

The Digital Edge

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Partnerships Help Develop Ryerson's World Class High Definition Television Facilities

In a year that saw the release of "Star Wars II: Attack Of The Clones," which was shot using high definition video, and just months after the CRTC Policy Statement that opens the way for the introduction of digital broadcast television in Canada, Ryerson students enrolled in the Schools of Image Arts and Radio and Television Arts (RTA) have access to a plethora of High Definition Television (HDTV) technology. "As far as we can tell this is the largest acquisition of HDTV equipment by any educational institution to this point in time," comments Brad Fortner, Program Director of Operations And Technology for the Rogers Communications Centre. "It's a great way to start off the Rogers Communication Centre's tenth anniversary."



RTA Faculty Member Richard Grunberg teaching new Panasonic HDTV Camera

The HDTV acquisition was the result of a group effort between Ryerson and a number of industry partners. Together they have placed seven Panasonic 1080i High Definition camcorders, four non-linear editing systems that are focused specifically on HD editing, and duplication facilities into two of Ryerson's key undergraduate communication programs. The editing systems will make use of Apple's Final Cut Pro software and Pinnacle System's CinéWave HD cardsets which allow the Apple G4 computers to work with the large data bandwidths created by HDTV. The production process involved with using HD equipment for students employs the technology, which mirrors that of the industry.

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EMMAs Bring International New Media Experts To The Rogers Communications Centre

In October the Rogers Communications Centre was transformed into a hive of activity as an international panel of judges converged in the centre to judge digital media submissions from around the world on behalf of the prestigious EMMA Awards. Recognized globally as the most esteemed interactive media awards, the 11th annual EMMAs were held for the first time in North America, in Toronto, from October 16th to 20th.

The EMMAs, which acknowledge excellence in digital media content creation, are respected for their independence, impartiality and sole desire to reward excellence. Due to a two-year effort to attract the EMMAs to Toronto, championed by Tom Green of Humber College's School of Media Studies, this year's jury process was hosted by the Rogers Communications Centre on behalf of the Toronto New Media Trainers Alliance (NMT.)

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"This is a major commitment on our part to ensure our students are fully prepared to work in the HD format," added Fortner. "We've placed three cameras in our School of Radio and Television Arts and three in our School of Image Arts which houses Canada's largest program in Motion Picture production. The remaining camera will be used in the Rogers Communications Centre for research purposes." Having HDTV capacity assists in the Centre's research into interactive TV and conducting tests in conjunction with Toronto's digital test transmitter. "The camera will be used, among other things, to shoot original content to be broadcast on the transmitter that is currently broadcasting HDTV content," Fortner said.

"Using HD cameras is a great, economical way to replace the equivalent of high-level film equipment," added Brian Damude, Chair, School of Image Arts (Film, Photography & New Media) at Ryerson. "More production is going HD and this gives our students the opportunity to produce visually compelling stories, particularly documentaries, in this format."

"It's very exciting to be able to teach the unique production qualities of HD. It's a whole new way of shooting and storytelling,"

Those sentiments are shared by Jon Keeble, a professor for the school of Radio and Television Arts: "It's very exciting to be able to teach the unique production qualities of HD. It's a whole new way of shooting and storytelling," he says. "The pictures are just so crisp – tack sharp. Students in the fourth and final year will now have the chance to put together a long-form HD production."

The acquisition of the AJ-HDC20AP model HDTV cameras and videotape equipment was made possible when Ryerson extended its decade-long partnership with Panasonic Canada Inc. That partnership was initially formed with the opening of the Rogers Communications Centre in 1992. In 1997 the partnership advanced the Rogers Communications Centre into DVCPPro video technology, providing Ryerson students with the country's first all digital shooting and postproduction environment.

The HDTV partnership extension has yielded support from other industry heavyweights. Applied Electronics, who provides service for the HDTV technology, assisted Ryerson by developing additional partnerships with companies like Canon, who are supplying the lenses for the cameras. RTA faculty member Richard Grunberg also arranged additional industry assistance that was required to put the cameras into the field. It included support from Cartoni Tripods and Precision Camera who supplied tripods for the cameras and Cavision who supplied HDTV lens accessories.

When it came to developing the strategy of how Ryerson's editing technology would work within an academic framework, the team of Attila Jagodits (CCS) and Tina Collier (RCC) came together to sort out the myriad of technical and workflow issues. Having had the experience of both building and systemizing the Rogers Centre's standard definition non linear edit systems, Jagodits and Collier have broken new ground with their innovative and cost effective approach to High Definition editing.

The editing process that they have developed uses offline and online components. It involves three "off the shelf" standard definition Apple G4 Final Cut Pro editing systems, fitted with standard definition DV format videotape. These systems are used to pre-edit material in an offline manner. The fourth G4 Final Cut Pro system, known as the HD conform system, is equipped with a Panasonic AJ-HD150P HD VTR, Pinnacle Systems CinéWave HD cardsets, a terabyte of SCSI disc storage, a 23" Apple Cinema HD display and a Panasonic 1080i HDTV monitor. It will be used as the online system that creates the final High Definition master tape.

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Ryerson Faculty and Staff at NAB 2002 Panasonic Acquisition Announcement. From left to right: Many Ayromlou (RCC), Attila Jagodits (CCS), Brad Fortner (RCC), Tina Collier (RCC), Richard Grunberg (RTA) and Clive Vanderburgh (RTA)

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Upon completion of their field HDTV shooting, students copy their HDTV videotapes to standard definition DV format using Panasonic technology that maintains a time code reference to the original field videotapes. The dubbing system makes use of Panasonic AJ-HD130DCP HD and AJ-D455P DVCPPro VTR's. Once the copies are complete creative editing can occur on any system employing Final Cut Pro. The Rogers Communications Centre has built three Final Cut Pro systems specifically for this purpose while motion picture students can make use of the 20 Final Cut Pro systems located in Image Arts building. Editing can even occur on student owned Final Cut Pro systems.

When the students have completed their offline edits the final HDTV production can be completed in HDTV conform suite. By using the Final Cut Pro project files generated during the offline creative editing process and the original HDTV videotapes, the final conform of the program is an automated process. The approach developed

by Collier and Jagodits minimizes hardware costs, mirrors industry practice and allow students to maximize their "creative" time in the offline environment.

Here again, Ryerson found partners to assist with the editing systems. SummitFX Inc., who is the Canadian distributor for Pinnacle Systems, supplied the CinéWave HD hardware. "It was important for us to work with Ryerson because their approach demonstrates a cost effective implementation of HDTV," comments Carolyn Kinzie of SummitFX. "The editing system design clearly demonstrates how cost effective HDTV production can be without compromising the creative process. It's ideal for education. While this approach is a necessity in education because of the tight economics everyone in the broadcast industry can learn and benefit from what Ryerson is pioneering," she said.

Whilst the addition of HDTV technology into the Ryerson's undergraduate schools is new in its 02-03 academic year, the organization has a long history of developing expertise in digital television through its Rogers Communications Centre. The Centre opened Canada's first educational all digital SD 16x9 aspect ratio television studio in 1999. It also worked closely with the RTA students who developed "Perfecte," Canada's first student produced HDTV drama in March of 2000. The Rogers Communications Centre also housed the first master control from which digital HDTV was transmitted in Canada and established the Interactive Broadcast Learning Lab in 1998. The lab focuses on the study and application of interactive television an important component of digital television and HDTV.

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RTA Practicum Project Paved Way For HDTV Acquisition

Perfecte, Canada's First Student Produced HDTV Drama paved the way for Ryerson's current acquisition of HDTV gear. The project, in which the Rogers Communications Centre partnered, was a "Dramatic HDTV" research project aimed at proving affordable HDTV content was possible. It came to a successful conclusion in early 2000 with a 31 minute TV pilot shot entirely in HDTV format by Ryerson students.

The "Perfecte" team also helped develop

several new HDTV post-production systems in cooperation with eyeon Software and Boxx Technologies.

In addition the planning of the program included the development of a weekly online interactive subplot designed to add suspense to the drama that would be made available on the shows website. Its purpose was to be used as a teaser to entice viewers back to the next episode. After a

successful screening in HDTV in April at Ryerson's Eaton Theatre, "Perfecte" was part of the NAB 2000 conference in Las Vegas. A complete online diary of the production, as well as HDTV stills and other information is available at www.rcc.ryerson.ca/ibll/materials/perfectewebsite.pdf



The Rogers Communications Centre is a part of Ryerson University and is Canada's premiere facility for degrees, research and professional development in the fields of electronic media and digital communications. New Media at the Rogers Centre is about converging interactive communications and technologies: with the schools of Journalism, Radio and Television Arts, Image Arts, and Computer Science converging in one facility. The many aspects of digital communication—aural and visual, art and science, student and professional—all meet in a dynamic hub of design, academic study, research, and activity.