

## Chapter II-9 — Importing and Exporting Data

GBLoadWave can not currently read VAX "D" (another 64 bit format). However, VAX D format is the same as F with an additional 4 bytes of fraction. This makes it possible to load VAX D format as F format, throwing away the extra fractional bits. Here is an example:

```
GBLoadWave/W=2/V/P=VAXData/T={2,2}/J=2/N=temp "VAX D File"  
KillWaves temp1  
Rename temp0, VAXDData_WithoutExtraFractBits
```

The /W=2 flag tells GBLoadWave that there are two arrays in the file. The /V flag tells it that they are interleaved. The first four bytes of each data point in the file wind up in the temp0 wave. The seconds four bytes, which contain the extra fractional bits in the D format, wind up in temp1 which we discard.

## Loading JCAMP Files

Igor can load JCAMP-DX files using the **JCAMPLoadWave** operation. The JCAMP-DX format is used primarily in infrared spectroscopy. It is a plain text format that uses only ASCII characters.

You can invoke the JCAMPLoadWave operation directly or by choosing Data→Load Waves→Load JCAMP-DX File which displays the Load JCAMP-DX File dialog.

JCAMPLoadWave understands JCAMP-DX file headers well enough to read the data and set the wave scaling appropriately. Because JCAMP-DX is intended primarily for evenly-spaced data, a single wave is produced for each data set. The wave's X scaling is set based on information in the JCAMP-DX file header. The header information is optionally stored in the wave note, and optionally in a series of Igor variables. If you choose to create these variables, there will be one variable for each JCAMP-DX label in the header.

### Files JCAMPLoadWave Can Handle

JCAMPLoadWave can load one or more waves from a single file. The JCAMP-DX standard calls for each new data set to start with a new header. Each header should start with the ##TITLE= label. As far as we can tell, most spectrometer systems write only one data set per file.

In addition, the JCAMP-DX standard includes simple optional compression techniques which JCAMP-LoadWave supports. Files that do not use compression are human-readable.

We believe that JCAMPLoadWave should load most files stored in standard JCAMP-DX format. If you have a JCAMP-DX file that does not load correctly, please send it to support@wavemetrics.com.

Some systems produce a hybrid format in which the data itself is stored in a binary file, accompanied by an ASCII file that contains just a JCAMP-DX style header. We know that certain Bruker NMR spectrometers do this. To accomodate these systems, it is possible to select an option to load the header information only. You would then have to load the data separately, most likely using **GBLoadWave**.

### Loading JCAMP Header Information

JCAMPLoadWave provides two mechanisms to load the header information into Igor:

- Storing all header text in the wave note
- Creating one Igor variable for each JCAMP label encountered in the header

In the Load JCAMP-DX File dialog, checking the Make Wave Note checkbox invokes the /W flag which stores the entire header in the wave note.

Checking Set JCAMP Variables invokes the /V flag which creates one Igor variable for each JCAMP label encountered in the header. This is explained in the next section.

### Variables Set By JCAMPLoadWave

JCAMPLoadWave sets the standard Igor file-loader output variables: S\_fileName, S\_path, V\_flag and S\_waveNames. These are described in the JCAMPLoadWave reference documentation.