Ultrix

HDR

	Gamma In	Offset (%)	Gain (dB)	Lift (%
RGB'	1.00	0.0	0.00	
R'	1.00	0.0	0.00	
G'	1.00	0.0	0.00	
B'	1.00	0.0	0.00	

Ultriproc & Ultriproc-3DLUT
Proc Amp, Color Correction and HDR Conversion

Ultriproc is a collection of signal processing tools commonly used for production. Ultriproc transforms your workflow by offering an unprecedented level of integration within the Ultrix ecosystem.

Adjustments to the look and feel of content are handled with ease within Ultrix, providing the ability to maintain visual consistency across different scenes, shots or entire productions. Creative teams are empowered with quick access to real-time modifications and the freedom to experiment, enabling them to realize consistency and their desired aesthetic vision with greater precision and creativity.

Integrated Color Correction

Ultriproc provides color processing directly on Ultrix inputs and outputs providing creative freedom in today's complex and fast-paced production environments. Ultriproc adds the following color processing capabilities:

- Proc Amp – Black Offset, Gain, Saturation and Hue Rotation
- RGB Color Correction – Gamma, Offset, Gain, Lift in R, G and B.

HDR Processing

HDR is becoming more commonplace and with it is the need to conform different standards to a unified production. Ultriproc makes it easy to convert any to any SDR, HDR and WCG standard including HLG, PQ, S.Log3, BT.2020 and BT.709

- HDR Conversion – SDR, PQ, HLG, or S.Log3
- Custom 3D LUTs can be loaded via .cube files
- Colorspace Conversion – BT.709 ↔ BT.2020
- Direct Mapping, BT.2446 Mapping, Display Light and Scene Light
- Automatic SMPTE 352 detection and re-authoring

Ultriproc-3DLUT

Ultriproc-3DLUT offers all the features of Ultriproc but replaces the direct-mapping SDR ↔ HDR processing with an enhanced 33-point tetrahedral LUT engine. Built-in BBC and NBCU LUTs ensure high fidelity industry standard HDR transformations, providing a powerful tool for achieving high-quality and consistency across varied content. For customized results, users may also load other 3D LUTs using .cube files.

- HDR Conversion – SDR, PQ, HLG, or S.Log3
- Colorspace Conversion – BT.709 ↔ BT.2020
- Preloaded NBCU and BBC 3D LUTs, Display Light and Scene Light
- Automatic SMPTE 352 detection and re-authoring

Flexible Deployment

Available as per-port or bulk licenses - license only as many ports as needed when they're needed. Ultriproc may be applied to up to 8 inputs or outputs per ULTRIX-HDX-IO or ULTRIX-MODX-IO card for processing signals up to 3G, or up to 4 inputs or outputs per card for processing signals up to 12G. Both Ultriproc and Ultriproc-3DLUT licenses may be deployed on the same card, with only one of the license types per applicable port.
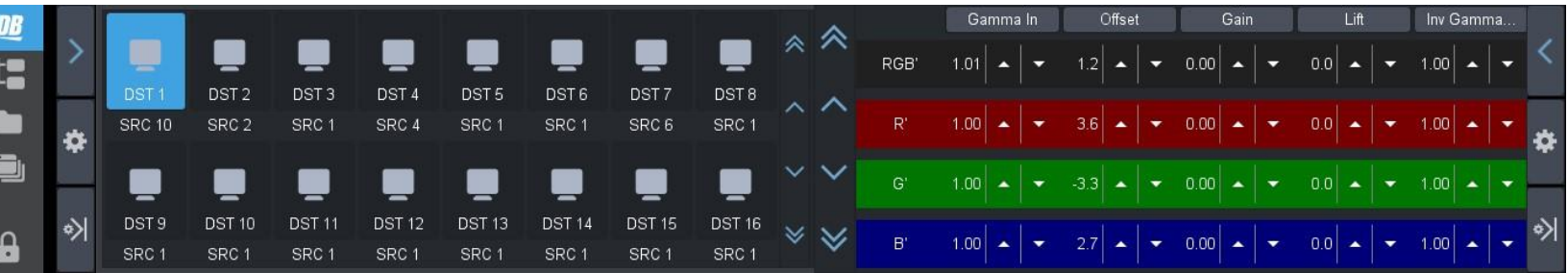
Simple, Integrated Control

Ultriproc offers simple, user-friendly control via DashBoard and Ultritouch control panels. Realize the ultimate streamlining of implementation and operational workflows with SmartCORE, which brings forward Ultriproc controls when you select the logical source or destination on your Ultritouch routing panel. For those loading custom 3D LUTs, up to 25 .cube files may be loaded and stored in Ultrix.

Density

Ranging from 8 processors in the 1RU ULTRIX-FR1 to 128 in the ULTRIX-FR12, Ultriproc provides unprecedented density to put signal processing wherever you need it in the production chain.

Easy Configuration

Ultriproc is a software-enabled feature that can be quickly assigned to inputs and outputs right from the Ultrix configuration panel in DashBoard. Licenses can be reassigned dynamically and seamlessly to adapt to rapidly-changing production environments.

Ultriproc processing may be applied to the ULTRIX-HDX-IO or ULTRIX-MODX-IO cards. Once configured, the Ultriproc licenses may be applied either to the inputs or the outputs of that card (mutually exclusive). When the location of processing (input or output) for a card is determined, the operating mode can be selected: HD or UHD. HD mode enables up to 8 processors on specific I/O ports (2, 4, 6, 8, 10, 12, 14, and 16), while UHD mode supports up to 4 processors on I/O ports 2, 6, 10, and 14.

Ultrix
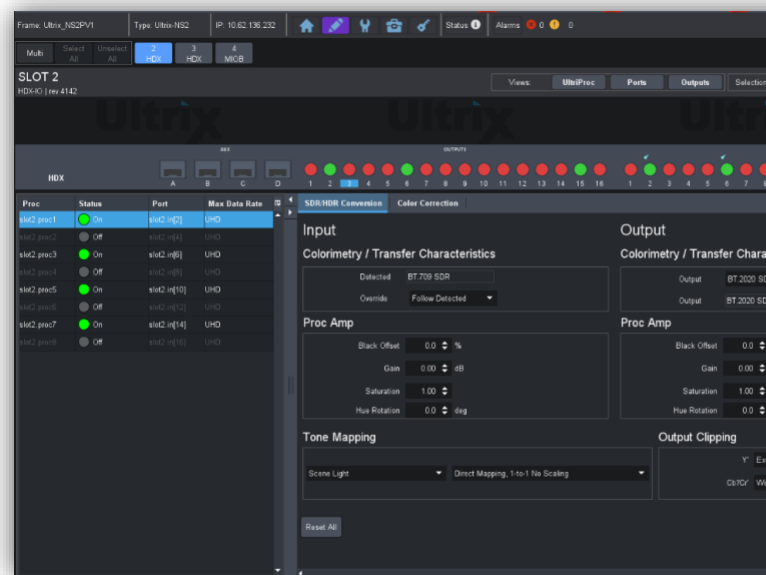
Specifications		
Proc Amp Controls	Black Offset Gain Hue Rotation Saturation Output Clipping	

RGB Color Correction	Independent R, G, B controls for:
	  Input Gamma
	  Offset
	  Gain
	  Lift
	  Output Inverse Gamma	

Transfer Function	Input and Output:
	  SDR
	  HLG
	  PQ
	  S.Log3	

Colorimetry	Input and Output:
	  BT.709
	  BT.2020	

HDR Mapping Methods	Ultriproc Direct Mapping ITU-R BT.2446 Method A ITU-R BT.2446 Method B ITU-R BT.2446 Method C Scene Light and Display Light	Ultriproc-3DLUT 33-Point Tetrahedral 3D LUT Built-In LUTs: BBC, NBCU Other LUTs: Loadable via .cube files Scene Light and Display Light
Max Processors per card	8 (SD / HD / 3G) 4 (6G / 12G)	
Supported I/O Cards	ULTRIX-HDX-IO ULTRIX-MODX-IO	
ST 352 VPID	Auto-detect on input (can be overridden) Authoring on output based on Transfer/Colorimetry	
Video Format Support	All supported Ultrix video standards	

ROSS