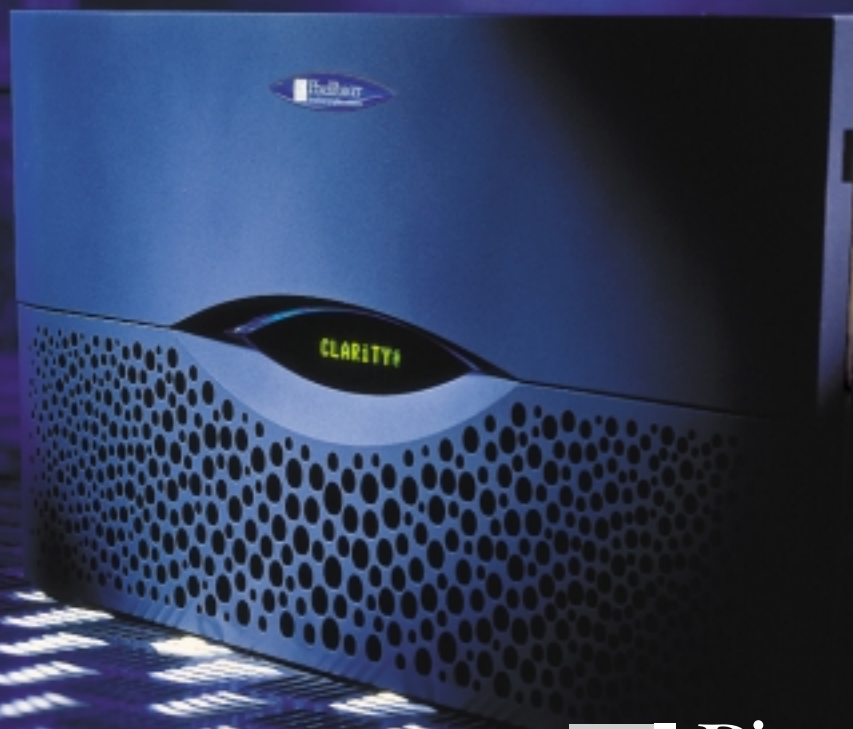


Clarity

A family of high performance
multi-channel, multi-format
real-time graphics systems



Clarity2 - multi-channel character generator for standard and high definition

Introducing Clarity2

▼ Clarity2 is a powerful, multi-format, multi-channel graphics system for character generation, still store and animated graphics requirements of television broadcasters and post production. Offered in combinations of standard and high definition formats, Clarity2 can simulcast both standard and high definition from a single system.

Built upon the very latest computer technology, Clarity2 offers exceptional performance, based on the experience gained from over 1500 Pixel Power broadcast graphics systems in operation. ▲

Dedicated turnkey system

▼ Unlike the PC boardset solutions of the past Pixel Power's Clarity2 has been designed as a turnkey broadcast solution from a single manufacturer who is fully committed to its support.

Clarity2 offers the comfort and familiarity of the Windows user interface using a hybrid of dedicated graphics hardware and open platform PC technology. This assures compatibility with computer industry standards while our dedicated graphics hardware provides reliable, real-time performance.

The Clarity2 graphics system incorporates innovative computer technology using multiple programmable pixel processors operating in parallel on each framestore card. ▲

The Range

▼ The Clarity2 range of systems offers integrated character generation, still store, painting and graphics capabilities. The tight integration of these functions makes Clarity2 the most productive character generator and graphics system available.

Clarity2 is available in three models (TG, CG & GX) for both standard and high definition formats and can be configured to cover the differing requirements of control rooms, editing and graphics production. The Pixel Power design philosophy is that any material created on our full featured systems (CG or GX) can be played out on entry level systems (TG), regardless of complexity, animations or effects.

The powerful standard feature set is further enhanced with a series of systems options including uncompressed clip player, remote control panels and offline page creation software. Such flexibility allows a Clarity2 installation to be custom configured to meet your specific requirements - be they operational, technical and budgetary. ▲

Pictured right - The compact 5RU chassis supports 2 SD channels, 1 or 2 HD channels, or 1 HD and 2 SD channels

Clarity2 HD

▼ Clarity2 HD is a true high definition system available in single or dual channel configurations. The system's HD I/O card gives SMPTE 292M video and key input and output at 720p, 1080p/sf and 1080i resolutions at 24, 25, 30, 59.94 & 60Hz. It also supports VESA HD15 VGA output. Each channel includes a 10 bit downstream keyer/wipe generator and a video mixer. ▲

Clarity2 SD

▼ Clarity2 SD is configured with two fully independent hardware output channels. Dual preview and editing windows are presented on the Windows VGA monitor. Each SD I/O channel provides a CCIR601/656 serial digital video and key input and output supporting 525/60, 625/50 at 4:3, 16:9, 14:9 and user defined aspect ratios. Each channel also includes a 10 bit downstream keyer/wipe generator and a video mixer.

Dual channel configurations highlight the flexibility Clarity2 provides in the automated environment. Master control or newsroom automation may be assigned control of one or both channels. Any unassigned channel remains available for unrestricted manual operation. ▲

Clarity2 HD/SD

▼ Clarity2 HD/SD is fully operator configurable, supporting both HD and SD capability in the same chassis. For post-production a cost effective HD/SD switchable Clarity2 configuration provides either a single HD or two SD channels. Switching between output modes is simple, fast and does not require a system reboot.

For broadcast applications Clarity2 can be configured for simultaneous HD and SD output. This arrangement allows for the simultaneous output of SD 4:3, SD 16:9 and any format of HD graphics from a single Clarity2 system, under the control of a single operator. Such flexibility makes Clarity2 a compelling solution for broadcasters migrating toward HDTV. ▲



Clarity2 - multi-channel character generator for standard and high definition

Interfacing & Connectivity

▼ The Clarity2 product range fits easily into both broadcast and post-production facilities. The system uses several established industry standard protocols to interface with all major newsroom and station automation systems including: Omnibus, Harris, Sony, CJDS DAL, Pro-Bel, Philips, ENPS and iNews.

The evolving MOS standard for media control is also an integral part of Clarity2. The optional PixelMOS Server provides comprehensive control of media creation, distribution and playout to air from within ENPS or iNews automation systems.

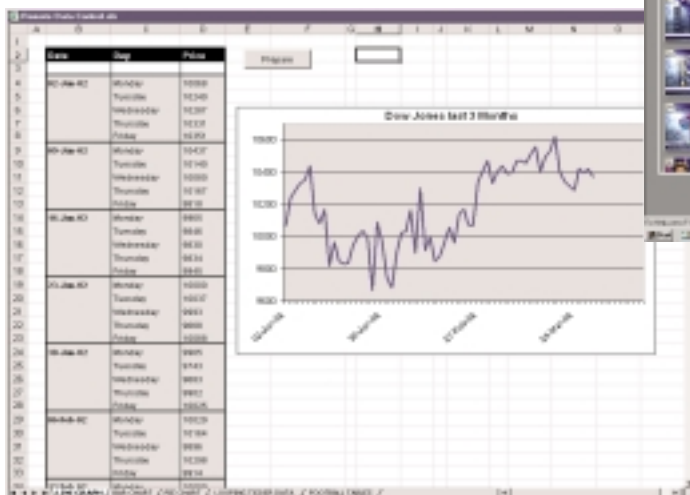
Operating over 100 Base TX ethernet, the powerful DCOM interface allows control of the Clarity2 system by a remote PC. The DCOM interface also allows Clarity2 to extract data automatically from external applications such as Word documents, Excel spreadsheets and the internet. Titles, election results, sports and financial data can all be inserted quickly and reliably into Clarity2 pages.

Clarity2 is easily integrated with existing graphics systems. Clarity2 can import and play out graphics from Aston and Chyron as well as supporting all common Macintosh and PC picture formats. Network file sharing is available using Windows networking protocols as well as other standards via third party software.

Clarity2 uses TrueType and Postscript fonts in their native format giving easy access to a broad range of typefaces - just load them to the Windows Font Folder and they are ready to use in Clarity2.

Designed to fill the whole range of broadcast and post production requirements, anything created on the top of the range Clarity2 GX can be played out on Clarity2 TG or CG - regardless of its complexity or animation content.

Clarity2 offers an integrated multi-channel character generator, still store and graphics solution designed specifically to meet the needs of the broadcast television industry in both standard and high definition - today and into the future. ▲



Clarity2 Standard features

- Dual system processors
- Multiple parallel pixel processors
- Unlimited foreground layers
- Built in 100 BaseTX networking (1000 Base TX optional)
- DCOM based remote PC interface
- Compatible with existing Collage jobs
- Imports numerous image formats including BMP, Collage, JPEG, PhotoCD, PICT, TARGA, TIFF and SGI
- 10 bit downstream keyer and VITC reader for each channel
- Dedicated RapidAction keyboard
- Large internal LVD SCSI drive (minimum 36 GB)
- Built in 250 Mb Zip drive for convenient file exchange
- Built in CD-RW drive

Clarity2 Configurations

- Standard definition - 2 channels
- High definition - 1 or 2 channels
- HD/SD switchable - 2 SD channels switchable to 1 HD channel
- HD/SD triple channel - 2 SD channels and 1 HD channel simultaneously



Flexible automation interfaces allow Clarity2 to extract data easily from common PC programs such as Microsoft Excel.

Clarity2 TG - Text Generator and Graphics Playout Station

▼ Designed as a fast, reliable entry level text generator, Clarity2 TG offers a streamlined text generation feature set optimized for live-to-air applications. Fully compatible with Clarity2 CG and GX, Clarity2 TG can display pages created on any model of Clarity2.

Clarity2 TG can be customized with a range of optional software features to bring together precisely the text generation tools you require, in one affordable system. The optional Live Video Squeezeback capability provides real-time 2D manipulation of a live video input in combination with the display of a text page. For broadcast master control applications this allows the automated insertion of promotions, scheduling and election results conveniently via a single graphics system.

Ideal for connection to automation and newsroom systems, Clarity2 TG provides a fast, flexible and reliable text generator at the heart of your production system. ▲



Two independent channels, each with preview, can combine branding or tickers along with news graphics in a single system.



Dedicated RapidAction keyboard



Occupying minimum desktop space the RapidRecall Keypad is ideal for master control and mobile production situations.

Standard features

- Rolls and crawls - smooth at any speed
- 28 variable pre-programmed page transitions
- Full text manipulation - kern, skew or lead in any direction
- Dedicated RapidAction keyboard
- 1024 text styles per job (assign any 26 to keys on the keyboard)
- Playout of multiple cell animations on any page
- 6 Flexible shape tools
- 500 Truetype fonts
- Logo fonts allow pictures to be recalled by keyboard letter
- WYSIWYG templates - for fast update of data
- Easy to operate macro language
- Comprehensive language support, including native Windows Arabic, Japanese, Chinese, Cyrillic etc.

Options

* available on SD systems only

- Video grab - for fast image capture with key channel
- Dual channel Real-time Live Video Squeezeback*
- Cool and Smart Moves real time pre-programmed animation effects on text and logos
- Digital and Date clocks
- Typing on a curve
- Spell checking
- External automation interface via RS232, RS422 and Ethernet
- Still store including cut & paste tools
- Subtitling with time code follow and internal VITC reader
- Graphics tablet and pressure sensitive pen
- Dual channel uncompressed video clip recording/playback*
- RapidRecall Keypad for fast on-air control
- Upgrade to Clarity2 CG or GX



Clarity2 pages created at HD resolutions may be converted to SD formats quickly and easily. Our optional Collage Import software also converts pages from legacy graphics systems for use on Clarity2.

Clarity2 CG - Character Generator and Still Store

▼ Clarity2 CG builds upon the feature set available in Clarity2 TG to offer a full featured character generator with a tightly integrated still store. This gives you both a comprehensive suite of character generator functions and the graphics tools to create sophisticated, multi-layered graphics.

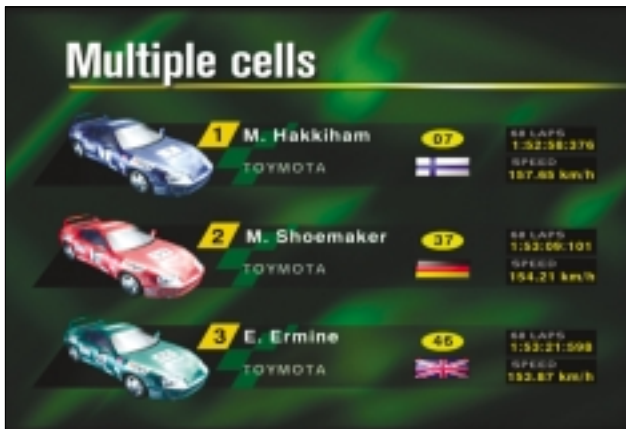
Clarity2 CG features Cool and Smart move animation effects for text and logos. Fully programmable digital clocks are also a standard feature on Clarity2 CG while its automation interface makes Clarity2 CG an easy fit into sophisticated news and live sports environments.

The optional clip player available on SD systems adds two channels of uncompressed 4:2:2:4 video recording and playback. Used as page backgrounds, clips can play forward or reverse, play-to-pause, loop or ping-pong. Precise control of clip playback is provided via a page timeline display.

Combining operational speed and flexibility Clarity2 CG is ideal for live broadcast environments, including control rooms, master control and remote production vehicles. ▲



Unlimited graphic layering allows Clarity2 to combine pictures, cutouts, type and animation in a single channel under manual or automation control.



Cell animations allow the placement of multiple animated icons on a page, each with its own playout properties. Cells may be full screen or smaller like the rotating 3D cars shown above.

Standard features

* available on SD systems only

- All features of Clarity2 TG
- Spell checking
- Cell animation creation tools
- Video grab - for fast image capture with key channel
- Dual channel Real-time Live Video Squeezeback*
- Cool and Smart Moves real time pre-programmed animation effects on text and logos
- Digital and Date clocks
- Typing on a curve
- Automation interfaces via RS-232, RS422 and Ethernet
- On board still store
- Picture Cut & Paste tools
- Subtitling with timecode follow using external LTC reader or internal VITC reader

Options

* available on SD systems only

- Dual channel uncompressed video clip recording/playback*
- RapidRecall Keypad for fast on-air control
- Graphics tablet and pressure sensitive pen
- Upgrade to Clarity2 GX



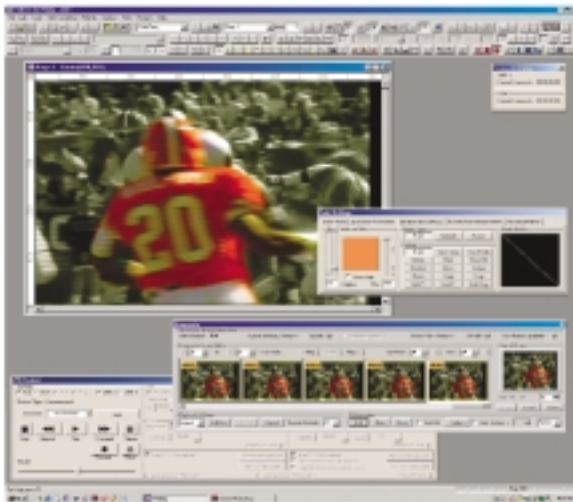
Clarity2 CG templates can be filled via standard automation interfaces. In addition, our PixelWeb software allows the automated extraction of data from web or FTP sites.

Clarity2 GX - Graphics Generator

▼ Designed with the graphic artist in mind, Clarity2 GX is aimed at the graphics production area in a larger broadcaster or as a multipurpose graphics powerhouse in smaller facilities.

Clarity2 GX provides much more than a dedicated character generator. Clarity2 GX further expands system capabilities to include an enhanced range of graphics creation tools. It also adds a comprehensive integrated paint system with freehand brushes, image effects, matte creation, rotoscoping and VTR control for image capture and retouch.

Imagine creating an over-the-shoulder graphic then quickly recalling a CG template to place the story title in precisely the correct location. With one keystroke the font, color, edge and shadow are instantly recalled. Tight integration of paint and character generation tools streamlines your workflow, making Clarity2 GX exceptionally flexible and productive. ▲



The Ramcorder and VTR control allows Clarity2 GX to digitize short clips for rotoscoping or retouching applications.

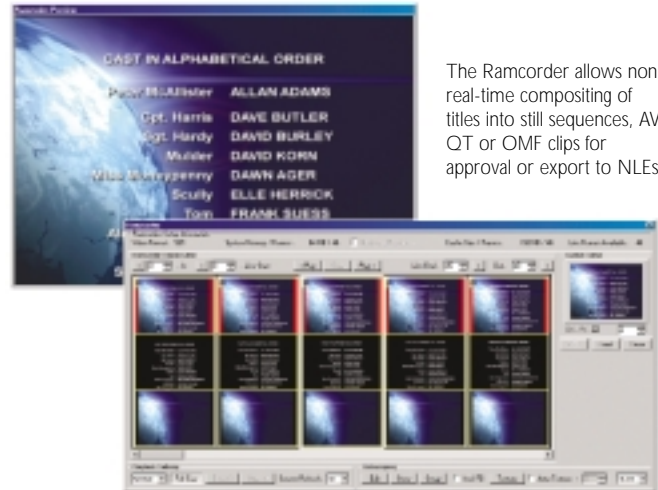
Standard features

- All the features of Clarity2 CG
- An expanded range of flexible shape tools
- Matte creation and manipulation tools
- Video paint system with programmable brushes
- Ramcorder
- Rotoscoping and VTR control
- A5 Graphics tablet and pressure sensitive pen

Options

* available on SD systems only

- A3 graphics tablet
- Dual channel uncompressed video clip recording/playback*
- RapidRecall Keypad for fast on-air control



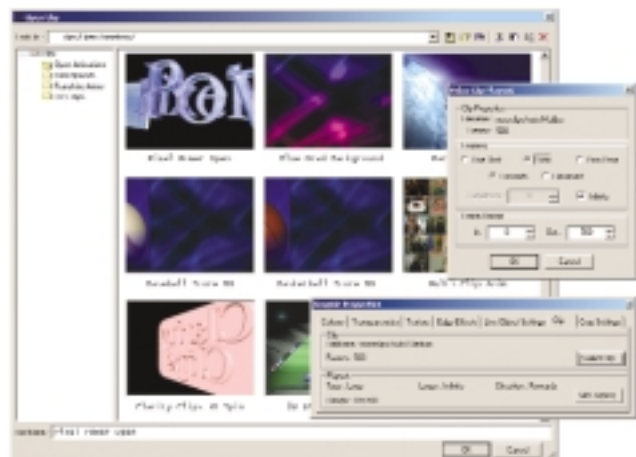
The Ramcorder allows non-real-time compositing of titles into still sequences, AVI, QT or OMF clips for approval or export to NLEs.

Clarity2 SD Options - Video Clip Player

▼ The Video Clips option for Clarity2 SD provides a dual channel, uncompressed video disk recorder. The video disk array provides 60 minutes of 4:2:2 storage, easily expandable via external Ultra 160 SCSI. Storage may be supplied by Pixel Power or sourced from approved third party manufacturers.

Video sources may be captured in uncompressed 4:2:2 or 4:2:2:4 formats ensuring the highest image quality. Clips may also be assembled from image sequences providing a direct link between Clarity SD and offline animation systems.

Clips functions are tightly integrated into Clarity SD. Any page may use a clip background with user defined head, tail, loop, pause and timing settings. The systems internal "squeezeback" function can also be used to resize and reposition clip playback in real-time. The full suite of Clarity text and cell animation tools can be combined with clips to create complex layered presentations for maximum viewer impact. ▲



Clarity2 - Features and Options

✓ Standard
○ Optional
- Not available/applicable

Clarity 2 TG
Clarity 2 CG
Clarity 2 GX

Clarity 2 TG
Clarity 2 CG
Clarity 2 GX

Software Features	Clarity 2 TG	Clarity 2 CG	Clarity 2 GX		Clarity 2 TG	Clarity 2 CG	Clarity 2 GX
500 TrueType fonts	✓	✓	✓	Subtitling with time code follow	○	✓	✓
Unlimited foreground layers	✓	✓	✓	RS422 VTR control	-	-	✓
Text page	✓	✓	✓	Ramcorder/Rotoscoping	-	-	✓
Text line	✓	✓	✓	Video grab with key	○	✓	✓
Text on a curve	○	✓	✓	DCOM automation interface	○	✓	✓
Spell checking	○	✓	✓	HARDWARE FEATURES			
Tabs	✓	✓	✓	A5 Tablet and cordless pen	-	-	○
Templates	✓	✓	✓	Dual system processors	✓	✓	✓
Text import	✓	✓	✓	Internal 36Gb (min) LVD SCSI drive	✓	✓	✓
Edge effects	✓	✓	✓	Internal CD-RW drive	✓	✓	✓
Transparency and shading	✓	✓	✓	Internal 250 Mb Zip drive	✓	✓	✓
Logos	✓	✓	✓	Internal 1.44 Mb Floppy drive	✓	✓	✓
Logofonts	✓	✓	✓	Downstream keyer/mixer	✓	✓	✓
Any speed rolls & crawls	✓	✓	✓	100 Base TX networking	✓	✓	✓
Type/wipe/flash effects	✓	✓	✓	External SCSI Port	✓	✓	✓
Cool Moves animation effects	○	✓	✓	RapidAction keyboard	✓	✓	✓
Smart Moves animation effects	○	✓	✓	Mouse	✓	✓	✓
Digital clock/date clock	○	✓	✓	OPTIONS			
Shapes Tools	○	✓	✓	Dual channel video clip player*	○	○	○
Freehand paint brushes	-	-	✓	Storage for Video Clips option*	○	○	○
Matte creation tools	-	-	✓	RapidRecall remote keypad	○	○	○
Cut & paste	○	✓	✓	Dual output XGA card	○	○	○
Enhanced cut & paste	-	-	✓	1000 Base TX Ethernet	○	○	○
Still store	○	✓	✓	A3 Tablet and cordless pen	○	○	○
Page transitions	✓	✓	✓	Chyron/Aston file import utility	○	○	○
Live video squeezeback transitions*	○	✓	✓	Collette offline page creation software	○	○	○
Cell animation creation	-	✓	✓	Pixel Browser	○	○	○
Cell animation layout	✓	✓	✓	PixelWeb online data extraction tool	○	○	○
Picture file import /export	✓	✓	✓	Upgrade to Clarity 2 CG	○	-	-
Color processing	-	-	✓	Upgrade to Clarity 2 GX	○	○	-
Filter effects	-	-	✓	*feature or option available on SD channels only			
Newsroom automation interface	○	✓	✓				
RS422 Timeline control	○	✓	✓				

TECHNICAL SPECIFICATIONS

PHYSICAL

	Height	Width	Depth
5RU System unit	220mm	437mm	585mm
Keyboard	66mm	468mm	214mm
Tablet	14mm	334mm	258mm

POWER

System unit	110/220V 50/60Hz auto switching 350W typical
Tablet	110V or 220V plug in power adaptor

VIDEO

Menu selectable SD	525/60, 625/50
Menu selectable HD	1080i, 1080p/sf, 720p, 60/59.94/50/24/25 Hz
Aspect ratio	4:3, 14:9, 16:9 or user defined (SD only)

SD INPUTS

Ref	Color black or mixed syncs with loop through and internal software selectable 75R terminator. System will free run with no sync source present. Menu control of lock timing.
Video	Each channel equipped with: REC601/656 serial digital video and key input. Input frame re-synchroniser to allow non locked sources and simplify systems installation. Can also be software selected to run in minimum delay configuration. 4:2:2:4 or 4:4:4:4 operation with pass through of embedded audio and data.
GPI	2 contact closure trigger inputs per IO card

SD OUTPUTS

Video Digital	Each channel equipped with: REC601/656 serial digital video and key with internal 10 bit downstream keyer. 4:2:2:4 or 4:4:4:4 operation.
Analogue	Monitoring output software selectable to RGB, YUV, YC, Composite all with key and sync. Monitoring output can show different source to program out. 15 way HD D-type connector supplied with D-type to BNC lead.
GPO	2 contact closure trigger outputs per IO card

HD INPUTS

Ref	Tri-level or bi-level HD sync with loop through and internal software selectable termination. System will free run when no sync source present. Menu control of lock timing.
Video	Each channel equipped with: SMPTE292M serial digital video and key for each channel with active loop through. 4:2:2:2 or 4:4:4:4 operation.
GPI	2 contact closure trigger inputs per IO card.

HD OUTPUTS

Video Digital	Each channel equipped with: SMPTE292M serial digital video and key with dual connectors. 10 bit downstream keyer. 4:2:2:4 or 4:4:4:4 operation.
Analogue	Low cost SVGA connector for monitoring in RGBHV format in accordance with SMPTE Recommended Practice.
GPO	2 contact closure trigger outputs per IO card.

STORAGE

1 Gb system memory
36 Gb (minimum) Internal hard disk
1.44 Mb PC compatible floppy disk
250 Mb Internal Iomega Zip drive
Internal CD-RW

INTERFACE CONNECTIONS

SVGA	15 way HD D-type connector, dual SVGA optional
Keyboard	PS/2
Mouse	PS/2
VTR1 , VTR2	RS422 Sony compatible 9 pin
Serial	2 RS232 ports for tablet or remote control
SCSI	68 pin SCSI LVD/SE port
Ethernet	100 Base TX (dual)
USB	2 ports
Parallel	PC compatible printer port

The illustration shown below is based upon HD/SD switchable or HD+SD three channel configurations. Due to continual product development, specifications may be subject to change without notice. Pixel Power, Collage and Collette are registered trade marks of Pixel Power Ltd. All copyrights & trademarks recognised.

