



# Bidirectional Hybrid Echo Cancellation for Wireline Networks

## Ditech Platform

Ditech's Bidirectional HEC solution for wireline networks is available on the following platforms:



Quad 2 E1 or Quad 2 T1  
in Carrier Shelf

Ditech Networks' Bidirectional Hybrid Echo Cancellation (HEC) solution completely removes the annoying hybrid echo originating from both sides of a wireline network, providing up to 2x savings in valuable floor space and allowing management of echo cancellation equipment from a single central location. Ditech's industry-leading echo cancellation solutions also provide a selection of voice quality features, such as automatic level control and background noise reduction.

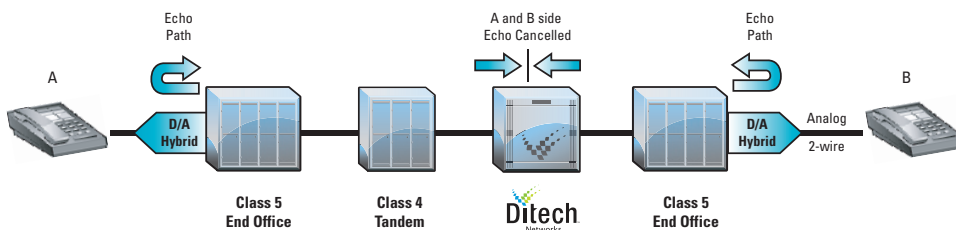
Hybrid echo is present due to the digital-to-analog conversion at the 4-wire to 2-wire hybrid. Switching, signal processing, and propagation delay all contribute to end-to-end signal delay, which exacerbates the noticeability of echo to the user. In addition, variable call routing paths can make delay longer and more unpredictable. Switch-integrated hybrid echo cancellation solutions can consume switch ports, and/or the echo canceller tail delay may be inadequate.

### The Solution

Ditech offers a high-density platform that includes the following features:

- Industry's longest dynamic echo cancellation – up to 192 ms tail – ensuring consistently clear, echo-free calls, in both directions

- Fast, stable convergence of less than 50 ms, with 30 dB or better ERL+ERLE
- Industry-leading performance cancels echo with ERL up to 0 dB; >35 dB ERLE (with 6 dB ERL) at -10 dBm0 input
- G.164, G.165, and G.168-2002 compliance
- Lowest per-channel power consumption in the industry – reduces cooling and power costs
- High density shelf saves valuable floor space
- Remote access and provisioning with Ditech's easy-to-use element management systems



### Ditech's Bidirectional HEC Solution for Wireline Networks

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**For unidirectional HEC with an expanded suite of sophisticated voice enhancement features, Ditech recommends its VQA™ solutions.**

**Contact your local sales representative or Ditech's headquarters at the phone number and address below for more information.**