

and the themes behind the show. We had a relationship dating back to 1991 and early episodes of the popular children's series *Shining Time Station*, followed by collaborations on a number of other television projects. These shows were often a combination of multi-camera studio and single-camera field production.

Ace Lightning and the Carnival of Doom was shot film-style almost entirely on location in Toronto, save for a few studio sequences. The schedule was demanding and lengthy. Season 1 occupied seven months of 2001, from pre-production to the last day of principal photography. My participation also involved a training session that began on May 10, 2001, with a three-day tour of the BBC studios in Shepherd's Bush Green, London.

I met with the technical standards team and electronic cinematography mentor team to discuss the technical parameters of shooting with this technique. I learned about the entire process, how and why it works and the range of photographic results that can be obtained using this system.

The show's finished product closely emulates the "look" of Super16 film in tonality and texture. The Sony DVW-790WS PAL camera accepts the BSC1 setup card that shapes the "look" of the camera, controlling key scene parameters such as gamma, black and white clip, the knee, detail, white shading, flare, chroma levels and others. The camera, when loaded with the setup from the card, emulates the performance characteristics of a film stock.

Even though we were shooting video in the digital domain, I exposed as if we were shooting 16mm film. I did not worry about small areas of overexposure as long as it made sense photographically. You can push the limits of contrast, and we often did, although it is important to be mindful that there is no value in overexposing a highlight by two or three stops when one stop of overexposure will do. Overexposed is overexposed. Although the exposure latitude here isn't as great as with film, if you are creative you can stretch your exposure over the entire range that is available to you to make the photographic

statements that you want to make.

The production faced funding challenges, but we did not allow that to influence what we put on the screen. We just had to work more quickly. The live-action shooting schedule was reduced in the second season to three from four days per episode, and cost-saving measures were used wherever we could. For example, using ground-supported trussing for the studio-based sets eliminated the need to hang a grid. This initiative cut the rigging time from 3.5 days to two. Since this was a co-production, different components of the budget came from each country. The two camera bodies, along with batteries and chargers, came from Metro Broadcast in London. Sim Video in Toronto supplied the rest of the camera package, which included 2x Canon 5-47mm Cine zoom lenses.

Even though we were shooting in a digital video format we treated the situation as if we were shooting film. We shot a rack leader for each camera and aligned the monitors (including the onboard LCD) to give true frame lines. This was crucial since we were dealing with two aspect ratios. Camera assistants Lori Longstaff and Bob Standish also did full lens tests on both camera bodies and the Canon lenses.

During the testing phase of pre-production we determined that the cameras had an ASA of 400 tungsten. We used this value as our starting point for exposure during the course of production. To ensure consistent exposure throughout the series we used the Cinematographer's Control Chart from Gamma and Density Company. We reasoned that with the amount of post-



ACE CREW: DOP Bentley Miller (left) worked with operator Steve Cruickshank and 1st AC Lori Longstaff on *Ace Lightning and the Carnival of Doom*.



MOIST MIDWAY: On location with *Ace Lightning and the Carnival of Doom*, the show must go on rain or shine.

production that each frame would undergo, we needed a solid colour and monochrome reference that would allow us to establish a working relationship with the colourist, Loraine Grant at Tattersall Casablanca. The chart was worth its weight in gold, helping us to establish and maintain the "look" of the series from start to finish. We used a lot of colour, contrast and shading to create a show with its own visual style.

Shooting a show with as much compositing as *Ace Lightning* presents

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Cooke Optics Ltd, England. Voice: 44-116-264-0700. Fax: 44-116-264-0707
Canada, South America, U.S.A. Voice: 973-335-4460. Fax: 973-335-4560