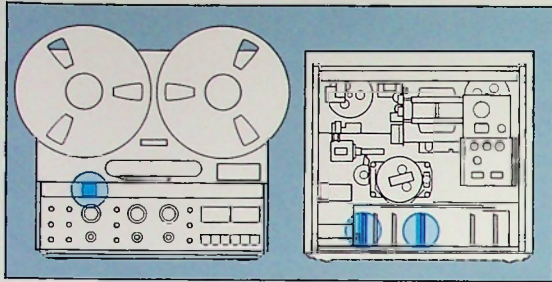


REVOX B77-SYNC SELF-SYNC



REVOX B77-SYNC Self-Sync



APPLICATION

For productions in which a second performance has to be recorded on the adjacent track in perfect synchronism without copying, while making corrections possible at any time, the B77-SYNC version is recommended. Examples for such applications are music and song rehearsals, creating musical compositions, the recording of drama and speech sequences or when trying to achieve the precise matching of voice, music and effects, as well as for the treatment of speech defects or for other medical and scientific applications.

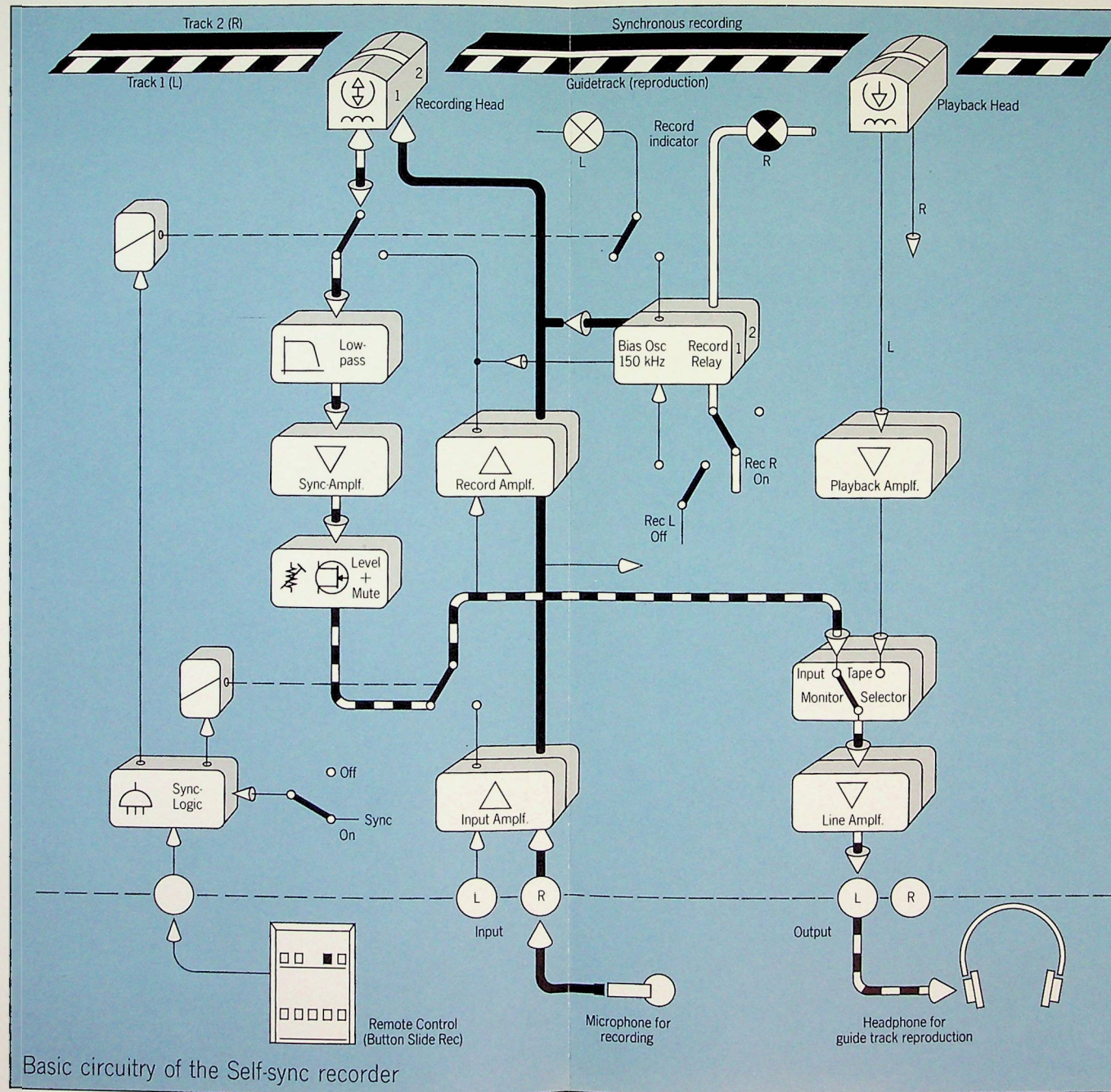
THE CONCEPT

The B77-SYNC recorder contains an additional, especially equalized amplifier plus associated switching circuitry for reproducing the so-called guide track information via the recording head. In this manner, self-synchronous recordings on the adjacent track become possible, a technique often also referred to as "sound with sound".

Contrary to the multiplay technique (sound on sound) in which the synchronous recording of two program parts can be achieved only by copying onto the other track, the self-sync method permits to record on the second track without track to track transfer and its associated drawbacks (e.g. increase in noise).

After having made the first recording on track 1 (left channel, upper track), that section of the recording head takes on the function of a reproducing head (button SYNC). The signal so reproduced is used as tempo information by being made audible to the artist via headphones. Recording on track 2 takes now place via the lower half of the recording head and will therefore be in absolute synchronism with track 1 on the tape.

Synchronous playback of both recordings is then possible in the normal manner via the recorder's playback head whereby the volume of each track can be adjusted individually by means of the volume controls for headphone monitoring, or on an external amplifier, or while rerecording onto an other machine. This recording technique is absolutely identical with that practiced by disc recording studios when working with recorders that have up to 24 separate channels.



Basic circuitry of the Self-sync recorder

An additional pushbutton labelled SYNC permits changeover to the above described guide track operation while it is possible also to activate this mode of operation via the remote control facility (pushbutton SLIDE REC). An interlocking relay circuit makes erroneous erasure of the guide track information impossible.

VARIANTS

Self-sync recorders are available in the speed combination of $3\frac{3}{4}$ - $7\frac{1}{2}$ ips in the $\frac{1}{2}$ - and $\frac{1}{4}$ -track format, equalized to the NAB standard or in the HS version $\frac{1}{2}$ -track format with either NAB or IEC equalization.

Changeover to guide track operation (SYNC) may be effected by operating the corresponding pushbutton on the recorder or, if a remote control device is used, by effecting the SLIDE REC mode.



REVOX B77-SYNC Self-Sync

Technical Data/Dimensions

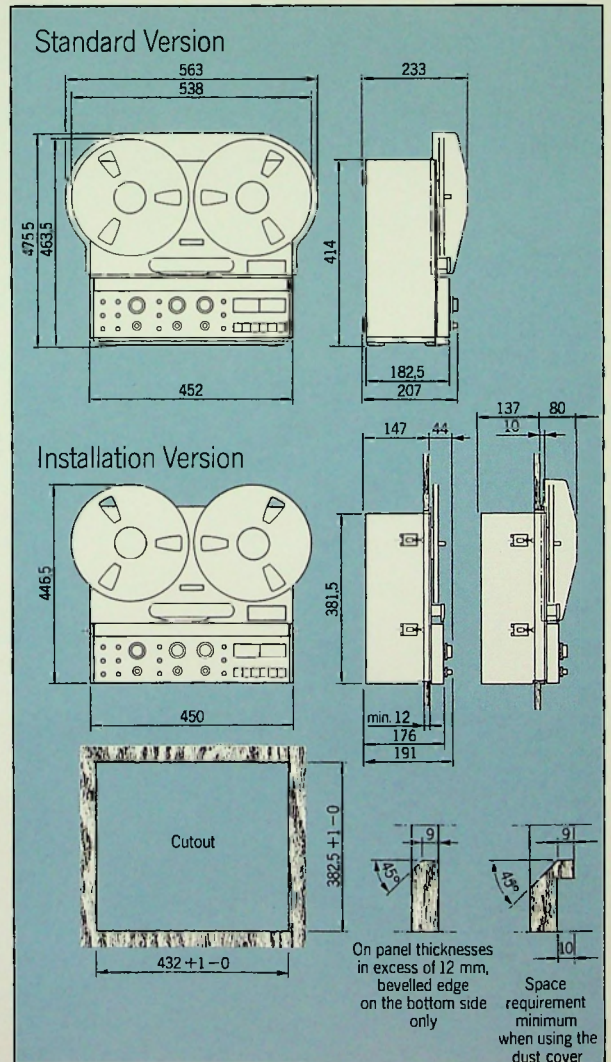
| | SELF/SYNC (STANDARD SYNC) | (HS/SYNC) |
|--|--|--|
| Tape transport mechanism: | 3-motor tape drive, 2 AC driven spooling motors, 1 AC driven capstan motor, electronically regulated | |
| Tape speeds: | 3 3/4 ips and 7 1/2 ips electronic change-over ±0.2% | 7 1/2 ips and 15 ips electronic change-over ±0.2% |
| Tolerance from nominal: With external accessory, speed variable | from: 2 1/2 ... 11 ips | from: 5 ... 22 ips |
| Wow and flutter: (DIN 45507/consistent with IEEE standard 193-1971) | at 3 3/4 ips less than 0.1% at 7 1/2 ips less than 0.08% | at 7 1/2 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 of all motors. Remote control of all functions and electric timer operation are possible. | |
| Equalization: | 3 3/4 ips: NAB 90-3180 µsec 7 1/2 ips: NAB 50-3180 µsec | 7 1/2 ips: NAB 50-3180 µsec or IEC 70 µsec 15 ips: NAB 50-3180 µsec or IEC 35 µsec |
| Frequency response: (measured via tape, at -20 VU) | at 3 3/4 ips: 30 Hz ... 16 kHz +2/-3 dB 50 Hz ... 10 kHz ±1.5 dB | at 7 1/2 ips: 30 Hz ... 20 kHz +2/-3 dB 50 Hz ... 15 kHz ±1.5 dB |
| Peak recording level: | 514 nWb/m corresponds to 6 dB above 0 VU | |
| Level metering: | VU meters in accordance with ASA C16.5 plus LED peak level indicators | |
| Distortion: | at 0 VU at 0 VU + 6 dB | at 0 VU at 0 VU + 6 dB |
| | (nWb/m): (257) (514) | (nWb/m): (257) (514) |
| | at 3 3/4 ips: <1% <2.5% | at 7 1/2 ips: <0.6% <1.5% |
| | at 7 1/2 ips: <0.6% <1.5% | at 15 ips: <0.6% <1.5% |
| Signal to noise ratio: (measured via tape, ASA-A weighted) | Half track: at 3 3/4 ips better than 64 dB at 7 1/2 ips better than 67 dB | Half track: at 7 1/2 ips better than 67 dB at 15 ips better than 68 dB |
| | Quarter track: at 3 3/4 ips better than 60 dB at 7 1/2 ips better than 63 dB | |
| Crosstalk: (at 1000 Hz) | Stereophonic: better than 45 dB Monophonic: better than 60 dB | |
| Erase depth: | at 7 1/2 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 microphone 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: 155 V max., range of presets 26 dB, RL ≥ 20 kOhm | RADIO: 155 V max., range of presets 26 dB, RL ≥ 20 kOhm |
| | PHONES: (2x) max. 5.6 V, short-circuit proof, optimum matching impedance 200 ... 600 ohms | |
| Connectors for: | Remote control of tape transport functions. Remote control of variable tape speed | |
| Semiconductor complement: | 13 IC, 1 opto-coupler, 4 Triac, 66 transistors, 34 diodes, 5 LED, 3 full wave rectifiers, 5 relays | |
| Electric current supply: (voltage selector) | 100, 120, 140, 200, 220, 240 V 50 ... 60 Hz, max. 80 watts | |
| Mains 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: 17.8 x 16.3 x 8.14 inches (452 x 414 x 207 mm) (W x H x D)
Required clearance for 10.5 inch reels: max width:
21.2 inches (538 mm), max height: 18.25 inches (463.5 mm)

Additional Data:

**Frequ. response of Guide
Track reproduction:** at 15 ips: 150 Hz ... 12 kHz ±3 dB
at 7 1/2 ips: 150 Hz ... 10 kHz ±3 dB
at 3 3/4 ips: 150 Hz ... 8 kHz ±3 dB

All figures quoted are minimum performance values as measured with REVOX 621
mastering tape normally exceeded by all units.



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