

  
**BALLFINGER**

**Technical Data Tape Recorder M 063 H5**  
Updated december 2018

<b>Tape transport</b>	<p>Processor-controlled and directly driven 3-motor drive with 1/4" tape width</p> <p>Reel motors: 2 brushless DC pancake motors with rotor angle controlled sinusoidal commutation</p> <p>Electric brakes controlled by tape tension control Capstan motor: 1 brushless DC pancake motor with rotor angle controlled sinusoidal commutation</p> <p>3 stepper motors for mechanical brake and tape head assembly</p> <p>Pinch roller driven by servo drive</p> <p>Hour meter</p>
<b>Operating position</b>	All angles between horizontal and vertical
<b>Tape path</b>	Ball bearings to the left and right of the tape head assembly, one tape stabilizing roller left and right each, damping element with deflection pulley left and right outside
<b>Tape speed</b>	9,5 cm/s and 19 cm/s and 38 cm/s Tolerance of the set speed: < 0,04 % Variable tape speed: +/- 10 % at all speeds Variable tape speed at editing: - 60 cm/s to + 60 cm/s
<b>Wow &amp; Flutter</b>	< 0,04 % at 38 cm/s < 0,06 % at 19 cm/s < 0,09 % at 9,5 cm/s
<b>Tape slip</b>	< 0,08 % at every reel size
<b>Reel size</b>	Up to a maximum of 30 cm reels, fastening via screw clamps
<b>Spooling time</b>	2 speeds adjustable: 5 m/s, 10 m/s Low speed for archiving with increased tension with 2,5 m/s
<b>Tape transport electronic</b>	<p>Processor-controlled, 2 sensors for tape tension, speed sensor on left deflection roller</p> <p>Remote control with infrared remote control optional (in preparation) Real-time counter via high-resolution incremental encoder in time format hrs / min / sec, 100 / sec, Autolocator function</p> <p>Autostop can be switched off for play and winding, automatic repeat function programmable</p>
<b>Audio electronic</b>	<p>One main board each for recording and playback, all amplifiers as well as the erase oscillator on separate printed circuit boards</p> <p>Separate power supply for playback and recording amplifiers with an accuracy of &lt; 0.1% and an interference voltage &lt; 12 <math>\mu</math>V (at full load)</p> <p>Separate power supply for erase oscillator</p> <p>Equalization Playback amplifier switchable CCIR / NAB</p> <p>High end headphone amplifier separately adjustable for headphones with an impedance of 16 - 2000 ohms</p>

<b>Tape heads</b>	3 tape heads: erase head, recording head and playback head in 2-channel with 2 mm track width or as stereo with 2.75 mm track width with full track erase head ( in preparation)
<b>Equalizing</b>	9,5 cm/s: NAB 90 -3180 $\mu$ s, CCIR 90-3180 $\mu$ s 19 cm/s: NAB 50 -3180 $\mu$ s, CCIR 70 $\mu$ s 38 cm/s: NAB 50 -3180 $\mu$ s, CCIR 35 $\mu$ s
<b>Frequency response (Measured with RTM SM 900)</b>	9,5 cm/s: 30 Hz - 16000 Hz +/- 2 dB 19 cm/s: 30 Hz - 20000 Hz +/- 2 dB 38 cm/s: 30 Hz - 22000 Hz +/- 2 dB
<b>VU-Meter</b>	35 mm x 60 mm according to ASA standard computer controlled with digital peak value led at + 3 dB
<b>Total harmonic distortion (measured with RTM SM 900)</b>	1 kHz at tape flux 320 nWb/m by 38 cm/s < 0,7 %
<b>Signal to Noise Ratio (measured with RTM SM 900)</b>	> 68 dB at tape flux 320 nWb / m at 38 cm / s over tape
<b>Crosstalk</b>	> 62 dB at 1000 Hz with 2 mm track width
<b>Erase ratio</b>	>71 dB at 1000 Hz, 38 cm/s >75 dB at 1000 Hz, 19,5 cm/s
<b>Inputs</b>	Inputs electronically unbalanced via XLR or unbalanced via RCA, calibrated switchable to uncalibrated +6 dB via level control  One large input sensitivity control per channel + one master with 2-channel tandem potentiometer with +/- 6dB effectivity
<b>Outputs</b>	Outputs electronically balanced via XLR with spindle trimmer -10 dB to + 25 dB adjustable + unbalanced via RCA, calibrated switchable to uncalibrated +12 dB via level controller
<b>Power supply</b>	Connection via IEC connector 3-pole Protection class 1 230 V / 50 Hz Europe 120 V / 60 Hz USA 98 W maximum power consumption
<b>Dimensions</b>	480 mm x 520 mm x 250 mm (W x H x D)  Wooden side panels removable for installation in 19 " rack
<b>Weight (without side panels)</b>	27,5 KG