
860 DSPi Ping Testing

The number one reason to ping is connectivity, do you have a connection between point A and point B. When a subscriber is unable to browse, and the modem is indicating a good connection, there may be a problem with DNS. If you can ping the IP address for a web site but you can't ping the URL, this points to a DNS (Domain Name Server) issue. If you can't ping the IP address, then you need to work back, pinging known routing points. First ping the gateway (usually the cable modem, when testing at a subscriber's home network). If you can ping the gateway, then what's the next routing point? Sometimes it's helpful to run a tracert from the subscriber's PC. This will show the routing point where the transmission stops. Some devices can be configured not to respond to ping, as a security measure (firewalls for instance). This is why it is important to know what IP address to ping to for your test. I recommend a device located near your CMTS. That way you can test from the 860 DSPi to that location to see if it is a HFC problem. Trilithic provides a server for ping testing to our customers [207.67.51.46]. Pinging this address would test from your current location through your HFC network and IP backbone and out onto the World Wide Web to Indianapolis. Another great location to test to is www.yahoo.com when at a subscriber's home since they would recognize Yahoo as a legitimate location. However, neither of these locations would isolate the problem just to your system.

Some other reasons to use the ping test in your 860 DSPi are round-trip delay, packet loss, and round trip throughput.

- For connectivity or delay, set small packet size and long delay between pings
- For packet loss, set small packet size and short delay between pings
- For throughput, set large packet size and short delay between pings

If checking connectivity to another device, a small packet size is recommended, for example 64 bytes and 1000 msec delay. The reason is some devices ignore pings with large packets, which would give a false indication of no connection. Also, small packets are great for testing round trip delay and packet-loss, but remember large packets are better for throughput. Also, DOCSIS limits the ping throughput test to the max upstream throughput allowed by the configure settings.

What are you using to ping from the PC? If you're using MS DOS you need to use the command "ping (host/ip) -l 256" to ping the host/IP with 256 bytes of data to set packet delay in MS DOS use the command: `fping IP -s 1500 -c -t 10` (this will send 1500 packets with a 10ms delay). By default MS DOS' packet delay is 1sec and the packet size is only 32 bytes.

If you are pinging a public host (e.g. yahoo.com) there are a number of different variables that could come in to play that would give both the meter and the PC different results. I would suggest ping a local source (if you aren't already).

There is no way to set packet delay in MS DOS. When you use the "-w" syntax you are setting a "timeout". You would only use "-w" if you get a response of "Request timed out" meaning there was no response to the ping attempt in the default time period of 1sec (1000ms). If the latency of the response is MORE than 1sec (1000ms) then you would use the "-w" option on the ping command to INCREASE the time-out, you cannot make it any less then 1sec (1000ms). For example, to allow responses within five seconds, use "ping (host/IP) -w 5000". If you put in "-w 20" it will just assume there was a typo and ping at the default 1000ms. But with this said, this is not what the "Pkt Delay" option it the meter is doing.

What the "Pkt Delay" option is doing is setting the time between the ping requests. To match the meter to the speed of MS DOS you would need to set this value to 1000 msec.