

# digital rapids

## focused

on the future of

# digital video.



Corporate  
communication



education



Post  
production  
broadcast



Remote monitoring  
security

### Native streaming hardware design

The Stream™ family of streaming media encoders is the world's first true native streaming hardware design. A clean sheet design, we put everything we know about broadcast quality video capture and integration together with state of the art video and audio processing technologies to develop the most powerful and flexible streaming engine available. The result of this research is the DRC-1000™ media processing engine and the Stream family of streaming media servers.

The DRC-1000 is the first video capture design to incorporate advanced de-interlacing, filtering, color space conversion, and scaling technologies onto a single PCI card with a complete set of professional video and audio inputs. The DRC-1000 is capable of accepting any standard video or audio signal or format and optimizing it directly in the hardware for streaming output. This improves the quality of the output media streams and reduces the load on the host CPU. Because the host CPU(s) are focused only on the compression codec, it can process more streams simultaneously increasing overall productivity.

The DRC-1000 is the heart of the Stream™ media encoding solutions. The Stream family of media encoding solutions range from single channel, 1RU solutions to standalone multi-channel, multi-processor workstations based on state of the art processors and memory architectures. Stream media encoders are available with up to two channels of video processing and four channels of audio processing. The customer can choose two video channels from up to 7 simultaneously connected video inputs and from up to 18 physical audio channels (mono) for maximum flexibility. This makes the Stream family the most 'connected' devices in the industry and gives the customer the greatest amount of freedom for integration.

### Native streaming software design

Stream software is designed for ease of use, high productivity and simple integration. Because the Stream application was designed from the ground up to be focused on the capture, processing, and encoding of high quality video, the Stream application is not burdened with the complex user interface elements found in other solutions which are designed for video editing or single frame image processing. Stream software is designed with a simple work flow which leads the user from input to output in an intuitive manner, minimizing if not eliminating training time and cost. The process associated with each encoding session can be saved in part or in whole to allow the user to easily recreate the entire project or to reuse portions of the project within other jobs creating an environment that is both easy to manage and highly productive. This means more productivity with less effort and consistent high quality results.

The individual settings that make up the encoding process are stored in an open standard format based on XML called VideoXML™. The VideoXML files can be easily integrated into other applications, websites, or scripting systems allowing the encoding process to be completely automated without resorting to direct programming through the application API. VideoXML allows the user to control parameters at every level from the bit rate of an individual codec to the overall settings in a project. Parameters available through VideoXML include codec, aspect ratio, resolution, quality, bit rate, filtering, and audio levels, as well as project specific settings such as file names for input and output, broadcast parameters to connect to multicast servers, and content management controls to allow management of output files. The VideoXML format means that any application that can read or write XML can control the Stream media encoding servers as well, opening the door for a fully distributed, multi-user, multi-platform media encoding environment. This means greater flexibility, tighter integration, and higher productivity no matter how demanding the customers' environment may be.

integrate

customize

automate

An SDK and API documentation are available for those who wish to take direct control of the hardware and its processing capabilities.

## Telco quality construction and design

Stream media encoders are not only the most powerful media encoding solutions available; they are also the most reliable. The Stream family has been custom designed with same attention to detail demanded by the telecommunications industry for their server solutions. This means the same careful engineering that designed the DRC-1000 went into the choice of power supply, chassis, and motherboard components that make up the Stream family of server solutions.

The Stream server family goes beyond traditional telco hardware specification and requirements adding a second level of protection for the operating system. The Stream family comes standard with a self healing installation feature which allows complete, automated repair of the Microsoft Windows XP operating system. If your Stream server should ever become corrupted by a virus, installation or management error, or other extreme software catastrophe, the user has only to instigate the auto-recovery feature to heal itself back to its default configuration. This means less down time, higher availability, and a lower total cost of ownership.

## Stream market

Stream products are designed with four primary markets in mind: communications, broadcast, live webcasting, and remote monitoring.

### Communication and Advertising:

**Corporate training · Corporate messaging · Advertising · Marketing**

Communication and Advertising are unique in that quality is often the driving factor for the production. Think of this as a one-way video conference where the audience may be large and geographically diverse in relationship to the origin of the source material. There is a message to be delivered and the overall quality of the presentation is vital. For this market, there may not be a lot of pre-production involved, and the interface between existing video equipment and the network needs to be both intuitive, and simple in installation. Stream products are designed so that technicians with a bare minimum of training in related fields can install them. A technician who has some skill in network installation but has little to no knowledge of video equipment can install a Stream server using the same skills required to hook up a VCR.

### Broadcast:

**Traditional television · Localized broadcast · Advertising · Marketing**

The broadcast market often involves complex automation systems and high quality broadcast standard connections between components. All Stream servers come standard with Composite, Y/C, and Component inputs and digital models include SDI (serial digital) inputs. Audio connections consist of unbalanced, balanced, and AES/EBU on XLR connections. To most video production equipment a Stream server will appear to be just another piece of broadcast equipment. Installation of a Stream server consists of hooking it up wherever it makes sense in the production pipeline. Stream servers are available in single and dual channel configurations; dual channel units can be used as independent processing channels to increase the total number of unique webcast channels, or used together to increase the number of optimized resolutions of the same video source.

Network integration has been designed to be intuitive and consistent from production to production easing integration into the broadcast environment, creating a bridge between traditional video installations and IP based networking architectures.

quality

productivity

reliability

## Live webcasting:

Concerts · Distance Learning (education) · Sports · Major events

Live webcasting is a mix of both the broadcast and messaging/communications markets in conjunction with the challenges brought about by live production. Challenges such as limited control of lighting and audio quality (outdoor events), video standards dictated by local requirements, and limited physical space. All Stream servers are dual standard (PAL/NTSC) and have advanced noise reduction and video proc-amp controls available to help deal with poor lighting conditions and noise induced by camera gain. Audio processing consists of four 7 band parametric EQ's and built in dynamic range compression technology configurable to handle everything from the relative quiet of the classroom to the stress of concert level audio signals. Stream servers are available in configurations ranging from a shoebox form factor to standard 1RU rack-mountable solutions and mid-tower workstations, so you can always find room for one in your equipment rack or trailer.

capture

## Remote Monitoring

Security · Manufacturing · Remote archive

For the security and manufacturing industries, Stream solutions bring a unique array of capabilities. Stream solutions configured as dual channel systems can be optimized to deliver both full standard and zoomed views of the same video source, full resolution or zoomed views of separate sources (dual-video monitoring), or switched between multiple sources (multi-camera monitoring). Stream servers support the latest codec technology from Microsoft and Real ensuring that no matter what the target platform, there will be an optimized stream available for viewing. With the recent announcements from Microsoft and Real, this can now be extended to high quality video transmitted wirelessly over 802.11(a/b) to PDAs and laptops. Stream servers can encode simultaneously to multiple codecs at multiple resolutions and bitrates, further ensuring both high quality and high availability. Combine these features and you have simultaneous transmission of high quality video to a wide variety of devices such as PDAs, laptops, and workstations, both locally and remotely running just about any off the shelf operating system. With our built in web based remote control application, streaming parameters can be changed on the fly from just about any platform with a browser.

transcode

stream

These four markets are simple examples of how the Stream family of products can be easily integrated and utilized to greatly extend the capabilities of any existing video installation with a minimum amount of training and cost to the target customer. The actual number of target applications are almost endless. To request additional information, or to share some ideas, visit our website at [www.digital-rapids.com](http://www.digital-rapids.com), send an email [info@digital-rapids.com](mailto:info@digital-rapids.com), or call your local sales support center below.

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