The Revox B77
tape recorder

The Revox B77 Tape Deck
Proven Professional Design.

Precision Transport

Professional recordists know that for long-term stability and performance successful tape transport design must begin with the chassis frame itself. No matter how smooth-running the motors and highly-refined the heads, since both are referenced to the recorder's frame, any long-or-short-term flexing or imprecise machining in the chassis will inevitably degrade performance. To achieve the required stability - at a weight compatible with home use - the Revox B77 uses a sturdy aluminium die-casting for the chassis, headblock, pinch roller and mechanism, and each mounting point is painstakingly machined for extraordinary tolerances. The Nextel-coated case around the transport provides a similarly sturdy layer of protection for the mechanism.

Precision Three-Motors Drive

Studer-Revox manufactures its own drive and winding motors so their characteristics can be optimized for recorder use. For example, when heavy reels must be started up from rest they must be fed initially with a higher starting voltage, which is gradually reduced via a triac circuit to normal running voltage. The entire operation must be entirely smooth or the tape could snarl or stretch. Studer motors and controls are one reason why our decks are so widely acknowledged to be the gentlest-handling you can own.

The capstan motor employs a precision-machined set of teeth at the circumference of its motor. As the motor turns, these teeth create a series of pulses that are read by a tachometer head and whose rate is compared against the frequency of a stable internal oscillator. In this way, even very slightest speed variations are immediately detected through a fast-acting servo system. To reduce wow and flutter even further, the direct-drive capstan shaft is machined to an accuracy of one one-thousandth of a millimeter, is hard chrome-plated and is artificially aged during the

manufacturing process to ensure long-term stability.

Precision Heads and Electronics

Studer tape heads - from 1 to 24 track models - are world-renowned and are designed and build in our own facilities. The head cores are made from a physically hard, magnetically soft metal allay called Revodur, which has nearly perfect electromagnetic qualities. Whether you purchase your B77 in a quarter- or half-track stereo format its heads will be built to the same standard of polish employed in our professional studio decks.

The head nest of the B77 also contains space (1) for the inclusion of a fourth head, to be used for slide-projector synchronization or other audio-video control purposes, in addition to the regular erase, record play units. An infrared sensor within the head area (2) actuates automatic shut-off in

the event of tape run-out or breakage.

Three-Head Monitoring and Special Effects

Because the record and playback heads of the B77 are individual, separate units, each can be optimized for its specific function. A narrow gap is employed for playback to extend the frequency response, while a wider gap is employed during recording to ensure full penetration of the oxide layer on the tape. Since the record and playback electronics are also separate, this permits you to monitor the recorded result a split-second later, making direct comparison possible to avoid the possibility of an unsatisfactory recording. The sophisticated electronics and separate heads of the B77 also permit various special recording effects. Without external components or cables the Revox B77 can:

- Duoplay, where both recorded tracks are used simultaneously but for different, interspersed information, as in language laboratories.

- Simuplay, where a running commentary musical part, or translation is recorded on one track and a synchronized musical part or other accompanying material is recorded on the other.

- Sound-on-Sound, where a single individual, by playing various musical parts and successively mixing his live part with a previously recorded section, can build up an entire performance.

- Echo/Reverb, where tape-delayed echo or ambience can be added to a recorded track.

Precision Editing Facilities

An accurate splicing block and non-magnetic sheertype cutter are build right into the front panel of the B77, encouraging creative tape editing. Additionally, a lever switch is included that activates the playback amplifiers during the fast-winding modes, and shifts their operation to a pulse-type control. In this way you can quickly shuttle back and forth between fast forward and rewind to find the exact point at which an editing cut is to be made. For even finer-pin pointing of critical cuts the reels can be rotated manually while the tape remains against the playback head.

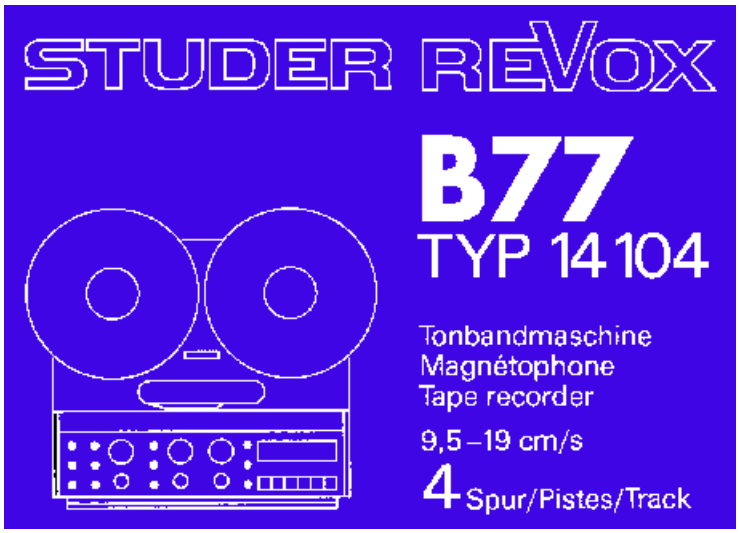
Fine Speed Adjustment

The Revox B77 MK II (not the MK I) contains a built-in vari-speed control with a range of ± 2 half-tones. for a larger range of ± 7 half-tones it is necessary to use the external vari-speed control.

Technical Data **Revox B77** **Stereo Tape Recorder**	
Tape transport mechanism:	**3-motor tape drive, 2 AC driven spooling motors; 1 AC driven capstan motor, electronically regulated**
Tape speeds:	**3.75 and 7.5 ips or 7.5 and 15 ips, electronic change-over**
Tolerance from nominal: **With external accessory, speed variable:**	**± 0.2%** **from: 2.5 ... 11 ips (3.75/7.5 ips machines)** **5 ... 22 ips (7.5/15 ips machines)**
Wow and flutter **(as per DIN 45507/ consistent with EEE standard 193-1971):**	**at 3.75 ips less than 0.1%** **at 7.5 ips less than 0.08%** **at 15 ips less than 0,06%**
Tape slip:	**Max 0.2%**
Reel size:	**Up to 10.5 inch diameter** **(min. hub diameter 2.36 inches)** **tape tension switchable (for small hub diameters)**
Winding time:	**Approx. 135 sec for 3600 ft of tape**
Tape transport control	**Integrated control logic with tape motion sensor provides for any desired transition between different operating modes. Contactless electronic switching all motors. Remote control of all functions and electronic timer operation are possible.**
Equalization **(as per NAB):**	**3.75 ips: 90 µsec / 3180 µsec** **7.5 ips: 50 µsec / 3180 µsec** **15 ips: 50 µsec / 3180 µsec**

Frequency response (measured via tape, at -20 VU):	**At 3.75 ips:** **30 Hz ... 16 kHz +2 / -3 dB** **50 Hz ... 10 kHz ± 1.5 dB** **At 7.5 ips:** **30 Hz ... 20 kHz +2 / -3 dB** **50 Hz ... 15 kHz ± 1.5 dB** **At 15 ips:** **30 Hz ... 22 kHz +2 / -3 dB** **50 Hz ... 18 kHz ± 1.5 dB**		
Peak recording level:	**514 nWb/m corresponds to 6 dB above 0 VU**		
Level metering:	**VU meter as per ASA standard with LED peak level indicators**		
Distortion		**At 0 VU (257 nWb/m)**	**At 0 VU + 6 dB (257 nWb/m)**
	At 3.75 ips:	**< 1%**	**< 2.5%**
	At 7.5 ips:	**< 0.6%**	**< 1.5%**
	At 15 ips:	**< 0.6%**	**> 1.5%**
Signal to noise ratio (weighted as per ASA-A, measured with tape)	**Half track**	**At 3.75 ips better than 64 dB at 7.5 ips better than 67 dB at 15 ips better than 65 dB**	
	Quarter track	**At 3.75 ips better than 60 dB at 7.5 ips better than 63 dB**	
Crosstalk (1000 Hz):	**Stereophonic Monophonic**	**Better than 45 dB Better than 60 dB**	
Erase depth:	**At 7.5 ips better than 75 dB**		
Inputs per channel			
MIC (unbalanced)	**Position LO:**	**0.15 mV / 2.2 kOhms for 50 ... 600 Ohms microphones**	
	Position HI:	**2.8 mV / 110 kOhms for microphones impedances up to 20 kOhms**	
	Radio:	**2.8 mV / 20 kOhms**	
	AUX:	**40 mV / 220 kOhms**	
	Overload margin on all inputs:	**40 dB (1:100)**	
Outputs per channel (level at 6 dB above 0 VU / 514 nWb/m):	**OUTPUT**	**1.55 V, internal resistance 390 Ohms adjustable with preset control, max. attenuation -26 dB (Rj max. 1.5 kOhms)**	
	RADIO:	**1.55 V, internal resistance 4.7 kOhms adjustable with preset control, max. attenuation -26 dB**	
	PHONES:	**(2 x) max 5.6 V, internal resistance 220 Ohms, short-circuit proof, optimum matching impedance 200 ... 600 Ohms**	
Connectors for:	**Remote control of tape transport functions Remote control of variable tape speed Slide projector or crossfade unit (electronics optional)**		
Semi-conductor complement:	**11 IC, 1 opto-coupler, 4 Triac, 60 transistors, 33 diodes, 5 LED, 2 full wave rectifiers, 3 relays**		
Electric current supply (voltage sector):	**100,120,140,200, 220,240 V 50 ... 60 Hz, max 80 W**		
Main fuse:	**100 ... 140 V: 1 A slow-blowing 200 ... 240 V: 0,5 A slow-blowing**		
Weight:	**Approx. 37 lbs. 7 ozs (17 kg)**		
Dimensions (W x H x D):			

	17.8 x 16.3 x 8.14 inches (452 x 414 x 207 mm)
Required clearance for 10.5 inch reels:	Max width: 21.2 inches (538mm) Max height: 18.25 inches (463.5 mm)
All figures quoted are minimum performance values normally exceeded by all units. Subject to change.	



[Click here to read the The Revox B77 brochures from January 1984]

- Revox B77 advertisment from an US magazine 1978 - the world's finest audio recorder
- Revox B77 advertisment from an US magazine 1978 - real to reel .... sounds best on Revox B77
- Revox B77 advertisment from an US magazine 1979 - a professional studio recorder with a handle

- Revox B77 operating instructions, warranty cards, quality signets, ...
- The difference between a Revox B77 Mk I and a Revox B77 MK II

Revox B77 tape recorder equiped with:
dust cover, professional NAB hub adapters and aluminum reels

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