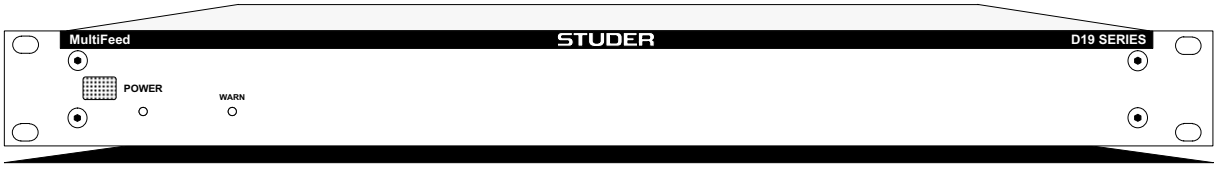
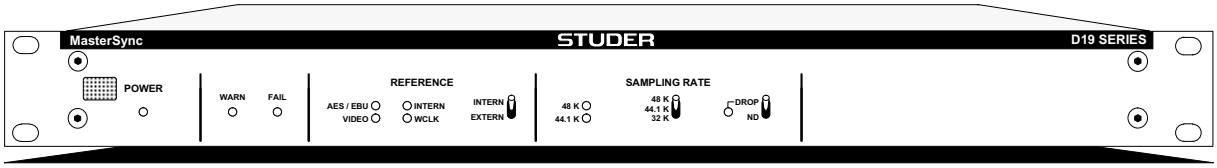
STUDER
professional audio equipment

# Studer D19 MultiFeed




# Studer D19 MasterSync



# Studer D19 MultiFeed, D19 MasterSync

## Intro

The Studer D19 MultiFeed distributes up to 4 different AES/EBU signals to 16 outputs in total (1 to 16, 2 to 8 each, or 4 to 4 each, or combinations, e.g. 1 to 8 and 2 to 4 each simultaneously), and a word clock signal to 6 outputs.
The Studer D19 MasterSync in addition contains a precision generator for word clock and AES/EBU clock signals which can also be clocked by an external video, word clock, or AES/EBU signal.
D19 MultiFeed and D19 MasterSync units are both housed in 19", 1U enclosures.

### Generator (D19 MasterSync only)

The generator has an internal low-tolerance reference clock (1 ppm); selectable frequencies are: 32 kHz, 44.056 kHz, 44.1 kHz, 47.952 kHz, and 48 kHz.
For external synchronization, a video signal (25 or 29.97 fps), an AES/EBU signal or a word clock signal can be used, synchronization to an optical MADI signal is available as an option. Signal selection is performed automatically, with priority in the same order. Termination for the video input is selected with an internal jumper between hi-Z and 75 Ω. The word clock input is the same as the one of the word clock distributor.
For word clock and AES/EBU sync signals the input frequency is displayed, however without drop/non-drop recognition. In case of 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 DROP switch.

### AES/EBU distributor

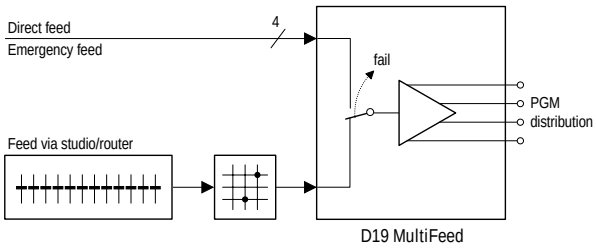
The four inputs and four outputs each are connected to 15-pin D-type connectors. The distributor can also be used for distributing an AES/EBU frame clock.

### Word clock distributor

The input and the outputs are equipped with BNC sockets. The input can be terminated with 75 Ω using an internal jumper. Input sensitivity is 1 $V_{pp}$, independent of any DC level. The output 4...6 polarity can be inverted with an internal jumper.
For D19 MasterSync: The word clock outputs cannot be connected to the word clock input only, but also to the internal generator's clock (setting with an internal DIP switch).

### Redundancy

Two MasterSync or two MultiFeed units can be connected with a cable. Both units must be fed with the same sync signal and must have identical 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. If the generator (MasterSync only) cannot generate a valid AES/EBU sync signal in spite of the redundancy, the “FAIL” LED is illuminated.
It is possible to install a second, redundant power supply into a single generator/distributor unit. The “WARN” LED indicates a supply or generator (MasterSync only) failure; however, normal operation is still maintained.
When using the Redundancy Input option, each of the MultiFeed's main inputs can be equipped with an additional redundancy input. Automatical switchover to the corresponding redundancy 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 frequencing converter (SFC) can be inserted into the signal path (with internal jumpers); the redundancy inputs always have SFCs in their signal path.



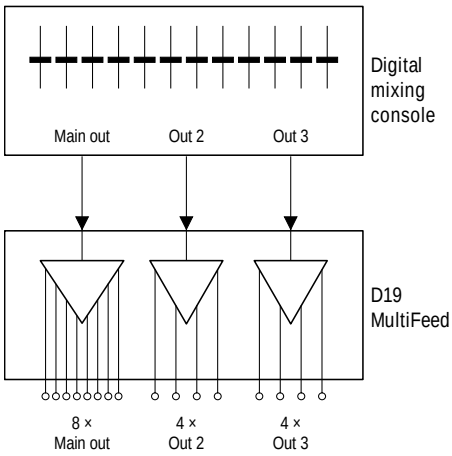

In the given example, the D19 MultiFeed will switch over to the emergency feeds in the same moment when the program feed via console and router is interrupted. This ensures that the important system output will *never* be without a signal.

**Studer D19 MultiFeed, D19 MasterSync**

# D19 MultiFeed applications

## Digital mixing console

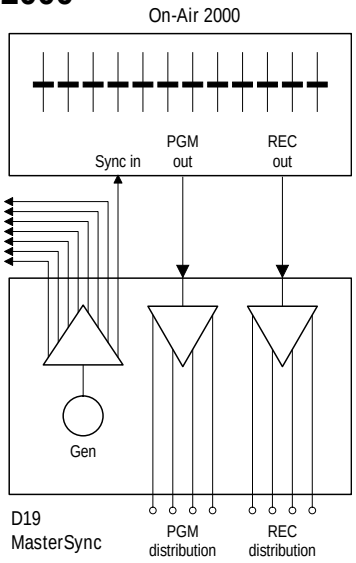
In most applications, the different output signals of a digital console have to be distributed to different targets. For example, the main output has to be distributed to the master control room, to a digital harddisk workstation, and to several other recording devices.




As the 16 outputs of a D19 MultiFeed can be configured in such a way that they distribute different signals, it is possible to use eight outputs for the distribution of the main output, and four of them each for two other signals, such as AUX outputs or a second master output.

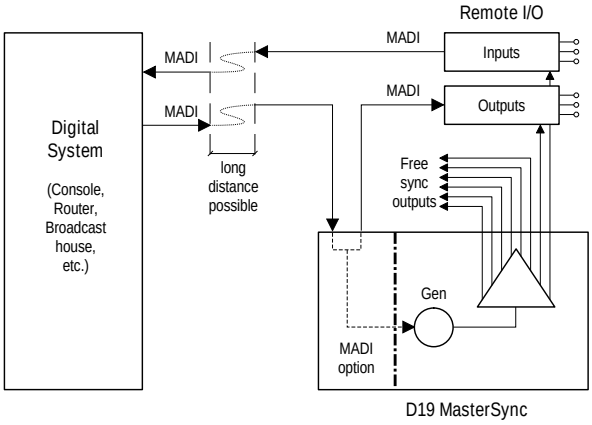
# D19 MasterSync applications

## On-Air 2000




In many installations with the On-Air 2000 digital mixing console (or other digital consoles), the need arises to generate a sync signal and distribute it to some peripheral devices, such as recording machines or players.
The D19 MasterSync is used in these environments and gives an additional benefit:
As the 16 outputs of a D19 MasterSync can be configured in such a way that they can distribute different signals, it is possible to use eight outputs for the distribution of the sync signal, and four of them each for other signals, such as the program bus and the record bus output distribution.

## MADI sync extractor (optional)




With more and more signals being transported on optical fibre links for improved immunity against signal distortion like hum, many systems have inputs and outputs located remotely. These inputs and outputs must be synchronized to the main digital system.
Examples: stage boxes in theaters or PA applications, OB-vans, or simple long distance connections between the different parts of a broadcast center.
With the MADI sync extractor option, the D19 MasterSync generates a sync signal from an optical fibre MADI signal, thus synchronizing all remote inputs to the main system.

# Technical specifications

(preliminary, subject to change without notice)

## Inputs

**AES/EBU**

Impedance: 110 Ω typ.
Sensitivity: min. 0.2 $V_{pp}$
Sampling rate: 28...55 kHz, according to AES3 1992

**Word clock**

Impedance: Hi-Z or 75 Ω, selectable with internal jumper; TTL level

## Outputs

**AES/EBU**

Impedance: 110 Ω typ.
Output level with 110 Ω load: 5 $V_{pp}$
Sampling rate: 28...55 kHz, according to AES3 1992

**Word clock**

Impedance: 75 Ω, TTL level

## Generator (MasterSync only)

Internal clock: 32/44.1/44.056/48/47.952 kHz
Precision: ±1 ppm
If synchronized by external video signal:
32/44.1/44.056/48/47.952 kHz

## Power supply

**Mains voltage:** 100...240 $V_{AC}$, 50...60 Hz
**Current consumption:** 1...0.5 A
**Power inlet:** IEC 320/C14

## Operating conditions

**Ambient temperature:** +10°...+40°C
**Relative humidity:** Class F (DIN 40040)

## Safety and EMC standards

**Safety**

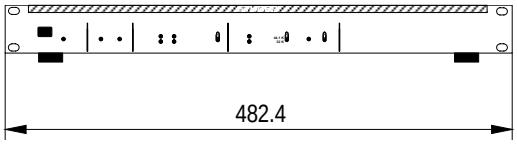
Protection class I according to EN 60950; 1992 + A1/A2; 1993 (UL 1950)

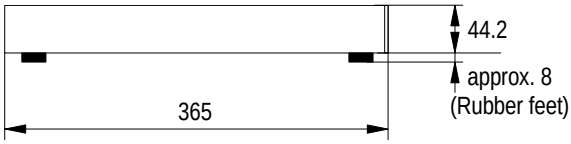
**EMC**

Product family standard for audio, video, audio-visual, and entertainment lighting control apparatus for professional use.
Emission: EN 50081-1; 1992
Immunity: EN 50082-1; 1992

## Mechanical data

**Weight:** approx. 5 kg
**Dimensions** [mm] (see below):

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