# BEST DATA ENGINE (BDE)

Best Data Engine (BDE) is a method of Best Source Selection that accepts multiple PCM input channels, compares them, then creates a new "composite" output PCM channel that represents the best data based on the selected Best Data algorithm. BDE has several instantiations, they include File BDE, G2 BDE, and OMEGA NExT™ BDE.

BDE ALGORITHM TYPES

- **Bit Vote**: Does a bit-by-bit comparison of each bit in a minor frame and selects the most common bit for the BDE output stream.
- **In-Lock-Weighted**: Aligns data and makes a decision based on which streams have been in lock the most, for the longest period of time, most recently
- **DQM Voting**: Outputs the stream with the current best encapsulated Data Quantity Metric.
- **Last In Lock**: Outputs the stream most recently in lock as the BDE output stream.

FILE BDE

File BDE operates on existing IRIG-106 Chapter 10 files and produces a new Chapter 10 file based on the BDE configuration. File BDE can process up to 32 PCM input channels from a selection of up to 24 Chapter 10 files. File BDE allows the selection of input source channels from each source file and whether or not the selected source channels will be output along with the Best Source channel in the resulting output file. The Best Source channel is the composite stream containing the best data based on the selected algorithm.
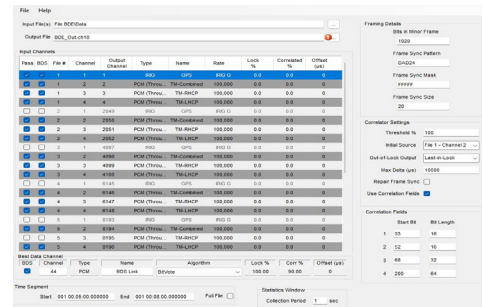
File BDE

G2 BDE

G2 BDE is an optional license for the IMUX-G2 Telemetry Recorder. It operates in real-time recording input channels and the BDE output channel. G2 BDE can also reconstruct the BDE output channel as a base-band PCM output channel.

OMEGA NExT™ BDE
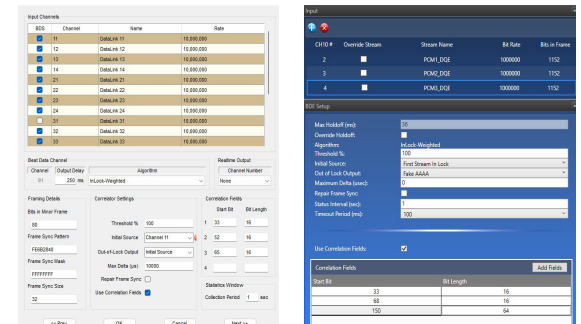
OMEGA NExT™ BDE is an optional license for the OMEGA NExT™ software suite. It operates in real-time or playback and produces the BDE output stream as a separate stream for processing and display.

G2 BDE

OMEGA NExT™ BDE