



Photos courtesy Universal Pictures

CREW VIEW

By Bonnie Goldberg

It's A Bird! It's A Plane! It's Operator Alex MacDonald!

For many years, the hands at the controls of Cablecam have been those of co-owner, system designer, and operator Alex MacDonald; hands that you may have seen before performing in over 600 commercials during the '90s, assembling burgers, pouring beers, pushing buttons and other actions that make up a professional hand model's repertoire.

"It was a tangled path from grad school in psychology, to bit parts on soap operas, off-off Broadway and industrials to hand modeling, but one day on the set of a Wendy's commercial (as the hands of founder Dave Thomas), I was noodling around on the motion control computer and was recruited on the spot by Alex Fernbach, a premier New York tabletop director to take over programming and operating ARF & Company's motion control rig—a 15 foot high steel robot on a 50 foot track. At the end of the boom arm was a Fries-modified, Mitchell camera, a World War II vintage 35mm aerial reconnaissance unit, generally fitted with a stepper motor on the shutter/film advance.

"After a long weekend with a very outdated manual, I hit the ground running and did countless spots over the next four years. Alex Fernbach

was a gadget freak and invaluable supporter during this apprenticeship.

"I managed to shoot only half a roll of blank film in that period," he recalls. "The accessory capping shutter (the pellicle beam splitter Mitchell was not light tight) had a mysterious habit of flipping polarity. The massive Cruciflex rig built by Pat Tiffen was controlled by Kuper Software from Bill Tondreau (a 2004 Sci-Tech Winner). It was fast and powerful and could dolly from one set-up to another in the large studio."

Between making single characters appear multiple times in one shot, products construct and deconstruct, or automating any rig that a stepper motor could be bolted to, Alex MacDonald logged enough hours to join Local 600 in 1998, "thanks to people like John Amman in the New York office, who helped bring motion control operators into the Guild."

In 2000, Alex Fernbach and ARF created PAWS, a computer controlled 150-camera array with stepper motors for film wind and shutter travel attached to custom machined aluminum housings with Zeiss lenses. "PAWS was one of the first to perform the frozen motion/moving camera effect and predated the better known 'Bullet Time' featured in the first Matrix movie," he explains. "As chief motion control operator, I launched into a six-month period of 80 hour weeks as software developer and tester for this new virtual monster."

PAWS made a number of interesting commercials, resulting in some

epic shoots. “A Chevrolet spot required two set-ups in the dusty desert not far from Bakersfield, in which we yanked a rider off a galloping horse and then froze the horse but not the rider. I had an idea that we could obtain all the elements in a single take by running all the cameras up to the freeze point at 24 fps (1/24th of a second between adjacent cameras), then dividing the array from there on with every other camera shooting simultaneously (the freeze), while continuing the live action timing with the alternate cameras. It made for a compositing nightmare, but it was a ground-breaking effect.”

MacDonald’s “gadget freak” mentality came into play at this time. An inveterate Ebay’er, he’d acquired a few IBM laptop parts and built a carry-on sized Kuper computer that replaced the five-foot tall anvil cases most commonly found on moco shoots. “Joe Lewis of General Lift in Los Angeles was an enthusiastic customer for these units,” MacDonald explains. “He invited me to hawk them at Cinegear in 2001, and that’s where I met Jim Rodnunsky, founder of Cablecam.”

The rest is history. Rodnunsky’s new “film tool” fascinated MacDonald. It was a 350 by 80 by 60 foot motion control gantry rig supported by four aluminum towers, carrying a moving 80-foot piece of truss with a mighty scissor descending from it to carry the camera. “It was run with 100 horsepower hydraulic motors and massive jeep-sized accumulators,” recalls MacDonald.

“The whole thing was analog and needed an interface to Kuper. Joe and I both thought Jim was crazy, but I was unemployed at the time so I volunteered. Within two days, I was parked in a garage wiring up a Kuper/Galil/proportional valve interface and feedback encoders to make this huge beast controllable and repeatable.”

MacDonald’s new gig immediately led to some fascinating jobs. The

first was a contract with Universal Studios to make director Stephen Sommers’ grand vision of a 3D motion control “bat bride” flying sequence for the film *Van Helsing* come true. “The entire village set outside of Prague was approximately 600 by 250 feet,” explains MacDonald. “In insanely hectic short order, we fabricated the world’s largest camera gantry with two truss/dolly tracks 220 feet long, suspended 120 feet in the air by two construction cranes at the long ends of the village. Concrete traffic barriers held down the back tensioning lines, which littered the streets and backyards of the surrounding town. The mirrored dollies carried a high line under tension, which in turn carried a ‘skate’ from which hung the camera. With an ‘X’ axis on the dollies, a ‘Y’ axis on the high line skate, and a ‘Z’ axis from the camera’s elevator line, we had 3D movement.

“Our 22 horsepower servo winches provided speeds up to 40 mph. Additional ‘tag’ lines direct to the camera, either slaved to one of the three winches or wound separately onto a fourth winch, provided anti-pendulum stability for shots that had to snake between buildings and turn corners without turning onto a wrecking ball!”

MacDonald and the Cablecam team stayed in Prague for several months, adding shots and providing ILM’s Scott Squires and Michael Owens more dramatic flying sequences. “The real payoff for Sommers and DP Allen Daviau, ASC was having hundreds of real actors in costume, stunt flyers (as many as eight at a time) and a brilliantly authentic set, all realized on film as opposed to relying on CGI artistry to create them,” explains MacDonald.

Since *Van Helsing*, MacDonald has worked the constantly improving Cablecam on everything from films like *Troy*, *Cat in the Hat*, *Miracle*, *Ring Two* and *Poseidon* to NFL coverage for Fox and CBS, leading to two Superbowls. He’s gone to Brazil for Carnival. France for

