

Antares ATR-1

Such is the popularity of the Autotune plug-in that Antares are now offering its vocal correction features in a hardware unit. Brad Watts tunes up.

After a number of years of 'plug-in mania' where many pieces of studio equipment have been reincarnated as software, it appears that some plug-ins have become popular enough for the technology to be taken back out of the computer and produced as stand-alone boxes.

One manufacturer to build their software into a hardware unit is Antares Audio Technology. Antares are responsible for some terrific software, not the least being the extremely useful ProTools plug-in, Autotune. This plug-in will 'correct' an out-of-tune vocal or solo instrument track back to correct pitch! Not bad eh? The old Stock, Aitken & Waterman cliché of 'we can make anyone into a singer' becomes possible without the money those boys threw at the problem. Autotune is indeed the plug-in Antares is marketing as a stand-alone, rack-mountable, 'real' box.

The ATR-1 is a 1U high rack-mounting device. The front panel features are reasonably spartan and uncomplicated. A two-line LCD conveys information to the user. A single rotary encoder is offered for changing parameters, while left and right cursor buttons allow navigation through the ATR-1's operating system. Three other buttons take care of other global parameters. The 'System' button gives access to parameters such as the global Midi receive channel, program change via Midi toggle, overall detune and LCD contrast. A 'Programs' button puts the unit into something akin to a quick edit mode for fast adjustment of pitch tracking and speed of tracking. The only other button is a Bypass switch. All buttons click reassuringly, leaving you in no doubt that they've been pressed.

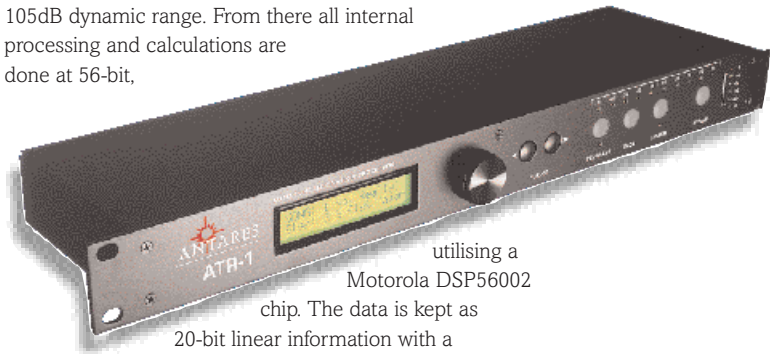
For visual feedback of the unit's performance, LED metering is provided. A horizontal group of ten LEDs depicts how far and in what direction (sharp or flat) the ATR-1 is pulling the original audio signal. Another group of six vertically arranged LEDs shows input level to the unit. The unit lacks a power switch, so once it's on, it stays on – until you disconnect it from the mains.

At the back of the box there are connections for audio input and output. Both are present as 6.5mm jacks and balanced XLR plugs. Both inputs are designed to accept line levels, so a preamp would be required before a microphone's signal is sent to the unit. A footswitch jack allows for switching through programs, song set-ups or to bypass the processor. Power is supplied via an AC transformer, not the wall wart variety but the 'lump in the lead' type. A ground selector switch chooses appropriate earthing between the chassis or the circuit board.

Last, but definitely not least, is a Midi input. Midi can


control what scale the ATR-1 uses to guide audio back toward a correct pitch. If, via Midi, the unit is receiving a held A and C note, all input to the unit will be returned to those notes according to how close they are to A or C. Using this feature, a monophonic line can be retuned according to a Midi note sequence. Midi pitchbend can also be utilised to further drag the pitch ± 200 cents and Midi modulation (controller 1) to add vibrato to the retuned output.

Because the ATR-1 uses digital algorithms to make pitch adjustments, the audio has to be digitised. Analogue to digital conversion is performed at 20-bit, offering a 105dB dynamic range. From there all internal processing and calculations are done at 56-bit,



utilising a Motorola DSP56002 chip. The data is kept as 20-bit linear information with a

sampling frequency of 46.875kHz. While that sampling frequency may seem at odds with the regular 44.1 and 48kHz frequencies, remember that this machine has no digital I/O. All processing is executed internally with no actual digital information leaving the machine. Once the offending out-of-pitch material has been processed, it leaves the unit via a 24-bit converter.

The ATR-1 is extremely simple to operate. The sound quality of processed material is extremely good, due to the high bit-rate converters and the fact that the single Motorola DSP chip is concerning itself with only one task. The main asset of such a device is clearly in the time savings. For an engineer to be able to overlook minor pitch discrepancies in a vocal performance is a massive timesaver. Not only does it save time but it also allows the singer to concentrate on a great performance without doing extra re-takes for small errors. Now the elusive 'one-take-vocal' is within the grasp of even more vocalists. 

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