Hardware Echo Cancellation

In the early days of telephone systems, echo during a call was not much of a problem. It was more likely that your grandma may a have gotten a tad of reverb, or heard what her ears perceived merely as side-tone. As telephone systems have become more modern, they have also become prone to more frequent and bothersome echo.

Echo is most common when you are utilizing a VoIP system. Why? Because a VoIP system often introduces latency, which analog systems do not have, and frequently attempts conversion between a 2-wire and 4-wire system. The result of this is an echo in your conversation so that when you talk on the phone it sounds as if you are throwing messages across the Grand Canyon. That may be mildly amusing to everyone inside the IT department, but is extremely frustrating to everyone else.

Even though echo may be present, you should never have to experience it when making a call. There are two primary ways with which you can combat this problem: software and hardware. Asterisk® does the best job possible utilizing several free echo cancellation tools. While they can do a decent job eliminating minor echoes, they can also do a bad job when the echoes are anything but minor. The best software solution is provided by Digium's High Performance Echo Cancellation (HPEC) software, provided at no-cost to in-warranty Digium® analog hardware customers, and at $10 per channel for non-Digium customers. If your interface card is not equipped with the capability to use a hardware module, this is your best bet!

Fortunately, Digium's latest telephony card offerings have the ability to use hardware echo cancellation modules. Hardware echo cancellation can be more successful, because it removes the burden of echo cancellation from the PC. Hardware echo cancellation is also advantageous when handling large call volumes or a high number of channels that would otherwise stress the CPU and result in the potential for poor audio quality. What makes the hardware echo cancellation so great? Well, how about this:

· Octasic DSP-based (all modules)
· 128ms (1024 taps) of Echo Cancellation across all channels
· AT&T certified Toll-Quality G.168 compliant algorithm
· Dynamic Nonlinear Processor
· Comfort Noise Generator
· Automatic Tail Search
· Cancel Multiple Reflections
· Double-talk Detection

What all this means is that your call has less chance of sounding like you've stepped into a canyon, canyon, canyon or empty concert hall, hall, hall because the hardware echo cancellation module is standards compliant and certified to perform.

There are three hardware echo cancellation modules available to you: the VPMOCT256, VPMOCT128, the VPMOCT064, and the VPMOCT032. The modules support Digium cards currently available, as well as future offerings.
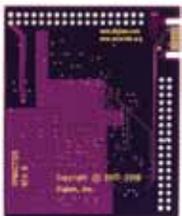

VPMOCT256

Up to 256 channels

Compatible with the following digital card:
• TE820F (bundled as TE820BF)
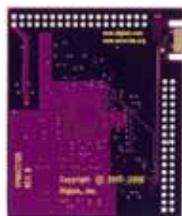
VPMOCT128

Up to 128 channels

Compatible with the following digital card:
• TE410P (bundled as TE412P)
• TE405P (bundled as TE407P)
• TE420 (bundled as TE420B)
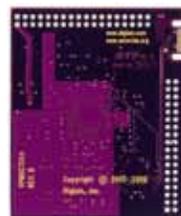
VPMOCT064

Up to 64 channels

Compatible with the following digital card:
• TE210P (bundled as TE212P)
• TE205P (bundled as TE207P)
• TE220 (bundled as TE220B)
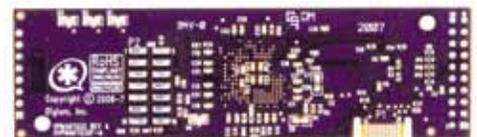
VPMOCT032

Up to 32 channels

Compatible with the following digital card:
• TDM410 and AEX410
• TDM800 and AEX800
• TDM2400 and AEX2400
• TE121 (bundled as TE121B)
• TE122 (bundled as TE122B)

Digium, The Asterisk Company

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Digium reserves the right to change, without notice, product offerings and/or specifications.

Under the Risk-Free Guarantee, Digium® will refund the purchase price of any qualifying Digium product(s) for any customer who is not 100% satisfied with the performance of the Digium product(s) they purchased. For more detailed information about Digium's ESP Program, please visit www.digium.com/esp

DIGIUM®

Digium is the creator, sponsor, and innovative force behind Asterisk®, the industry's first and world's most popular open source telephony software. Additionally, Digium provides a variety of VoIP communication solutions that fit the needs of small, medium, and large businesses. Digium's product lines include commercial business phone systems, as well as software, hardware, and other components needed to create powerful custom telephony solutions.

BUSINESS COMMUNICATIONS SYSTEMS

Digium's line of award winning Switchvox IP PBX phone systems are built on a strong foundation of our open source Asterisk software. Switchvox solutions are designed to be extraordinarily easy to use and provide features that most small and medium businesses had previously considered out of their reach.

Switchvox's web-aware unified communications capabilities are unique in an industry cluttered with old technology. Integration with web and back office applications turns your phone system into a powerful platform for employees' productivity and efficiency. Its web-based Switchboard provides an intuitive control panel to assist with call management in real time while unifying phone calls, faxes, e-mails, instant messaging, Google Maps, CRM systems and other web tools from an easy-to-use, centralized control panel.

We're able to offer these PBX systems with superior capabilities for a fraction of the cost of traditional vendors' products because the shift to an open source software foundation represents a dramatic leap forward in telephony technology.

CUSTOM COMMUNICATIONS SOLUTIONS

Digium empowers users, developers and integrators to build custom telephony solutions by offering a variety of software, hardware, and third-party components. From a simple phone system, to a sophisticated telephony application, Digium makes it possible for the world to communicate in an infinite number of ways at a fraction of the cost of proprietary solutions.

At the heart of these offerings is Asterisk, the powerful open source telephony development toolkit. Asterisk is free software that turns an ordinary computer into a feature-rich voice communications platform. Its flexible architecture lets you configure it as an IP PBX, a voicemail server, IVR server, VoIP gateway, call recorder, automatic call distributor and virtually any other voice-enabled application you can imagine.

To support Asterisk-based solutions, Digium offers a full line of high quality analog and digital interface cards to connect your solution to the public telephone network. In addition, Digium offers add-on software components like Fax For Asterisk, G.729 codec, and high performance echo cancellation (HPEC) to enhance your solution.