

CTP File Format for ConnTech 2000 Capture Data

1. File Header

At the beginning of the file there is a three line header record.

```
<CAP><Raw Data>  
<031097> <Ver 1.00>  
<Trigger Time> <09:13:37 AM 07/03/97>
```

The first line describes the type of file. That is, "Raw Capture" (undecoded) data.. The second line contains version information for the file. This is both the version number of the file format and the date it was created. This is to allow for upgrading the file format in the future. The third line contains the Trigger Time Date/Time stamp.

2. Record Format

The file consists of a number of records for the Control and Channel that is the Capture data. The Channel data starts on line 4. The Control data starts on line 2052. Each block of data starts with a header that describes the data type (Channel or Control Unit) and the number of records in the data. After these comes the actual data for the capture.

Three ASCII characters represent the record and there are 16 records on each line. A typical line is shown below.

```
D47CFAC00C79C00C00C03C00C00C00CA0C00C00C00C46C3C
```

The first character in a record contains CTP control information about the Record. This information identifies the record as being either ESCON control data (SOF, EOF, etc.) or just data and whether or not the record is at the Trigger Point. The Table below list the different types of CTP control bytes and their meanings

Character	Definition
C	ESCON data.
D	ESCON control information.
E	ESCON data and at the Trigger Point.
F	ESCON control information and at the Trigger Point.
4	ESCON data and the first record for either the Channel or Control Unit.
5	ESCON control and the first record for either the Channel or Control Unit.
8	ESCON data and indicates that the buffer as not full at this point
9	ESCON control information and indicates that the buffer as not full at this point.

The second and third characters in a record are the actual captured data. The interpretation of these depends on the CTP control character that precedes them.

3. ESCON Control Character codes

The following is a list of the representations for ESCON control characters sequences (SOF, EOF, etc).

Code	Definition
D47	Passive SOF
D27	Connect SOF
D06D02D05	Passive EOF
D06D01D01	Disconnect EOF
D06D04D41	Abort EOF
D40	NOS
D4F	UD
D50	UDR
D58	Offline
D05	Start of IDLE counting after frames
Cxx	ESCON Frame contents or IDLE count.

Note that three records represent EOF's. The first character, D will be an F if the character is at the Trigger point. The character C will become an E if it is at the Trigger point. There will be a D)% after each frame that represents the start of IDLE counting.

4. Time Stamping

The data inside of an ESCON frame represent 50ns of time with the following exceptions. The passive SOF represents 100ns of time. Idle time stamping is somewhat different because idles counts are compressed to effectively increase the amount of time in the capture. An idle count record is represented in the following way, Cxx where 'xx' is a hexadecimal code between 00 and FF. The hexadecimal represents the amount of idle counts for that record. To determine the time represented by the record multiply the hexadecimal number by 8. For example, if the IDLE count record is CFF, then there are 2040 (255 * 8) Idle counts in that record. Since each IDLE count is 50ns then there are 102?s of time in the record.

5. Finding the Trigger points

In most cases the Trigger point for the Channel will be usually on or near line 1027 in the file. The Trigger Point for the Control Unit will usually be on or near line 3077 of the file. The CTP control character F will mark the Trigger point if it is inside of a frame and it will be E if it is outside of a frame.

6. End of file record

The last line of the file is a record that marks the end of the capture data. IT is shown below.

I. <End>