

# eQ and iQ

online finishing for SD, HD, 2K, 4K and stereo3D

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# eQ and iQ: online finishing for SD, HD, 2K, 4K and stereo3D

Quantel's eQ and iQ are relied on all over the world to deliver the all-encompassing, highly productive workflow that post production and DI facilities need to stay ahead of the curve. eQ and iQ have the ergonomics, toolset and power to meet all mainstream editing, effects, color correction and versioning needs within a single, highly creative profit center.

## The complete answer

eQ and iQ make excellent sense in every area of the post production and DI businesses.

- For the editor or artist – the best performance and workflow and broadest toolset for every kind of project.
- For the facility manager – complete versatility means usage always runs at maximum capacity.
- For the engineer – total connectivity and reliability.
- For the CFO – prodigious work-rate and throughput that go straight to the bottom line.

Teaming up eQs or iQs with Genetic Engineering multiplies the benefits exponentially, providing an open, collaborative teamworking infrastructure for post and DI that further increases efficiency, encourages creativity and delivers a step change in flexibility.

## eQ – a business in a box

eQ is a single system that gives broadcasters and post houses a total, no-compromises post-production solution, and the perfect machine for client-attended finishing. And because eQ also handles HD-RGB natively, it's a perfect stepping stone into the world of DI too.

eQ's enormous power, open workflow and extraordinarily broad toolset will dramatically increase throughput on every job, whether it's commercials, longform, promotions or high-end corporate.

eQ's resolution co-existent multilayer timeline makes effects editing fast and flexible. Brilliant Final Cut Pro integration speeds the offline to online transition.

## iQ – the DI business model that works

More than 1000 movies have already benefited from the extraordinary power of iQ, the world's number one DI system. With a choice of 2K or 4K models, iQ's power and capabilities cover the entire DI spectrum from pre-viz, assembly/conform, effects and grading to titles, trailers, deliverables and restoration.

iQ has a full DI toolset that handles high resolution media with ease, and the realtime, full resolution operation that facilities need to keep the work flowing and the clients happy.

“The iQ adds to our efficiency and extends our productivity. It brings the speed and versatility found in the digital video production field to the film world while maintaining the highest standards of quality and resolution. And, the iQ’s hardware is extremely reliable – a rare thing in this world. It is truly bullet proof!”

Joe Beirne, executive vice president of technology, PostWorks



### Genetic Engineering – the missing link

Genetic Engineering enables the eQ or iQ equipped facility to make quantum gains in efficiency. Genetic Engineering offers the full workflow benefits of shared workspace between the Quantel systems and a totally open environment that enables out of the box access to the same media for third party systems such as scanners, dust-busting and VFX applications.

### eQ or iQ – choosing the right system

eQ is the complete answer for all mainstream post production needs at SD, HD and mixed resolutions. With its comprehensive editing, effects and versioning capabilities, eQ is the ultimate creative all-rounder. Teaming up eQs and Pablos with Genetic Engineering compounds the benefits, creating a teamworking environment that delivers ultimate scheduling freedom and 100% productivity straight to your bottom line.

iQ’s unique power and capabilities cover the entire DI spectrum with a proven DI business model. And of course, iQ handles SD and HD post work with consummate ease as well, so if you’re looking to grow your post business into DI, iQ is the perfect answer for both needs. With 2K or 4K models to choose from, and with realtime, full resolution operation right up to 4K and the option of stereo3D too, iQ is everything you’ll ever need for every finishing job. Just add Genetic Engineering for ultimate teamworking and productivity.



# eQ: the creative business for post

With its comprehensive editing, effects, color grading and versioning capabilities, eQ is the ultimate creative all-rounder for the post house for both HD and SD finishing. It's a great addition to the rate card that can pull in a vast range of work which would otherwise require an array of individual specialist systems to handle. That's why eQ is at the heart of so many post houses worldwide – quite simply, eQ makes money in post.



## Versatile

Whatever the client throws at it, eQ has the tools and power to eat up even the most complex jobs at breakneck speed. And if there's a lull in one kind of work coming through the door, then eQ doesn't sit idle; its breadth of capabilities means that it can always be working flat out in another area, continuing to produce revenue.

## Supremely capable

All of eQ's integrated editing, effects, color correction and deliverables tools come together to enable the post house to deliver on every kind of project:

- Offline interchange – conform with transitions, DVE effects, layer opacity and text using open AAF
- Editing – world's first resolution co-existent multilayer timeline interface with all the tools
- Effects – the whole box of tricks backed up by ultra-powerful hardware
- Color correction – powerful in-context QColor grading, with Revolver secondary correction
- Deliverables – the world's only realtime, multi-format versioning system with pan-and-scan





### Seriously fast

eQ is seriously fast; its combination of high performance hardware and comprehensive toolset gets the whole job done – start to finish – faster than anything else out there. And Quantel's new MME technology makes the eQ faster still. eQ delivers massive workflow and productivity benefits in a vast range of applications from promos to longform grading. It all adds up to more creativity and the truly interactive sessions that clients love; and that means great business.

**“As a full-service production and post facility, we need to make sure that the client gets the quality and look they want. No other system can match the speed and quality of eQ.”**

Kay Lottermoser, die paten



### Delivering the goods

In today's multi-media, multi-channel broadcast landscape, deliverables are one of the least glamorous but most demanding areas that every post house has to deal with. eQ can deliver multiple versions in realtime, on-the-fly with crops, re-sizes and pan-and-scan – all without needing to re-record media onto its disks. It means clients get their deliverables in their hands as they leave the session – adding a fantastic new revenue stream.

### Future-proof

For post houses already established in HD, eQ brings the power and tools to do more work, more quickly and at the highest possible quality. All eQ configurations can handle HD-RGB in native format alongside YUV, and of course every other format simultaneously too, thanks to Quantel's Resolution Co-existence technology. This makes eQ an ideal platform to expand into HD-RGB DI as the range of high definition capture devices continues to multiply. It all adds up to an investment that not only meets the post house's needs today in full, but has the future built-in too.

Images from The Matador, courtesy of TEAM Sound and Vision

## eQ: the broadcast powerhouse

eQ is all about doing more in the broadcast environment. Investing in eQ gives the broadcaster access to a massive range of capabilities in a single room – and the kind of workflow that delivers stunning results in unbelievably short timescales. It has all the editing and effects power needed to put together sparkling promotions at breathtaking speed. And eQ's multi-format deliverables capability means it can produce the host of different versions required in next to no time. Teamworking eQs with Genetic Engineering provides even greater workflow advantages.

### Increasing the range

Multi-version promotions, impactful titles, in-house dramas – the range of work which can benefit from the power and creativity of eQ is endless. All produced at stunning quality and breathtaking speed so the broadcaster looks great and keeps moving ahead – two key requirements for winning and retaining audiences.

### Saving money

eQ's unique one-box combination of state-of-the-art editing, effects and deliverables tools means that the broadcaster can complete jobs in-house that previously had to be outsourced, saving money and precious time, while guaranteeing that the results will be of the highest possible quality.

**“The speed and ability of the eQ to manage the workflow in the HD world is incredibly efficient. I don't think any other system could manage this type of workflow and deliver the multiple variations of masters without missing a beat.”**

Peter Flack, Buzz NY

Image courtesy of Cat Skinners





### Speeding the edit

eQ's resolution co-existent multilayer timeline is perfect for fast turn-around broadcast effects editing where multiple versions need to be produced in the shortest possible time. SD and HD material can be edited on the same or different layers without restriction or rendering, shortening time-to-air and enabling the broadcaster to dramatically increase output and quality. Full interchange with FCP systems is also enabled using the open AAF format.

The P2 essence driver enables eQ work with P2 media in SD and HD straight from the card, freely mixing this material with locally stored media on the same timeline, saving valuable time close-to-air.



### Making the grade

eQ has the power to carry out the most sophisticated color correction work very rapidly with its intuitive QColor in-context grading option, so even highly specialist work can now stay in-house – giving the broadcaster the major advantages of speed, quality and economy.

### Going faster

eQ is all about producing more high quality work in less time; its high performance hardware and comprehensive toolset gets the whole job done – start to finish – faster than anything else out there. MME technology gives eQ's productivity a massive boost, virtually eliminating waiting for rendering and speeding throughput. It means more work done in less time, freeing the eQ to take on yet more projects.



### HD now

Whether you're already working in HD or plan to move up in the future, eQ has all your needs covered. All eQ configurations handle can HD-RGB in native format alongside YUV, and of course every other format simultaneously too, thanks to Quantel's Resolution Co-existence technology.

eQ also supports the increasingly popular 720p 50/60 formats as well as 1080i. So as the range of high definition acquisition devices continues to multiply, eQ already has them all covered. Investing in eQ gives the broadcaster the security of accommodating future needs as well as meeting today's in full.



### For the Web too

Websites are also important shop windows for broadcasters, and keeping their content up to date and looking good is a vital tool in building and retaining viewer loyalty. eQ's editing and versioning tools are perfect for quickly tailoring material for compelling web viewing – adding yet another powerful weapon to this versatile machine's armory.



# iQ: online finishing and DI at SD, HD, 2K, 4K and stereo3D

iQ's unique power and capabilities cover the entire finishing and DI spectrum, from pre-visualization, assembly/conform, effects and grading to titles, trailers, deliverables and restoration. All with realtime, full-resolution operation at up to 4K.



iQ is the workflow heart of many DI operations around the world. And if there are gaps between DI jobs, then iQ can still keep earning as a full-on HD longform and commercials system.

## New DI workflows

iQ's success is no accident. The system has been designed by Quantel to handle every stage of the DI process in a way that naturally inspires everyone involved in the creative process.

- iQ helps the operator with its speed, ease of use and client-friendly interactivity
- iQ helps the DoP deliver the best quality end result across every format

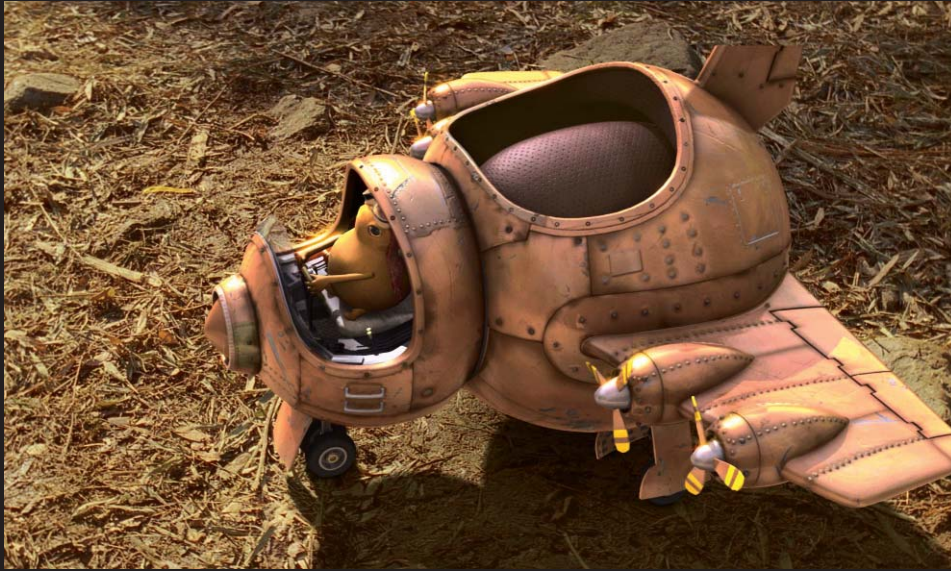
- iQ helps the Director manage multiple versions – theater, cultural, DVD, trailers, TV, director's cut
- iQ helps the Producer by doing more work in less time
- iQ helps Distribution and Marketing by turning round trailers in record time
- iQ helps the post facility generate revenue by offering clients new services at a single location
- iQ helps Film Labs position their business for the digital future
- iQ helps everyone by making late changes easier to handle

## Assembly/conform

With iQ the editor can work with rushes, temps, offline and finals, all on the same timeline – a massive benefit of Quantel's Resolution Co-existence. This not only saves a lot of time, it also means the whole job can be reviewed at any stage. This is a real delight for clients, enabling them to see their ideas expressed in context as they develop. Offlines can be conformed with iQ's multilayer timeline with exactly the same structure, including transitions, DVE effects, layer opacity and text using the open AAF format. As the job comes together iQ's comprehensive toolset allows finessing and complex changes to be made without the delays and management headaches of going out to other systems.

## Effects/compositing

iQ has a comprehensive effects toolset, all brilliantly orchestrated by the industry's only multi-view compositor. This gives the iQ operator unparalleled freedom and clarity in compositing everything from opticals to complex, multi-layer effects. Superb DVE, keying, tracking and image processing tools further extend iQ's formidable effects armory. Flexible titling and subtitling tools complete the picture.



### Color correction

Color is at the heart of the DI process, and iQ's QColor non-linear, in-context grading option gives total creative freedom with color at every stage of the post production process. Its dedicated trackball control panel gives interactive, full resolution control and allows unlimited secondary corrections and in-context grading of multiple layers within composites.

QColor also features the revolutionary Revolver secondary color correction toolset. Quantel's super-powerful new MME technology means that iQ makes quick work of even the heaviest tasks. Finally, for those that require a specialist color correction interface that is naturally familiar to users of traditional systems, Quantel has developed Pablo, its next-generation color correction system.

### Stereo3D

Quantel's revolutionary new stereo3D post production tools coupled with the power of iQ have provided the breakthrough that makes stereo3D post production a viable proposition for the first time. iQ offers realtime handling of dual left eye/right eye high resolution media; the stereo3D toolset takes care of all the issues interactively – just the way clients expect. Stereo3D is a great new creative and business opportunity – and iQ is fully equipped to enable you to grasp it with both hands.



### Restoration

iQ works perfectly in tandem with automated digital film restoration systems, its on-board Paintbox providing the power to retouch and invisibly repair even the most damaged sections of the original material.

### Deliverables

With iQ, work that used to go outside can now be kept in-house, further increasing revenues for the iQ owner. The iQ DI workflow makes it easier to make the movie and all the many versions that are always required, adding another profitable revenue stream to the post house or film lab's ratecard.

### Trailers

iQ has all the power and all the tools to enable editors to create powerful trailers as soon as the rushes start hitting the machine. It means the iQ owner can get a bigger slice of the job.

### New formats, new interfaces

Not only does iQ support all common existing SD, HD, 2K and 4K formats, but also new formats such as 1080p 50/60, double speed HDCAM SR loading and realtime simultaneous ingest of stereo streams.



# iQ and eQ toolsets: creative power and control at your fingertips

iQ and eQ share the same fundamental interface and toolset – indeed, they are based on the same underlying software and hardware structure. This is great news for post houses and broadcasters, as operators trained on one system can easily move on to the other. And Quantel’s enormous R&D investment in keeping its systems at the leading edge means that developments for one system also flow over onto the other – a win-win for the many hundreds of users of both systems around the world.



## Editing

### Resolution co-existent, multilayer timeline editor

eQ and iQ boast the world’s first resolution co-existent multilayer timeline, making totally flexible finishing a reality for every application from commercials and promos to magazine programs and off-line conforms. Clips of different resolutions can be edited on the same or different layers without restriction and without rendering.

Time is saved as you can instantly work with any format; quality is maximized as no unnecessary conversions are ever performed and disk space is saved as only one copy of each clip need be stored.

Fast and simple to use, the timeline editor is jam-packed with features – all available through the systems’ array of one-touch, easily accessed editing functionality.

### Off-line integration

The multilayer timeline allows off-line projects to be conformed with exactly the same structure as in the off-line. This includes automatic rebuild of transitions, DVE effects, layer opacity and text, using the open and non-proprietary AAF format compatible with both Apple and Avid editors.

### Interactive access

The whole editing toolset is just a gesture away, not hidden under layers of set-up menus. Better still, editors can use the interface they feel most at home with, as many of the functions can be accessed from any of the pen/tablet, keyboard, jog/shuttle or hand unit interfaces.

### Freeform desk

eQ/iQ’s freeform desk means every editor can work just the way they like, with many sources open at the same time or in the common player/recorder mode. Support for three-point editing, complex trims, matchframe and edit from library deliver total editing control.

“eQ works in a way that is very close to my natural editing rhythm and flow, and has all the tools I need for editing and finishing – it’s obvious that Quantel’s engineers worked very closely with editors in designing the system.”

Riccardo Papi, Sitcom



## Effects and compositing

### Integrated, powerful effects

eQ/iQ’s massive range of effects tools are totally integrated into the overall system workflow. The effects toolset is utterly versatile, offering unlimited layers with unlimited processes per layer, and clip history for fast changes. The effects module is intelligently linked to the multilayer timeline, allowing single or multiple segments from the timeline to be easily worked on in effects.

### Versatile operation

The multilayer timeline supports segment, track and clip effects, which gives massive flexibility when adding effects and boosts productivity when re-versioning pieces. Intelligent partial rendering saves time by only rendering changed frames, not the complete job – so the whole job gets done more quickly.

### Integrated plug-ins

There are over 1,000 plug-ins from all the top developers available for eQ and iQ. Plug-ins on the systems are just another tool, accessed and integrated into the creative process as every other facility of the system. Want to apply several plug-ins simultaneously? No problem. With the multi-view compositor, any number of plug-ins can be applied in any sequence at the same time.

### Multi-view compositor

With eQ and iQ, you decide how you view your composite, so you can choose the view that perfectly suits the task or your way of working. The scene tree view gives unlimited hierarchical control over DVE axis and layers. The process tree view gives instant visual control and reference over the order of process and allows unlimited processes on each layer. The camera view provides a virtual view of the composite in true 3D space and gives full control over 3D camera motion.

### Paintbox inside

Every eQ and iQ comes with the graphics power of Paintbox as a fully integrated part of their toolset. With the benefit of 25 years’ experience in thousands of installations around the world, the Paintbox toolset is quite simply peerless.

Paintbox boasts a massive range of brushes – including the best airbrush in the business, brilliant cut/paste, graphics tools and hundreds of vector fonts. So whether it’s a complex graphic or an instant retouch, the built-in Paintbox has all the graphics tools you’ll ever need in the edit suite.



# ... and more iQ and eQ toolsets



“It’s also very fast with great rendering and compositing capabilities, easy to use, has lots of plug-ins available, is great for color correction and, being pretty new onto the market, has a lengthy projected lifespan too.”

Hannes Steyn, Studio Zoo

## Color correction

### In-context color correction

As well as its sophisticated on-board color correction toolset, the eQ/iQ owner can also add the QColor option proven on Oscar™ winning movies such as Wallace & Gromit: The Curse of the Were Rabbit and The Fog of War. This gives the colorist and director powerful in-context control over every aspect of color within the edit suite, and adds a further profitable revenue stream for the post house and a ‘one-box’ solution for the broadcaster.

### Non-linear control

The QColor package turns eQ/iQ into a sophisticated color correction system with instant, non-linear access to allow any shot to be color corrected in-context right within the edit – all this at a fraction of the cost of dedicated systems. QColor is completely integrated into the editing and effects toolset, and the realtime 3D LUTs guarantee that what you see is what you will get – whatever the destination format.

### Best of both worlds

The familiar three-ball QColor control surface enables both video and film colorists to do their work with creative ease. The jog/shuttle unit combines with the color panel to deliver fast control and total precision. Advanced compositing tools such as tracker-linked masked correction and the ability to keyframe every part of the QColor interface enable the creation of complex effects quickly and easily.

Layers in a composite can be color corrected in context, allowing for the seamless addition of CG and other special effects. Quantel’s MME technology effectively eliminates the wait for rendering, delivering massive workflow and productivity benefits in the eQ/iQ suite. Full integration with effects, repair, editing and graphics tools add to the awesome capability of the system and saves time moving jobs between suites.



## Color correction

### Revolver

Revolver makes secondary color correction a breeze. Its radical new approach eliminates the need for keys while providing new levels of subtlety and flexibility to the colorist.

Revolver enables the colorist to work with up to six simultaneous color corrections in one cascade without creating keys. For shots that require multiple adjustments, Revolver gives a huge time saving, both for set-up and the rendering. Colorists quite simply love it.

### Pablo

If the balance of your workflow is all about color correction, then Quantel's Pablo provides the perfect answer. Pablo is Quantel's state-of-the-art, non-linear color correction suite that incorporates a comprehensive 'heads-up' control interface for the ultimate in ergonomics, precision and throughput – and built into every Pablo is the full eQ/iQ toolset too, adding an almost unlimited range of work that can be tackled by the system.

## Deliverables

### Realtime, multi-format versioning

With today's plethora of film, Digital, SD, HD and new media formats, versioning has become an extremely important part of the total post production process. Efficient versioning power is vital not only for giving clients everything they need in the shortest possible time, it is also a powerful business magnet for post houses looking to differentiate themselves in an increasingly commoditized market.

### Fast and efficient

eQ and iQ are the kings of the deliverables business. Quantel's unique Resolution Co-existence technology means that eQ/iQ can version from one format to another in realtime, without rendering or filling the workspace with different copies of the same clip.

### Just press play

For example, 24fps HD masters can be played out in 625/50 or 525/60 in anamorphic 16:9, letterbox or center-cropped. Everything is handled automatically; all you need to do is simply choose the destination format and press Play! It's even possible to pan and scan in realtime as part of the playout.

## Audio

### Full-on audio

eQ and iQ include the full range of audio facilities required in the video or DI finishing suite. Audio handling is AES/EBU 48kHz, with 8 channel i/o and mono, stereo or quad tracks with channel mapping. Realtime audio equalization and compression can be carried out directly from the timeline.

### Dedicated audio panel

eQ/iQ's dedicated audio fader panel provides sophisticated on-the-fly mixing control. Its eight motorized faders can learn and replay level changes in realtime, making it straightforward to achieve complex audio mixes, or these can be handled from the timeline interface with keyframable level changes, cross-fades and rubber-banding.

Both also support AIFF, AAF, BWAV, CD ripping and even have a voice over function.

## Titling

### Titling: the full story

eQ and iQ cover practically every conceivable titling and text requirement. For creative, text-based graphics, the built-in Paintbox offers hundreds of vector-based fonts, all of which can be given the full graphics treatment.

### Rolls, crawls and more

The built-in QScribe facility is perfect for credits and titles. It includes the full array of rolls, crawls and other title animation tools to bring titles to life. In addition, there are a number of popular titling plug-ins available.

### Subtitling too

eQ/iQ's QScribe software also includes a sophisticated caption compositor, enabling automatic subtitling. In addition, Screen Subtitling Systems software is also available as an integrated plug-in.

“The eQ represents where the business is going – it's something that gives us the ability to handle our own color correction and HD work. The eQ allows us to compete with speed and grace.”

Rip Lambert, Producers Video

# Connectivity and workflow

eQ and iQ are natural hubs for the post/DI house or broadcaster's post production workflow. They are designed from the ground up to handle the increasing plethora of formats coming into – and going out of – the facility. Equally importantly, eQ and iQ fit naturally into the facility's network infrastructure, handling exchanges of media with other systems as background tasks while creative work continues uninterrupted.



## Data and video pipelines

Gigabit network connectivity, AAF compliance and HD/SD video i/o are complemented by the ability to support new formats as they emerge. Both systems already handle Varicam, HDCAM-SR, Viper, Arri Tornado super slo-mo, P2, XDCAM, XDCAM HD, 720p 50/60 and 1080i. iQ also handles the new 1080p 50/60 and HDCAM SR double speed ingest. iQ even has an option for stereoscopic 3D allowing the realtime, non-proxy simultaneous manipulation of the left and right eye signals needed for to produce the best 3D content, and also supports simultaneous stereo ingest.

As well as frame accurate VTR control at HD and SD, eQ and iQ can emulate a VTR for RS422 control from external devices such as telecines or color correctors. The QGrade option for iQ allows simultaneous play and record enabling a hybrid workflow with a traditional hardware color corrector. The iQ even supports sizing just like a telecine.

Full quality realtime 3D LUTs are standard on iQ (optional on eQ) allowing accurate viewing of material intended for film out. LUTs can be populated from the Quantel filmlook UI, imported from Arri, Cinespace or Kodak color management systems or can be developed by users.

“We wouldn't have been able to create the necessary deliverables for the Fantastical project without the speed, flexibility and resolution capabilities of our Pablo and eQs.”

Michael Suggs, President, Milagro Post

Image courtesy of Milagro Post; Editor, Kevin O'Brien; DI Colorist, Rick Unger; Flint artist, Paula Carlson; eQ artist, Brent Edwards.



### Open workflow

Flexible file i/o supports a wide range of formats including DPX, TIFF, TGA, QuickTime, MXF, AVI, Windows Media and on-deck editing of P2 material via a P2 essence driver. Batch operations are supported and the flexible network conform options ensure eQ and iQ can fit in any data pipeline. Network operations are background processes allowing the operator to continue to use the system during file i/o. Hardware acceleration of DPX and TIF exports speeds these everyday tasks.

QXML lets third party devices work with material in the eQ/iQ workspace. Gigabit network connectivity is standard but open hardware design ensures it's easy to add support for other network infrastructures including 10 Gigabit Ethernet, Fibre Channel and Firewire.

Intelligent archive saves every aspect of a project with full history so that it is easy to make changes in future. Archive uses open data standards and gives full choice over exactly what media is saved allowing users to trade data storage requirements against rebuild time. The open data-centric approach allows full choice over the archive medium; everything from a USB2 drive to a robotic tape library is supported.

### QEffects - the perfect partner

Workflow is also about production efficiency, and eQ and iQ have a perfect workflow partner in QEffects. QEffects is a software application that extends the compositing toolset of eQ and iQ out of the suite and onto the desktop. It shares their user interface, toolset and project format, so simplifying teamwork.

Jobs that would tie up the main suite such as rotoscoping, matte painting, text preparation or preparing complex garbage mattes can be handed over to QEffects to boost overall productivity, and then passed back over the network to eQ to be dropped back into the timeline.

### MME

Quantel's new MME (Multiple Media Engine) technology provides a major boost to workflow and productivity. For eQ, MME can add a second media engine which can either both be assigned to foreground rendering providing a 100% boost, or split into foreground/background mode for intelligent autorendering. iQ can be configured with up to five media engines. These can all be applied to foreground processes for a 5x boost to complex color corrections or, with autorender on, one is assigned for visual interactivity while giving a 4x speed increase to background rendering. In short, MME means a massively faster and more interactive workflow.

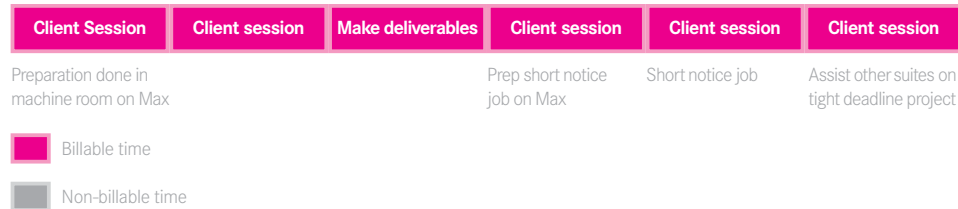


# Genetic Engineering: teamworking for post and DI

## Before Genetic Engineering



## With Genetic Engineering



The Genetic Engineering workflow: typical suite utilization before and after Genetic Engineering

## Maximizing your workflow

Workflow is the number one issue facing post and DI houses today. Genetic Engineering boosts workflow enabling you to get more profitable work through your facility more quickly, while maximizing the use of every resource – equipment and people.

## The teamworking solution

Genetic Engineering is a teamworking infrastructure that really delivers on the promise of shared storage. Genetic Engineering means instant, guaranteed sharing and playback of multiple high resolution media streams from several attached workstations. Genetic Engineering increases efficiency, encourages creativity and delivers a step-change in flexibility. The result is unmatched workflow whether you're working in HD, 2K, 4K or stereoscopic 3D.

## Complete scheduling freedom

Genetic Engineering eliminates scheduling conflicts. With Genetic Engineering, multiple projects can be worked on simultaneously by every workstation connected to the GenePool – all without copying media or waiting for transfers. That's great for business. Here's how Genetic Engineering can dramatically improve your bottom line:

- Different suites can work on the same clips at the same time – shortening timescales
- Jobs can be moved between suites in seconds – boosting scheduling flexibility
- Several creatives can be teamworked on the same project – maximizing creativity
- Different software toolsets can be integrated into the workflow – growing capability
- Media transfer times are eliminated – saving time
- Management of multiple media copies is no longer required – saving resources
- Unnecessary quality control stages are removed – saving time and resources
- Late changes can be handled with ease – great for client satisfaction and the bottom line
- Control your workflow – instantly review the current state of a distributed project

“We can scan, dustbust, conform, grade, film out and work simultaneously on several machines and never need to move media or manage multiple copies. It’s a quantum boost to efficiencies in time and space.”

Bill Schultz, SVP and General Manager, Digital Film Services, FotoKem

### Maximum efficiency

Genetic Engineering allows a number of Quantel Pablo and iQ or eQ workstations to share storage – on the GenePool – and, via the Sam data server, also provides open access to the shared media for other applications. The Max assist station completes the picture, allowing non-creative tasks such as i/o, conforms and archiving to be handled outside the creative suites. All this enables the facility to get maximum throughput from every resource and works wonders for the productivity and profitability of every facility engaged in DI and high end post.

### Totally open access

Sam opens up the GenePool to the world by providing open read/write access for 3rd party applications via the cross-platform CIFS protocol. Sam can virtualize assets into different formats as required without creating new media and wasting disk space. And with Sam’s inventory view, you can look into the structure of clips and composites to access the underlying media as well as the finished version. All this with no proprietary API, just out of the box teamworking, boosting connectivity.

### GenePool – secure, flexible storage

The GenePool is a shared pool of high performance, managed storage controlled by a new distributed filing system from Quantel. Every frame in the GenePool is tracked and managed by FrameMagic, making the best use of every frame of space. The arrays are RAID protected and failing drives can be hot-swapped and auto-rebuilt without impacting performance. Three GenePool configurations are available – one for eQ with up to HD-RGB working, a second for iQ 2K and a third for iQ 4K.



# eQ and iQ in detail

Feature	QEffects	eQ	eQFX	iQ 2K	iQ 4K
<b>Media Handling</b>					
Non-compressed media storage	●	●	●	●	●
1080p 50/60 support	-	-	-	●	●
RAID protected workspace	-	●	●	●	●
Hot swap discs	-	●	●	●	●
Up to 4K compositing	●	●	●	●	●
Full quality monitoring	-	●	●	●	●
Realtime Resolution Co-existence	-	HD-RGB	HD-RGB	2K	4K
<b>Media Interfaces</b>					
SDI	-	●	●	●	●
HD SDI	-	●	●	●	●
Dual Link SDI	-	●	●	●	●
Dual Link HDSDI	-	●	●	●	●
HSDL	-	-	-	●	●
DC-SDI	-	-	-	●	●
1000BaseTX Gig Ethernet	-	●	●	●	●
UltraSCSI 320	-	●	●	●	●
USB2	-	●	●	●	●



Feature	QEffects	eQ	eQFX	iQ 2K	iQ 4K
<b>Software Modules</b>					
Edit module	-	●	●	●	●
Effects module	●	●	●	●	●
Scribe module	●	●	●	●	●
Utility module	●	●	●	●	●
Io module	●	●	●	●	●
<b>General</b>					
Tablet, keyboard, wireless rat, jog shuttle	-	●	●	●	●
Mainframe size	-	4U	4U	8U	8U
Minimum local workspace	-	160m HD*		4h 2K	2h 4K
Max local workspace option	-	18h HD, 12h HD-RGB		16h 2K	8h 4K
<b>Options</b>					
Stereoscopic 3D	-	-	-	○	○
Realtime 3D LUT	-	○	○	●	●
QColor	-	○	●	○	○
QGrade	-	-	-	○	○
Genarts or SpeedSix plugins	○	○	●	○	○
MME	-	○	●	○	○
Audio fader panel	-	○	○	●	●
GenePool Connect	-	○	○	○	○

\* Additional workspace required for realtime HD-RGB operation

Workspace capacity based on:  
 HD: 1920x1080 24 fps 4:2:2, 10 bit  
 HD-RGB: 1920x1080 24 fps 4:2:2, 10 bit  
 2K: 2048 x1556, 24 fps, RGB, 10 bit

- Not available  
 ● Standard  
 ○ Optional



Quantel reserves the right to alter specifications without notice. Please contact your local Quantel office for details of current specifications.

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