

## TECHNICAL SPECIFICATIONS

### Model Variations

Model name:	E1	E2	E3
Product code:	GL0054	GL0056	GL0058
Colour:	Red	Green	Violet
Cantilever:	Carbon	Aluminium	Aluminium
Stylus profile:	Spherical	Spherical	Elliptical
Stylus radius:	0.6 mil	0.6 mil	0.3 x 0.7 mil
Replacement stylus:	GL0055	GL0057	GL0059

### Transducer Characteristics

Frequency range:	20 Hz – 20 kHz
Channel balance:	1.5 dB at 1 kHz
Channel separation:	>20 dB at 1 kHz
Sensitivity:	3.5 mV (1 kHz @ 5 cm/sec)
Static compliance:	20 mm/N
Vertical tracking angle:	20°

### Electrical Characteristics

Load resistance:	47 k $\Omega$
Load capacitance:	100 – 200 pF
Internal inductance:	400 mH
Internal resistance:	410 $\Omega$

### Mechanical Characteristics

Cartridge mass:	6.9 g
Fixing centres:	12.7 mm (0.5 in)
Playing weight:	1.5 g – 2.5 g (2.0 g recommended)

GOLDRING



E SERIES  
MM CARTRIDGES



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## ESTABLISHED IN 1906

The Goldring story began in 1906 with the manufacture of clockwork motors, springs and steel needles. This expertise was utilised in the 1920s for the production of Goldring Soundboxes, and later electro-magnetic gramophone pick-ups, and carried on into the 21st century with the release of the flagship Legacy Series moving coil phono cartridges, which are still handmade in Hertfordshire, UK.

Today Goldring continue to defy industry norms with the introduction of the new E Series Moving Magnet cartridge; a range of high performance, premium quality, British designed products for the resurgent turntable market.



## E SERIES

For over 100 years, the Goldring philosophy has been to promote the accurate replication of the original recording, maintaining the creative nuances, musicality and rhythm the artist intended you to hear. With the E Series, this is achieved by all three cartridges in the range which are designed to capture this musical experience when used with the medium to high mass tonearms found on the majority of reasonably priced turntables.

All cartridges in the range are based upon Magnetic Duplex Technology™, which makes for a more accurate stereo rendition. Featuring spherical styli with a choice of cantilevers, the E1 and E2 models are ideal as an improved replacement for any budget, pre-fitted or obsolete cartridge. The E3 model with its refined elliptical stylus is a worthwhile upgrade for those wishing to squeeze even more information and detail from the record groove.

### E 1

Features a bonded, spherical (0.6 mil) stylus with a round shank. This makes the cartridge extremely forgiving of set-up adjustment. Also features a carbon fibre reinforced ABS cantilever tube, an effective alternative to more premium aluminium or boron materials, producing comparable results in most entry level hi-fi applications.



### E 2

Features the same stylus profile as the E1 but with the additional benefit of an upgraded aluminium cantilever. This is both stiff and light weight allowing the stylus to more accurately trace medium to high frequencies offering more detail and reducing distortion and mis-tracking during loud passages.



### E 3

Utilises the same aluminium cantilever but benefits from a superior bonded, super-elliptical (0.3 x 0.7 mil) stylus. This gives it superior high frequency groove detail retrieval ability over ordinary elliptical (0.4 x 0.7 mil) or spherical (0.6 mil) styli due to its smaller front to back radius. Its main effect is the reduction of sibilance, especially in high level vocal recordings.

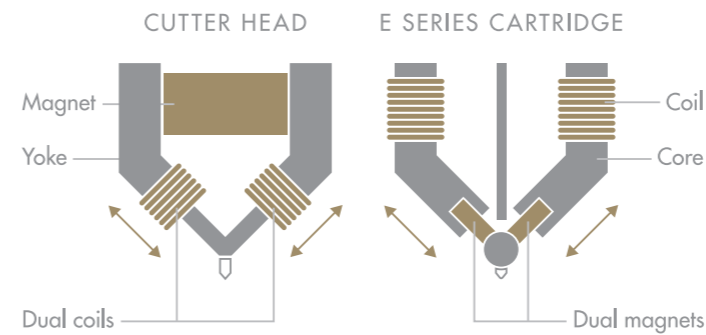


## SPECIAL FEATURES

### Magnetic Duplex Technology™

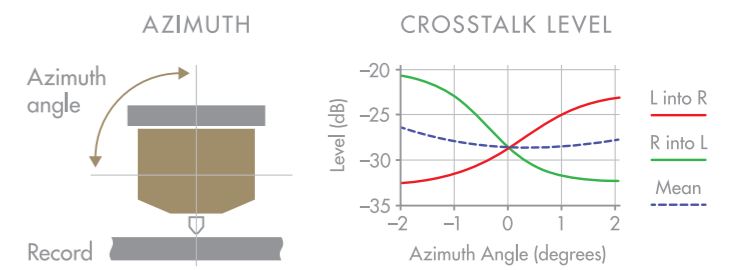
During the record mastering process the cutting lathe records stereo information as a 'V' shaped groove which has perpendicular side walls angled at 45°. Conventional moving magnet cartridges use a single large magnet that interacts with two vertically mounted coils to produce a stereo signal from the groove. This can introduce crosstalk and so only offers a modest amount of stereo separation.

The Goldring E Series cartridges feature a special dual magnet arrangement. Magnetic Duplex Technology™ uses two low mass magnets which interact only with their partnering pickup coil, angled at 45° to match the cutting head arrangement. This enables the cartridges to more accurately trace the record groove because they precisely emulate the geometry of the cutting head, making for better stereo separation and a more accurate, involving and musical soundstage.



### Expert Adjustment

The horizontal tracking angle of the stylus (azimuth) must be parallel to the record for optimum performance. Badly adjusted azimuth causes uneven channel balance and increased crosstalk, severely degrading the stereo soundstage. This is rarely a user adjustable parameter so it is vital that each cartridge leaves the factory with the azimuth precisely set.



The E Series cartridges use a specially designed adjustment screw to locate the cantilever, rather than the standard fixed pin, allowing micro-adjustments during production. This pre-set azimuth means crosstalk is already optimized and the cartridge can be safely installed in a typical turntable with no correction required.

The graph above was taken from a typical E3 cartridge and shows how the crosstalk varies with azimuth. The optimum azimuth setting is where the red and green lines intersect so that the mean crosstalk (violet) is at a minimum.

