

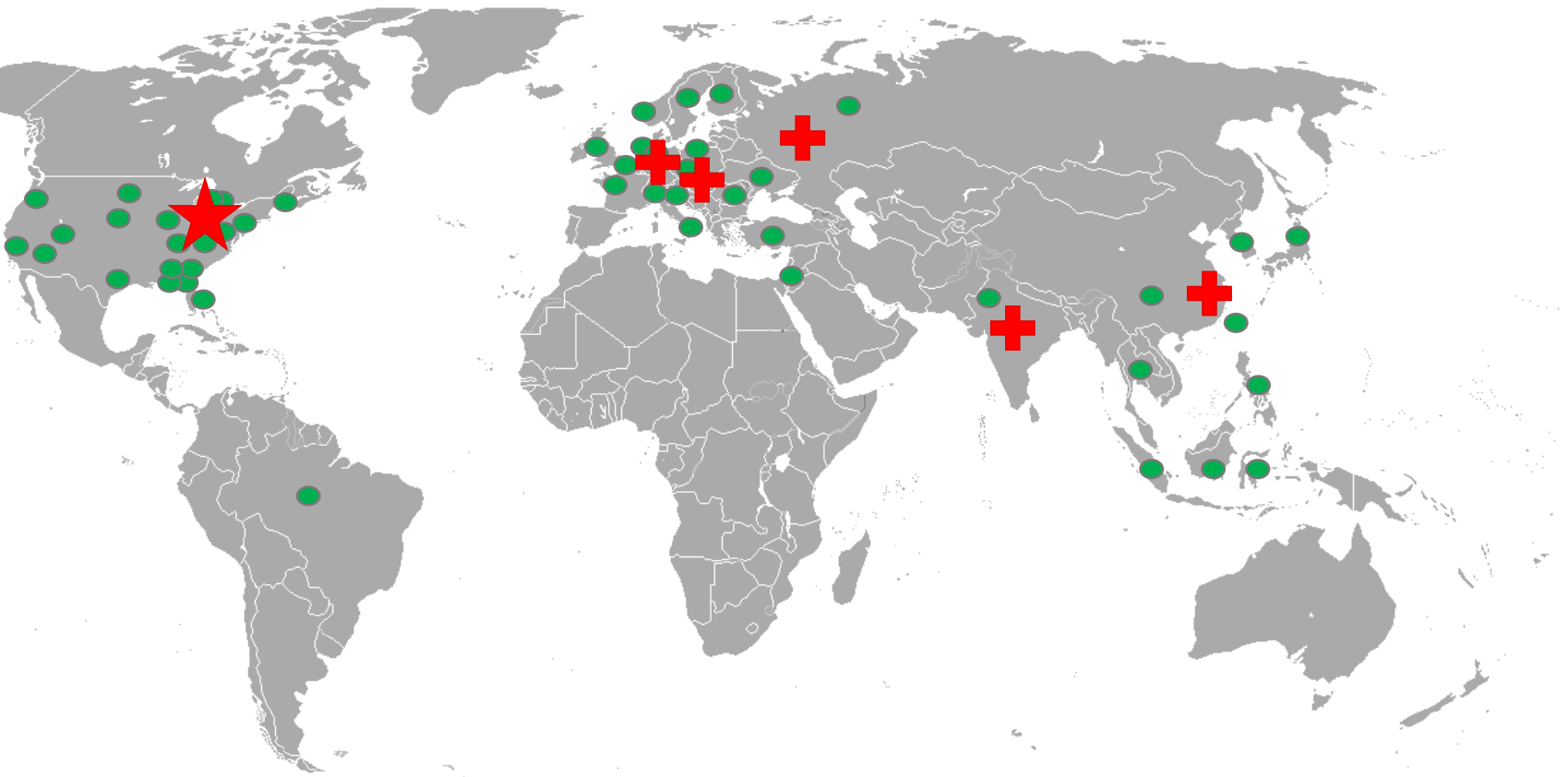
Field Data Replication

Today's Presenter: Jared Van Baren

We will begin shortly!



About Us



Meet VR



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But I don't have FDR?

Email or http link or FTP



Contact the sales team for an electronic trial key to be sure it is right for you



Field Data Replication

- What is FDR?
- Playback Files
- Importing / Exporting
- Setting up a schedule
- FDR Control Parameters
- Profile Limits
- Channels Tab
- Editing and Saving

History of Innovation



Our next big innovation puts acceleration peaks back into random vibration tests when the field environment is non-gaussian



Our latest innovation prevents over or under random testing, and provides the smoothest control lines quickly and accurately

Vibration Research
Opens

1995

2005

2010

2015



Our first innovation is Field Data Replication (FDR), giving companies the ability to playback longer time history files than ever before



This innovation answers three questions: what test should I run, how long should I run it, and can I accelerate it



Field Data Replication

- Test as close to reality as possible while maintaining repeatability (1:1)
- Allows you to stream a field recorded data file directly into your shaker and control the vibration on your product to exactly match what it sees in real life

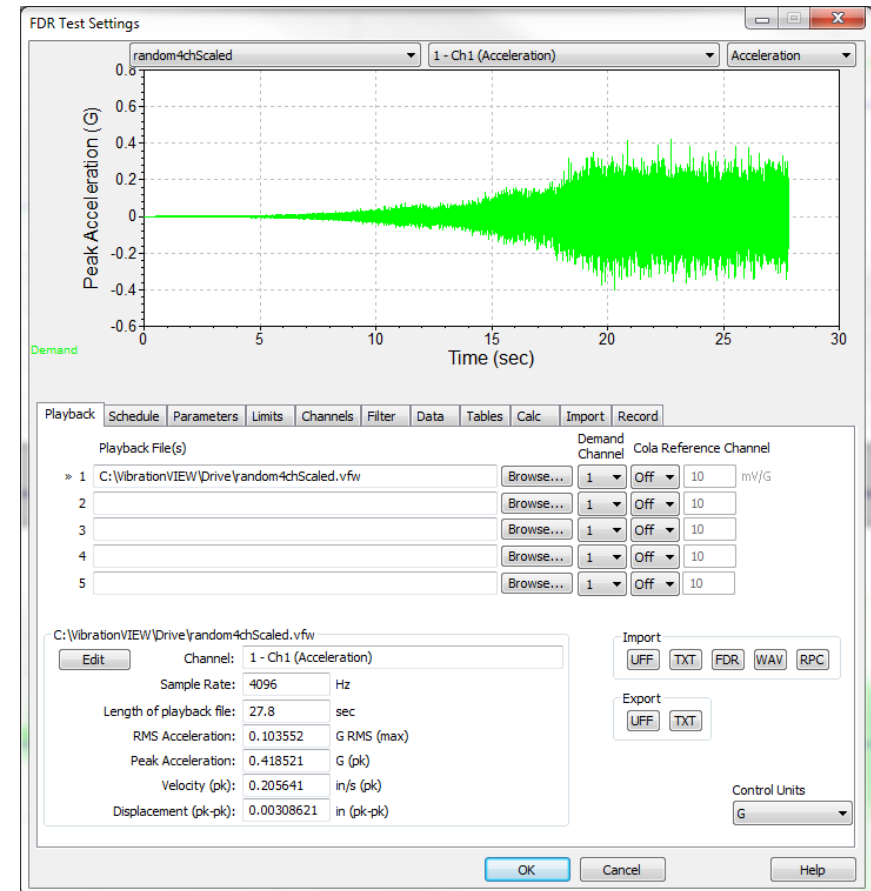


FDR Features

- Collect waveforms up to 4 billion samples per channel. Waveforms can be over 22 hours long at 52 kHz sampling rate, over 100 hours long at 10 kHz sampling rate, and over 1 year long at 100 Hz sampling rate
- Field Data Replicator “Cola Reference” Output (VR641 & VR9401)
- Data Import
 - Import waveforms from data recorders using analog input, or import from digital wave or text files
 - Import: UFF, TXT, FDR, WAV, and RPC
 - Export: UFF, and TXT

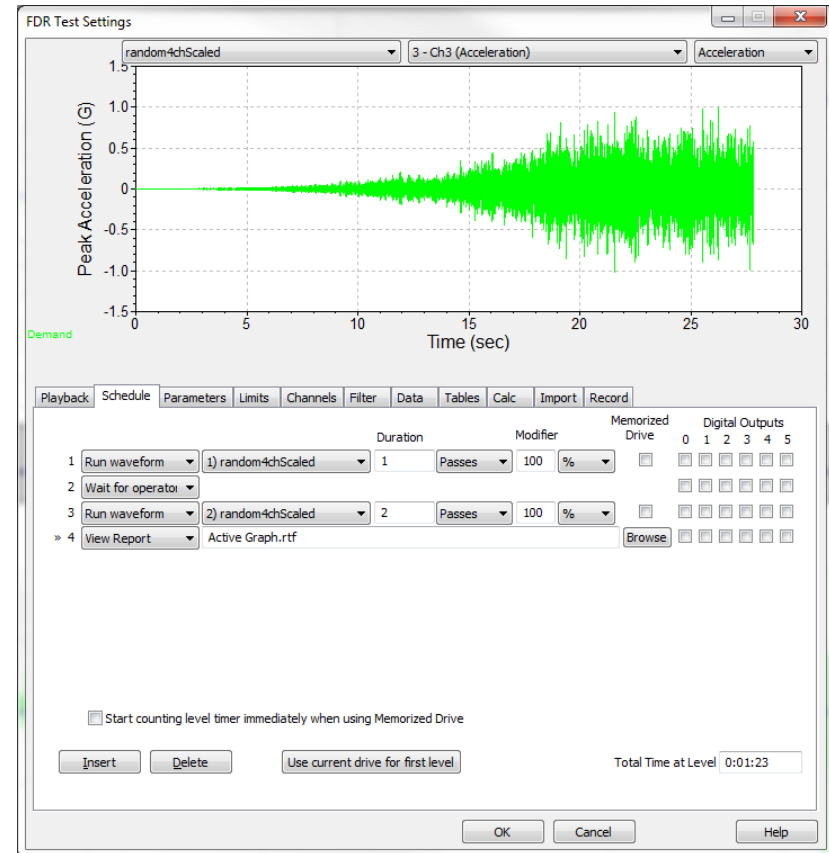
Playback File

- Playback File
 - Insert up to 5 waveform files
 - Choose channel for replay if the file has multiple channels
- Edit Playback file
 - Opens waveform in EditVIEW
- Record Playback file
 - Brings you to the Record tab where you can set up and control the record functions
- Import/Export
 - Opens import dialogue box
 - Opens a dialog box to save file as a UFF or TXT



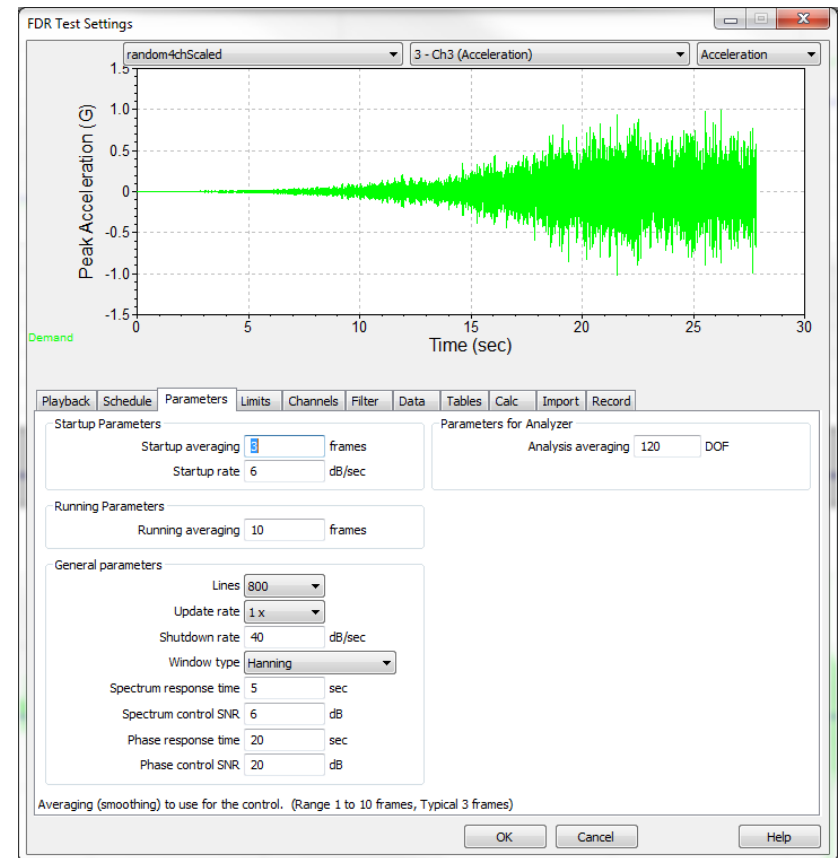
Setting Up A Schedule

- Insert up to 200 individual test levels
- Each level can determine playback file, duration, and amplitude gain modifier
- If waveform is to run multiple schedule levels use Memorized drive to reduce equalization time for subsequent levels
- Total time at level is calculated and displayed
- Display Graph
 - Display 3 different graph types in the Settings dialog, Acceleration, Velocity, or Displacement



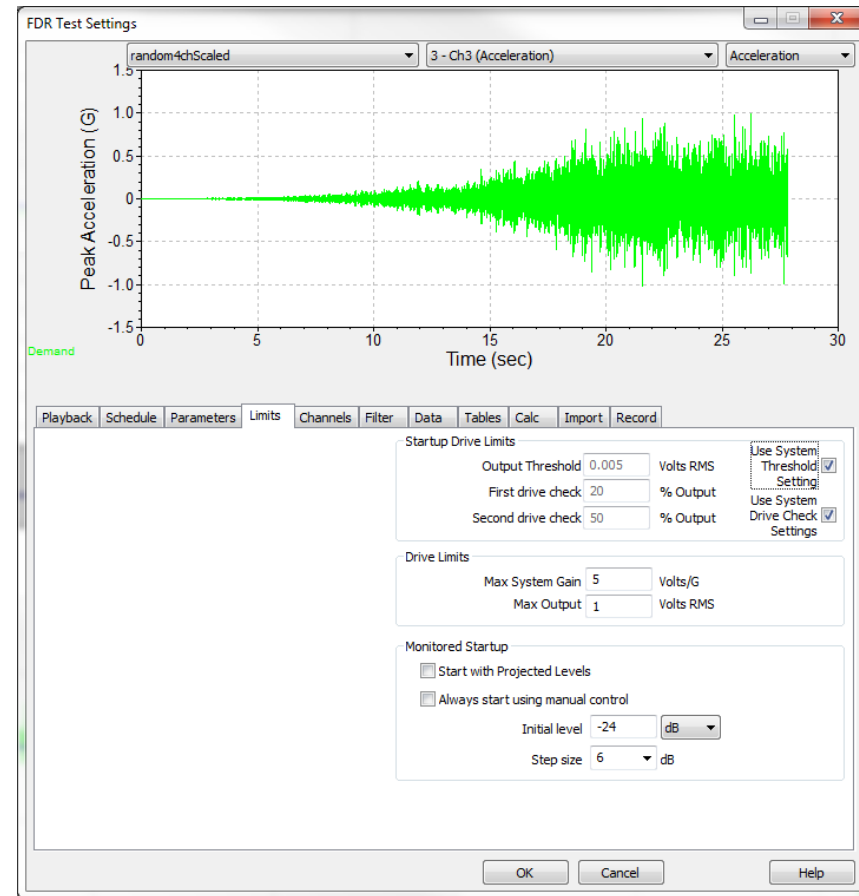
FDR Control Parameters

- Lines
 - Defines the frequency resolution of the control loop
- Startup Rate
 - Decrease this rate if the control overshoots on startup
- Tuning FDR Control Parameters
 - Help File > How to tune Field Data Replicator controller parameters



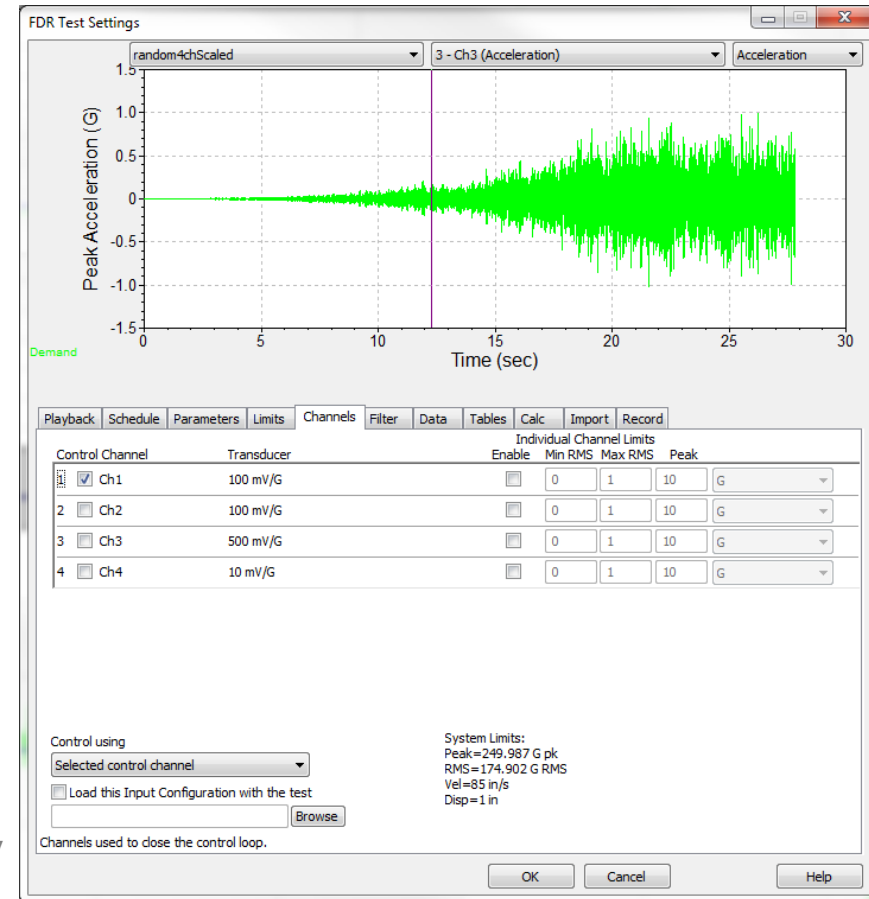
Profile Limits

- Output Drive Limits
 - Are specific to this profile as opposed to System Limits which are global limits in the configuration menu
- Monitored Startup
 - Manual Control mode starts the test at a reduced level under operator control
 - Projected Levels displays the projected levels window projecting the levels expected at full level testing as the test starts up



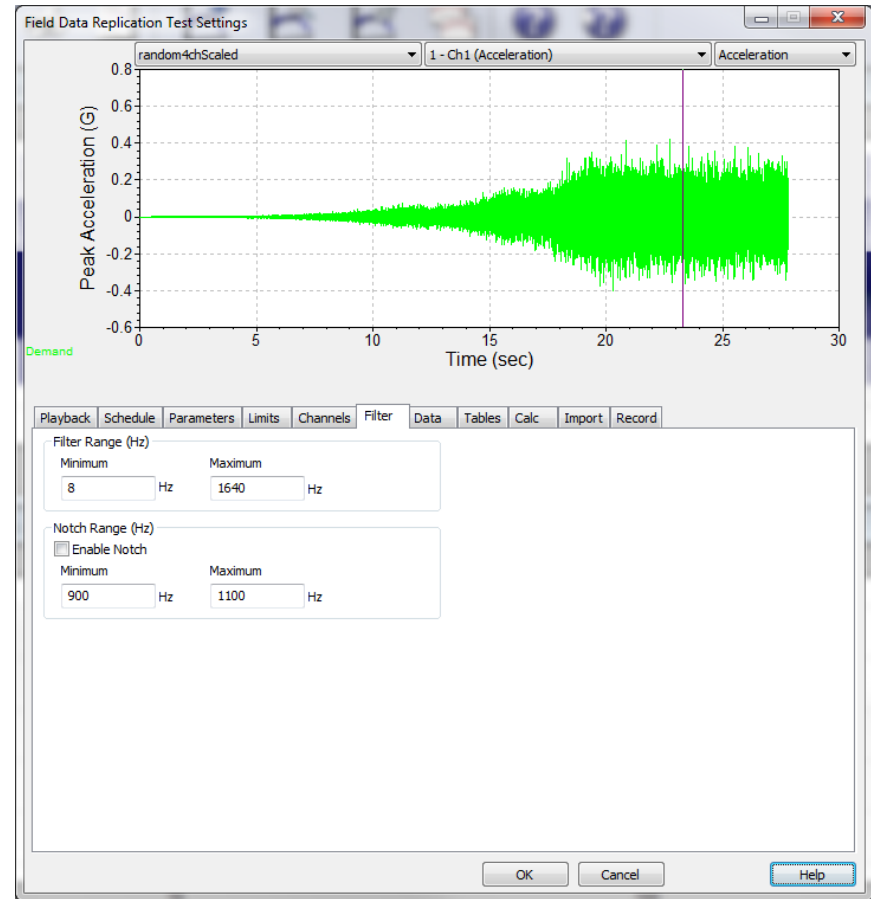
Channels Tab

- Channel Tab
 - Use this dialog box to define the input channel to be used in the data replay control loop
- Monitor Channel limits
 - Individual channels can be used to abort the test based on RMS levels or Peak Acceleration
- Control Channel
 - In FDR mode only one channel can be used for control
 - A saved Input configuration can be loaded with this profile automatically



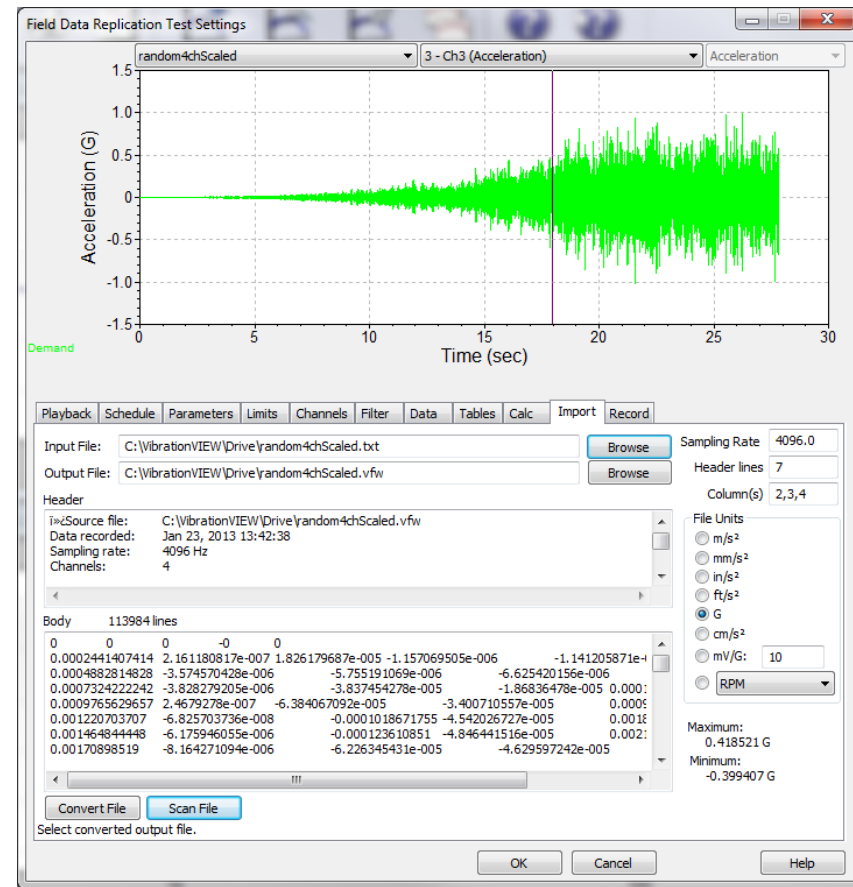
Filter Tab

- **Filter Range:** Set the frequency range over which the feedback control will operate (min/max control frequency)
- **Notch Range:** Filter out a frequency range in the middle of the spectrum



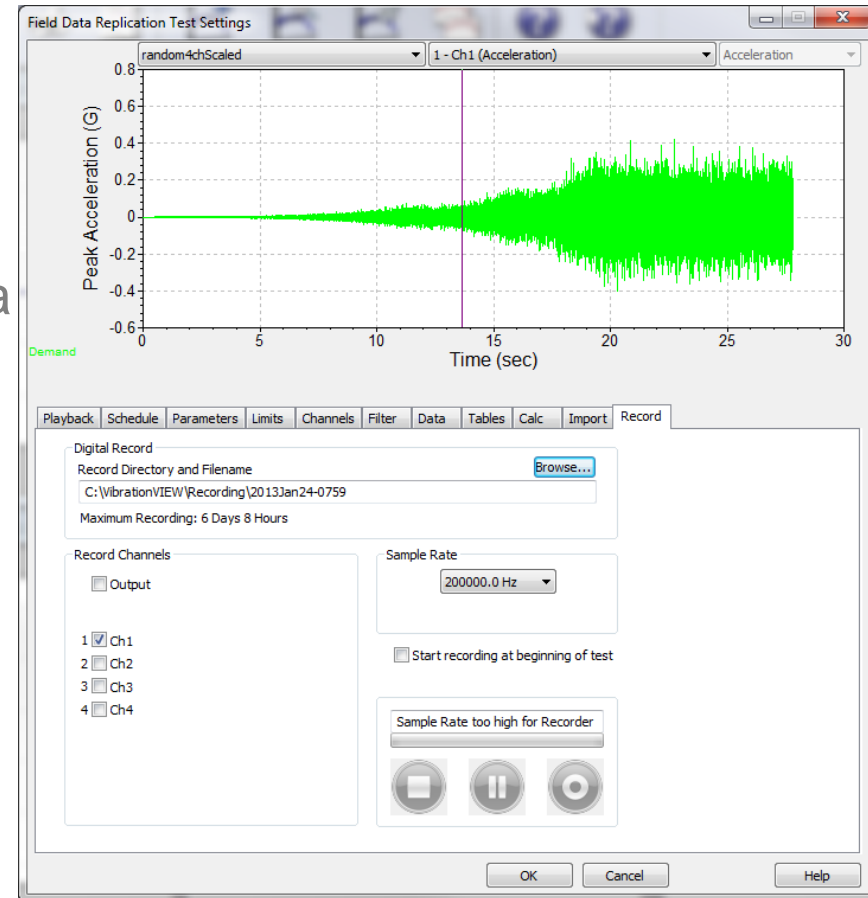
Import Tab

- Use this dialog box to import text files into a FDR format file for use as the playback file in Field Data Replicator tests
- Select an input file by clicking the “input file” button and locate file on computer
- Set the appropriate sampling rate, column number and acceleration units
- Click the “Scan File” button to ensure correct amplitude and channel (Initial selection of file uses channel 1 upon initial import)
- Click the “Convert File” button to convert the file to the VibrationVIEW internal format (FDR format)



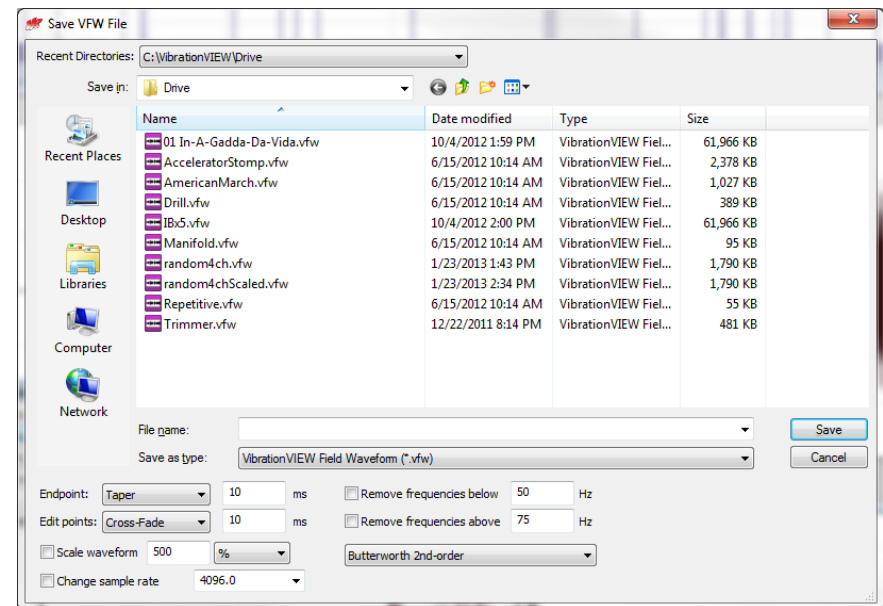
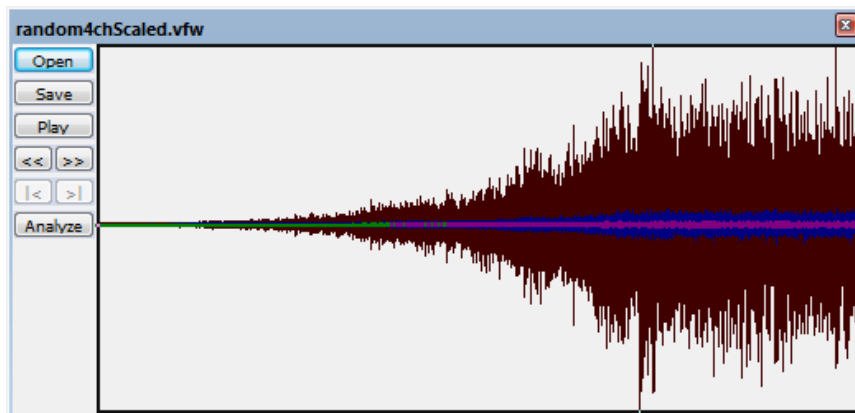
Recorder Tab

- This dialog allows channel selection, as well as selection of the default record directory
- The recorded VibrationVIEW field data waveform can be brought into MATLAB by simply changing the file extension from “.vfw” to “.mat”
- Select a sample rate from the drop down list
- Choose the “Start recorder at beginning of test” to start the recorder automatically



Editing & Saving

- Waveform files can be edited to remove unneeded sections and resaved with a new file name
- The save VFW file dialog gives additional options for the new file
- The new file will include any data selected between the Cue Points



Thank you for attending!

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