ40 lens was also fielded for the first time. Two were used to provide close ups of the Royal and Middleton families in their respective seating in the north and south transepts. They also covered VIP's and other general shots of this area of the Abbey. This accessory allows remote control of the lens' internal stabiliser and, in common with all SMARThead™, provides a real time lens graphic of the focus ring. The remaining heads had Canon HJ22 (8), HJ14 (4) and Fujinon HA13 (2) lenses.



Whilst ACS crews were working hard at the Abbey, SMARTheads™ could also be found positioned along the wedding procession route at Parliament Square, Whitehall, Horseguards and The Mall contributing to the full coverage of the couple's journey to and from the service. An ACS HD Cineflex V14 stabilised mount was also operated by Canada Gate, providing aerial coverage of the crowds and balcony scenes at Buckingham Palace.

The team felt an enormous sense of pride at being involved in such an historical event and are honoured to be able to say, '*ACS were there.*'

