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AEA R44C

Ribbon Microphone

Reviews : Microphone

Published in SOS June 2002

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Ribbon Microphone

Built as an authentic replica of one of the all-time classic mics, this premium ribbon model brings a unique character to the modern studio.

Hugh Robjohns

There has been something of a resurgence of interest in ribbon microphones in recent years — particularly by those engineers involved in recording string sections and orchestras. Although ribbon mics were largely surpassed by capacitor mics in the recording studio thirty or more years ago, principally for reasons of convenience and fashion, a decent ribbon mic can still deliver a very high-quality signal. In fact, advances in preamp design now mean that the low noise floor inherent in ribbon mic designs can be fully realised to deliver a dynamic range worthy of 24-bit digital systems.

Audio Engineering Associates (AEA) are an American company owned and run by Wes Dooley — a recording engineer with a long and detailed experience of ribbon mics including the classic Coles 4038 'BBC ribbon'. His company specialises in both familiar and unusual audio-related equipment and services, including a lot of forensic work. Amongst the product line is an intriguing range of specialist microphone mounting equipment, with a clever modular system which can be used for conventional stereo arrays such as ORTF, as well as Decca Tree configurations in various sizes. There are also vintage-style microphones which turn out to be table lamps or empty shells designed to house modern microphones for use on TV presenters' desks!

However, the subject of this review is an authentic recreation of the classic 1936 RCA 44 bidirectional ribbon mic — a much sought-after design in studios around the world, especially in the USA. Ribbon mics such as the 44, and its later siblings the 77 and KU3, were popular not only in broadcasting studios, but also on the scoring stages of most film studios where the ribbon contributed to some fantastically silky string sounds. Indeed, many of the top American scoring stages still use these ribbon mics today.

The AEA R44C version of the RCA classic is hand built by Wes Dooley using the same 1.8-micron ribbon material originally manufactured for RCA. The constituent parts of the new mic are fully interchangeable with original RCA 44B and 44BX models — the recreation is that accurate.

This mic is instantly recognisable for its shape, the black and polished chrome finish, and the huge grille. It is also very large and heavy, measuring 304 x 121 x 86mm (hwd) and weighing over 4kg — few ordinary boom-arm mic stands will support this beast without a severe degree of droop! The mic is fixed permanently into a cradle yoke with an integral stand adaptor and shockmount, and a captive two-metre cable terminated in an XLR.

With such a heavy but delicate microphone, storage and transportation could be a problem, but the R44C is shipped in a custom nylon cordura carrying case lined with a hard protective foam. A cotton bag protects the mic itself while the case holds it in the approved vertical position.

AEA offer some variations on the RC44 theme. The NE option, for example, incorporates some elements of the international version of the original RCA mic, with a lighter case, reduced sensitivity to hum, and a cloth-covered XLR cable. There is also an X option which employs stronger neodymium magnets for a 6dB louder output and a slightly more forward sound quality. Hand-matched pairs are available for stereo applications too.

In The Studio

The review model was an R44CX — the original version, but incorporating the increased output level option to provide around 5mV/Pa (instead of 2.5mV/Pa) which equates to a nominal sensitivity of about -44dBu. The mic exhibited the classic figure-of-eight polar response you would expect from a simple ribbon, with deep, well-defined nulls to the sides and reasonably broad front and rear lobes. The specifications suggest the mic can withstand a maximum SPL of a frightening 165dB and has a source impedance of 270(ohms).

AEA R44C £3314

pros

- Someone has taken the trouble to make it!
- Silky smooth, warm ribbon sound.
- Looks fantastic.

cons

- Expensive.
- Very heavy.

summary

The frequency response is far from flat, being both 'ragged' and exhibiting a very characteristic overall tilt in response of around 2dB/octave, with a very strong bass and slightly weaker treble. However, the short-term frequency response variations are not individually audible, and the tilted response provides a lovely, rich quality which easily lives up to the impression given by its attractive vintage appearance.

Like any first-order pressure-gradient mic, the R44C has an obvious proximity bass lift when used too close — and by that I mean anything less than about a metre — and is clearly balanced to be used at a 'more respectful' distance, commensurate with its original studio role, both for speech and music ensembles. Placed at a typical distance from a cello, for example, it gives a fantastically sonorous, weighty sound (boosting the confidence of my daughter considerably in the process!).

The R44C lends all voices a degree of 'scale' and body which is often hard to achieve with more modern designs, technically competent though most are these days. On acoustic



Photo: Mark Ewing

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

Audio files to accompany the article.

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 Mono Valve Equaliser

British 'boutique' outboard manufacturers

There is something special about the sound of a ribbon mic, and this authentic replica retains all the character of the original RCA classic. Like a vintage Bentley — expensive and revered, but not easy to justify to the accountants.

SOUND ON SOUND

instruments the mic reveals a fast, detailed character, with a warm upper bass response and a rich, smooth treble which is musically complementary and easy on the ear. Stringed instruments — orchestral strings, harps, guitars and so forth — simply love the ribbon! Percussion is handled very well too, as is brass, especially trumpets. The accurate polar response allows unwanted spill to be controlled effectively, although care obviously has to be taken with a rear lobe that is as sensitive as the front. In the days of mono radio broadcasts both sides of the original RCA mic would be used, placing the mic between two musicians with their relative positions determining the balance of their instruments. This technique is still useful today, if used thoughtfully.

That this mic is an authentic classic is beyond question. It has a strong and recognisable character which should be used as such. While very expensive in the UK, indeed well out of the range of many, the fact that a mic such as this exists at all is worth celebrating. Recordings made with this mic exhibit a fabulous character which is hard to achieve with more modern fare.

information

£ R44C, £3313.50; R44CNE (international edition), £2808.25; X option (higher output level), £423; M option (matching for stereo use), £188; G option (chrome-finish grille), £188. Prices include VAT.

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seem to be rather thin on the ground these days, but if this Pultec clone is anything to go by, newcomers Cartec look set to make a big impression.

Prodipe TT1 Dynamic Microphone



Prodipe say they wanted to offer a high-quality, live-sound,

cardioid-pattern dynamic mic at a very affordable price.

Sontronics

Saturn Multi-pattern Condenser Microphone



Sontronics mics usually sound as distinctive as they look - and this one looks more distinctive than most!

MXL Revelation Multi-pattern Valve Microphone



Hot on the heels of the impressive Genesis cardioid

valve mic, MXL have unveiled their flagship multi-pattern model, the Revelation. Does it live up to its name?

MXL Revelation | Audio Examples Multi-pattern Valve Microphone

These audio files accompany the SOS September 2010 review of the MXL Revelation microphone.

Samson Go Mic USB Microphone



USB mics are nothing new, but the Samson Go Mic is

probably the smallest and cutest I've seen to date. This metal-bodied mic,...

Shure X2UUSB Microphone Preamplifier

AKG Perception 820 Valve Microphone



Does AKGs Chinese-made Perception 820 maintain

the Austrian company's impressive reputation?

AKG Perception 820 | Audio Audio Examples

Hear for yourself how this mic performed during the SOS tests.

Audio-Technica AT4080 & AT4081 Ribbon Microphones



A-Ts brand-new transducer technology has

produced a robust design intended to deliver high signal levels

as well as that prized ribbon character...

Earthworks DP25C & DP30C Snare & Tom Condenser Microphones



Despite the ubiquity of the SM57 for use on snare, there are other options — and Earthworks aim to help you capture a more natural sound.

MXL Genesis Cardioid Valve Microphone



We put MXLs Genesis through its paces alongside a much pricier model, to find out just how good a tube mic can be at this price.

MXL Genesis Mic | Audio Files Hear For Yourself

To accompany our July 2010 Genesis review, we recorded a series of standard tests with the review mic alongside a more established mic (in this case, the AKG C12 VR).

GLOSSARY: technical terms explained

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