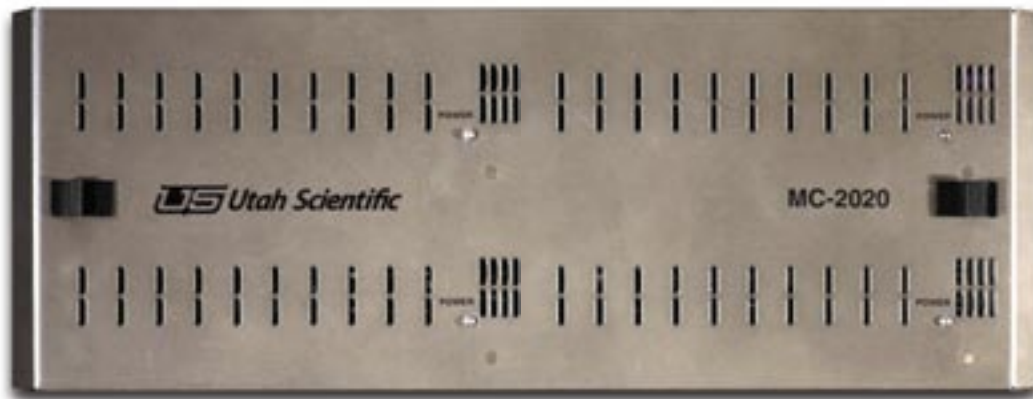


# MC-2020

## MASTER CONTROL PROCESSORS



The HD/SD-2020 Digital Master Control Processors provide digital audio and video processing for master control switching applications. Designed to be fully compatible with all previous generations of Utah Scientific Master Control Switchers, the 2020 processors offer a convenient and cost-effective upgrade path for owners of existing Utah Scientific MC-500-series analog switchers who wish to upgrade their on-air facilities to digital operation.

### MC-2020 FEATURES

- DUAL-CHANNEL PROCESSOR IN A COMPACT 4RU PACKAGE
- UP TO FOUR KEYS, SWITCHABLE BETWEEN INTERNAL, EXTERNAL, AND LOGO SOURCES
- DISCRETE, EMBEDDED, OR MIXED AUDIO PROCESSING
- WIDE RANGE OF CONTROL OPTIONS FOR MANUAL OR AUTOMATED OPERATION
- EAS MESSAGE HANDLING OPTION

The 4RU MC-2020 Processor frame can hold two independent signal processing channels, allowing users to build a system in one frame that supports both standard definition and high definition signal formats, as well as dual channel configurations for either format.

The MC-2020 provides a full range of mixing and keying functionality with one keyer included in the standard package and up to three additional keyers available as plug-in options. Each of the keyers can be fed by the external inputs, by a signal selected on the Preview Bus (self-key) or by the optional internal logo generator package.

The 2020 processors provide full audio mixing facilities, using embedded audio or separate audio inputs. External audio inputs are also provided for voice-over mixing.

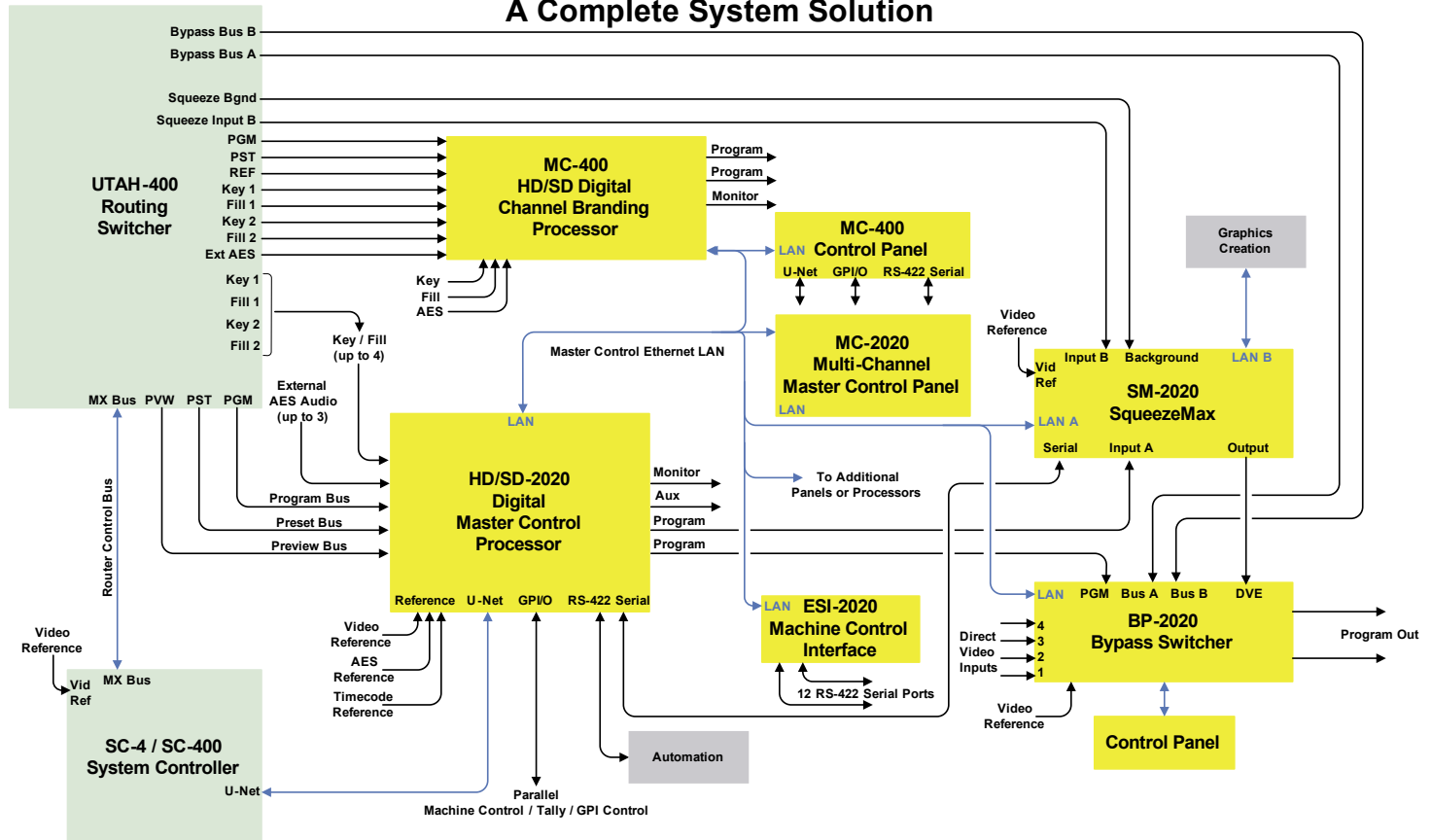
**SYSTEM DESCRIPTION**

The MC-2020 rack frame can house one or two fully independent signal processor channels. Each channel has its own dual redundant power supplies. Each of the channels can be fitted for high definition or standard definition operation.

Each signal processing channel consists of a motherboard assembly, a basic three-board video processor package and five option slots for additional keyers or audio processors.

The 2020 signal channels are dedicated for SD or HD operation in a particular signal format. All popular formats are supported. The MC-2020 processors offer a three-bus architecture (PROGRAM, PRESET, and PREVIEW) with inputs selected by an external routing switcher. There are four external key inputs (key and fill signals) and four external audio inputs for voice-over mixing.

**Utah Scientific Master Control Switchers  
A Complete System Solution**



## Channel A

## Channel B



Audio features such as master gain control, mix level control, channel swapping and mixing are all available in the basic 2020 processing channel. These functions work identically whether the audio inputs are provided as embedded signals or as a separate signal layer, or a combination of the two.

Any MC-2020 channel can optionally be configured for "Clean Feed" operation where the Preview Bus output is fed by a signal that represents the mixed video program, before the insertion of any keys or audio voice-over mixes.

Each MC-2020 channel offers an RS-422 automation port which uses the Utah Scientific TAS protocol, which is supported by most major automation system providers. The system offers machine control in either contact closure or serial communications to further assist the operator in manual operations.

### CONTROL OPTIONS

To simplify multi-channel operation, the MC-2020 communicates with the MCP-2020 control panel, available in several models including a "virtual" GUI-based panel, over an Ethernet LAN. Using this LAN, up to eight individual signal channels can be controlled from a single panel or a number of panels with single-button access to any channel from any panel.

### EAS MESSAGE HANDLING

The MC-2020 offers a sophisticated system for handling EAS events by putting the EAS message handling under the control of a "macro" command. Using the EAS macro, the operator is notified of an incoming message from the EAS receiver by a flashing EAS button on the control panel. When he pushes the EAS button, the channel is set up to play the audio message as a voice-over through the MC-2020's audio mixer, and the message text is displayed on the Program Output by the MC-2020's internal crawl generator. At the end of the message, the operator pushes the EAS button a second time to return the channel to its previous state. The EAS event can also be set for automatic execution when the channel is operating unattended.

### COMPLETE SYSTEM SOLUTION

Contact your Utah Scientific representative for information on the full range of products designed to provide a comprehensive solution to your master control switching requirements.

Mechanical Dimensions:		19"W x 22" D x 7.0"H (4RU EIA rack mount)
Connectors:	Video:	BNC
	Digital Audio;	DB-25F Subminiature 25-pin D connector with female pins.DB-9F
	Serial I/O Ports:	Subminiature 9-pin D connector with female pins.DB-25F Sub-
	Relay Outputs:	miniature 15-pin D connector with female pins.
	Serial Control Ports:	DB-9F Subminiature 9-pin D connector with female pins.
Environmental :	Temperature:	10-40°C
	Relative Humidity:	0-90% (non-condensing)
AC Power	Chassis consumption is 300 VA max. (2 channels operating)	
110/240VAC	Dual redundant power supplies are standard equipment	

**FOR FURTHER INFORMATION**  
 on the individual products in the Master Control family, please refer to the detailed data sheets that are available on our Web Site:  
[www.utahscientific.com](http://www.utahscientific.com)

