CARBONITE
HyperMax

A flexible and powerful platform for production switching, routing, video and audio processing, multiviewer monitoring, and ultra-high-resolution video compositing.

Maximum Flexibility. Maximum Control.

Maximize flexibility and performance with Carbonite HyperMax. Configure your tools to suit every production, integrating all of Ross Video's industry leading production technology into a single, powerful hyperconverged platform.

Adapt to your needs

With robust hardware and dynamic software licensing, Carbonite HyperMax provides you with a comprehensive suite of production tools that can scale up, down, combine or divide resources easily so you're ready to meet today's demands and seize tomorrow's opportunities.

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Outside Broadcasting

Maximize your production capabilities without compromising on space, power, or performance. Carbonite HyperMax's flexibility and dramatically smaller size, weight, and power consumption make it perfect for live events and sports producers with ever-changing production requirements.

Studio Production

Stay ahead of your production with a solution that evolves with your needs. Carbonite HyperMax empowers your studios with dynamic licensing, allowing you to quickly expand or modify functionality to meet the demands of local, regional, or global events and scenarios - without additional hardware investment.

Hyperconverged production to the max

Adapt to your needs

Quickly add and remove capabilities when your production requires, without additional hardware, complicated setup requirements, or costs.

Create More

Spend less time troubleshooting and more time creating. Carbonite HyperMax comes with the same global support as all Ross technology.

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Fully loaded features

Software Defined Production Engine

The SDPE blade at the heart of Carbonite HyperMax is a versatile blade that changes functionality using software for multiple production needs.
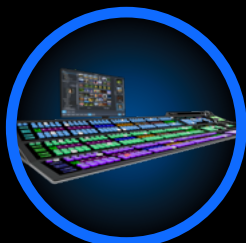
One License, Multiple Functions

A single software license activates advanced software features such as MaxME, MaxMini, and MaxScene on any SDPE blade. This maximizes flexibility and efficiency while eliminating the need for multiple licenses or additional hardware.

Ross Platform Manager

An enterprise-level control system for managing software licenses and configurations across SDPE blades and standalone Ross switchers. With Role-Based Access and license tracking, it ensures seamless, error-free management across your facility.

TouchDrive™ Control

Carbonite HyperMax is fully compatible with the TouchDriveTM family of control surfaces, which includes DashBoard, Ross Video's powerful operational control and configuration software.

Hyperconverged Hardware

Ultrix FR5 and FR12 frames provide a compact, power-efficient home for SDPE blades. This reduces power usage, simplifies cabling, and lowers maintenance, making production more cost-effective.

Rapid Deployment Force

With Ross Platform Manager, Carbonite HyperMax's production capabilities can be instantly reconfigured and deployed anywhere—across rooms or continents—ensuring rapid adaptability to any production demand.

1 License
3 different modes

	MaxME Primary or Secondary ME	**MaxMini** 3x MiniMEs	**MaxScene** 8x Scene Generators
Video Processing	6x Full Keys with DVE combiners Media Wipes Configurable Clean Feeds	Each MiniME provides 2 Full Keyers with DVE Combiners. PGM, PVW and Alpha Combined Outputs	8x Layers each with DVE Combiners. Dynamically assigned across 8x Scenes.
Supported Video Formats	720p /50 /59.94 1080i /50 /59.94 1080pSF /23.98 /24 /25 /29.97 /30 1080p /23.98 /24 /25 /29.97 /30 /50 /59.94 /60 2160p /23.98 /24 /25 /29.97 /30 /50 /59.94 /60		
2D DVE	14 (HD) 6 (UHD)		16 (HD) 8 (UHD)
3D DVE	4 (HD) 1 (UHD)		
UltraChrome ChromaKey	4	3	4
MediaStore Channels (with Alpha)	4	4	8
Clip Player	1 (UHD Upscales 1080p Clips)*		
MultiViewer	1 ME Buses/Outputs and Media	1 MiniME Buses/ Outputs and Media	1 Scene Buses/Outputs and Media

* Available in Primary ME in the first release.
  Available in Secondary ME, MaxMini and MaxScene in a later release.

SDPE Mode Configurations

# SDPE Blades	MaxME	MaxMini	MaxScene
2	Up to 2 (Min 1 ME)	Up to 1 (3 MiniMEs)	Up to 1 (8 Scenes)
3	Up to 3 (Min 1 ME)	Up to 2 (6 MiniMEs)	Up to 2 (16 Scenes)
4	Up to 4 (Min 1 ME)	Up to 3 (9 MiniMEs)	Up to 3 (24 Scenes)
5	Up to 5 (Min 1 ME)	Up to 4 (12 MiniMEs)	Up to 4 (32 Scenes)
6	Up to 6 (Min 1 ME)	Up to 5 (15 MiniMEs)	Up to 5 (40 Scenes)
7	Up to 7 (Min 1 ME)	Up to 6 (18 MiniMEs)	Up to 6 (48 Scenes)
8	Up to 8 (Min 1 ME)	Up to 7 (21 MiniMEs)	Up to 7 (56 Scenes)

Each HyperMax instance requires a minimum of 1 SDPE operating in the MaxME Mode. This is the Primary (Program/Preset) ME and main controller of the Switcher instance.

Additional SDPE blades in a HyperMax instance can be assigned as additional MaxME, MiniME or MaxScene modes. The mode of the SDPEs will define the pool of switcher resources available.

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SDPE & I/O – sliding scale

# SDPE Blades	FR-5 (9 Slots)		FR-12 (16 Slots)	
	Max # I/O Blades	Max # I/O	Max # I/O Blades	Max # I/O
1	8	142x142	15	270x270
2	7	124x124	14	252x252
3	6	106x106	13	234x234
4	5	88x88	12	216x216
5	4	70x70	11	198x198
6	3	52x52	10	180x180
7	2	34x34	9	162x162
8	1	16x16	8	144x144

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TouchDrive Control Panels

The Carbonite HyperMax platform is compatible with the full range of TouchDrive control panels.

TD1C

TD1C split row
15 crosspoints

TD1

TD1 1 row
15 crosspoints

TD2

2 rows
15 crosspoints per row

TD2S

2 rows
25 crosspoints per row

TD3S

3 rows
25 crosspoints per row

TouchDrive Control Panels

TD3
3 rows
35 crosspoints per row

TDx3
3 rows
35 crosspoints per row
dual delegation row
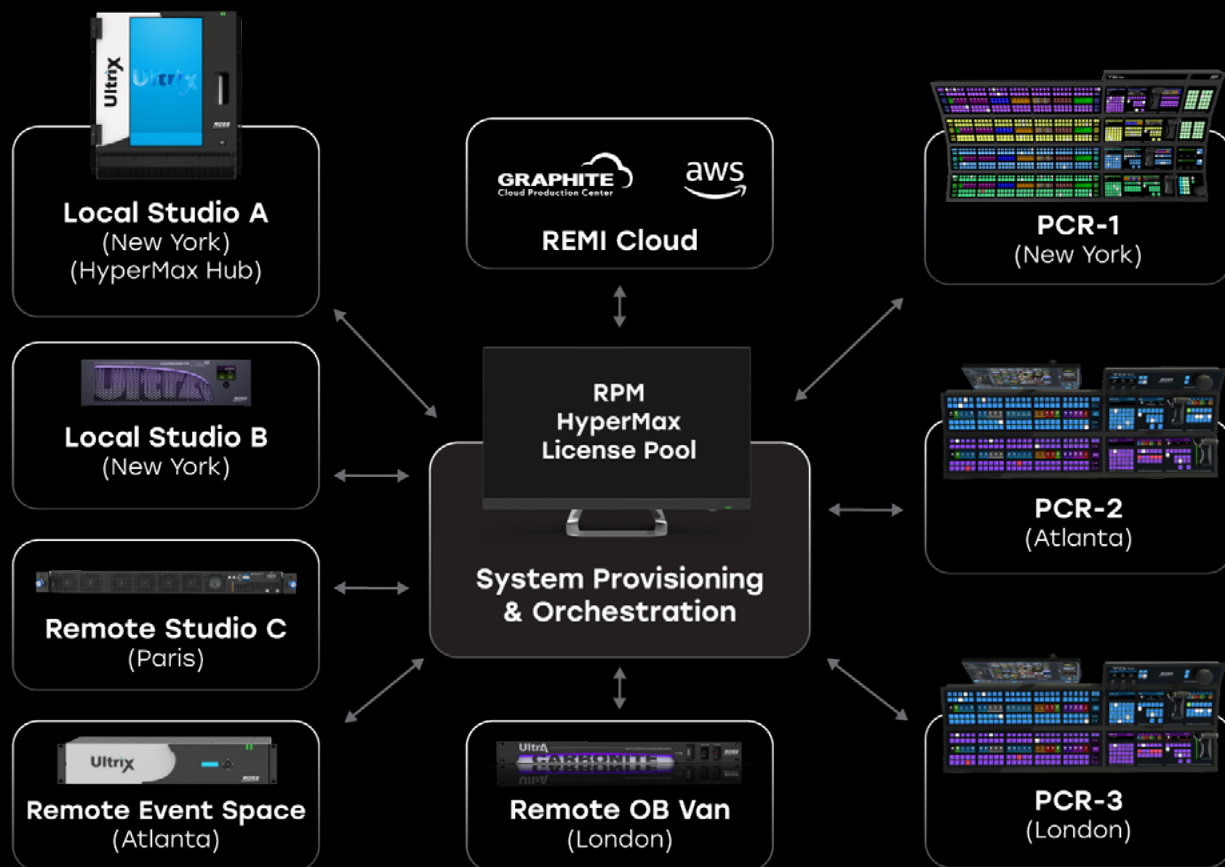

TD4
4 rows
35 crosspoints per row

TDx4
4 rows
35 crosspoints per row
dual delegation row

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MaxControl

Share and Scale Easily

Maximize utilization and share resources amongst different productions, allowing each to access only the functionality that they require.

Local Studio A
(New York)
(HyperMax Hub)

Local Studio B
(New York)

Remote Studio C
(Paris)

Remote Event Space
(Atlanta)

REMI Cloud
GRAPHITE Cloud Production Center
aws

RPM
HyperMax
License Pool

System Provisioning
& Orchestration

Remote OB Van
(London)

PCR-1
(New York)

PCR-2
(Atlanta)

PCR-3
(London)

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Ultrix frames

CHASSIS	FR5	FR12
Number of Slots	9 Slot 1-8: 16×16 + 2 AUX Ports FLEX Slot: 16×16 only	16 (16×16 + 2 AUX Ports)
Max Video Matrix (up to 12G)	160 x 160	288 x 288
Ultriscape MultiViewer Head License per Slot	Up to 3	
Clean & Quiet Switch	All Output Ports	
Input Frame Sync per Slot	3G: All Input Ports (Opt) 12G: Up to 16 assignable (Opt)	
Input Format Conversion & Frame Sync per Slot	Up to 16 assignable (Opt)	
UltriProc/ UltriProc-3DLUT per Slot	3G: Up to 8 inputs or outputs per HDX-IO or MODX-IO (Opt) 12G: Up to 4 inputs or outputs per HDX-IO or MODX-IO (Opt)	

Ultrix I/O Blades

16x16 HD-BNC

Standard Processing: Ultriclean, Ultrimix
Licensable Processing: UltriSRC, Ultrisync, Ultriformat, Ultriscape, Ultriproc, Ultriproc-3DLUT

Aux A+B: Additional SDI I/O, HDMI I/O or 64-ch MADI I/O
Aux C: 64-ch Dante® I/O (licensable)
Aux D: Ultristream NDI® MultiViewer Output (licensable)

HD/3G/6G/12G: 16 Senders + 16 Receivers (with redundancy)
(4) 100GbE QSFP28 Ports
Supports SMPTE 2110 and 2022-7

- Standard Processing: Ultrisync, Ultrimix
- Licensable Processing: Ultriscape

Aux A+B: Ultriscape MultiViewer SDI Output (licensable)

4 Sub-Module Slots

Choice of:
NDI Sub-Module
HD-BNC Sub-Module
SFP Sub-Module
DisplayPort Out Sub-Module

Standard Processing: Ultriclean, Ultrimix
Licensable Processing: UltriSRC, Ultrisync, Ultriformat, Ultriscape, Ultriproc, Ultriproc-3DLUT

Aux A+B: Additional SDI I/O, HDMI I/O or 64-ch MADI I/O
Aux C: 64-ch Dante® I/O (licensable)
Aux D: Ultristream NDI® MultiViewer Output (licensable)

NDI® is a registered trademark of Vizrt NDI AB.
Dante® is a registered trademark of Audinate Pty Ltd.

*All SFPs sold separately.

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