

----- Original Message -----

Subject: Re: IPOD line technical questions

Date: Thu, 1 Aug 2013 13:36:13 -0600

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To: rose anne weissel <ra@ldeo.columbia.edu>

CC: Childs, Jonathan <jchilds@usgs.gov>, Warren Agena <wagena@usgs.gov>

Hello Rose Anne,

I've got some answers for you on the IPOD data.

As I mentioned in an earlier email, the navigation was defined at 100m "shotpoints", but the actual shots were taken at 50m, thus giving two seismic shots per navigation shotpoint.

Regarding channels, there should be 62 channels in every shot. They are numbers 1-14 and 1-48. As you surmised the first 1-14 are auxiliaries and should be ignored. the next 1-48 are data channels.

It may be that sometimes the channels are number 1-62, but I did a spot check and all that I checked were numbered 1-14, 1-48.

For the data channels, channels 1-24 are spaced at 50m and channels 25-48 are spaced at 100m. On the original data, channel 48 is the near trace.

The non-linear cable was designed for multiple suppression on the far channels. I'm not sure if this really worked, but in processing I stacked every 2 of the the first 24 channels into 1, giving them an effective spacing of 100m and each shot 36 traces.

Below are some images showing the raw data, shots with data channels only, and shots with channels 1-24 compressed into 12 and the channels renumbered to 1-36. These shots have scaling (agc) applied.

Regarding the record length. The data at the beginning of the line only recorded 9 seconds. As the water depths became deeper the data recording increased to as much as 12 seconds. However, when archiving the data, the part of the records that only recorded the water column were removed. You'll see that some of these records will only have 6 seconds, but a deep water delay will have to be applied to recover the correct time. The 4th image shows some shots with a 6 second delay applied. Only slightly more than 6 seconds is on the actual disk file.

The final image is from the side label of one of the initial versions of processing. It gives the recording parameters and a diagram of the cable configuration.

I hope this helps. If you need more info, don't hesitate to ask.

John Miller
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