

SONY®

System Interface Unit
SIU-100/100T



Since its introduction, the DMX-R100 Digital Mixer has opened up an entirely new set of opportunities for affordable PA and sound-recording applications. Recognizing the ever-increasing demand for even greater system flexibility in such applications, Sony introduces the SIU-100 and SIU-100T*, System Interface Units designed for interface expansion of the DMX-R100.

The SIU-100 is extremely flexible and can be configured to meet different user needs. Within its chassis, it accommodates up to eight expansion boards, which are available in nine variations. You can effectively add digital inputs, digital outputs, microphone inputs, and a variety of other interfaces to your DMX-R100 system as needs grow. Simply install the appropriate board in the SIU-100 chassis.

The SIU-100 interfaces with the DMX-R100 via the MADI interface, allowing users to position the two units up to 300 meters apart. This, together with its network-control capability, gives you the freedom to install the SIU-100 as desired, while also keeping all of its controls at your fingertips.

The SIU-100 also excels in its system versatility. For example, by installing two MADI boards in the SIU-100, you can share the inputs and outputs between two DMX-R100 Digital Mixers. You can also cascade two SIU-100 units to further expand input and output capability. Its applications are virtually limitless.

Available at an affordable price, the SIU-100 will deliver a new level of power and system flexibility to your DMX-R100 system.

* In the following text, "SIU-100" refers to both the SIU-100 (with a single power-supply unit) and the SIU-100T (with a redundant power-supply unit).

Features

Flexible Interface Expansion and Format Conversion

The SIU-100 is built on cutting-edge Sony digital-sound-processing expertise, accumulated through the development of the DMX-R100 Digital Mixer. The unit provides eight board slots, each of which can accommodate any one of the eight DMX-R100 optional boards*. In addition to these boards, a ninth board, the DMBK-S101 Mic Pre-amp board, is also available for use in the SIU-100. This wide choice of optional boards, combined with the flexibility of the SIU-100, allows users to configure systems exactly as required. What's more, the unit's internal format converters provide analog-to-digital, digital-to-digital and digital-to-analog conversion capabilities, so that any input source can be routed to any output.

- DMBK-S101 Mic pre-amp board (8-channel inputs)
- DMBK-R101 8-channel analog LINE IN board
- DMBK-R102 8-channel analog LINE OUT board
- DMBK-R103 8-channel AES/EBU DIO board (8-channel inputs, 8-channel outputs)
- DMBK-R104 Sampling-rate converter DI board (8-channel inputs)
- DMBK-R105 Insertion (8-channel sends/returns) board
- DMBK-R106 ADAT board (8-channel inputs, 8-channel outputs)
- DMBK-R107 TDIF board (8-channel inputs/outputs)
- DMBK-R109 MADI board* (56-channel inputs, 56-channel outputs)

The SIU-100 is designed with extremely high processing power, enabling it to achieve an incredible matrix size of 160 inputs x 160 outputs when two MADI interface boards and six appropriate input and output boards are installed.

*Only two MADI boards can be installed in slots 1 and 2. When installing a MADI board in the DMX-R100 digital mixer, the number of inputs and outputs available on the MADI board is 48 CH inputs and 48 CH outputs.



SIU-100T Front Panel



SIU-100/100T Rear Panel (with optional boards)

Microphone Input Expansion for DMX-R100 Digital Mixers

One distinguishing benefit of the SIU-100 is the powerful microphone input expansion it can provide to the DMX-R100 Digital Mixer. This is achieved by installing the DMBK-S101 Mic Pre Amp Board, which offers eight microphone inputs. Up to seven mic pre-amp boards can be installed in the SIU-100, adding up to 56 microphone-input sources to the DMX-R100. The parameter settings of DMBK-S101 boards can be controlled from the SIU-100 front panel, or remotely using a PC or the optional SIU-RM101 remote-control unit described below. Parameters that can be controlled include sampling frequency, gain-level adjustment, -30 dB PAD on/off, and +48 V microphone power on/off settings for each input. LED indicators are also provided on the DMBK-S101 board to indicate whether +48 V microphone power is being supplied to each microphone input.

Digital Input and Output Expansion for DMX-R100 Digital Mixers

The growth in the use of various digital equipment from effectors to MTRs and workstations has seen a considerable increase in the need for more digital interfaces. Using the SIU-100, a variety of digital interfaces can be flexibly added to the DMX-R100 system, including AES/EBU, ADAT, TDIF, S/PDIF and MADI. For example, by installing the appropriate boards in an SIU-100 paired with a DMX-R100 Digital Mixer, a fully-digital 48-channel system can easily be configured. And by cascading two DMX-R100 units, a fully-digital 96-channel system can be created.

Since the SIU-100 can accommodate as many as eight optional boards, users can integrate all necessary digital interfaces in its rear panel, making system configuration easy and effective. This capacity further allows users to practically install all the digital I/O boards they possess for each different recording scenario in one SIU-100 unit. From project to project, I/O resources can be instantly changed simply by altering the SIU-100 routing – without the hassle of board exchange.

Control via the Front Panel

Using the menu keys and parameter-setting buttons on the SIU-100 front panel, users can control and adjust all SIU-100 parameter settings, including input/output routing assignments, monitor-channel selection, LED display modes, and parameter settings for Microphone Pre-amp boards.

Remote Control via standard Ethernet Connection

In any mixing environment, it's important for the parameter settings of all interfaces – both on the mixer and on the interface units – to be manageable from a central control location. The SIU-100 brings its controls right to the mixer by allowing remote control of the unit from a PC running a standard Web browser across a standard Ethernet connection. All SIU-100 parameter controls, including its matrix-routing and setup parameters, are provided on the intuitive Graphical User Interface (GUI). What's more, because each SIU-100 can be assigned its own specific IP address, multiple SIU-100s connected to the same network can be controlled from one or more PCs by simply designating the IP address.

Various Sampling Frequency Modes

Already commonplace in audio productions, high sampling rates have also become important in today's high-end video and film productions. The SIU-100 System Interface Unit accommodates these needs by offering a wide choice of sampling rates: 44.1 kHz, 48 kHz, 47.952 kHz, 88.2 kHz, and 96 kHz.

SD/HD Sync Facility as Standard

In order to meet the system needs of today and tomorrow, the SIU-100 offers a flexible choice of synchronization modes. In addition to generating its own word-sync signal, the SIU-100 system can lock on to an external word-sync or external video-sync signal (switchable). When selecting the video-sync input, the SIU-100 can lock on to most existing SD/HD (analog trilevel) signals with the following frame rates: 23.976p, 24p, 25p, 29.97p, 30p, 59.94p, 50i, 59.94i, 60i, 23.976sF, 24sF.

255 Internal Scene Memories

The SIU-100 can store a maximum of 255 scene memories, each including input/output-matrix assignments of the SIU-100 and all parameter settings of the DMBK-S101 Mic Pre-amp boards. Users can quickly recall these scene memories from the SIU-100 front panel, from a PC running a standard Web browser, or even from the DMX-R100 control surface via the MIDI interface.

LCD and LED Indicators

The easy-to-read LCD and LED indicators provide extensive information on SIU-100 operating conditions:

- The LCD screen displays sync-mode information such as the selected sampling frequency and sync source.
- The LED indicators comprise a total of 64 segments (8 segments in each vertically aligned set), which have two switchable indication modes
 - Level-meter mode: the 8 vertical LEDs are used as level meters to display the input/output levels of each channel on the selected board.
 - Signal-indicator mode: each LED is used individually to indicate the input/output status only on all installed boards.

Remote Control of DMBK-S101 Mic Pre Amp Boards

Live-music applications often require quick parameter adjustments for dozens of microphone inputs. With the optional dedicated SIU-RM101 Remote Control Unit, sound engineers have rapid control of the parameters of each installed DMBK-S101 Mic Pre-amp board, from a distance of up to 300 m from the SIU-100 unit. The SIU-RM101 allows the control of gain level, -30 dB PAD on/off, and +48 V microphone power on/off using physical rotary knobs and buttons. Its easy-to-read displays provide extensive information on channel number, gain levels and input-level alarm indications.

The SIU-RM101 controls one board at a time, and the board to be controlled can be selected using the delegation buttons. This allows a single SIU-RM101 to control all DMBK-S101 boards installed in the SIU-100 by simply selecting the desired board. When individual controls are preferred for each DMBK-S101 board, up to seven SIU-RM101 units can be cascaded supporting knob-per-function mic pre control.



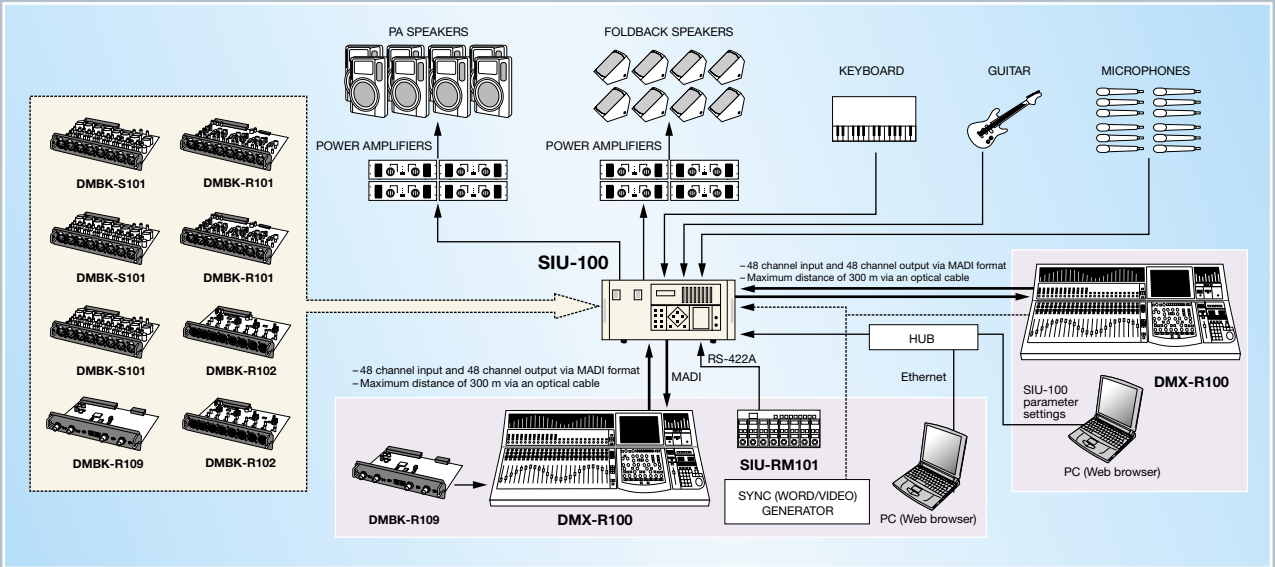
SIU-RM101

Redundant and Universal Powering Design

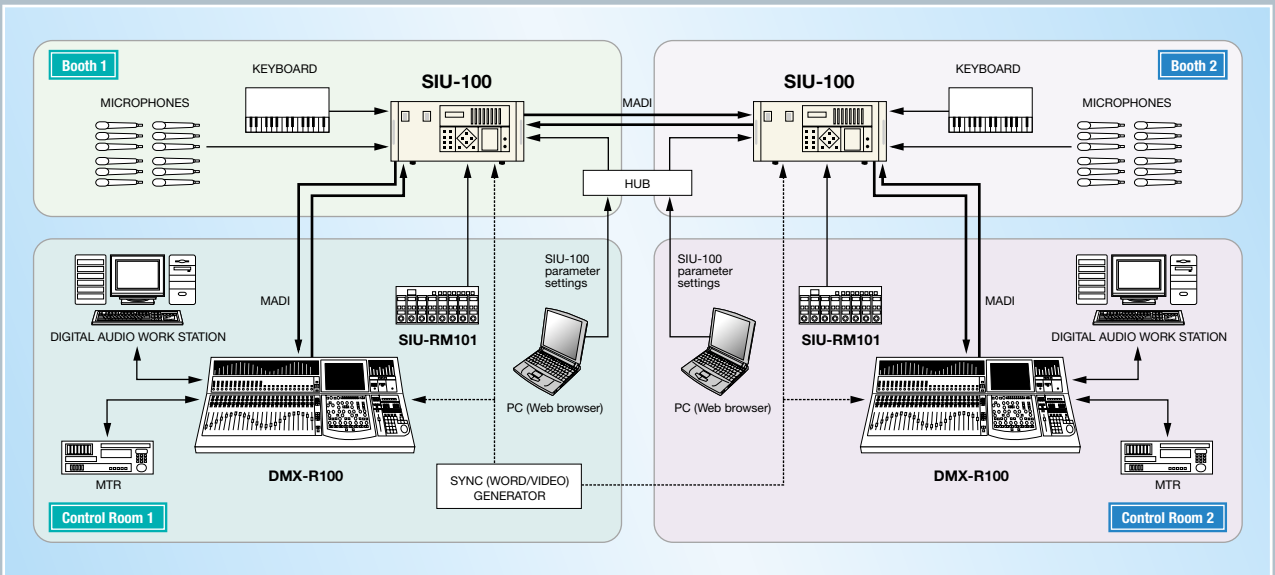
For highly reliable operation, the SIU-100T is equipped with two power supplies so that, if one fails, the other will continue to power the unit. In addition, the SIU-100 and SIU-100T both employ universal powering, meaning they can be operated with either AC 100 to 240 V power sources.

System Configurations

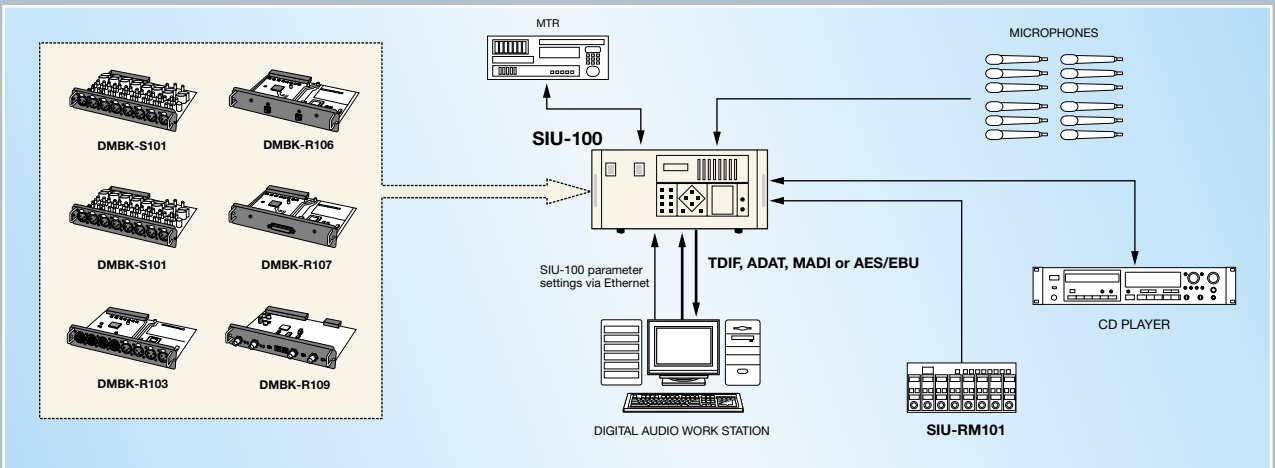
Example 1: Input and Output Expansion for DMX-R100 Digital Mixer



Example 2: Input/Output Sharing between Two DMX-R100 Digital Mixers



Example 3: Input/Output Routing with Format Conversion



Optional Accessories



DMBK-R101 – 8 CH Analog LINE IN Board

Connector: XLR-3-31 type, balanced (x 8)
 Reference Level: +4 dBu
 Max. Input Level: +24 dBu
 Input Impedance: 10 k Ω



DMBK-R102 – 8 CH Analog LINE OUT Board

Connector: XLR-3-32 type, balanced (x 8)
 Reference Level: +4 dBu
 Max. Input Level: +24 dBu
 Output Impedance: 150 Ω



DMBK-R103 – 8 CH AES/EBU DIO Board (Inputs: 8 ch, Outputs: 8 ch)

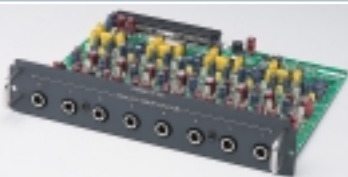
Connector: Inputs: XLR-3-31 type (x 4)
 Outputs: XLR-3-32 type (x 4)



DMBK-R104* – Sampling Rate Converter DI Board (Digital Input: 8 ch)

Connectors: XLR-3-31 type (AES/EBU) or IEC 958 optical (Optical) (x 4)
 Sampling frequencies converted: 39 kHz to 54 kHz

*Does not convert 88.2 kHz or 96 kHz input.



DMBK-R105 – Insertion Board (Send/Return: 8 ch)

Connector: 1/4-inch TRS jack, unbalanced (x 8)
 Reference Level: Send: 0 dBu, Return: 0 dBu
 Max. Input Level: Send: 0 dBu, Return: 0 dBu
 IO Impedance: Send: 150 Ω , Return: 10 k Ω



DMBK-R106* – Interface Board for ADAT (Inputs: 8 ch, Outputs: 8 ch)

Connector: Optical (x 2)

*Cannot be used when the sampling rate of the SIU-100/100T or input signal is 88.2 or 96 kHz.



DMBK-R107* – Interface Board for TDIF (Inputs/Outputs: 8 ch)

Connector: D-sub 25-pin female (x 1)

*Cannot be used when the sampling rate of the SIU-100/100T or input signal is 88.2 or 96 kHz.



DMBK-R109 – MADI Board (Inputs: 48* ch, Outputs: 48* ch)

MADI IN: BNC (x 1) or optical (x 1) selectable
 Word Sync OUT: BNC (x 1)
 MADI OUT: BNC (x 1) or optical (x 1)
 Audio format: AES 10
 Word Sync IN: BNC (x 1), 75 Ω ON/OFF switchable
 Word Sync OUT: BNC (x 1)
 Mode selection: MADI mode or Cascade mode

*Number of inputs/outputs is reduced by 24 channels when operating in 88.2 kHz or 96 kHz.



DMBK-S101 – Mic Pre Amp Board

Connector: XLR-3-31 type, balanced (x 8)
 Reference level: -66 dBu to +10 dBu in 2 dB steps
 Max. input level: +24 dBu
 Microphone power supply: +48 V (on or off)
 PAD level: -30 dB (on or off)
 Mic E.I.N.: -126 dB at max. gain, 150 Ω terminated
 Sampling frequency: 44.1/48/88.2/96 kHz (\pm 12.5 %)
 Dynamic Range: 104 dB at line level



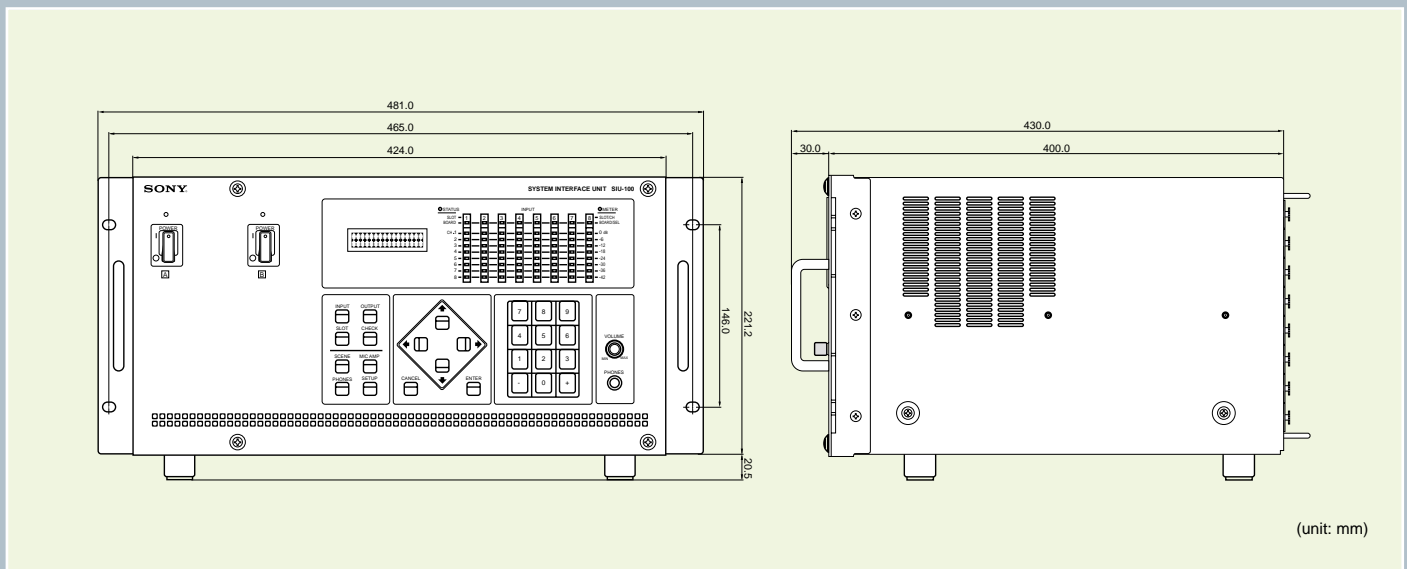
SIU-RM101 – Remote Control Unit

Control signal input/output
 MIDI IN: MIDI standard, DIN 5-pin female (x 1)
 REMOTE IN/OUT: D-sub 9-pin, RS-422A interface, female (x 1, each)
 Power requirements: DC 12 V
 Power consumption: 6 W
 Operating temperature: +5 to +35 $^{\circ}$ C (+41 to +95 $^{\circ}$ F)
 Storage temperature: -20 to +60 $^{\circ}$ C (-4 to +140 $^{\circ}$ F)
 Mass: 1.0 kg (2 lb 3 oz)
 Dimensions (W x H x D): 200.0 x 87.0 x 68.3 mm (7 7/8 x 3 1/2 x 2 3/4 inches)
 Supplied accessory: AC adaptor (x 1)

Specifications

Sampling frequencies	44.1/48/47.952/88.2/96 kHz ($\pm 12.5\%$)
Control Signal Inputs/Outputs	
MIDI IN	MIDI standard, DIN 5-pin female (x 1)
REMOTE IN	D-sub 9-pin, RS-422A interface, female (x 1)
Ethernet	RJ-45, 10-BASE-T, conforms to IEEE 802.3
Sync	Word Sync or Video sync (selectable)
Reference word IN	Duty 50% (TTL level), 75 Ω (auto on/off), BNC (x 1)
Reference video IN	NTSC COLOR/B&W, PAL, or HDTV (23.976p, 24p, 25p, 29.97p, 30p, 59, 94p, 50i, 59.94i, 60i, 23.976sF, 24sF), BNC (x 1)
Loop-through	BNC (x 1)
Reference word out	Duty 50% (TTL level), BNC (x 1)
Power requirements	AC 100 to 240 V, 50/60 Hz
Power consumption	Max. 190 W (When SIU-100/100T accommodates eight optional boards)
Operating temperature	+5 to +35 $^{\circ}\text{C}$ (+41 to +95 $^{\circ}\text{F}$)
Storage temperature	-20 to +60 $^{\circ}\text{C}$ (-4 to +140 $^{\circ}\text{F}$)
Mass	SIU-100: 13.2 kg (28 lb 18 oz) SIU-100T: 14.6 kg (31 lb 19 oz)
Dimensions (W x H x D)	481.0 x 221.2 x 400.0 mm (19 x 8 3/4 x 15 3/4 inches)
Supplied accessory	Operating instructions (x 1)

Dimensions



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