

# Auto- **ELAC** matic Turn:



# tables

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Do you know what

experts  
say about

the ELAC MIRACORD 760?

**HIGH FIDELITY**

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08398

**Comment:** The Miracord 760 is, knob for knob and screw for screw, almost identical to the 50H Mk II (HF test report, November 1972) with the exception of the motor. Whereas the 50H uses a hysteresis model, the motor in the 760 is of a high-performance nonsynchronous design. A hysteresis motor, it's true, will lock onto the power-line frequency (60 Hz) for ultrastable rotation speed (though sudden changes in power-line voltage can cause the "look" to loosen momentarily), while an asynchronous motor will not. But the 760 has such good speed stability and is otherwise so excellent that many purchasers will cheerfully save the \$60 by buying the newer model. First, a brief recap of the 50H/760 operating features. Four buttons near the tone-arm rest are for selection of outer diameter for automatic operation (7, 10, or 12 inches) and stop. A switch at the front left has three positions for the operating speeds. A vernier knob at the back left adjusts rotation speed within a range of approximately  $\pm 3$  per cent. (A strobe disc built into the platter cover is for 33 rpm with rings for both 60-Hz and 50-Hz lighting; no strobe rings are provided for the other speeds, though accessory strobe discs can be bought for the purpose.) An antiskating control knob near the arm pivot is calibrated in whole grams, and the tracking-force dial built into the pivot, in quarter grams. The

control lever for a damped cueing system is just to the right of the tone arm. The arm rest locks the arm securely when not in use. The unit comes with two spindles: a "Magic Wand" for changing records automatically and a stub spindle for single-play operation with or without all other automatic features. The stub can be inverted in the spindle hole, causing continuous repeat play of a record. No adapter is provided for large-hole 45s, but a changer spindle for them can be purchased as an accessory. A clip-in adapter holds the cartridge in position in the arm and also makes the necessary electrical contacts. Calibrations on the adapter are aligned with the stylus for correct overhang, which is confirmed by contact between the stylus tip and a small cleaning brush mounted below the at-rest position. (The brush mount itself also serves as an overhang gauge as in past Miracords; the mounting's calibration seems preferable since a careless user conceivably could damage a stylus on the older gauge.) Balance is achieved via a rectangular counterweight; then tracking force and antiskating are set on their respective dials. As the Additional data table shows, CBS Labs found the tracking-force calibration to be quite accurate. Antiskating is a little on the high side for tracking forces below 0.5 grams (a range one

would not normally need anyway), very close to "ideal" values for elliptical styli tracking between 0.5 and 1.0 grams, and close to ideal for spherical styli at 2.5 to 5 grams. The action therefore is most accurate in the ranges most owners may be expected to need. Ellipticals generally shouldn't track above 2 grams, where antiskating is somewhat below ideal values for them; nor are most sphericals designed for use in the 1-gram range, where antiskating will run a little high. If you do need to track these configurations in these ranges, however, and are fussy about antiskating, a *small* compensation could be made in the setting. The changer action can be characterized as "slow but gentle." The cycle time at 33 rpm is 16 seconds, and damping in the cueing causes the arm to drift down onto the disc. Moreover, no side drift can be detected in the arm when the cueing lever is used manually to interrupt play. Both lateral and vertical planes have negligible arm friction (less than 20 milligrams). A mere 0.15 grams trips the changer cycle. The dynamically balanced platter weighs 6 pounds, 2 ounces. Flutter averages at the low value (ANSI/IEEE weighting) of 0.05 per cent (0.1 per cent peak), and rumble is extremely low at  $-63$  dB (CBS/ARLL), which in common with the best single-play units is the lowest rumble figure we have ever measured. In fact the 760 measures

some 10 dB better than Miracord's own 50H Mk II. (The latter, however, was measured over a year ago; there may have been upgrading in the meantime.) Arm resonance (with a Shure V-15 Type II Improved cartridge) is entirely satisfactory: a 6-dB rise at 6.5 Hz. The 760 is, all told, a very fine changer indeed, and it operated flawlessly during our tests. If you don't feel you need the fussier features (stylus wear indicator and adjustment of vertical tracking angle for the height of the record stack) of the 770H, and if you can live without the hysteresis motors of the 770H and the 50H Mk II, this is the Miracord to own. **There is nothing to add. This report is self-explanatory - not only concerning the ELAC MIRACORD 760, but all ELAC record players.**

Both Hi-Fi turntables presented on these pages are installed in the console ELAC 701.

This elegant consolette (walnut finish) is provided with an amply dimensioned accessory compartment and is vastly of dustproof design. The removable acrylic glass dust cover is lockable in continuously variable positions.

Dimensions with cover closed:

46,5 x 18 x 35 cm ( $18\frac{3}{16}$ " x  $7\frac{1}{8}$ " x  $13\frac{3}{4}$ ").

With the cover fully opened, the height is 44 cm ( $17\frac{9}{16}$ ").

The maximum height required when used as a record changer is 37,5 cm ( $14\frac{3}{16}$ ").

when used as a single record player 32 cm ( $12\frac{5}{8}$ ").

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### ELAC MIRACORD 50H II

Manual and automatic 3-speed record player, record changer and repeating turntable, installed in the consolette ELAC 701.

Technical features:

Driven by a hysteresis synchronous motor.

Dynamically balanced, non-magnetic zinc casting turntable platter (12" diameter).

Fine pitch control device of the turntable speed with control by means of an inserted stroboscopic rim on the platter.

The high-precision tone arm accommodates all cartridges with international standard dimensions.

Continuously variable tracking force.

Anti-skating bias compensator.

Push-button control.

Cueing device.

Freewheeling spindle.

Automatic end-of-play stop.

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### ELAC MIRACORD 760

Manual and automatic 3-speed record player, record changer and repeating turntable, installed in the consolette ELAC 701.

Technical features:

Driven by an asynchronous motor.

Dynamically balanced, non-magnetic zinc casting turntable platter (12" diameter).

Fine pitch control device of the turntable speed with control by means of a stroboscope on the rim of the platter.

The high-precision tone arm accommodates all cartridges with international standard dimensions.

Anti-skating bias compensator.

Push-button control.

Cueing device.

Freewheeling spindle.

Automatic end-of-play stop.

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## ELAC PC 660

This ELAC Hi-Fi turntable, presented here as a ready-to-play phono-component, has 4 speeds and can be used as manual and automatic record player, record changer, and repeating turntable. Technical features:

Driven by a 4-pole asynchronous motor.

Heavy dynamically balanced, non-magnetic zinc casting turntable platter.

The high-precision tone arm, equipped with the Hi-Fi magnetic cartridge ELAC STS 255-17, accommodates all cartridges with international standard dimensions.

Continuously variable tracking force.

Tracking control.

Anti-skating bias compensator.

Push-button control.

Cueing device.

Freewheeling spindle.

Automatic end-of-play stop.

The phono-component ELAC PC 660 is housed in a special low-line cabinet. The slightly tinted, removable acrylic glass cover can be positioned at various angles.

Dimensions with cover closed:

43,5 x 17,5 x 35 cm (17 $\frac{1}{8}$ " x 6 $\frac{15}{16}$ " x 13 $\frac{3}{4}$ " ), with the cover fully opened, the height is 44 cm (17 $\frac{7}{16}$ " ).

## And here are all technical data of the ELAC Hi-Fi turntables at a glance

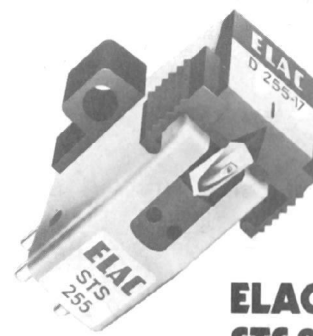
	ELAC MIRACORD 660	ELAC MIRACORD 760	ELAC MIRACORD 50 H II
Dimensions with cover closed (cm)	43,5 x 17,5 x 35 (17 $\frac{1}{8}$ " x 6 $\frac{15}{16}$ " x 13 $\frac{3}{4}$ " )	46,5 x 18 x 35 (18 $\frac{9}{16}$ " x 7 $\frac{3}{32}$ " x 13 $\frac{29}{32}$ " )	
Total height with cover opened (cm)	44 (17 $\frac{7}{16}$ " )		
Weight of turntable (kg)	6,3	6,5 (14,3 lbs)	
Weight of platter (kg)	2,3 (5,1 lbs)		
Diameter of platter (cm)	25,2 (10")	30,2 (12")	
Length of tone arm (cm)	20 (7 $\frac{7}{8}$ " )	20,4 (8 $\frac{1}{32}$ " )	
Flutter Wow (%)	±0,06 ±0,02		
Rumble, unloaded (DIN 45 544) (dB)	> 42	> 44	> 45
Rumble, loaded (dB)	> 58	60	
Range of tracking force adjustment (p)	0 ... 6		
Range of fine control (%)	-	6	
Mains connection	110/220 V, 50 or 60 Hz		
Power consumption	approx. 15 VA		

# ELAC Hi-Fi magnetic cartridges - the ideal completion for every Hi-Fi turntable.



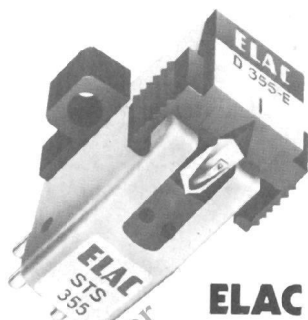
**ELAC  
STS 155**

Suitable for the tracking of microgroove records with mono, stereo or matrix recording. Available with conically ground diamond.



**ELAC  
STS 255**

Suitable for the tracking of microgroove records with mono, stereo or matrix recording. Available with conically ground diamond.



**ELAC  
STS 355**

Suitable for the tracking of microgroove records with mono, stereo or matrix recording. Available with ELAC STS 355-E (elliptical) or ELAC STS 355-17 (conical).



**ELAC  
STS 555**

Suitable for the tracking of microgroove records with stereo or matrix recording. Available with ELAC STS 555-12 (conical)



**ELAC  
STS 655**

Suitable for the tracking of discrete, matrix and stereo records. Equipped with SHIBATA stylus.

Technical data	ELAC STS 155-17	ELAC STS 255-17	ELAC STS 355-E	ELAC STS 355-17	ELAC STS 555-12	ELAC STS 655-D4
Stylus	D 155-17	D 255-17	D 355-E	D 355-17	D 555-12	D 655-D4
Stylus tip radio (µm)	17 conical	17 conical	6/18 elliptical	17 conical	12 conical	SHIBATA
Frequency range (Hz)	20 ... 16.000	20 ... 20.000	20 ... 22.000		10 ... 27.000	10 ... 50.000
Tracking force (p)	1,5 ... 3		1 ... 2		0,5 ... 1	1 ... 2
Weight of cartridge (g)	6,5					6
Moving mass (mg)	0,80	0,75	0,60		0,45	0,35
Sensitivity per channel at 1000 Hz (mV/10 cm/s)	20	18	11		10	8
Channel balance at 1000 Hz within (dB)	< 2					
Interchannel crosstalk (dB)	22		24		26	26
at 1.000 Hz					22	26
at 10.000 Hz						20
at 25.000 ... 50.000 Hz						
Inductivity per channel (mH)	550					220
Recommended terminal impedance (kOhm)	47					47 ... 100
Trackability 75 µm at 100 Hz at (g)	1,5		1		0,5	1
Static compliance (cm/dyn)	20 · 10 <sup>-6</sup>		30 · 10 <sup>-6</sup>		45 · 10 <sup>-6</sup>	30 · 10 <sup>-6</sup>
Vertical tracking angle	20°					

All ELAC Hi-Fi magnetic cartridges are suitable for the installation into pickup heads with international standardized dimensions.

**ELECTROACUSTIC GMBH**  
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**Western Germany**



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