

assumptions for the data rate calculations:

```
trigger rate           = 100 kHz
hit rate               = 1.44 hit per trigger per chamber
precision cluster width = 5 strips per hit
transverse cluster width = 3 strips per hit
time samples read out  = 4 samples per strip
```

Notes for CSC ROD Input Data Format

1. Bunch crossing note: there are ≥ 3564 bunches in one orbit. Twelve bits would be required to uniquely identify each bunch crossing in an orbit. Only the eight bunch crossing LSB's are included in the leader, though the four zero bits preceding the bunch crossing LSB's may be used for bunch crossing MSB's some day.

2. The channel word is sent only for the first channel in a cluster. ADC samples proceed continuously until all samples for the cluster are output. Basically, for each event:

```
// output leader word
for ( each cluster ) {
  // output channel word
  for ( c = FirstChannelInCluster; c <= LastChannelInCluster; ++ c ) {
    for ( t = 0; t < TimeSamples; ++ t ) {
      // output sample for channel c and time t. "output" here means place
      // the ADC value in the next slot in a sample word
    }
  }
  // fill remaining samples of current word with 0x000 or full scale or ?
}
// output status/summary word(s)
// output trailer word
```

3. TimeSamples is a constant that is to be determined. The restrictions on TimeSamples are:

```
for three-sample-per-word format:  TimeSamples >= 3
for two-sample-per-word format:    TimeSamples >= 2
```