
Type of device:

stereo tape recorder

Tape transport:

processor-controlled 3-motor direct drive with 1/4" tape width and international layering

Reel motors: 2 BLDC pancake motors with rotor angle controlled sinusoidal commutation

Capstan motor: 1 BLDC axial flux motor with rotor angle controlled sinusoidal commutation

Electric brakes controlled by tape tension control

BLDC servo drive pinch roller

Operating position: all angles between horizontal and vertical

Tape path:

tape tension scales mechanically damped with deflection rollers left and right with ball bearings above the head assembly

Tape speed:

19.05 cm/s and 38.1 cm/s

Tolerance of the set speed: < 0.03 %

Reel size:

up to a maximum of 300 mm reels (1/4" only), fastening via screw clamps

Minimum core diameter of reel: 60 mm

Wow & Flutter (weighted):

19.05 cm/s < 0.06 %

38.1 cm/s < 0.04 %

Tape slip (at every reel size):

< 0.05 %

Spooling time:

1 speed 8.2 m/s

Tape tension:

Playback and Record: 0.8 N
(measured at left reel)

Spooling:

High speed: 0.7 N
(measured at the undriven reel)

Edit: 1.1 N

Head assembly:

one ball bearing to the left, one flutter roller, 2 tape guides, one erase head and record head and playback head. Playback and record head with 2.75 mm track width. Full track 2-gap erase head with 7 mm core width. One non-rotating tape lifter between record head and playback head

Head assembly cover with ferromagnetic shielding

Tape transport electronics:

processor-controlled, 2 sensors for tape tension

Real-time counter via high-resolution incremental encoder in time format hrs / min / sec / 100/sec

Audio electronics:

one main board for record section with two separated amplifier PCBs for record and one oscillator-PCB. Two separated amplifier PCBs for playback and one PCB for digital VU-meter driver

132 kHz oscillator frequency for erase and bias for all speeds

High end headphone amplifier separately adjustable for headphones with an impedance of 16 - 2000 ohms

VU-meter 74 mm x 33 mm analog driven with a frequency linearity < 0.2 dB at 0 dB

Inputs:

XLR inputs electronically balanced
continuous adjustable

Input impedance: 2 M Ω balanced

Outputs:

XLR outputs electronically balanced,
adjustable

Standard setting: + 6 dB

Output impedance: 100 Ω

Equalizing:

Playback (switchable NAB/CCIR):

19.05 cm/s: CCIR (IEC 1) 70 μ s

38.1 cm/s: CCIR (IEC 1) 35 μ s

19.05 cm/s: NAB (IEC 2) 50-3180 μ s

38.1 cm/s: NAB (IEC 2) 50-3180 μ s

Record:

19.05 cm/s: CCIR (IEC 1) 70 μ s

38.1 cm/s: CCIR (IEC 1) 35 μ s

Frequency response (rec-repro measured with
RTM SM 900):

19.05 cm/s: 30 Hz - 13000 Hz +/- 1 dB

19.05 cm/s: 30 Hz - 18000 Hz +/- 2 dB

38.1 cm/s: 50 Hz - 20000 Hz +/- 1 dB

38.1 cm/s: 30 Hz - 20000 Hz +/- 2 dB

Distortion (1 kHz rec-repro measured with
RTM SM 900):

19.05 cm/s 250 nWb/m < 1 %

19.05 cm/s 320 nWb/m < 1 %

38.1 cm/s 320 nWb/m < 1 %

38.1 cm/s 510 nWb/m < 1 %

Signal to noise ratio rec-repro (measured
with RTM SM 900, RMS weighted):

1/4" (track width 2.75 mm):

19.05 cm/s 320 nWb/m > 63 dB

19.05 cm/s 510 nWb/m > 67 dB

38.1 cm/s 320 nWb/m > 66 dB

38.1 cm/s 510 nWb/m > 70 dB

Crosstalk:

> 62 dB at 1000 Hz

Crackling disorder:

> 55 dB at start and stop of recording for
all tape width)

Erase efficiency (1kHz/510 nWb/m):

> 84 dB at 1000 Hz, 19.05 cm/s

> 80 dB at 1000 Hz, 38.1 cm/s

Power supply:

PSU with 28 V/100 W DC switching converter
for tape transport. 2 x +/- 18 V/15 W
precision audio power supply with toroidal
transformer. Separate housing,
electromagnetically shielded

Connection via IEC connector 3-pole

Protection class 1

240 V / 50 Hz European standard

128 W maximum power consumption

Operating ambient conditions:

Air humidity: 30 - 80 % relative humidity
(non-condensing)

Ambient temperature: 5 - 45°C

Weight and dimensions:

25 KG, 470 mm x 470 mm x 230 mm (W x H x D)

Miscellaneous:

10 mm cast aluminium ground plate. 1.5 mm
steel powder-coated housing, completely
closed. Aluminium feet for horizontal and
vertical operation. PSU and connection
terminal pivot-mounted on the back