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AEA A840 \$1725**pros**

Sounds sublime.
 Optimised for close working.
 Built-in JFET gain stage delivers more usable output level.
 Total freedom from impedance-loading effects.
 Neat carrying bag.
 Eye-catching styling.

cons

Lower maximum SPL than the passive R84.
 Higher noise floor than its sibling.
 Needs to be looked after.

summary

An active, phantom-powered variation of AEA's R84 long-ribbon mic, optimised for close-miking applications. The sound is seductive and flattering, and remarkably natural despite the apparently heavy roll-off at both frequency extremes.

information

\$1725.
 Audio Engineering Associates +1 800 798 9127.
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AEA A840

Active Ribbon Microphone

Reviews : [Microphone](#)
 Published in SOS February 2012
[Printer-friendly version](#)

Passive ribbon mics can be fussy about what they're plugged into, which is why AEA have made this active version of their popular R84.

Hugh Robjohns

American manufacturers AEA have been working with high-performance ribbon microphones for over 30 years, and one of their more popular models is the 'large ribbon geometry' R84, which I reviewed back in the February 2004 edition of Sound On Sound (www.soundsonsound.com/sos/feb04/articles/aear84.htm). Like most ribbons, the R84 has a low-ish output level of 2mV/Pa, which can prove challenging for a lot of preamps, but AEA have addressed this in the A840 model — basically an R84 with a built-in, phantom-powered JFET gain stage. Consequently, the output level is a more easily accommodated 6.3mV/Pa, which is a good 10dB louder than the R84.

Additional benefits wrought by this gain stage are that the ribbon always works into the ideal load impedance, and is completely unaffected by the preamp's own impedance — which guarantees the intended frequency response and noise performance. Additionally, the ribbon is totally protected from accidental phantom-power damage. Those of a nervous disposition need not worry about 'hot-plugging' this ribbon!

The AEA A840 is supplied in a protective padded-nylon case, complete with a soft twill bag to protect the ribbon from air currents when not in use. The output is presented on a captive, three-metre cable terminated in the usual three-pin XLR. The microphone is suspended within a simple fixed cradle, allowing it to be tilted forwards or backwards, and the mic-stand fitting at the bottom has a flexible membrane vibration isolator to provide an effective shockmount. At only 0.85kg (a little under 2lbs), the mic is lighter than might be expected, given its large size: 295 x 99 x 64mm (HxWxD). The front of the mic is marked by the red AEA label on a silver band across a black, crackle-painted body with an eye-catching gold-coloured grille, and the cable exits from the bottom of the cylindrical case at the back.

Tech Specs

The A840 has the usual ribbon mic figure-of-eight polar pattern, although the HF response is slightly different between the front and rear lobes, the latter being a tad more subdued in the 6kHz to 12kHz region, thanks to a double-layered grille cloth at the back, compared to a single layer on the front. The microphone has also been designed with a modest proximity effect to allow moderately close miking of brass, percussion, guitar amps and vocals. The A840's long aluminium ribbon is the same size as the R84 (and the R44), measuring 60 x 4.7mm, and 1.8 microns thick. One of the advantages of such a large diaphragm is the ability to handle high SPLs, especially at low frequencies, but while the R84 can accommodate 165dB SPL above 1kHz (for one percent THD), the A840's active gain stage is the limiting factor, restricting the maximum SPL to a (still impressive) 141dB SPL (again, for one percent THD). The JFET gain stage draws a relatively high 7mA of current from the phantom supply (48V only), and has a self-noise figure of 17.5dBA.

Sonically Speaking

The A840 uses a different output transformer from the R84, the latter employing a Cinemag model that was designed to match the sound of classic RCA ribbons. A modern Lundahl design is used for the A840, and as a result the two mics have slightly different tonal characteristics — although the differences are very subtle. Like its sibling, the A840's overall frequency response is 'hump-backed', by which I mean that the response peaks at around 150Hz, and falls away gently to either side. The LF response is about 2.5dB down at 20Hz, although this can be bolstered through the proximity effect if the mic is placed very close to the source. Above 150Hz, the response falls gently to about -6dB at 20kHz — but, despite this deliberate characteristic, the microphone doesn't sound dull at all. In fact, it sounds remarkably detailed and precise, while also being delightfully smooth and extraordinarily natural.

I used the A840 as the vocal mic for a recording of classical soprano pieces with piano accompaniment, and a pair of AEA R92 ribbons as close mics on a baby grand piano, along with a pair of Sennheiser MKH20s on a Jecklin disc acoustic baffle as the main stereo array. By carefully positioning the three ribbons, I was able to use their side nulls to achieve excellent separation between vocalist and piano, which made it easy to balance them against the main stereo pair. The deep side nulls of ribbon mics are incredibly useful, and I'm always amazed that so few people seem to take advantage of them! The imposing size of the A840, along with its striking black and gold finish, was a big hit with the vocalist too, and I'm sure it extracted an extra five percent of performance all on its own!



Audio-Technica AT4047 MP Multi-pattern Condenser Microphone

Audio-Technica have added multiple polar patterns to one of their already successful designs, bringing increased versatility in the studio.

Audio-Technica AT4047 MP | Media

Multi-pattern Condenser Microphone
 These audio files accompany the [Audio-Technica AT4047 MP](#) review that featured in SOS December 2010.

Audio-Technica AT4050 ST Stereo Condenser Microphone

There's more to this variation on Audio-Technica's flagship microphone than the simple addition of a second capsule...

Peavey Studio Pro M2 Condenser Microphone

Paul White explores the capabilities of the understated-yet-powerful Studio Pro M2.

Schoeps VSR5 Microphone Preamp

Schoeps make some of the most revered mics on the planet, so when they release a commercial version of the mic preamp they use for testing, you have to take it seriously...

Schoeps VSR5 Mic Preamp

Test Measurements
 The following charts, made using an Audio Precision Analyser, accompany our review of the Schoeps VSR5 microphone preamplifier.

Blue Encore 300 Handheld Condenser Microphone

Designed as a hand-held live vocal mic, this mic has a cardioid pickup pattern, and seems very robustly engineered.

Cartec EQP1A

Impressions

Overall, the A840 sounded wonderfully smooth, but with plenty of detail and presence that defined the soprano's voice in a very natural way. Transients were crisp and clear, without any hint of ringing or edginess, and the frequency extremes were smooth and extended. The strong output level wasn't a particular issue for me, as I have access to some superbly quiet preamps, but the A840's active buffer meant complete freedom from the vagaries of preamp impedance, which was useful. Although an expensive microphone, the quality shines through and the ultra-natural sound becomes extremely seductive.

Alternatives

The obvious contender is AEA's passive R84, of course — which, bizarrely, costs not much more than half as much as a lot of high-end condenser mics also become available, including the Brauner Phantom V, Peluso's P6 stereo pair of AKG C414XLS, and the Microtech Gefell M1030. ribbon, or even the SE RNR1 complete with a Rupert Neve Designs Portico 5017 preamp! But at this level of the market, a lot of high-end condenser mics also become available, including the Brauner Phantom V, Peluso's P67 and 2247LE, a stereo pair of AKG C414XLS, and the Microtech Gefell M1030.