

SPEAKER IMAGE
Assign pictures to your presets to help differentiate between them

GRAPHS
For each speaker, the before and after curves are shown, as well as the target curve

MEASUREMENT
Select between your various room/speaker measurements using this menu

TARGET CURVE
Choose from your desired EQ response curve – there are four available



CORRECTION
A simple on/off switch for ARC's correction process

TRIM
Set the level – useful for accurately comparing corrected and uncorrected sounds

METERS
ARC features in/out metering with pre- and post-processor selection

IK Multimedia PC MAC ARC System £444



Expecting the latest software to polish up your tracks is all very well, but IK reckon that 'room correction in a plug-in' will better aid your mixes

System requirements

PC Pentium 1GHz/Athlon XP 1.3GHz, 512MB RAM, Windows XP/Vista, VST/RTAS host, boom stand, XLR cable, ASIO audio interface with 48kHz support, 48V phantom power and microphone input

Mac 866MHz G4/1.5GHz Core Solo, 512MB RAM, OS X 10.4, VST/AU/RTAS host, boom stand/XLR cable, ASIO audio interface with 48kHz support, 48V phantom power and microphone input

Test systems

PC AMD Athlon 3200XP, 1GB RAM, Windows XP SP2, Cubase SX3, Alesis Monitor One MK2 monitors, Genelec sub

PC AMD Athlon 64 3000+, 1GB RAM, Windows XP SP2, Cubase 4, Live 7, Rotel RA-931 amp, Mission 701 speakers, Echo Layla 3G audio interface

> As all the strange-sounding mixes floating around the internet with accompanying 'What's wrong with my mix?' forum threads will bear out, one factor *crucial* to the mixing process is often the most overlooked: acoustics and room response. Many **cm** readers will be familiar with acoustic treatment such as bass traps, foam shapes and high-end products like diffusers, not to mention the dreaded Rockwool.

One downside to traditional acoustic treatment methods is that they require reasonable knowledge to be used effectively, and aren't always suitable for people using rented space, those who mix in many different environments (such as laptop musicians or roving engineers), or, indeed, musicians whose studio space overlaps with their living space. Come to think of it, the project studios of around half of our *Producer Masterclass* interviewees to date fall into the latter camp, so this includes the pros too.

A room's 'response' refers to how the acoustics and the speakers interact with each other. Obviously, as flat a response from the room as possible is ideal, so that you don't overcompensate in your mix for any frequencies that the room absorbs, or cut any that it enhances, thus creating

something that's unbalanced on other systems.

Seemingly spotting a gap in the market, IK Multimedia have teamed up with Audyssey Laboratories to produce the ARC System (ARC stands for Advanced Room Correction), which is aimed squarely at improving the sound of your mixing environment, whether you already have acoustic treatment in place or not. The package consists of a plug-in to run inside your DAW (which *always* needs to be inserted last in the chain on the master bus), a separate measurement program and a reference microphone (which also doubles as a decent recording mic) in a carry case.

That hits the spot

Powered by Audyssey's existing MultEQ technology, ARC claims to provide a wider 'sweet spot' and to correct multiple listening positions rather than improving just one while compromising others, as is often the case with conventional EQ. It boasts that, unlike other systems, it corrects frequency *and* time domain issues (such as phasing), while keeping within the inherent frequency limits of your speakers.

To evaluate ARC, we started in 'studio one' – a

“The ARC System offered real sonic improvements and gave us greater confidence in mixing”

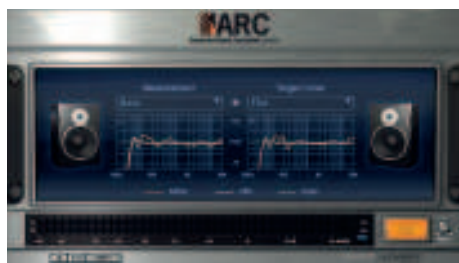
small room, about 11x10' with a low 7' ceiling, carpet and some acoustic treatment (diffusers and two bass traps). Monitoring comprises a pair of Alesis Monitor One MK2s with a Genelec powered sub (ARC works fine with subs, by the way), which is a typical project studio setup with a balanced, neutral sound. We did three tests in studio one, the first with the minimum of 12 measurements in the listening position, and the second with the full 32 (see *Measure me up* for more on this). For the final test, we compensated for two positions, with 20 measurements at the listening spot and 12 further back in the room - similar to the 'client couch' position described in the ARC manual.

We also put ARC through its paces in 'studio two' - a larger room at 20x16' with a high 11' ceiling. This room is bedecked with heavy drapes on the back and side walls, and the listening spot is quite close to the speakers, so room anomalies are less of a concern. The 'monitoring' in this instance, however, constitutes a pair of trusty old Mission 701s, which, while great for pumping out tunes, aren't intended as studio monitors, and so would be a good test of whether ARC can work its corrective magic on the speakers themselves.

Boom or bust

In studio one, ARC really tightened up the response across the board and put paid to the low-end problems thrown up by the dimensions of the room. Although all three tests gave slightly different results, the frequency graphs showed a clear trend caused by the small room. Meanwhile, in studio two, while ARC didn't transform the Missions into true reference monitors, it did flatten out their tone and tamed their slightly skewed lower-midrange, making them more suitable for musical work.

In both environments, the sound became more consistent across the measured sweet spot, and when moving around the listening position, any annoying, 'swimmy' phasing was virtually eliminated. Transients became tighter, and the high-end snap of kick drums seemed to connect better with their low-end 'oomph'. ARC offers four different target EQ curves to tailor the sound, and we found that the Mid Comp option (with a dip at 2kHz) worked best in both situations.



Our 'studio two' didn't have any serious acoustic problems, but ARC still improved the sound overall



The ARC Measurement program guides you through the process step by step

Measure me up

Before you can use the ARC plug-in, you'll have to pull out a mic stand and get the measurements out of the way. To avoid soiling the results, you must use a clean, uncoloured input channel with phantom power for the measurement mic. Also, ARC is calibrated to work *only* with the supplied mic - using another model would give inaccurate results.

The measurement software is a standalone application and is extremely easy to operate, with on-screen instructions. At step three, you set the required volume for the test signals that the software pumps out to analyse your setup, before step four, where measurement proper begins.

It's essential to take the initial measurement from the centre of your listening position and then in an alternating left/right symmetrical pattern - it's easier than it sounds. You need at least 12 measurements to proceed to the last stage, where the compensatory EQ curves are generated and stored for use, but you can take up to 32 for more precise results. Each curve can be given a name and a picture of some speakers assigned to it - handy when using multiple monitoring setups.

You must use the supplied mic, otherwise the results will be skewed



Overall, the ARC System offered real sonic improvements and gave us greater confidence in mixing. The final acid test came in comparing the adjusted monitor sound to the legendary AKG K240DF studio reference headphones, which boast an extremely flat response - it became apparent that ARC had indeed coaxed a similarly neutral tone from the Alesis monitors. And in case you're wondering, the plug-in uses next to no CPU power.

Disadvantages of the ARC System are that you can only enjoy its benefits when the plug-in is active, and so not when using, say, a regular media player application. Some might feel that it's a little expensive, too, especially with KRK's forthcoming ERGO system costing not much more and being an 'always on' hardware solution, audio interface and monitor switcher to boot (although, of course, we can't yet vouch for the quality of its room correction). Then again, you can easily spend far more on conventional acoustic treatment products.

To sum up, if you're serious about getting as accurate a sound as possible from your mixing environment, you won't go far wrong with the ARC System. It will be especially valuable if you can't acoustically treat your room to a sufficient degree in the conventional manner, or you need portability. **cm**

Contact | IK Multimedia UK, 0800 0934066
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Alternatively

KRK ERGO

N/A >> N/A >> £400

A hardware device offering similar functionality to ARC, yet to be put to the test by **cm**...

Real Sound Lab CONEQ

N/A >> N/A >> £Varies

Another plug-in-based solution, this corrects frequency response

Verdict

For Improves nearly any setup

Does more than conventional EQ

You get a 'free' condenser mic!

Portable

Straightforward to set up

Against Only four target EQ curves

Plug-in format reduces versatility

It might seem like some kind of voodoo, but the ARC System works brilliantly and should be of particular interest to project studio owners

9/10