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Revox A77 Professional Tape Recorders



The well-known reliability of the Revox A77 is a result of a professional design concept, a concept which successfully combines the advantages of a solidly constructed tape transport mechanism with the advantages of an advanced electronic circuit design. A 3-motor transport mechanism with electronically regulated capstan motor and solenoid operated servo-brakes possesses few parts which are subject to mechanical wear. The use of a diecast motor chassis and head support ensures that a high degree of mechanical precision and long term stability are maintained, even under excessively heavy use. The mechanical and electronic properties thus complement each other in a most successful way.

Rugged 3-Motor Tape Drive

With its 3 motors on a solid die-cast chassis, the A77 possesses the basic design features of a professional tape recorder. Due to the direct drive principle, there are no friction wheels, clutches or belts needed. This makes for a mechanically simple drive system with only a few movable parts. Thus,



wear is reduced to a minimum, a point of vital importance for the long life of a tape recorder.

By using this 3-motor principle, each function has been optimized. The spooling motors are designed to cope with normal tape tension and high speed winding, which can be made very fast even with 10.5 inch reels, while the capstan motor is solely responsible for the linear forward motion of the magnetic tape.

Electronically Regulated Capstan Motor

Uniform motor speed — and with it even tape motion — does not rely on utilizing the power line frequency, but is controlled instead by an internal electronic regulating system. Tape speed is thus stable and to a high degree independent of any variation in power line voltage or frequency. Therefore, the A77 may also be used by driving it from batteries (via an inverter with sine wave output) and nothing whatsoever has to be changed when moving from a 50 Hz to a 60 Hz electric supply area or vice versa. The change of tape speed is also achieved electronically, free of any mechanically wearing parts, and free of any influence on the characteristics of the tape drive mechanism.

Electronic Control of Tape Drive Functions

All functions of the tape drive mechanism are controlled by a simple relay logic. This makes possible soft "finger touch" switching, as well as remote control of all operating modes. Solenoid activated servo-brakes ensure safe and positive stopping of the tape even from the highest winding speed.

Modular Amplifier Circuitry

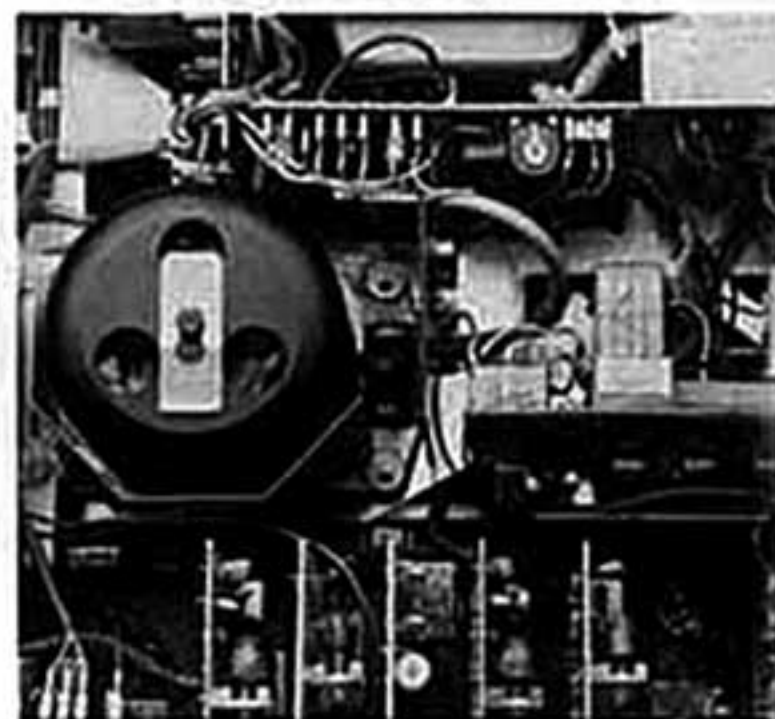
The audio electronics of the A77 offer the following typical characteristics: extremely low distortion; high signal to noise ratio; linear response and exact equalization characteristics. All amplifier boards plug in for easy servicing. Only the combination of these properties makes for a recorder of outstanding quality.

Two input channels may be switched separately to work from either low or high impedance microphones or from other sound sources as well. Two microphones may be connected directly to the front panel or to the socket strip on the rear. Separate input controls for each channel permit the mixing of two monophonic signals, or the exact balancing of stereo-

phonic recordings and two precisely calibrated ASA VU-meters ensure accurate modulation of the recording tape.

REVODUR Sound Heads

The REVODUR sound heads have improved magnetic characteristics and a much higher life expectancy. Consistent quality is thus assured since STUDER REVOX designs and builds their own magnetic heads.



Exact Calibration

Separate calibration controls for each speed and channel permit precise bias and equalization adjustments of the A77. This forms the basis for the excellent recording characteristics of all A77 recorders, because our published specifications are minimum values, which must be met by each and every recorder.

A77 Professional



A77 S.L.S.



A77 Autostart (Vox)



Inputs

The A77 professional recorder is available in 7 1/2/15 IPS half & full track configuration and is fitted with Cannon XLR connectors on inputs and outputs. Inputs are balanced, line level and require +8dBm for full tape modulation. The input levels are preset and no front panel adjustments are provided.



The outputs have independent line amplifiers providing a balanced +8dBm preset line level. In addition an adjustable output is provided to feed headphones or unbalanced equipment. Optional plug in 8 watt amplifiers are available for the half track machine to drive external speakers or the 4 internal speakers included in the suitcase version.



Specifications

Line: balanced; sensitivity +8dBm (preset for full modulation; Cannon XLR3 connectors.

A77 S.L.S.

The A77 is available in a super low speed of 15/16 & 1-7/8 IPS. With the A77 super low speed 15/16 IPS version Revox reliability is now available for all logging applications. Over 12 hours can be recorded in one pass on two tracks, with 3,600 feet of tape. With a modification to the end of tape lamp circuits, two machines can be linked to provide automatic logging for 24 hours.



The S.L.S. model combines mechanical simplicity and proven reliability with a very reasonable cost. A true alternative to complex and costly loggers. The A77 S.L.S. is available in half and quarter track formats.

SPECIFICATIONS

Frequency Response
Wow and Flutter
Recorded Peak Level
Distortion at
140NWb, Revox 601 Tape
S/N ratio, unweighted
Erase Efficiency

15/16 IPS
60-5000 Hz +2-3dB
3%
140 NWB

Less than 3%
Greater than 45dB
Greater than 65dB

The A77 Autostart machine automatically goes into the record mode in the presence of a signal. It will continue to record for up to 7 seconds (variable) after the signal has been removed and then stops. (Trigger sensitivity is variable for each channel). The A77 Autostart is ideal for any operator unattended monitoring application where



good recording quality (7 1/2 IPS) is required. For example Radio stations can use this Revox machine to receive network news feeds automatically. Security firms who must record telephone calls can do so backed up by Revox dependability. The A77 Autostart has the same fine specifications as the regular model 11102 (a push for Manual button disables the auto start circuitry for normal operation) and is available in quarter and half track formats at 3 3/4 and 7 1/2 IPS.

Technical Specifications (General)

All figures quoted are minimum performance values as measured with REVOX 601 professional tape. They are valid for two and four-track recorders, except where otherwise stated.

Tape Drive Mechanism

Design principle: 3-motor tape drive mechanism, electronically regulated servo capstan motor

Tape speeds: $3\frac{3}{4}$ and $7\frac{1}{2}$ ips, selected by electronic switching. Deviation from nominal $\pm 0.2\%$
Wow and flutter: weighted, at $7\frac{1}{2}$ ips, less than $\pm 0.08\%$
at $3\frac{3}{4}$ ips, less than $\pm 0.1\%$

Measured in accordance with IEEE standard 193-1971 (consistent with DIN 45507)

Tape slip: not exceeding 0.2%

Tape reel dimension: up to $10\frac{1}{2}$ " outside diameter (minimum hub diameter $2\frac{3}{8}$ ")

Uninterrupted playing time: with long playing tape 3600 feet, 3 hours 12 mins. at $3\frac{3}{4}$ ips, 1 hour 36 mins. at $7\frac{1}{2}$ ips

Operating positions: horizontal, vertical or inclined. Remote control: momentary contact switching for all functions

Electronics

Semi Conductor Complement: 54 transistors, 32 diodes, 4 silicon rectifiers, 1 light dependent resistor, 4 relays

Amplifier: plug-in printed circuit boards

Frequency response: measured via tape at $7\frac{1}{2}$ ips.

30-20,000 Hz $\pm 2/-3$ dB

50-15,000 Hz ± 1.5 dB

at $3\frac{3}{4}$ ips.

30-16,000 Hz $+2/-3$ dB

50-10,000 Hz ± 1.5 dB

Equalization: recording as per NAB*, playback as per NAB* or IEC (switchable)
*(consistent with DIN 45513/H)

Distortion: measured via tape at 1 kHz peak level and 0 VU respectively at $7\frac{1}{2}$ ips, less than 2% or 0.6% respectively
at $3\frac{3}{4}$ ips, less than 3% or 1% respectively

Signal to noise ratio: measured via tape, weighted as per ASA - A:
at $7\frac{1}{2}$ ips, better than 66 dB
4-track better than 62 dB
at $3\frac{3}{4}$ ips, better than 63 dB
4-track better than 59 dB

Crosstalk: at 1000 Hz for monophonic operation, better than 60 dB, stereophonic operation, better than 45 dB

Oscillator frequency: 120 kHz (push-pull oscillator)

Overload margin for each input: 40 dB

Inputs per channel

Microphone (switchable for high and low impedance microphones): Sensitivity for 50-600 ohms low impedance microphones: 0.15 mV, maximum 15 mV

Input impedance 2.2 k ohms

Sensitivity for high impedance microphones up to 100 k ohms: 2.5 mV, maximum 250 mV. Input impedance: 220 k ohms

Input connectors RCA-phono sockets and phone jacks

Radio: sensitivity 2.5 mV, maximum 250 mV, input impedance 33 k ohms

Input connector 5-pin DIN socket

Auxiliary input: sensitivity 35 mV, maximum 3.5 V, input impedance 1 M ohm

Input connectors RCA-Phono sockets

Outputs per channel

Output for amplifier: maximum output voltage 2.5 V, source impedance 600 ohms

Output connector RCA-phono socket

Output for radio: maximum output voltage 1.2 V, internal impedance 2.5 k ohms

Output connector 5-pin DIN socket

Output for headphones: recommended load impedance 200 ohms or higher, volume adjustable

Output connector phone jack

Power output stages: optional plug-in amplifiers, all performance characteristics conform to DIN 45500

8 watts continuous average power per channel, measured with a load impedance of 8 ohms at a maximum total harmonic distortion of 1%.

Loudspeakers having a nominal impedance of 4 to 16 ohms may be connected.

Loudspeakers (2 per channel in the suitcase model) will be automatically disconnected when plugging external loudspeakers into the respective DIN output sockets.

Power requirement: electronically regulated power supply.

Operation on 50 to 60 Hz power line without the need for change-over. Power consumption without power stages 70 W approximately, with power stages 70 to 100 W, fuse rating.

110 to 150 V: 1 amp. slo-blo

Weight: approximately 33 pounds

Model variations: walnut cabinet or metal case with or without power amplifiers, suitcase model with built-in loudspeakers, 2-track or 4-track version

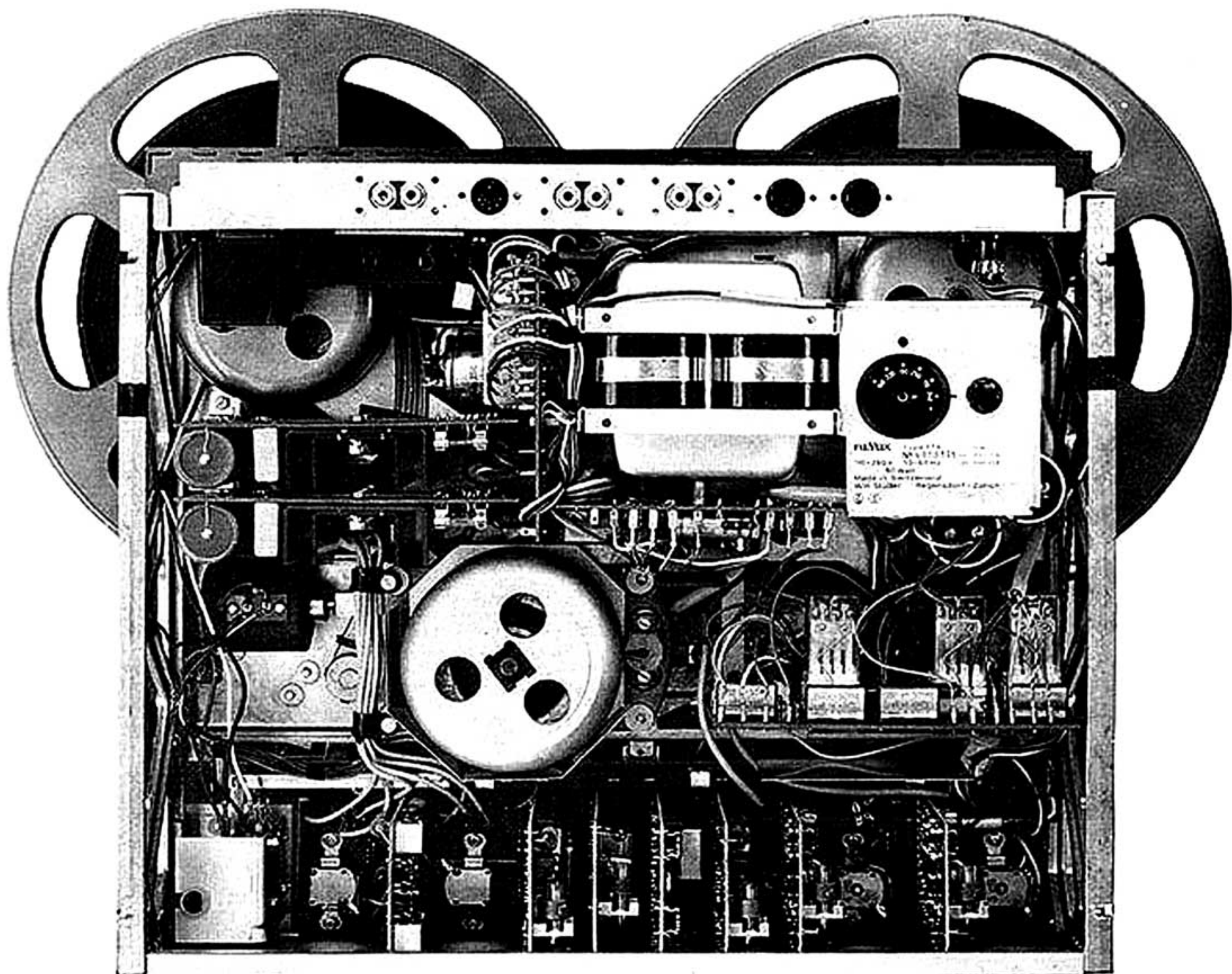


Dimensions:	Standard	Carrying case
Width	415 mm (16.33)	514 mm (20.23)
Height	359 mm (14.13)	380 mm (15.00)
Depth	180 mm (7.08)	224 mm (8.81)

incl. cover
With 26.5 cm (10.5 inch) reels (all models), max. width 539 (21.22), max. height 442 (17.40)

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the inside story of Willi Studer

The Revox A77 is Willi Studer's brain child... born from years of experience designing magnetic recording equipment for the broadcasting and recording industries. This is a great recorder built to the highest Willi Studer standards of manufacture. For the discriminating music lover as well as the professional user Willi Studer has developed a matching range of high fidelity units which make full use of the outstanding performance of the Revox A77.

To know the detailed inside story on Willi Studer's Revox A77 read the fully descriptive story from
Revox 90 High Street Eton Windsor Berks
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REVOX A77

Professional Tape Recorders