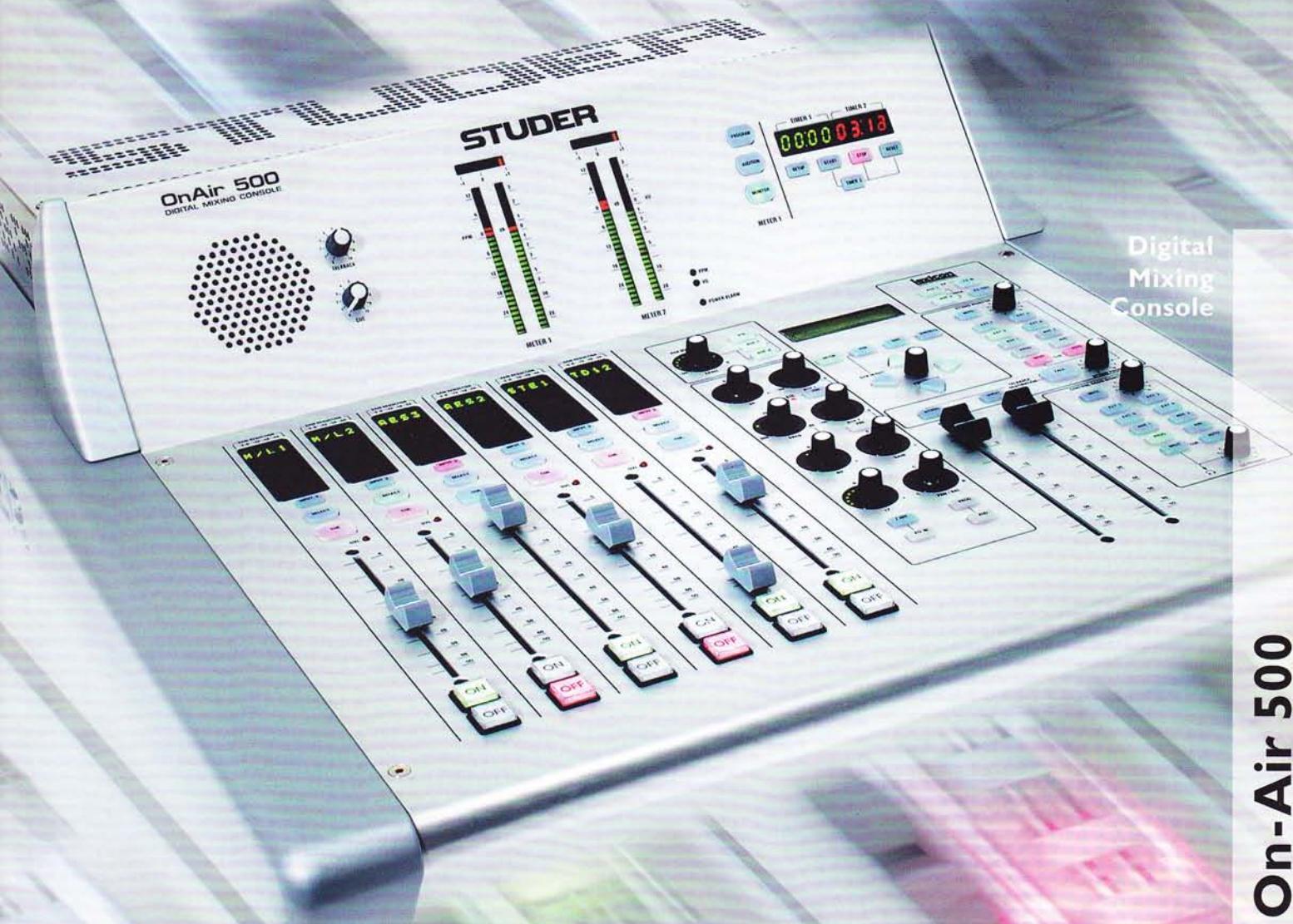
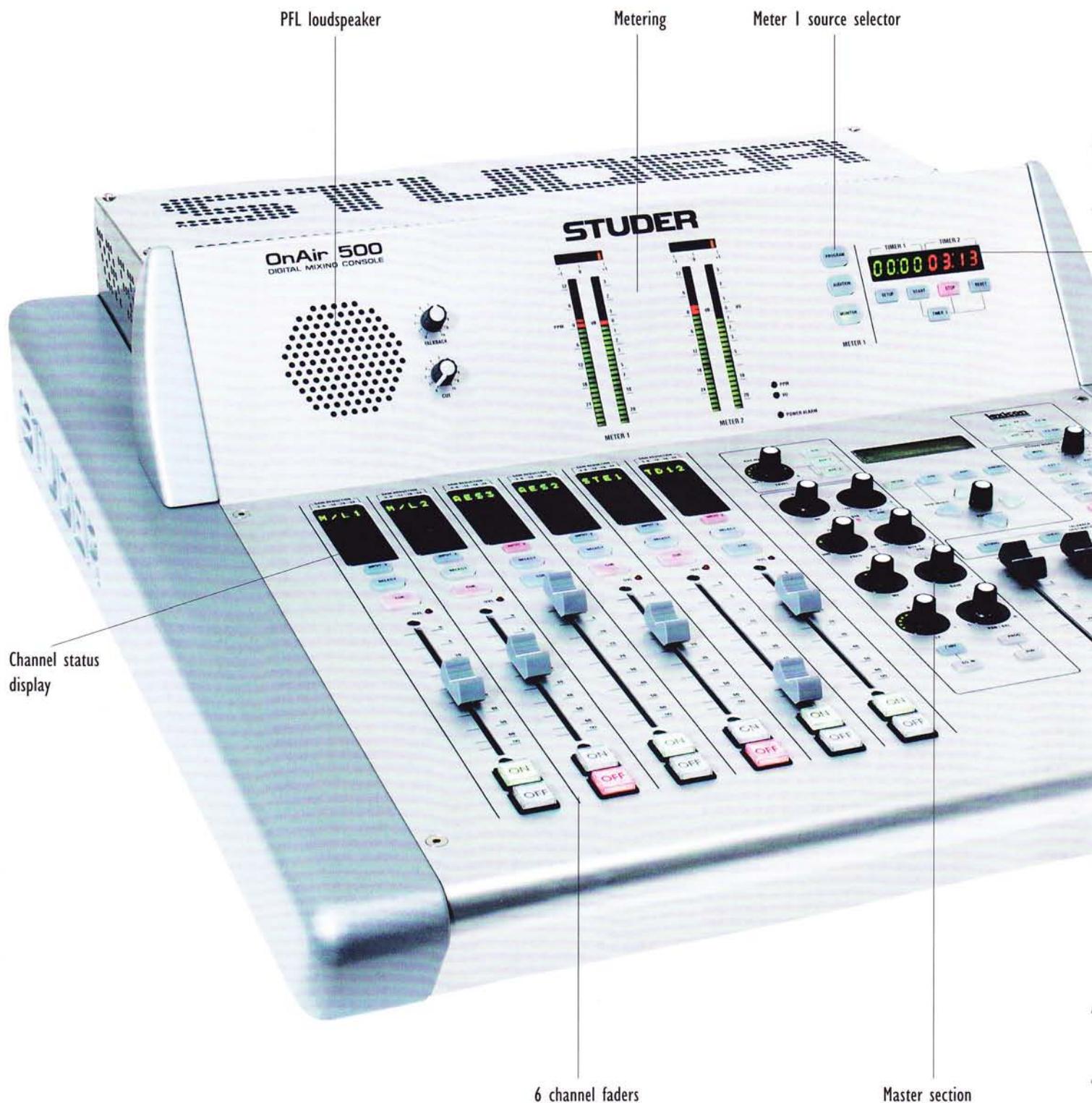


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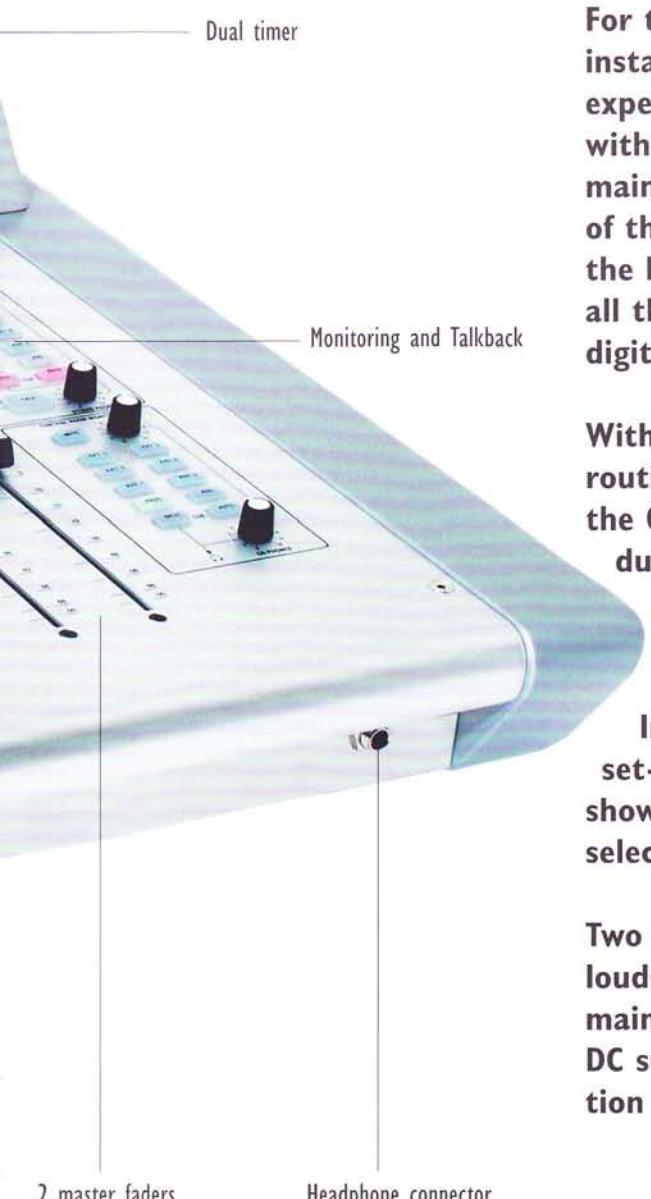
Digital
Mixing
Console

Studer On-Air 500



On-Air 500 – The small Studer

The On-Air 500 extends Studer's range of digital broadcast consoles to enable even more broadcasters to enjoy Studer's renowned audio quality and reliability, elegant styling and intuitive operational features. The On-Air 500 is perfect for smaller radio stations looking for an easy upgrade route from analogue to digital, for new broadcasters setting up an all-digital infrastructure from scratch and for established broadcast centres requiring occasional spare capacity for special programmes and outside broadcasts.



For those new to digital, joining the Studer family gives instant access to an enormous resource of knowledge and experience derived from Studer's world-wide customer base with its hundreds of man-years of console operation and maintenance. The compact size and simple control layout of the On-Air 500 are reassuring for first-time users and the logical menu systems provide swift and easy access to all the console's features for both learners and experts in digital broadcast technology.

With six channel faders, two master faders, an integrated routing system and a built-in Lexicon™ effects processor, the On-Air 500 is perfect for all live broadcasting and production tasks, and its comprehensive studio and control room monitoring and talkback features provide for seamless integration into any studio system.

In addition to the master section LCD panel used for set-up, each channel has a status display panel which shows the input selection, output routing and processing selected.

Two stereo bargraph meters with phase correlators, a PFL loudspeaker and two timers are fitted, and the internal mains power supply can be backed up by an external 24V DC supply, offering first level redundancy or mobile operation capability.

The Studer On-Air 500 at a Glance

- Small to mid-range broadcasting studios
- 6 channel faders, 2 master faders
- Fully digital signal processing
- Easy to operate
- 2 stereo bargraph meters with correlators
- Inexpensive and self-contained solution
- AC Line or 24 VDC operation

All you need – just where you need it



The On-Air 500 offers all the features needed for live broadcasting in an easy to use control surface layout. There's everything you need for an effective operation without confusing the operator.

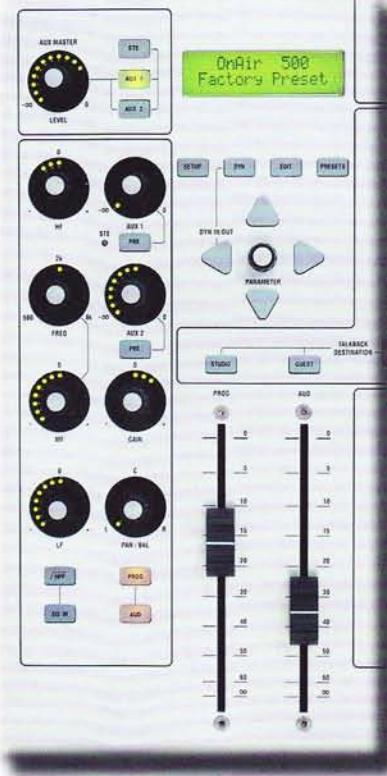
Input Channels



The On-Air 500 has four mono mic/line inputs, two of which have insert points, and two stereo line inputs, all analogue. There are five stereo digital inputs, four for AES/EBU signals and one for SPDIF, all with sample rate converters. Additional inputs may be created using the TDIF connector. A digital input router, accessed via the menu system in the master section of the console, allows any two inputs, either mono or stereo, to be selected as sources to each of the six channels. The first source (eg AES2) is shown on the 4-character display at the top of the channel status window, and may be named as required (eg CDI). The second source is shown when selected by the Input 1/2 button, which is directly below the status window and is illuminated when Input 2 is selected. Illuminated switches are also provided for ON, OFF and Cue (PFL), and the channel output is controlled by a 100mm fader with selectable remote start facilities. The ON switch illuminates amber if fader start is available, changing to green when the fader is opened and the remote start is activated. The only other control on each channel strip is the SELECT button, just below the Input 1/2 button.

Channel Controls

The On-Air 500 follows established digital practice in having a single set of assignable controls, accessed via the SELECT button on each channel. There are four rotary controls for EQ, providing +/- 12dB at 10kHz for HF, 100Hz for LF and from 500Hz to 8kHz for MF, and an EQ IN switch, the operation of which is indicated in the channel status window. A separate High Pass Filter is selected by the HPF switch, with the frequency selectable via the menu system. AUX1 and AUX2 each have a rotary control for level and a Pre/Post switch, and may be operated in stereo, selectable by a switch next to the AUX MASTER LEVEL control above the EQ section. The AUX 2 control is inoperative in stereo mode. A TRIM control provides +/- 12 dB of gain control on the selected channel, and a PAN/BAL control provides pan if the channel is in mono or balance in stereo mode. The dynamics processor is also accessed via the SELECT button, and the settings are adjusted using the PARAMETER control in the master section. Each channel may be routed to either or both of two output buses via the PROG and AUD switches below the PAN/BAL control.



Master Section

The back-lit LCD screen displays menus for SETUP, DYNAMICS, EDIT(SELECT) or PRESETS, as selected by the four rectangular buttons under the display, and also the Lexicon and timer setup menus. The menus are navigated using the four triangular buttons in conjunction with the PARAMETER knob, which scrolls through the relevant data. Selecting SETUP provides access to all console parameters including input routing and naming, gain settings, clean feed configuration etc. The DYNAMICS processor provides compression, limiting and gating, all parameters of which may be individually set for each channel and stored as dynamics presets. In EDIT mode the LCD screen displays the channel parameters as the controls are adjusted, and selecting PRESETS accesses the menu for the 128 console presets.

Outputs

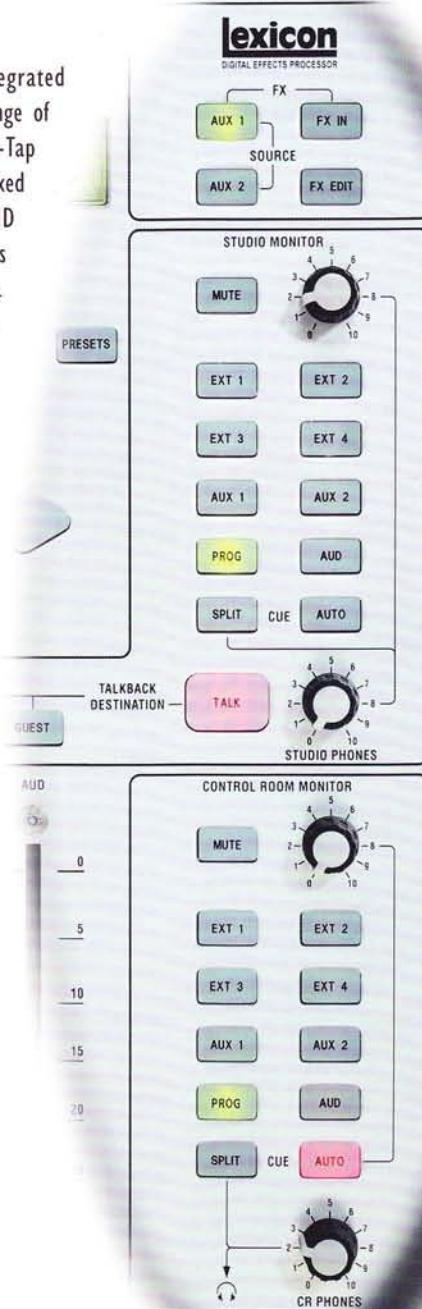
The Studer On-Air 500 has two stereo mix buses, PROG and AUD, controlled by master faders which can be bypassed using the SETUP menu. The fader outputs are fed directly to two pairs of analogue outputs and also to the digital output routing system. This provides mix-minus feeds and routes any selection of internal signals to the console's digital outputs, AES1 and 2 and SPDIF. Additional outputs may be configured via the TDIF connector.

Lexicon Effects

A Lexicon digital effects processor is integrated within the On-Air 500, providing a wide range of special effects. These include Reverb, Multi-Tap Delay, Flanging and Chorus, and may be mixed into either or both of the PROG and AUD stereo mix buses. The input to the Lexicon is derived from either the AUX1 or AUX 2 bus, or from both when stereo mode is selected. The processor has 32 factory preset effects, and up to 96 custom settings may be stored in user memory.

Monitoring

Two independent monitoring systems are provided, for control room and studio, with independent level controls for loudspeakers and headphones. An additional feed, with separate talkback, is provided for guest headphones, with the level controlled via the menu system. PFL may be selected independently for control room and studio, either as AUTO, when it overrides the previous selection, or SPLIT, with the previous source on the left and PFL on the right, both in mono.



Metering

The On-Air 500 is equipped with two 30-segment LED stereo paragraph meter, each with a phase correlation indicator. Meter 1 may be selected to read either of the two stereo mix buses PROG and AUD or the output of the control room monitor selector. Meter 2 is normally set



Talkback

The On-Air 500 offers two modes of talkback, depending on whether the presenter is using the console (self-op) or is in the studio with the console controlled by an engineer (eng-op). The normal (default) mode is self-op, and the eng-op mode may be set up if required using the menu system.

In self-op mode, the presenter may talk to the studio and/or guest headphones, and also to any clean feed destination(s) by selecting PFL on the appropriate channel(s), whenever the presenter's mic channel is not faded up. To enable the studio guests to talk to the presenter, an additional microphone in the studio, with a switch, is connected to the console's reverse talkback input. This feeds the presenter's headphones and also the PFL loudspeaker in the console if the presenter's mic channel is faded out.

In eng-op mode (selected by Talkback Swap ON in the menu system), the additional microphone is used in the control room to enable the engineer to talk to the presenter and guests in the studio without using up one of the console channels, and is activated by the usual TALK button. When the presenter's mic channel is faded out, pressing the remote switch in the studio connects the presenter's mic to the engineer's headphones and the console loudspeaker. In this mode only the engineer can talk to clean feed destinations.

up to read monitor, but may also be selected to read PROG or AUD by using the menu system.

The On-Air 500 is fitted with two digital timers which may be controlled from selected channel faders or by adjacent switches on the console front panel.

System integration



In addition to the comprehensive signal and control interface provided as standard, the Studer On-Air 500 integrates seamlessly with the well proven Studer DigiMedia radio automation system or the RCS Master Control system.

Integration and Interfacing

The Studer On-Air 500 integrates perfectly with automated playout systems, including Studer's DigiMedia broadcast system and the RCS Master Control automation system. Synchronisation with external digital equipment is ensured by word clock and AES II interfaces, and MIDI interconnections enable set-up information to be archived externally and recalled for later use.

tion to be archived externally and recalled for later use.

A TDIF connection allows additional analogue or digital inputs and outputs to be configured using external adaptor units.

24 V DC Operation

In addition to standard 110...240 VAC mains operation, the Studer On-Air 500 is equipped with a dedicated 24 VDC input. This facility is ideal for use in outside broadcast situations. The 24 VDC source may also be connected in parallel with the internal supply to provide first level redundant mode operation. In this condition the Power Alarm light on the meter bridge warns the operator if either supply fails.



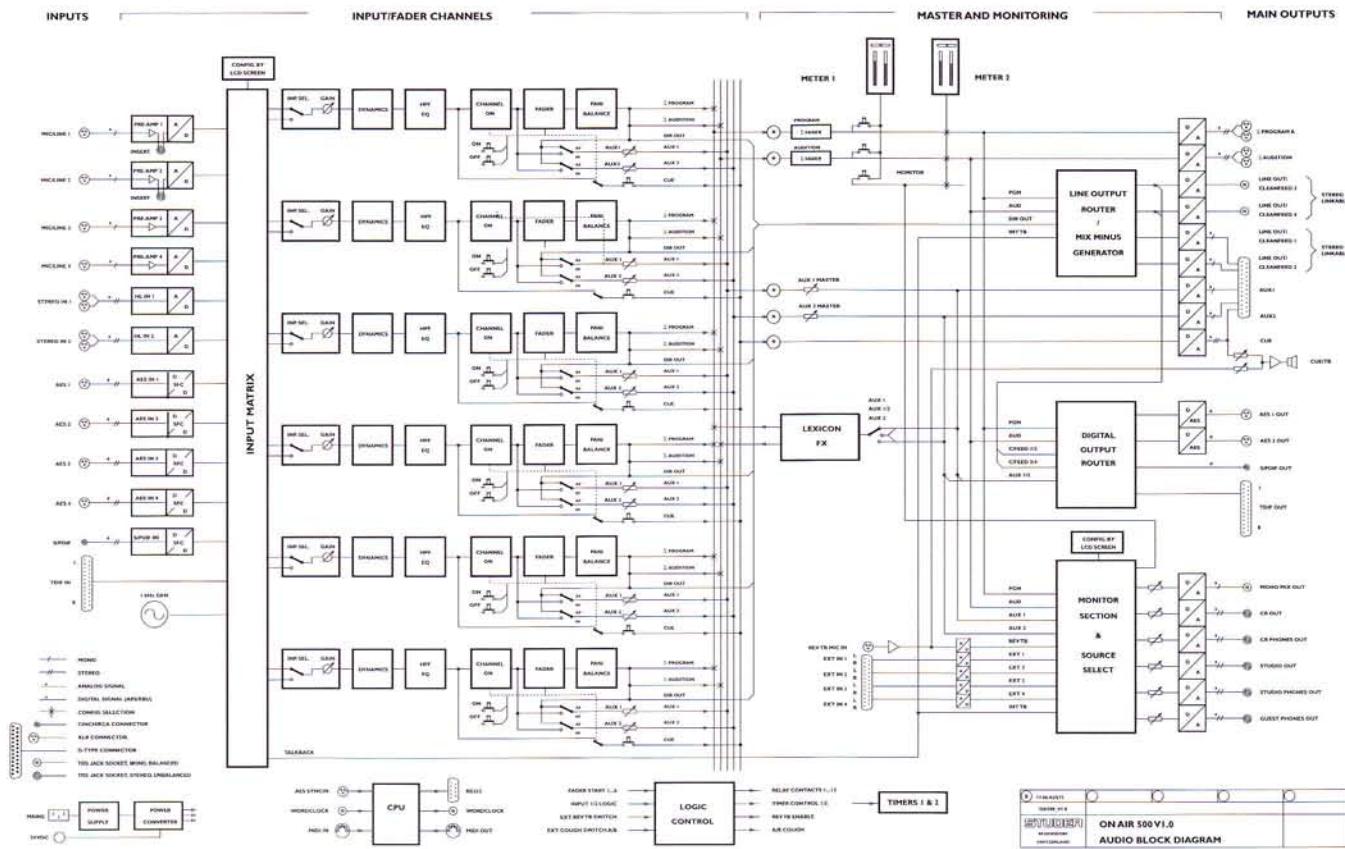
Service and Support

The Studer On-Air 500 benefits from the same high levels of attention to service and support as the other consoles in the Studer catalogue, and replacement parts and tested sub-assemblies are always available from stock. Studer's long-standing position as a major supplier to the world's broadcasters means that all the company's employees and distributors are aware of the requirement for absolute reliability of equipment and are alert to the need for an instant response if problems should arise.

Training courses for both operational and service staff can be arranged either on customers' premises or at the Studer factory.



Block Diagram



Technical specifications and Dimensions

Microphone Inputs

Phantom power, switchable:	48V
Frequency response:	±0.5 dB, 20 Hz ... 20 kHz
Input impedance:	2.2 kΩ
A/D converter:	24 bit (128 x oversampling)
Dynamics Range:	typ. 106 dB (unweighted)
Equivalent input noise:	-127 dBu (150 Ω @ max. gain)
THD:	< -80 dB (1 kHz @ 30 dB gain)

Stereo Line Level Inputs

Input sensitivity:	-18 ... +18 dBu
Frequency response:	± 0.5 dB, 20 Hz ... 20 kHz
Input impedance:	> 10 kΩ
A/D converter:	24 bit (128 x oversampling)
Dynamic range:	106 dB
THD:	< -86 dB (1 kHz @ 0 dB gain)

Analog Outputs

D/A converter:	24 bit (128 × oversampling)
Dynamic range:	106 dB
Frequency response:	± 0.5 dB (20 Hz ... 20 kHz)
Output impedance:	75 Ω

Equalizer

Treble control (High):	10 kHz: ±12 dB
Equalizer (Mid):	500 Hz to 8 kHz: ±12 dB
Bass control (Low):	100 Hz: ±12 dB

Power Supply

100 to 240 V, 50/60 Hz (auto-ranging)

75 VA typ

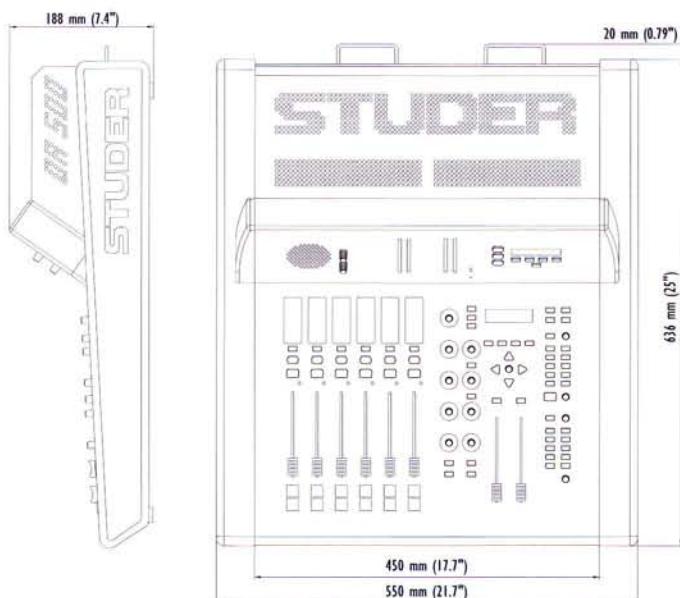
24 V/3 A typ

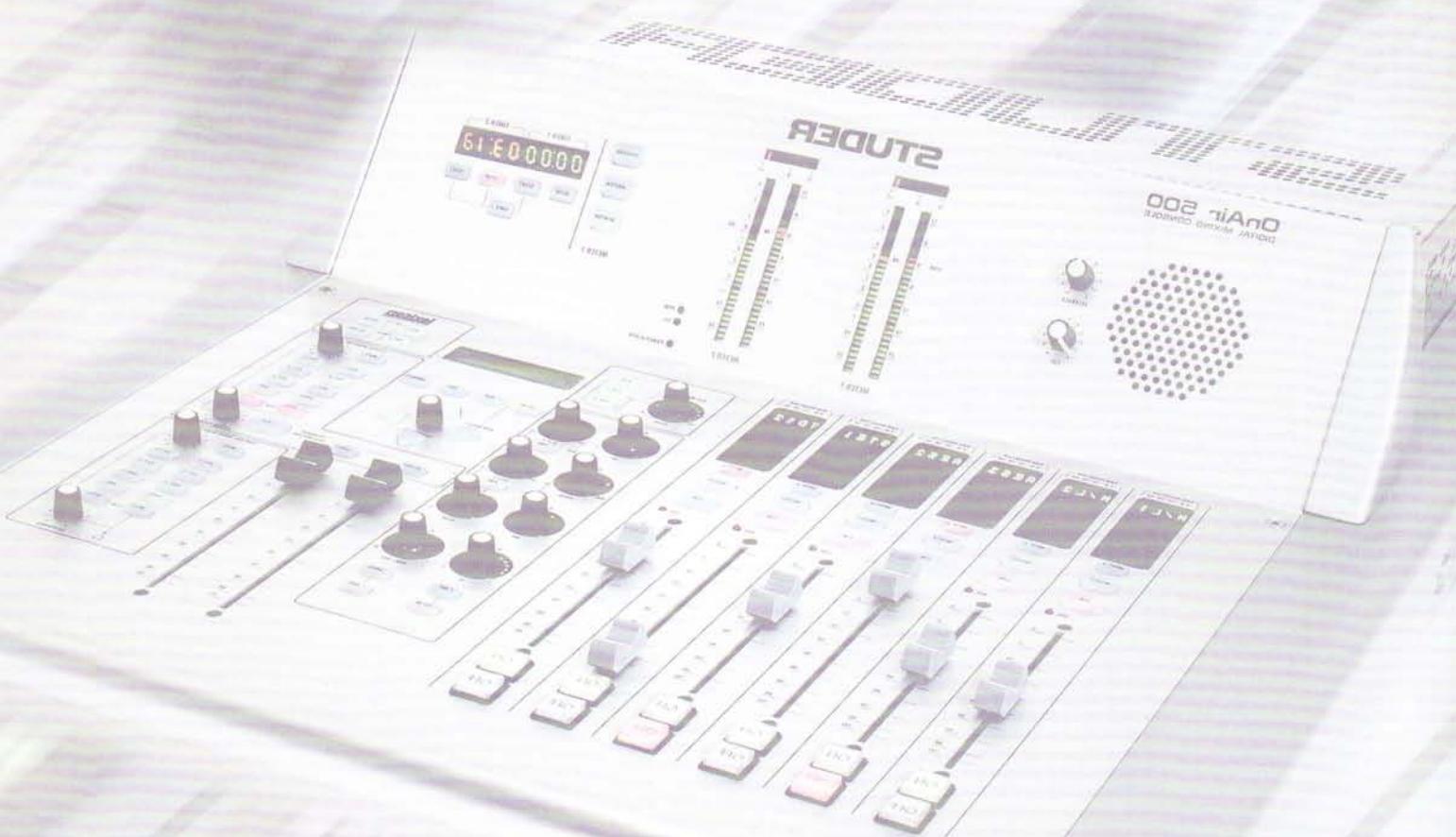
Weight

15 kg

On-Air 500:

Data subject to change without notice.





STUDER
professional audio equipment

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