

D2I MasterSync

The D2I MasterSync features a distributor and a generator section. The distributor section distributes one word clock signal to six outputs, and up to four different AES/EBU signals to 16 outputs. The generator section can

be synchronized to a video, word clock, or AES/EBU signal with automatic switchover. If the external clock fails, an internal high-precision reference clock with automatic and manual switchover is available.



AES/EBU Distributor

AES inputs and outputs are available on 15-pin D-type connectors. The distributor can also be used for distributing an AES/EBU frame clock.

Word Clock Distributor

Input and outputs are equipped with BNC sockets. Input sensitivity is 1 Vpp, regardless of any DC level. The word clock outputs may not only be connected to the word clock input but also to the internal generator's clock (setting with DIP switches). The polarity of three of the WCLK outputs can be inverted with an internal jumper.

Generator

The MasterSync's internal generator has a low-tolerance reference clock (± 1 ppm); selectable frequencies are 44.056, 44.1, 47.952, and 48 kHz, as well as twice and four times each. For each group of four AES/EBU outputs individual multiplication factors may be set.

For external synchronization, a video signal (25 or 29.97 fps), an AES/EBU signal, or a word clock signal can be used. Signal selection is performed automatically, with priority in the same order. Termination for the video input is selected with an internal jumper from hi-Z or 75 Ω . The word clock input is the same as the word clock distributor's input signal.

For word clock and AES/EBU sync signals the input frequency is displayed, however without drop/non-drop recognition. When operating with the internal generator or with external video sync, the sampling rate is generated according to the front panel selector's position. It is, for instance, possible to convert a 29.97 fps video signal to a 44.056 or 44.1 kHz sampling rate signal, as set with the PULL DOWN switch.

Redundant Units

Two MasterSync units can be linked for redundancy. Both units must be fed with the same sync signal and must have identical front panel

and DIP switch settings. In case of a malfunction, the supply as well as the AES/EBU and word clock signals are taken from the second unit. In order to avoid phase jumps during switchover, both units are continuously synchronized.

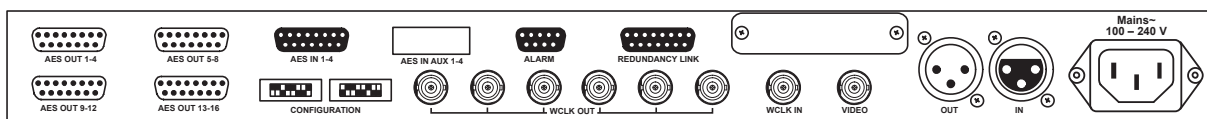
The MasterSync units automatically communicate by sending a signal indicating that they can be used as master (i.e., they have a valid input signal and the PLL's output signal is valid too). After power-on, the unit reaching this condition first is then considered as master. Should the master fail, the second unit automatically becomes master, and the WARN LED of the defective unit goes on. Should both be defective, the FAIL LEDs of both units are on. The FAIL signal is also available at the ALARM socket.

Redundant Power Supply (Optional)

It is also possible to install a second, redundant power supply into a single generator/distributor unit. Then the WARN LED indicates a generator or supply failure; in the latter case, normal operation is still maintained. The WARN signal is also available at the ALARM socket.

Redundant Inputs (Optional)

When using this option, all main inputs are equipped with an additional redundant input. Automatic switchover to the corresponding redundant input takes place if one or more of the main inputs do not receive a valid AES/EBU signal. Thus, important outputs (such as program feeds) can be made very reliable. For each of the main inputs a sampling frequency converter (SFC) can be inserted into the signal path (with internal jumpers); redundant inputs always have SFCs in their signal path. With the redundancy input option, the input signal range is limited to 96 kHz, and the output signal range to 48 kHz.



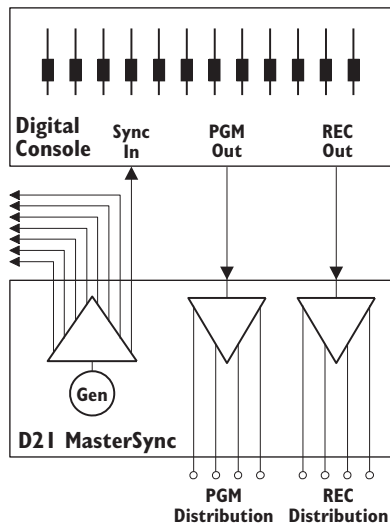
D2I MasterSync, Rear View

Applications

Digital Mixing Console

The MasterSync's outputs may be configured in separate groups. This allows distributing e.g. the program and record outputs of the digital mixing console at the same time.

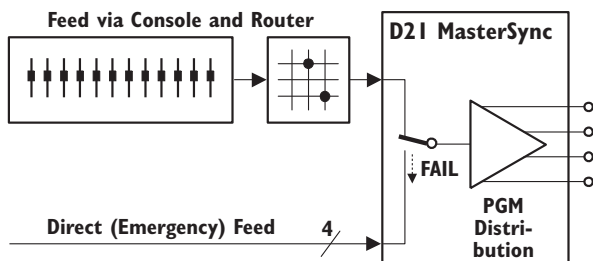
In addition, a sync signal may be generated and distributed to some peripheral devices, such as recording or playback units. In the example below, eight of the outputs are configured for distributing the sync signal generated by the MasterSync's internal generator.



Emergency Feeds

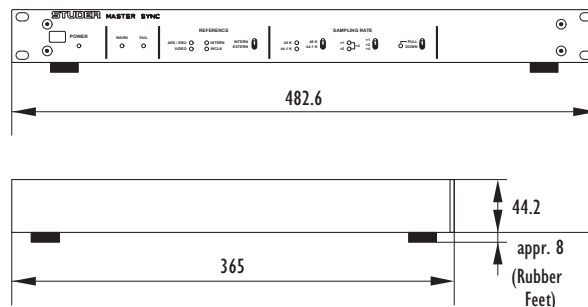
Each of the MasterSync's inputs can be equipped with an additional input when using the redundant input option. It automatically switches over to the corresponding redundant input if one or more of the main inputs do not receive a valid AES/EBU signal. Thus, important outputs (such as program feeds) can be made very reliable.

In the example below, the MasterSync will switch over to the emergency feeds in the same moment when the program feed via console and router is interrupted. This ensures that the important system outputs will never be without a signal.



Technical Specifications (subject to change without notice)

Inputs	AES/EBU	Impedance	110 Ω typ.
		Sensitivity	min. 0.2 V _{pp}
		Sampling rate	30...200 kHz
			according to AES3 1992
Outputs	Word Clock	Impedance	hi-Z or 75 Ω (jumper)
		Sensitivity	1 V _{pp}
		Output level with 110 Ω load:	5 V _{pp}
		Sampling rate	30...200 kHz
			according to AES3 1992
Generator	Word Clock	Impedance:	75 Ω, TTL level
			3 outputs can be inverted (jumper)
	Int. Clock		44.1, 44.056, 48, 47.952 kHz;
			each × 1, × 2, × 4; ±1 ppm
Supply	Ext. Clock	Sync by ext. video signal:	44.1, 44.056, 48, 47.952 kHz;
			each × 1, × 2, × 4
		Sync by WCLK or AES/EBU, for input signals	42...50, 84...100, or 168...200 kHz;
			42...50 kHz; × 1, × 2, × 4
Weight	Mains Voltage		100...240 V _{AC} , 50...60 Hz
	Current Consumption		1...0.5 A
	Power Inlet		IEC 320/C14
Dimensions [mm]			appr. 5 kg



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