

CARBONITE BLACK



Carbonite Black
The Production Powerhouse.

ROSS

Production Technology Experts



Ergonomic Obsession.

Do More

- The biggest creative feature set for mid-size productions.
- Beautiful, ergonomic design that is faster and easier to use than competitive models.
- Handles 1080P and 4K productions without requiring expensive upgrades.

Save Money

- Carbonite provides exceptional production value from Ross which is well known as one of the best value brands in the industry.*
- Free lifetime technical advice by telephone and email - free forever!
- Continuous feature improvements via free software updates.

Choose Wisely

- Carbonite is backed by Ross, a solid company committed to production switcher development with a 40+ year history.
- Ross ships the most production switchers in 2ME and up sizes – this popularity makes it easier to hire and retain operations staff.
- Choose great support - Ross annually receives among the highest ratings for customer support.*

*Source: Devoncroft Big Broadcast Survey



CARBONITE BLACK

3ME / 3G / 4K UHD TV @ 50/60Hz

Meet The Carbonite Black Family.



Carbonite Black™
Carbonite Black Plus™

Carbonite™
Carbonite Plus™
Carbonite MultiMedia™

Carbonite Extreme™



A stunning new look that is ergonomically superb.

- Restyled legendary Ross Faders
- Up to 3 Full ME Rows
- Up to 32 source select buttons
- Ethernet connectivity
- Button per function for fast and efficient production

Bigger, Better, Beautiful.

The most successful production switcher ever just got better.

The new Carbonite Black processing engine brings expanded I/O and ME count, providing 3 Full MEs, 36 inputs, and 22 outputs – plus all of the superior features found in our other Carbonite models such as MiniMEs, MultiScreen, 3G and UHD (4K) format support. New Carbonite Black panels not only look beautiful but are a joy to operate.

Carbonite has been the favored choice of many media organizations with production requirements for a mid-sized 1, 2 or 2.5 ME production switcher. For many larger productions, operators have expressed the desire for an expanded version of Carbonite that retains all the familiar, highly desirable features and capabilities. **Carbonite Black is the answer to that request and delivers even more.**



A Panel to Suit Your Production.

CARBONITE BLACK



Carbonite Black 1
• 16 Button 1 ME Row
• Global Memory Control



Carbonite Black 1S
• 24 Button 1 ME Row
• Effects Memory Keypad



Carbonite Black 2
• 16 Button 2 ME Rows
• Global Memory Control



Carbonite Black 2S
• 24 Button 2 ME Rows
• Effects Memory Keypads



Carbonite Black 3S
• 24 Button 3 ME Rows
• Effects Memory Keypads



Carbonite Black 3X
• 32 Button 3 ME Rows
• Effects Memory Keypads

Your Control Center.

The Combination Of Beauty And Operational Elegance.

Carbonite Black panels are not only a joy to behold, they are also intuitive and easy to use. Every panel operates identically, if you know one - you know them all. For every task you need to perform there is a dedicated button - no searching or stepping through menus. Operators simply love Carbonite as even the most complex tasks can be performed quickly - an essential feature in modern live production. There is a Carbonite panel to suit every application, from small flight packs to large control room installations - Carbonite is the clear choice.

No other production switcher family can offer the choice or flexibility that Carbonite brings.

Carbonite Black 3X Panel shown
(32 crosspoints)



MULTI-PURPOSE BUTTONS
 • Quickly select patterns, DVE effects, memories, media, or menu functions

DIRECT ACCESS TO MEMORIES
 • MemoryAI™ Recalls make for impressive productions

HIGHLY VISIBLE MENU
 • Intuitive auto-follow menu

ME EFFECTS MEMORY CONTROL
 • Instant access to individual ME effects memories.

HIGH END 3-AXIS JOYSTICK
 • Position wipes, patterns, washes, camera control and DVE effects

POWERFUL MACRO EDITING
 • Easy to create, amazing to use

KEY TYPE SELECTIONS
 • Choose between self-keying, linear keying, chroma keying, and DVE picture in picture keying

TOP BUS DELEGATION
 • Reassign the top bus to keyer, AUX bus, or macro recall control

SOURCE MNEMONICS
 • Name sources, select text size, choose color and even invert

MACRO NAMES
 • Give macros names for worry-free recall during live productions

PANEL GLOW
 • User-adjustable for various lighting environments

SELECTION CONTROL
 • Configurable AUX, ME, MiniME & MultiScreen control selection

16 / 24 / 32 WIDE SELECTOR BUS
 (Depending on panel) 32 wide on Carbonite Black 3X
 • Access to every internal and external source in the switcher

ROLL CLIP
 • Automatically roll a clip cued on Preview bus with next transition

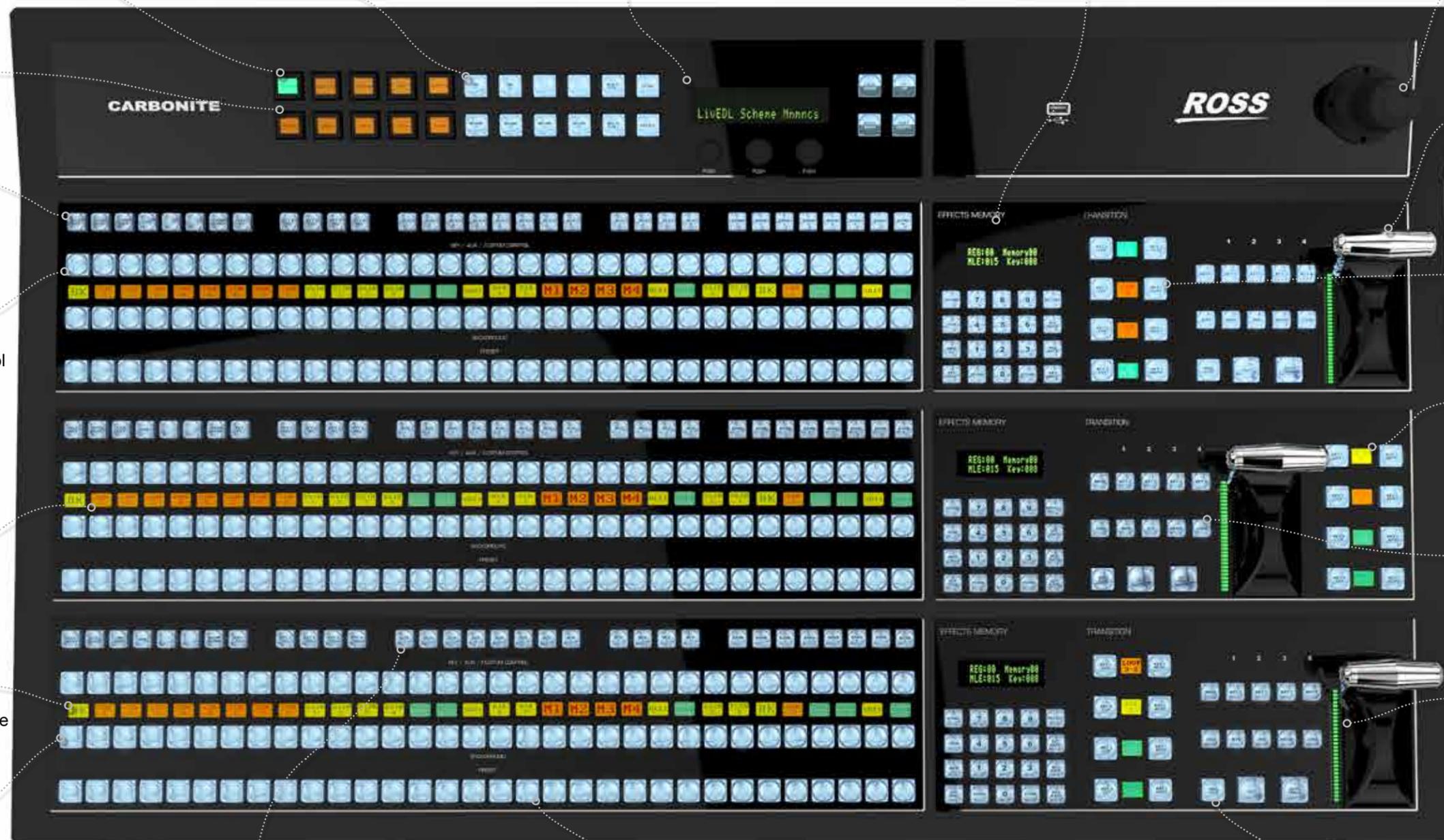
LEGENDARY ROSS FADER
 • Robust and Guaranteed for Life

DEDICATED CUT AND AUTO TRANS BUTTONS
 • Rapid live keyer control

SOURCE MNEMONICS
 • Show current source names for every keyer

ADVANCED TRANSITION TYPE SELECTION
 • Choose from dissolve, wipe, DVE, and MediaWipe™ Transitions

TRUE NEXT TRANSITION AREA
 • Rapid selection of all keyers with full preview



Applications.

Carbonite is used daily in a wide variety of production applications. Our engineers have incorporated feedback from our diverse group of users, resulting in a capable, powerful and feature rich production switcher. Whatever your creation, you can be assured that Carbonite will give you all the horsepower you need to produce beautiful, crisp, clean television.

Broadcast



Worship



Live Events



Sports



Legislative Control Systems



Corporate



Education



Rich Feature Set.

A great looking production requires a complete set of tools. Carbonite's unmatched power and easy-to-use feature set will get the job done.

Powerful MEs

Carbonite packs major effects and keying power into 2 MEs. Each ME has 4 powerful keyers with luma, linear, Chroma and DVE key types as well as an additional 5th hidden keyer for animated Media Wipe and DVE transitions. Each ME can access the 2 advanced UltraChrome™ chroma keyers. Two advanced pattern generators per ME are available for wipes, pattern masks and color washes. Each ME also provides a clean feed output.

LiveAssist™ & MediaManager™

A powerful Ross DashBoard LiveAssist™ control interface combines with Carbonite's MediaManager browser to provide intuitive control over switcher settings, Media Store graphics and animations. With simple access from PC and MAC, DashBoard and MediaManager are the perfect Carbonite companions.

ViewControl

With ViewControl, it is now possible to create an entire production from a simple and very intuitive interface. Complex transition elements are shown as thumbnails surrounding the live source windows. Running the show is now as simple as touching the screen.

4 Channel MediaStore™

Four independent media player channels are available switcher-wide. Stills, logos and animated graphics can be played out from the on-board 8GB memory and can be loaded via USB storage devices. The Media-Store™ can also be managed directly over Ethernet via Carbonite's browser-based graphics tools.

4 or 8 Channels of DVE

4 or 8 high quality 2D DVE channels are available system-wide. When set to 4 channels the DVEs 'float' within the system architecture allowing all to be assigned to a single ME or distributed across both MEs as the production demands. These DVEs are also available for ME DVE transitions and have dedicated selection in the ME transition area.

MediaWipes™ with Audio Playback

MediaWipes™ add powerful animated transition capabilities with audio playback from the Carbonite MediaStores™. Create compelling, animated graphic transitions and control them simply from a dedicated ME transition area selector.

MultiViewers - Total Monitoring Solution

Two configurable MultiViewers (up to 32 windows) are included in Carbonite's standard feature set. These clean, low latency MultiViewers have access to all external and internal sources. Source naming and tally assignment automatically follow window routing selections. The MultiViewer clock can be locked to house time via Time code. Carbonite Black Plus includes 3 additional 16 window MultiViewers for input and output monitoring providing the ability to monitor up to 80 sources.

Multi-Format Production

Carbonite's video processing engine can be set for Standard or High Definition production. In addition, the standard system includes 6 internal frame synchronizers and format converters which allow mixed SD and HD formats to be seamlessly incorporated into your production. The Carbonite Plus / Carbonite Black Plus and MultiMedia versions have dedicated converter/synchronizers on every input. Carbonite Black Plus includes 12 outputs with Format Conversion

Proc Amps and Color Correction

All inputs on the Carbonite Plus / Carbonite Black Plus and MultiMedia frames have video processing and color correction controls for input matching or to add creative flare. Carbonite Black Plus adds output Proc Amps and Color Correction to 12 outputs, ideal for on-set display correction.

MultiMedia Inputs

The Carbonite MultiMedia version has special input groups that accept analog and HDMI inputs as well as SDI. These inputs employ advanced format conversion designs that provide very high quality conversion for progressive and computer display formats with low latency.

UltraChrome™ Advanced Chroma Keying in Every ME

Our UltraChrome™ chroma keyer uses new Ross technology to perform detailed keying in the most demanding conditions.

Effects Memory with MemoryAI™

Carbonite's powerful and truly unique intelligent resource management system allows stored keys and backgrounds to be recalled to preview without disturbing what is currently on-air. This system enables multiple 'scenes' to be stored and recalled in a manner that would normally require a much larger multi-ME switcher.

Custom Control Macros

The combination of macro event management with timelines. Fast, Powerful & editable macros that can do almost anything. Record events, recalls, pauses, holds and control devices, directly from the panel or the DashBoard GUI.

LiveEDL™

Another unique Ross feature; during your live production Carbonite can generate an industry standard Edit Decision List (EDL). Production decisions can then be seamlessly transferred to a Non Linear Editor to recreate the event timeline. With Carbonite, getting an as-run edit into post is as simple as a few mouse clicks.

RossTalk Protocol & Device Control

Direct control of external devices is simple with Carbonite. Control Servers, Robotic Cameras, select Audio Mixers and, of course, our award winning XPression 2D / 3D graphics system.

MiniMEs

Following pages.

CARBONITE BLACK

MiniMEs are a new class of operational 'devices' within the production switcher architecture. These are very powerful effects modules that include an independent Mixer and 2 Keyers, 1 standard Keyer and 1 specifically for DVE boxes. MiniME modules do not reside in a fixed position in the signal flow – they are not Upstream, Midstream or Downstream – they 'float' and can be used anywhere in the signal path. They reside in a resource 'pool' to be used anywhere in the system for additional dissolves and key layers, which are immediately released as soon as the transition or effect is complete. There are 4 MiniMEs in the system, as they are automatically attached when required they can be assigned to multiple locations – and all four can be used simultaneously.

MiniMEs are completely independent of Carbonite MEs. All of Carbonite's standard ME resources are available without compromise.



Pre-Chroma Keying

Composite chroma key sources over a background with Carbonite's awesome UltraChrome keyer and simply select that input during production. Perfect for weather and virtual sets, no need to tie up an ME.



Pre-Keying

With a MiniME you can Pre-Key on a direct input source. Simply assign a key graphic to the input source and whenever that source is selected it will be pre-built with the assigned key – no ME involved. Perhaps you want to add an OTS DVE and a graphic to a camera input, same deal – whenever and wherever that source is selected it will be a pre-built layered image. MiniMEs can be attached to any number of inputs and up to 4 pre-keyed sources can be used simultaneously.

Carbonite MiniME™



Downstream Keying

A MiniME can also be a downstream keyer/mixer, just assign program or any other input and key source. With 4 MiniMEs there can be 4 entirely differently branded program outputs in addition to standard ME outputs – no clean feeds involved. Of course MiniMEs are also perfect for independent On-Set display management.

Carbonite MiniMEs

Available in all Carbonite systems - regardless of age or configuration. MiniMEs have their own dedicated key resources which are in addition to ME keyers.

Midstream Key Layering

Add more key layers between MEs, i.e. Build a 4 box layout on ME1, feed it into a MiniME and then add a lower third to it. The composited output can now be called up on the second ME or used as a second program output.



Carbonite MultiScreen™

Perfect for IMAG and Live Events - Screen Processing with Minimum Delay

Compelling Multi-Screen Production
Say goodbye to complex and expensive multi-screen image processors. Carbonite MultiScreen delivers compelling multi-screen production with ease - and, remarkably, it is a standard feature in Carbonite Production Switchers.



Features

- Manage Up To 4 Separate Screens Simultaneously**
- Create visually stunning content for up to 4 projectors on a single screen with edge blending
 - Scale outputs across multiple displays perfectly with bezel compensation
 - Integrated visual control of screens in 1x2, 2x1, 1x3, 3x1, 1x4, 4x1 and 2x2 configurations
 - Produce MultiScreen and program outputs simultaneously
 - Simple setup and straightforward operation
 - DashBoard GUI Controls via PC or MAC

- Broadcast Quality**
- Broadcast level visual effects in a multi-screen environment
 - Serious production power across all outputs
 - Lip sync friendly with low latency – 1 frame of delay max
 - Dramatic cross screen transitions
 - Scale a single background across all screens
 - Full resolution multi-screen backgrounds from graphics systems and Media-Stores

- Cost Effective**
- MultiScreen is FREE with all Carbonite Production Switchers
 - Built in control for Video Servers, Audio Mixers, Robotic Cameras and Graphics Systems
 - Optional LiveCG Character Generator
 - Integrated Media-Stores for built-in background slides, animations and keys

MiniMEs - The Carbonite MultiScreen Secret
The MiniME is an incredibly powerful addition to this production powerhouse. A MiniME is a small Mix Effects processor that has access to all of Carbonite's internal and external sources – independent of the main MEs. MiniMEs have background processing for edge softening and access to scaling via Carbonite DVEs. In addition each MiniME has two keyers and independent mixing.

- Carbonite MiniMEs**
- Four MiniMEs in every Carbonite
 - Linked control for MultiScreen production
 - Independent control for on-set and secondary outputs
 - Selectable edge softening for Edge Blended displays
 - Simple operation via Carbonite Custom Controls



GearLite SDI To HDMI Conversion
Our GearLite SDI to HDMI converter is the simple solution for MultiScreen connections. This high quality yet inexpensive module allows the direct connection to your display's HDMI or DVI-D inputs from Carbonite's serial digital outputs via a single BNC cable.

Carbonite SideShot - Custom Control Shot Box
Manage your Stage and On-Set MultiScreen production with the SideShot Custom Control macro shot box. Carbonite custom controls can be programmed to manage all of the elements of your production and assigned to SideShot keys - complete with highly visible control mnemonics.



With SideShot your MultiScreen event can be operated independently from your Carbonite panel.

Carbonite Production Systems



Carbonite Production Systems

A Carbonite 1, 2 or 3 ME switcher combined with a Ross Video Server, and our stunning XPression 3D Character Generator and Motion Graphics System.

Whatever your production requires - Ross Video offers every component needed to build a Studio System package tailored for you.

Carbonite ViewControl™

ViewControl™
Carbonite Studio Systems integrate production switching with powerful XPression 3D graphics and BlackStorm video server playout via our RossTalk and AMP Ethernet protocols. Add the remarkable patent pending ViewControl touch screen application via DashBoard and every production element is visually displayed for instant touch selection.

ViewControl is much more than just touching sources and bringing them to air, this is a sophisticated and highly integrated system that can easily perform seriously complex productions.

Whatever your production tasks a Carbonite Studio System with ViewControl will accomplish them perfectly every time. No other production solution can provide seamless and efficient control. **The whole is truly greater than the sum of the parts.**



- 1 Configurable tabbed 'bins' with thumbnails for instant touch selection of custom production elements
- 2 Next Transition Selection
- 3 Transition & Roll Clip Controls
- 4 Direct Key Cut & Auto Control Area with Source Mnemonics
- 5 Touch Selectable low latency MultiViewer windows (1 frame delay)
- 6 Switcher Bus Destination Selection
- 7 ViewControl Configuration Settings





CARBONITE BLACK FRAME
Minimum space, Maximum power.

- 2 Rack Units – standard BNCs
- 36 inputs
- 22 outputs
- 3 full MEs with 4 Keyers
- 8 DVEs (4 in Frame Sync mode)
- 4 MiniMEs with 2 MultiScreen Modes
- 2 MultiViewers
- 4 MediaStore channels
- SD, HD, 3G & UHD (4K) processing
- 6 Frame Synchronizers & Format converters
- ViewControl – touchscreen production control
- DashBoard control integration
- XPression motion graphics integration
- BlackStorm video clip player integration

CARBONITE BLACK PLUS FRAME
Minimum space, Maximum power.

- 2 Rack Units – standard BNCs
- 36 inputs
- 22 outputs
- 3 full MEs with 4 Keyers
- 8 DVEs
- 4 MiniMEs with 2 MultiScreen Modes
- 5 x 16 window MultiViewers
- 4 MediaStore channels
- SD, HD, 3G & UHD (4K) processing
- Frame Synchronizers & Format converters on all inputs
- 12 Outputs with Format Conversion, Proc Amps & Color Correction
- ViewControl – touchscreen production control
- DashBoard control integration
- XPression motion graphics integration
- BlackStorm video clip player integration



Carbonite Black / Carbonite Black Plus

Carbonite Black / Carbonite Black Plus

Carbonite Black

A production powerhouse in just 2RU.

Three full MEs with MiniMEs and Multi-Definition support based on our renowned large switcher technology.

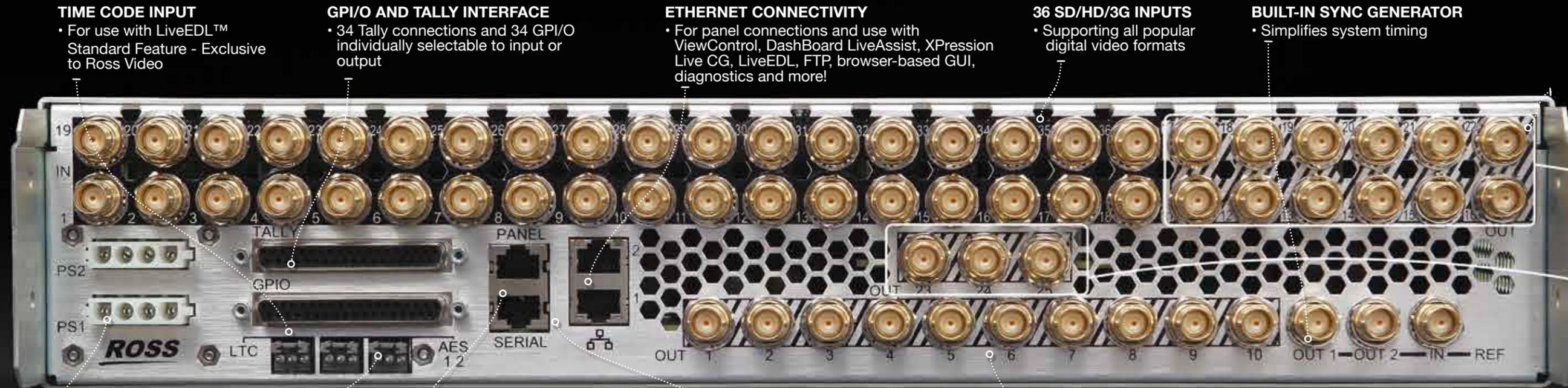
Includes the same awesome features of Carbonite, the new Carbonite Black processing engine adds more inputs, outputs and ME power.

As standard the Carbonite Black engine has 36 multi-format SDI inputs and 22 outputs that can manage SD, HD, 3G and UHD (4K) signals. It is available in either 2 ME or 3 ME configurations and always includes MiniMEs, that brings the effective ME count to 6 or 7!

In addition to this new engine's expanded video I/O we have added AES digital audio outputs for audio playback from the internal media stores.

The processing power provided within Carbonite Black allows this mid-size platform to outperform larger switchers with substantially higher price tags.

Carbonite Black Plus models take things even further-providing the additional monitoring, conversion, color correction and proc amps required to tackle the most complex and demanding productions.



TIME CODE INPUT

- For use with LiveEDL™
- Standard Feature - Exclusive to Ross Video

GPI/O AND TALLY INTERFACE

- 34 Tally connections and 34 GPI/O individually selectable to input or output

ETHERNET CONNECTIVITY

- For panel connections and use with ViewControl, DashBoard LiveAssist, XPression Live CG, LiveEDL, FTP, browser-based GUI, diagnostics and more!

36 SD/HD/3G INPUTS

- Supporting all popular digital video formats

BUILT-IN SYNC GENERATOR

- Simplifies system timing

CARBONITE BLACK PLUS FRAME ONLY

12 Processing Outputs

- Down / Cross Conversion, color correction & Proc Amps
- Perfect for on-set display adjustment

Input Source Monitoring

- 3 x 16 window MultiViewer outputs (12 inputs and 4 outputs per multiviewer)

OPTIONAL REDUNDANT POWER

- With solidly locking connectors for maximum reliability

AES DIGITAL AUDIO OUTPUTS

- For audio playback from MediaStores.

CONTROL PANEL CONNECTION

- Standard CAT-5 shielded cable (for connection to legacy Carbonite panels)

SERIAL INTERFACE

- For editor and RS-422 control

22 ASSIGNABLE OUTPUTS

- Dual assignable MultiViewers
- Multiple outputs are essential for multi-screen and live to tape applications



Carbonite Extreme

Carbonite Extreme Powerhouse Switcher and Router combined, The Carbonite eXtreme is a true revolution in production system design. This unique package provides unprecedented system flexibility and multi-destination management - It's a Ross first.

Carbonite eXtreme breaks away from the traditional production switcher architecture. Production switchers are typically designed around the task of delivering a single Program output from multiple input sources, however many production systems today are required to deliver outputs to multiple screens, on-set displays and signal distribution systems. This is particularly true for live production of worship & stage events as well as within larger facilities and multi-site complexes.

eXtreme is a truly revolutionary production tool. It has all of the horsepower of Carbonite wrapped inside a highly configurable signal routing & management system. This combination is ideal for mobile production vehicles as it simplifies installation and operation immensely, while also offering tremendous flexibility and significant system cost savings.

The eXtreme chassis can be configured with an I/O of up to 144 x 144 in increments of 8. With eXtreme it is now simple to manage complex productions across multiple output destinations!

eXtreme is available with any Carbonite control panel and destination based signal routing control is simply managed with our NK router panels. Of course eXtreme can also be configured as a Studio System with XPression graphics systems, BlackStorm playout servers and DashBoard control.

With Carbonite eXtreme you have a complete 'state of the art' production system with full signal management. Nothing like this has ever been seen before, it is another Ross first and a real game changer!



Power Packed 10RU Frame

Router Controller Module

Input Modules (8 inputs per card)

Redundant Power Supply (Optional)

USB Connector for Storage Devices with extension to rear for internal or external connection

Carbonite Switcher / Routing Matrix Module

Output Modules (8 outputs per card)

Slot for second Carbonite switcher / routing matrix module - used for redundant operation, an additional 2 / 2.5 ME production switcher, or, use as two more 16 window MultiViewers.

Rack Mount Break Out for Tally, GPI/O, TimeCode and Serial port



Carbonite Extreme

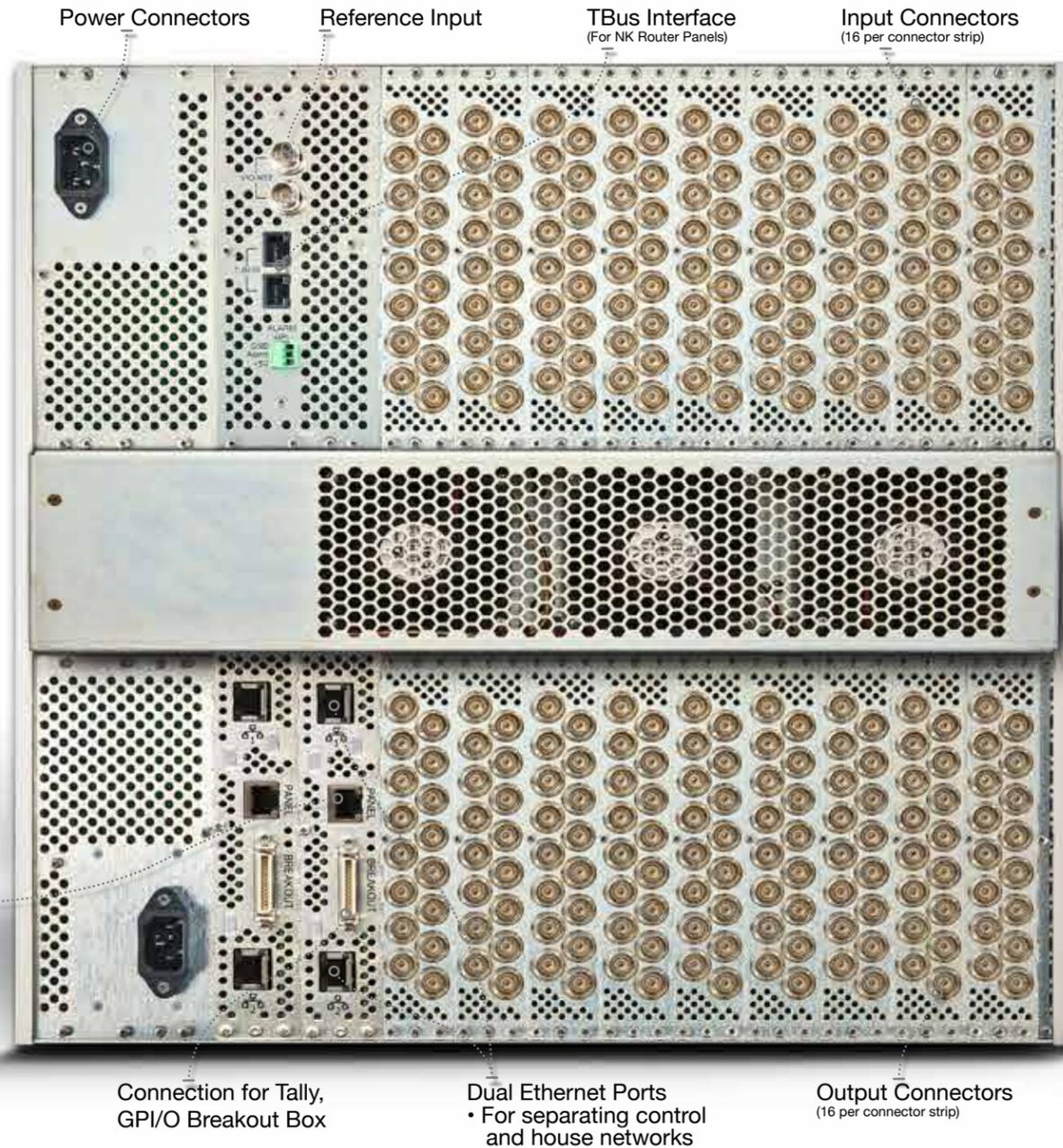
The Multi-Destination Revolution!

Carbonite eXtreme eliminates the complex wiring and signal management associated with larger production systems. It is essentially designed from two fully integrated sub-systems: A configurable routing sub-system, with up to 144 physical inputs and outputs and a 2 ME Carbonite production switcher sub-system.

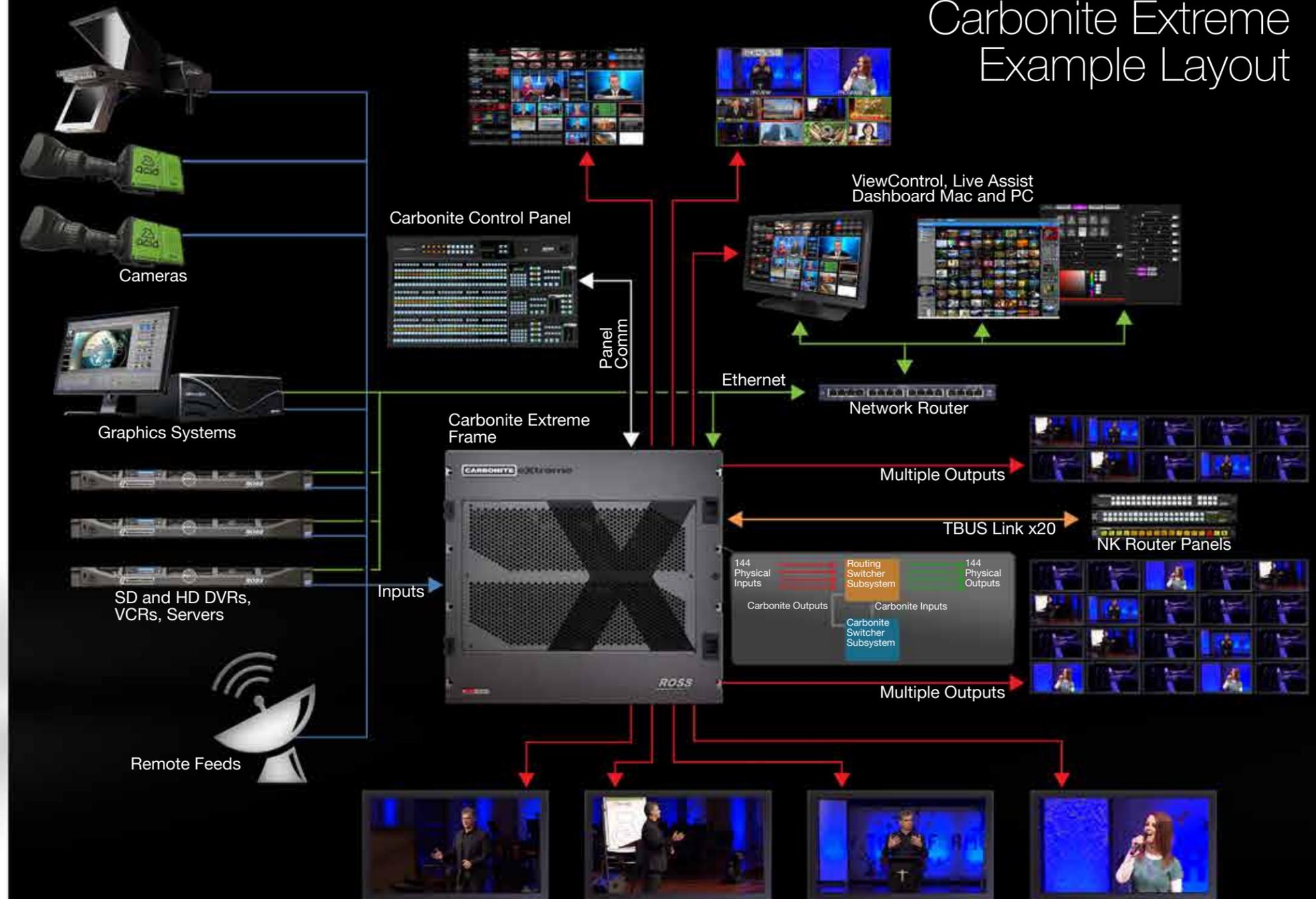
The Carbonite control panel has access to any of the physical inputs together with input mnemonics and all physical and internal inputs are selectable on any physical output via DashBoard and NK router control panels. Internally the routing system is 154 in by 168 out, allowing any destination to receive any physical input or switcher output.

Of course signal routing, production switcher, XPression graphics, BlackStorm servers and third party device controls are all integrated via our Dashboard control systems, greatly simplifying installation, setup up and operations.

Add our new DashBoard Panel Builder and you can create your own user interface to run your productions exactly the way you want to. You can even create simple task specific control points for inexperienced operators or volunteer users.



Carbonite Extreme Example Layout



CARBONITE / CARBONITE PLUS / CARBONITE MULTIMEDIA

Carbonite

A production powerhouse in just 2RU.
Two full MEs with Multi-Definition support based on our renowned Vision switcher technology.

Carbonite+ and **Carbonite MultiMedia** frames add signal management features to this **Production Powerhouse**.

Carbonite Plus

Including the same awesome features of Carbonite, the new Carbonite+ 2RU processing engine includes Frame Synchronization and Format Conversion for every input as well as increasing the number of available DVEs from 4 to 8. Just like Carbonite, the + frame is available with 16 or 24 active inputs, with all inputs now simultaneously capable of accepting unreferenced signals and converting SD (625 or 525) to HD 1080i format with aspect ratio choices.

Additional DVEs allow every ME key to have a DVE assigned, making it possible to display 8 boxes on screen simultaneously or transition between quad box layouts.

CARBONITE MULTIMEDIA

Also a 2RU processing engine with the functionality of the Carbonite+. In addition MultiMedia adds up to 4 shared SDI/HDMI/Analog inputs that incorporate new high quality / low latency format conversion features.

These new MultiMedia connections allow input from computers (PC & MAC) as well as provide support for legacy analog devices such as Standard Definition DVD players, cameras and VCRs. New scan conversion technology allows these inputs to accept Interlaced or Progressive formats with differing pixel resolution and aspect ratio and seamlessly convert them to the native format of your production.



TIME CODE INPUT

- For use with LiveEDL™ Standard Feature - Exclusive to Ross Video

GPI/O AND TALLY INTERFACE

- 34 Tally connections and 34 GPI/O individually selectable to input or output

ETHERNET CONNECTIVITY

- For use with ViewControl, DashBoard LiveAssist, XPression Live CG, LiveEDL, FTP, browser-based GUI, diagnostics and more!

16 OR 24 SD/HD INPUTS

- Supporting all popular digital video formats

BUILT-IN SYNC GENERATOR

- Simplifies system timing

OPTIONAL REDUNDANT POWER

- With solidly locking connectors for maximum reliability

CONTROL PANEL CONNECTION

- Standard CAT-5 shielded cable

SERIAL INTERFACE

- For editor and RS-422 control

8 ASSIGNABLE AUX, 1 PROGRAM, 1 PREVIEW

- Dual assignable MultiViewers
- Multiple outputs are essential for multi-screen and live to tape applications

MULTIMEDIA FRAME ONLY

HDMI

- Direct connection of computer input with built-in HQ scaling

ANALOG

- Composite and Component analog inputs



Enhanced MultiViewers

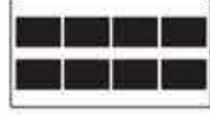
Powerful MultiViewers

Carbonite MultiViewers have been engineered to provide the best possible monitoring solution for your production.

Each MultiViewer has user selectable layouts with the individual choice of border, tally and UMD label display for each source. In addition, a user configurable clock can be sized and positioned anywhere on the multiviewer screen, locked to house time code or internal reference.

INDIVIDUAL WINDOW OPTIONS:

- Source label on / off
- Border on / off
- Aspect ratio marker on / off
- Red On-Air Tally on / off
- Green Preview Tally on / off



Easily select your preferred MultiViewer layout with the Dashboard Control Panel.

MultiViewer™ LAYOUTS:

- 16 Windows
- 13 Windows (4 Layouts)
- 10 Windows (5 Layouts)
- 9 Windows
- 8 Windows
- 7 Windows (2 Layouts)
- 6 Windows (3 Layouts)
- 5 Windows (2 Layouts)
- 4 Windows (3 Layouts)
- 3 Windows (4 Layouts)
- 2 Windows (2 Layouts)
- 1 Window



Carbonite Black Plus adds 3 x 16 MultiViewers!
Monitor up to 12 source inputs and 4 outputs each.



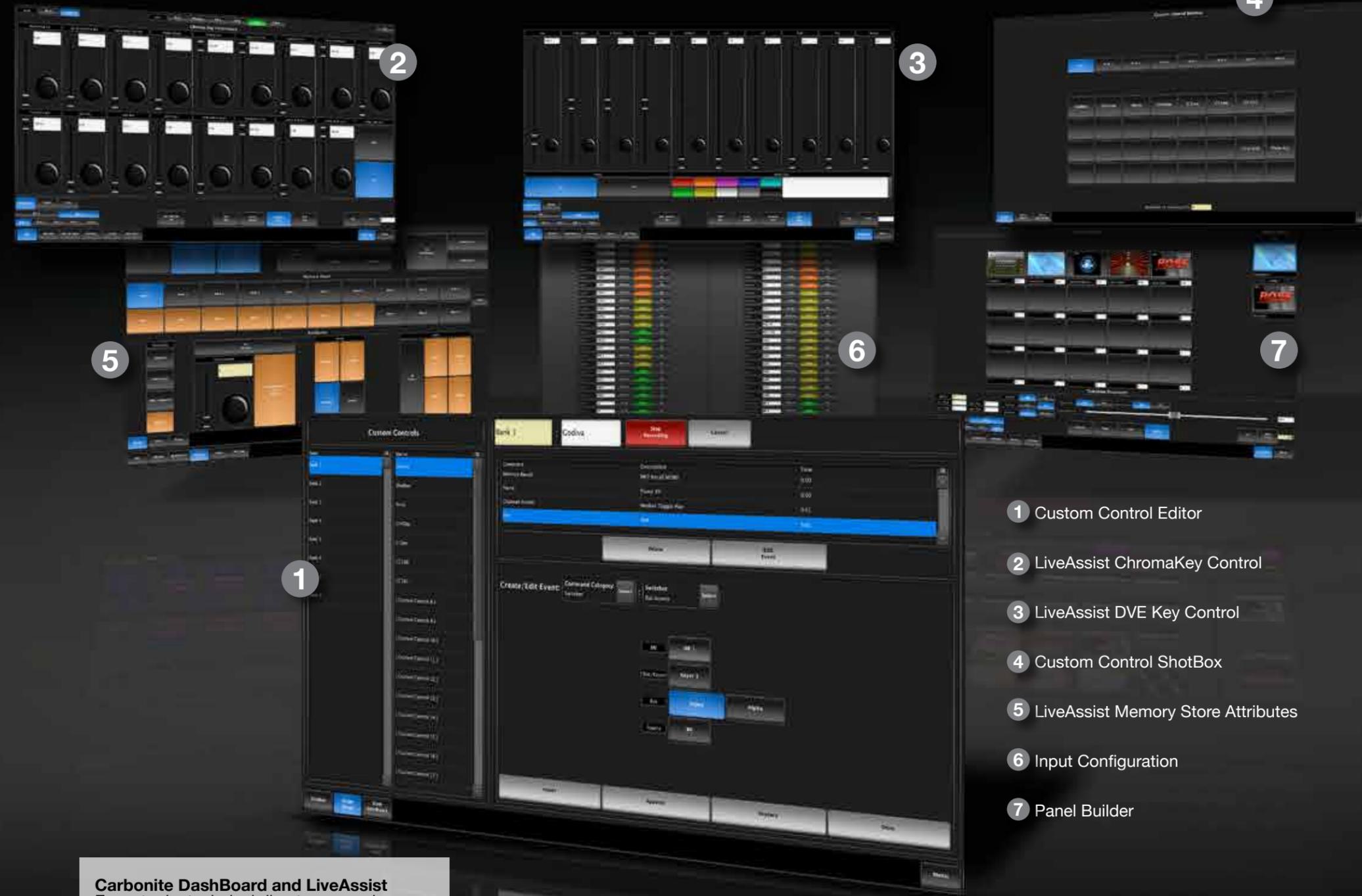
Carbonite MultiViewers
When Carbonite is operating in Standard Definition, MultiViewer outputs can be selected as native SD or as 1920 x 1080 HD format to maximize display quality.

Carbonite DashBoard and LiveAssist™



LiveAssist™
Take control over switcher functions. Setup Keyers, MediaWipe transitions and much more via this intuitive DashBoard interface.

MediaManager™
Easily manage stills and animations in Carbonite Media Stores via the feature rich MediaManager GUI. Accessible within Dashboard or via your Web Browser.



Carbonite DashBoard and LiveAssist
Every tool a technical director or producer could ask for – at your fingertips.

- 1 Custom Control Editor
- 2 LiveAssist ChromaKey Control
- 3 LiveAssist DVE Key Control
- 4 Custom Control ShotBox
- 5 LiveAssist Memory Store Attributes
- 6 Input Configuration
- 7 Panel Builder

Carbonite Options

Carbonite Options and Accessories
Carbonite comes fully featured right out of the box. The following are a few options that can be added to your Carbonite system for a perfect fit into your production workflow.



DashBoard Touch Computer
The perfect control companion for Carbonite.

SOFTWARE INPUT UPGRADE
A 16 input Carbonite frame can be upgraded to 24 inputs.



XPRESSION LiveCG™
XPression Live CG is an economical way to enhance your production with eye-catching graphics. Simply load XPression Live CG Software onto your own Windows PC, connect it to Carbonite via an I/P network, and you have a tightly integrated CG / Production Switcher System. Graphics are rendered directly into Carbonite's Media-Store™, keeping video inputs free for cameras and other video sources.



GEARLITE SDI TO HDMI CONVERSION
Our GearLite SDI to HDMI converter is the perfect MultiViewer companion. This high quality yet inexpensive module allows the direct connection to your display's HDMI input from Carbonite's serial digital outputs via a single BNC cable.

AUDIO MIXER MIDI INTERFACE
GearLite SMC-9901 Serial to MIDI converter for Audio Follow control of Yamaha 01V-96 and DM1000 Mixers.



REDUNDANT POWER SUPPLIES
Redundant PSUs for both the Carbonite Engine and Control Panel can easily be added either at time of purchase or later when required.



CONTROL PANELS FOR AUX CONTROL & EXTREME ROUTING SYSTEM

RCP-NK1
A simple and cost-effective control panel ideally suited as an XY or cut-bus control panel. It includes 40 soft, fully programmable back-lit keys arranged in a 32 + 8 configuration for convenient function key layout.

RCP-ME
This panel provides the ability to create menus, enabling the grouping of sources and destinations based on physical requirements (studios, edit suites, QC racks) or categories (servers, cameras, monitors).

RCP-QE
Ideal for use in OB vans or production houses where configurations change regularly, unlimited configurations enable fast and simple customized setups of each panel. This panel offers 17 colored back-lit graphic LCD keys with multiple menus.

Basic Specifications

Control Panels

Key Features	Carbonite Black 1	Carbonite Black 1S	Carbonite Black 2	Carbonite Black 2S	Carbonite Black 3S / 3X
DIRECT ACCESS CROSSPOINT BUTTONS	16	24	16	24	24 / 32
NUMBER OF ME ROWS	1	1	2	2	2
ME EFFECTS MEMORY KEYPAD	No - Global only	1 per ME + Global	No - Global only	1 per ME + Global	1 per ME + Global
THEME-ABLE PANEL GLOW RGB BUTTONS	●	●	●	●	●
8 CHARACTER INPUT AND KEY SOURCE COLOR MNEMONICS	●	●	●	●	●
CUSTOM CONTROL MACRO BUTTONS WITH SPLIT ROW MNEMONICS	64	96	64	96	96 / 256

Operational Features

Key Features	Carbonite Black 1	Carbonite Black 1S	Carbonite Black 2	Carbonite Black 2S	Carbonite Black 3S / 3X
NUMBER OF KEYS PER ME			5 (4 + 1 Transition Key)		
NUMBER OF KEYS PER MiniME			2 per MiniME		
NUMBER OF KEYS ON HALF ME (No .5 ME on Carbonite Black Engine)			2 DSK + Media Wipe		
TOTAL KEYS IN MiniME MODE			1ME = 13, 2ME = 18, 3ME = 23		
TOTAL KEYS IN 2.5 ME MODE (No .5 ME on Carbonite Black Engine)			13		
ULTRACHROME KEYS (FLOATING)			2		
NUMBER OF MediaStores™ (CAPACITY 8GB)			4		
SUPPORTED MEDIA FILE TYPES	Stills: .BMP Stills & Animations: JPG JPEG (no Alpha), TGA & PNG (with Alpha) & 48k WAV audio files				
BROWSER-BASED GRAPHICS MANAGEMENT			●		
PATTERN GENERATORS			2 per ME		
EFFECTS MEMORY WITH MemoryAI™			100 per ME		
ANIMATED MediaWipes™			●		
DIRECT MediaStore RENDER VIA ETHERNET			●		
LiveEDL™ (GENERATES AN EDIT DECISION LIST FOR USE IN POST PRODUCTION)			●		

Control Interfaces

DashBoard LiveAssist™	●
ViewControl™ - VISUAL PRODUCTION CONTROL	●
ROBOTIC CAMERA CONTROL	●

Signal Processing Standards

FORMAT	LINE / FRAME RATES
STANDARD DEFINITION	480i/59.94, 576i/50
HIGH DEFINITION	720P & 1080i 50/59.94
1080 PSF	23.98, 25 & 29.97
1080P	29.97 (1.5Gb) & 50 / 59.94 (3Gb)
UHD / 4K	4x Quad Link (MultiScreen Mode)

Frames

Key Features	Carbonite / Plus / MultiMedia	Carbonite Black / Plus	Carbonite eXtreme
MULTI-DEFINITION INPUTS	16 or 24	36	From 24 to 144
MULTI-DEFINITION OUTPUTS	10	22	From 16 to 144
NUMBER OF MEs	1, 2 or 2.5	2 or 3	1, 2 or 2.5
NUMBER OF MiniMEs	4	4	4
NUMBER OF MultiViewers™ WITH TALLY AND SOURCE NAMES	2 (Up to 32 windows)	2 x 16 window / 5 x 16 window	2 (Up to 32 windows)
INTERNAL FORMAT CONVERTERS / FRAME SYNCHRONIZER	6* / All Inputs / All Inputs	6* / 36	6*
NUMBER OF FLOATING DVEs	8 or 4* / 8 / 8	8 or 4* / 8	8 or 4*
INPUT PROC AMPS	No / All Inputs / All Inputs	No / Yes	—
INPUT COLOR CORRECTORS	No / All Inputs / All Inputs	No / Yes	—
OUTPUT COLOR CORRECTORS / PROC AMPS / FORMAT CONVERSION	—	12 (Plus Frame Only)	—
SELECTABLE SDI / HDMI / ANALOG INPUTS	No / No / 2 or 4	No / No	—
HQ FORMAT CONVERTERS (I TO P & COMPUTER RESOLUTIONS)	No / No / 2 or 4	No / No	—
NUMBER OF GPI/O	34	34	34
NUMBER OF TALLIES	34	34	34
REMOVABLE STORAGE MEDIA - (Accessible via FTP)	USB	USB	USB
TIME CODE INPUT	Yes (LTC)	Yes (LTC)	Yes (LTC)
ETHERNET PORTS	2	2	2
REFERENCE INPUT	Black or Tri-Level	Black or Tri-Level	Black or Tri-Level
INTERNAL REFERENCE GENERATOR	●	●	—
INDEPENDENTLY CONFIGURABLE REFERENCE OUTPUTS	2	2	None
EDITOR PORT	1 (RS-422)	1 (RS-422)	1 (RS-422)

* User selectable 6 FCFS & 4 DVE channels or 0 FCFS & 8 DVE channels.

** In 3G mode Plus and MM frames with 24 inputs have 12 format converters / frame synchronizers and there are 9 in 16 input system.

Highly powerful and efficiently designed, Carbonite delivers unprecedented performance in a remarkably cost-effective package. Carbonite sets the bar as the world standard for mid-sized production switchers. Carbonite delivers Pure Production Power!



CARBONITE BLACK

Ross Video has a complete range of technical services available to ensure that your Carbonite Black installation is a success.

Operational Training can be provided at Ross Video, on-site or on the web. Experienced Ross operators will teach your staff to get the most out of your new system, and enhance your productions.

Commissioning is a service to help get your Carbonite Black system properly configured, connected and installed. This service is performed by factory trained Ross technical staff.

Technical Training can be provided at Ross Video, on-site or over the web. Technical training will teach your engineering staff the technical details of the system you have purchased. System configuration, interfaces, databases, and routine maintenance procedures are some of the topics covered.

Carbonite Black comes standard with a 1 year comprehensive warranty. **Extended Warranties** on hardware and software maintenance are available for an annual fee.

Technical advice is available on-line, by telephone, or email to Ross Video – **Free for the life of your system.**

Contact Us

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Email: solutions@rossvideo.com

Technical Support

Emergency: +1 613 349-0006

Email: techsupport@rossvideo.com



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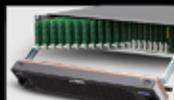
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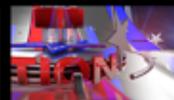
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Mobile Productions