STUDER

PROFESSIONAL AUDIO EQUIPMENT

A807



Professional Universal Tape Recorder

The STUDER A807 family

Over forty years of experience in building analog tape recorders and intimate familiarity with the requirements of professional users is an asset that yields high dividends when STUDER designs a new analog machine. Of course, our new design offers the necessary flexibility for creating an entire family of models that covers the full range of studio applications.

This large family ranges from the ¼" mono machine to the ½" five-track machine (four audio channels plus one time code track: the new format for HDTV sound). There is hardly a requirement that cannot be satisfied.

We don't make much of a fuss about the over 5000 STUDER A807 machines that are installed all over the world and perform to the full satisfaction of our customers – we keep this in our family.




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A807. Rugged precision: The tape deck

The requirements for ruggedness and precision need not be contradictory. But one thing is sure: the engineers had to come up with solid ideas. For example, a rigid die-cast aluminum-alloy chassis of the STUDER A807 is the mechanical base of the high-precision tape deck. The precision milled surfaces for mounting the headblock, the tape transport elements and motors ensure accurate positioning and perpendicularity of these assemblies.

The drive: From the capstan . . .
The direct drive DC capstan motor transports the tape with outstanding accuracy. This brushless design with Hall commutators requires absolutely no maintenance. The motor speed is measured by a high-precision magnetic index that is scanned by a non-contacting sensor. A quartz-accurate oscillator supplies the frequency from which a reference can be derived for any speed by using an appropriate dividing ratio. This advanced drive solution requires no mechanical gearing whatsoever.

. . . to the spooling motor
The three-phase induction motors have sufficient dynamic moment of inertia to dampen longitudinal tape oscillations and ample power to provide a fast reacting tape transport. They are controlled by switched, three-phase power stages that withstand the most demanding continuous duty and hectic editing without overheating.
The spooling motors are magnetically shielded to reduce stray fields. They are arranged in such a way that 1000 m standard tape (corresponds to a pancake diameter of 300 mm) can be mounted.



Constant tape tension . . .
The servo system maintains uniform tape tension in all operating states. The microprocessor continually monitors the deflection angle of the tape tension sensor and the tacho roller speed. From these values the microprocessor calculates the required spooling motor power.

. . . ensured by a clever control system
The tape tension sensor function not only as tension transducers but also as a mechanical filter for eliminating tape loops during the acceleration. Because of the ingenious microprocessor control, the STUDER A807 requires no tape tension sensor before the take-up reel: Since the tape tension as well as the spooling motor speed are known, the control system can afford to briefly accelerate both spooling motors in the same direction during the acceleration phase without creating a loop.

Without sacrificing the dynamic behavior of the tape deck, a simple tape transport has been created that allows much faster tape threading. Quick and accurate one-handed tape cueing with the right-hand reel is no longer disturbed by the after-oscillations of the tape tension sensor on the right side.

Flexible solutions: The audio electronics

The degree to which the highly diverse operating concepts of users all over the world can be satisfied depends on the design flexibility of the audio electronics.
One of STUDER's principle A807 design aims was to satisfy as many of these user requirements as possible.
There are models with or without built-in VU meters, with variable line inputs and outputs, with additional microphone input and phantom supply, with built-in generator.
A control interface for external noise reduction system and balanced insert points for the record and reproduce path (such as DOLBY and TELCOM) are available as options. Also other equipment (e.g. limiter for microphone input) can be looped in.



Stability and precision, the guarantee for continuous performance to specifications.
Illustrated: Headblock with additional time code head.

From the recording . . .
The STUDER A807 features Dolby HX-PRO as standard equipment. This significantly improves the treble dynamic range, particularly at low tape speeds.
All models are equipped with switchable CCIR/NAB equalization or storable settings for two different tape types.
A standard feature that STUDER feels today's users don't want to miss: The audio electronics is group delay compensated. Your ears will appreciate it.

. . . to the tape.
The record and reproduce heads are made of glass metal. This material ensures stable audio data over a long head life.
For optimum reproduction of library tapes also headblocks with an azimuth alignment knob are available.

Calibration without screwdriver
The gain and the treble equalization of each channel in the record and reproduce path and the bias setting are controlled with DACs. This technology is essential for automatic calibration with the STUDER SAAP system. Manual calibration can be performed with menu driven push button sequences; all settings can be read and checked on the tape timer display.

Each new alignment can be stored in non-volatile memory and is immediately available when the machine is powered on.

Time code:
Coupling of audio and video
The two-channel and four-channel versions of the STUDER A807 are also available with an additional time code center track. Only one time code head is used; the required offsets are calculated by a TC processor. Because of the high read bandwidth of the time code head, the time information can be recognized from 1/5 the nominal play speed to low spooling speeds.

Control and interfaces
In view of today's growing complexity in coupling different studio equipment, the peripheral interfaces play an important role. As standard equipment the A807 features a parallel interface on which the individual control and feedback signals are discretely available, as well as an RS232 interface that supplies all the signals available on the parallel interface as well as additional data on the tape deck status, counter content and error conditions. This interface also connects the machine to a modern synchronizer system.
An automatic calibration computer can read and modify the audio setup parameters via the serial interface.
Time code models are equipped with a second interface for remote time code display as well as a second parallel interface for connecting an optional synchronizer.



Calibration center: Multifunctional keypad and display for easy audio setup.

A807. Perfection in detail



Tape timer and tape deck functions of the STUDER A807 family.

Comprehensive menu

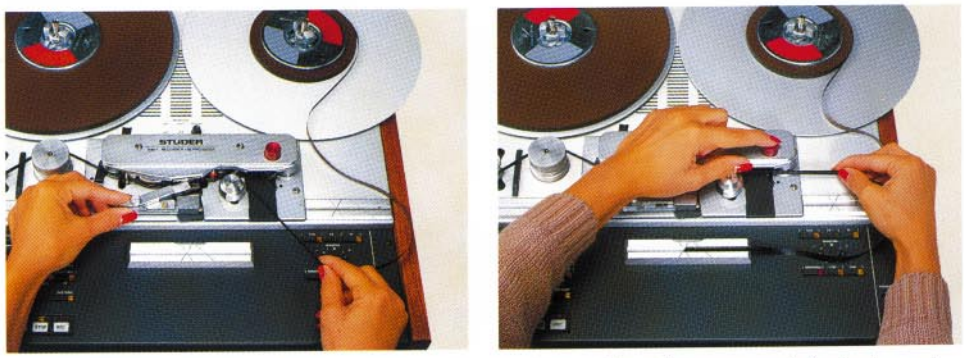
Menu commands are available for assigning up to three locator positions to individual keys or functions such as the automatic locator position of the last start, with the tape address 00:00, rewinding with reduced speed for producing highly stable library pancakes, dump edit mode, brief rewind during play (backspace) and loop mode for repetitive reproduction of a tape segment.

Tape speeds

The standard models operate at 3¾, 7½, and 15 ips whereas the HS models operate at 7½, 15 and 30 ips. Of course, varispeed is a standard feature of every STUDER A807; ± 7 semitones cover any tape speed between the three nominal speeds.

Operating convenience

The tape deck functions are controlled by easily accessible keys with status feedback. A row of smaller keys control functions such as tape speed, source selection, autolocator functions, tape timer setting and edit functions. Some of these have alternate functions for entering parameters during calibration. Some of the key functions can be redefined by software.



Dead-accurate tape marking with precision tape guidance and clean cutting at the proper angle for flawless and convenient splicing on the A807.

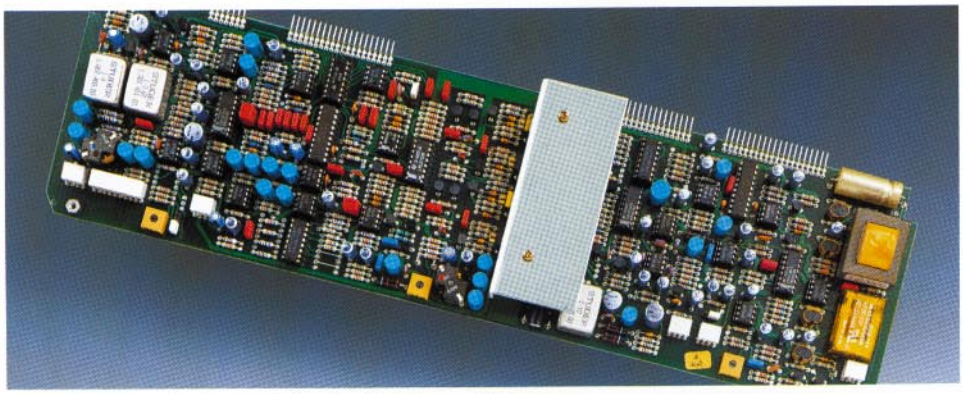
Editing: A pleasure

Integrated in the control panel is a wheel for shuttling the tape in either direction at any speed. Simultaneous cueing is possible through the built-in monitor speaker. A pre-head marking stamp, a tape cutter (both optional) and a splicing block are convenient tools for fast and accurate editing.

Numeric display

This display can be switched between the real-time tape timer (the time is automatically converted based on the selected tape speed) and an independent auxiliary timer that can be used, for example, to determine the duration of a recording without disturbing the absolute time. In addition, the calibration parameters can be read out on this display.

Versions with VU meters, integrated in the machine or in an overbridge, are equipped with source selectors (INPUT, SYNC, REPRO) and READY keys for all audio channels and the TC track (if configured). The line inputs and outputs can be calibrated or controlled with potentiometers. The VU meters also indicate peak levels of +6/9/12 dB with 3 LEDs.



Electronics design that is not only functional but also aesthetical.
The entire audio circuit of a channel is implemented on a single plug-in module.

The A807 family at a glance

Characteristics			Mono	2-Channel, 0.75 mm	2
			A807-1 VU 60.116.07212	A807-0,75 60.116.07221	A807-2 F
			A807-1 VUK 60.116.07213	A807-0,75 VU 60.116.07222	A807-2/2
				A807-0,75 VUK 60.116.07224	A807-2/2 VU
				A807-0,75 VUK HS 60.116.07225	A807-2/2 VUK
				A807-0,75 PBO 60.116.07226	A807-2/2 VU
				A807-0,75 VU PBO 60.116.07227	A807-2/2 VUK
Track configuration	Mono		● ●		
	Stereo			● ● ● ● ● ●	
	2-Track/stereo				
	Track separation	0.75 mm		● ● ● ● ● ●	
		2.0 mm			
	Erase head	Full track	● ●		●
		Overlapping		● ● ●	
		2-Track			
Line input	calibrated		● ●	● ● ● ●	
	uncalibrated, via potentiometer		● ●	● ● ●	
Line output	calibrated		● ●	● ● ● ● ● ●	
	uncalibrated, via potentiometer		● ●	● ● ● ●	
Microphone input	with phantom supply		●	●	
VU meter	integrated in control panel		●	●	●
	in overbridge		●	● ●	
Channel selector	Audio switching: REC/READY & INPUT/SYNC/REPRO		● ●	● ● ●	
	TC switching: REC/READY & INPUT/SYNC/REPRO				
	Audio- & TC switching: REC/READY & INPUT/SYNC/REPRO on ext. remote control				
Monitor speaker	integrated in tape deck cover		●	● ●	● ●
	in overbridge		●	● ●	
Tape speeds	nominal 3.75/7.5/15 ips		● ●	● ●	● ● ●
	nominal 7.5/15/30 ips			●	
	Varispeed		● ●	● ● ● ● ● ●	
Interfaces	Serial (RS 232)		● ●	● ● ● ● ● ●	
	Parallel		● ●	● ● ● ● ● ●	
Dolby® HX PRO			● ●	● ● ● ●	
Overbridge	Mono version		●		
	Stereo version			● ●	
	4-Channel				
TC Version					

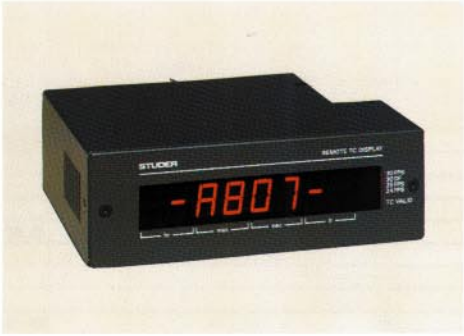
The models indicated in red are preferred types that are normally available ex stock and have a particularly attractive price.


Channel, 2 mm
60.116.07230
60.116.07231
60.116.07232
60.116.07234
60.116.07264
60.116.07265
2-Channel/TC
A807-2 TC VU 60.116.07242
A807-2 TC VUK 60.116.07243
A807-2 TC VU HS 60.116.07245
A807-2 TC VUK HS 60.116.07246
4-Channel
A807-4-½" VUK HS 60.116.07060
4-Channel/TC
A807-4-½" TC HS 60.116.07259
A807-4-½" TC VUK HS 60.116.07261

The comprehensive STUDER remote control system



Tape deck remote control
in desktop housing, with timer functions, incl. 15 m cable



Remote timer
Time code display with status, incl. 15 m cable



Varispeed controller
Built-in version



Tape deck remote control
Built-in version, incl. 15 m cable

Tape deck remote control	Desktop version	1.328.250.00
	Built-in version	20.820.367.00
Varispeed remote control	for installation in desktop TD remote control	1.328.253.00
	Built-in version	1.328.290.00*
	Built-in version with LED display	1.328.280.00*
Audio remote control	for 2 channels and TC Ø	1.328.512.00
	for 4 channels and TC Ø	1.328.515.00
Remote displays	counter reading Ø	1.328.330.00*
	counter reading and RESET TIMER ★	20.020.100.30
	Time code (TC)	21.328.285.00

Tape deck functions		
Fast forward	>	○●○●
Fast rewind	<	○●○●
Play	PLAY	○●○●
Record	REC	○●○●
Stop	STOP	○●○●
Interactive rewind 1.)	BACK SPACE 1.)	○1 ○1
Tape cueing during wind 1.)	LIFTER 1.)	○1 ○1
Fader start preselection	FADER START	○●○●
Locator functions		
0-Locator (timer address 0)	ZERO LOC	○ ○ ○
Start point locator	LOC START	○●○●
Tape timer		
Real time indication	TIMER	● ●
– Timer reset	RESET TIMER	○ ○ ○
Auxiliary timer	LAP	●
occupies RS232 connector		▲
occupies audio remote control connector		▲
up to three remote displays possible		●
Variable tape speed	VARI SPEED	○●○●○●
– Preselection with reference scale	000 < 500 > 999	○●○●
– Preselection as actual value in HT	SET VARI SPEED	○●
Audio and time code channel remote control		
Audio channel selection for 2 channels	CH1 / CH2	○●
Audio channel selection for 4 channels	CH1 / CH2 / CH3 / CH4	○●
Audio source selection	INPUT / SYNC / REPRO	○●○●
Preselection of the audio record status	SAFE / READY / REC	○●○●
Time code channel selection	TC	○●○●
Time code mode	INPUT / SYNC / REPRO	○●○●
Preselection of time code record status	SAFE / READY / REC	○●○●
Display: Valid time code		● ●●
Time code remote display		
Display of actual time code	TC-DISPLAY	●
Display of time code format	30 FPS / 30 DF / 25 FPS / 24 FPS	●

○ Remotable function

● Status indication

1) Jumper setting determines whether BACKSPACE or LIFTER is performed

▲ Please note: The remote counters occupy the corresponding remote control connectors.

* Connection cable must be ordered separately

★ Not suitable for TC models

Ø These remote controls require the option 20.807.947.00

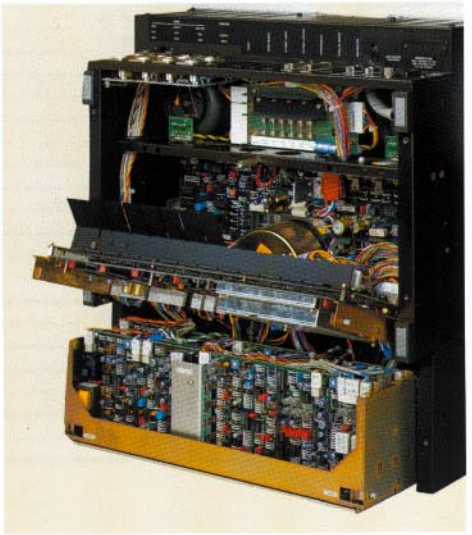
A807. Functional in every position



Elegant functionality: Consoles for mobility and ergonomic work in the studio. With or without overbridge and base rack.



The A807 is also compatible for 19" rack mounting.



Ease of maintenance, also "behind the facade", is an attractive feature of the impressive A807 family.



Transportable and presentable:
A807 with side trim and carrying handles.



Monitor expansion for prelistening the monophone/ stereo source or tape signal.

Some photos show options offered at additional cost. We reserve the right to make alterations as technical progress may warrant.

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STUDER
professional audio equipment

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