



Live Sports under Control

Managing Multiple Tallies, Ingest, Tx Channels



Dan Fogel, Chief Technical Officer, DNF Controls



There's so much great live TV coming out of international sports competitions that sometimes the biggest broadcasters need help handling it all. Multiple events in multiple locations all day long, every day and for weeks at a time.

Remote command and control over production capabilities is a solution: give local production teams the ability to monitor and control equipment that may be on the other side of the planet.

Providing control solutions to broadcasters is nothing new for Dan Fogel. Not since he began customizing parallel, then serial and now all manner of new digital control systems for legacy equipment as well as the latest gear available. He started work in his apartment 25 years ago; now he's CTO at DNF Controls, a leading human-to-machine and

machine-to-machine interface developer and manufacturer based in Northridge, CA.

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and naturally to the conversation: ESPN, NBC, CBS, CBC; collegiate athletics and the Olympics, the Masters and PGA Championship, tennis at the US Open and so on.

That's where DNF device controllers can be used to pass camera tally signals and trigger graphics between multiple production trucks and venues. Production fly-packs can be deployed to remote game sites and connected via the Internet. The units communicate with a local system at the home base facility to route tallies from production studio to event location.

Tallies can tell the hands-on operator that the camera is 'live', and selected on a production switcher for use on-air; the signals can differentiate between primary host broadcaster and secondary users.

DNF also has ingest management solutions for a sports broadcaster's high-volume recording facility, where sometimes overwhelming amounts of incoming material must be secured.

As must be said, one example is the official U.S. broadcaster of the world's most viewed sports competition.

Devices like DNF's GTP-32 Control Processor can be configured for 64 simultaneous ingest channels each, with units located remotely, one say in Rio de Janeiro, and the other back in the home country. The GTP-32 delivers conditional operator control and

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monitoring over a wide range of broadcast production equipment – regardless of location – with a selection of protocol options, including GPI/O, Serial, Ethernet, TCP/IP, UDP, SNMP, HTTP, and SCIE.

“A button push is worth a lot of money,” Fogel says on the phone. “There’s an audience of millions, and no margin for error. Yes, remote capabilities are a big issue for live sports (production).”

Asked about the prestige in providing crucial control solutions in so many high-profile, high-impact TV events, he starts off with a bit of downplay.

“We actually play a role in the background...” but it’s clear he delights in tackling very complicated situations head-on.

Like tying 20 or 25 full-up production trucks together, as they all share certain common cameras in the field during a major golf tournament.

He describes how DNF Flex Control systems provide tally control among all the trucks, and drive tallies in the field. Delegating who has control over what camera tallies and what resources at a remote site can be configured ahead of time, or even while on the air.

Source cameras can have a primary or secondary on-air tally, indicating which broadcaster is using its image. Control devices can also open and close-up mics almost instantly, with audio / video latency timing worked out ahead of time. Suitably-customized devices can take control of master control and play-out-related systems.

Certainly, having sophisticated remote control capability serves up labour cost savings, yet Fogel says it’s about looking for other production solutions as well.

Good use of remote production tools lets operators actually do more with less, he says, gaining greater editorial not just technical control over the oh-so-valuable content.

With his company’s long experience and broad reach, it should not surprise to know his working familiarity extends to broadcast control rooms, sports specialty TV services and top production truck providers here in Canada.

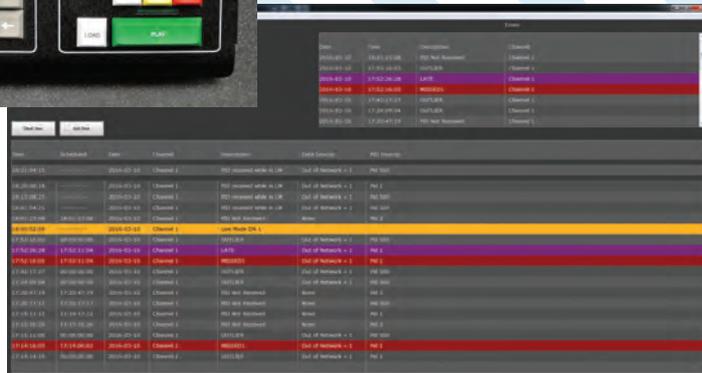
Not should it surprise that the production solution used by CBC for its Rio Olympic coverage was as pure a remote production model as could be: no production trucks in Rio, no production control rooms or edit suites on site. Every microphone and camera was seen and controlled in Toronto and Montreal, as was described to *Sportscaster Magazine* in a series of e-mail exchanges prior to the Games. All of CBC/Radio-Canada’s direction and production originated in its many control rooms and production suites in Canada.

Don’t misunderstand: CBC sent more than 200 on-air personnel with the necessary technical and support staff to Rio, not to mention the anchor desk, on-air sets and commentator backdrops; some 450 production crew members worked in Montreal and Toronto.

A complicated network of transmission lines blended both traditional fibre delivery and an IP network to move specific signals for the coverage. The



Device controllers and customized control systems from DNF Controls are widely used in live sports production and event broadcasting.



majority of sports feeds from around Rio came back to the International Broadcast Center in Barra Olympic Park and then into the CBC/Radio-Canada “pipe” back to Montreal and Toronto.

Many of CBC/Radio-Canada’s unique camera feeds moved as IP, needing calibration with the fibre to keep them “synchronous” on the differing technology routes back home. During the busiest time of day (1200 - 1800 hours local time, with all the afternoon competitions happening at once), CBC knew there would be more material in transmission than could be processed or recorded in Canada.

To manage and control it all, schedule coordinators prioritized the needs of both production sites to get the right feeds “live in the pipe” while other content moved at off-peak times. FTP (file transfer) also meant more content could be moved without tying up base-band feeds.

Yes, plenty of examples out there of remote live production control by experienced personnel using advanced systems to manage and deliver what matters most - great sports on TV! ■



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