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# EPF-File Specifications

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## 1. FILE HEAD

The minimal file head has 91 Bytes

Byte Index	Description
0	Major Version Number
1	Medium Version Number
2	Minor Version Number
3, 4, 5, 6	(32 bit integer) Document width in pixels
7, 8, 9, 10	(32 bit integer) Document height in pixels
11, 12, 13, 14	(32 bit integer) Flow Chart count [NOTE: Starts with 0, no flowchart means -1]
15, 16, 17, 18	(32 bit integer) Arrow count [NOTE: Starts with 0, no arrow means -1]
19, 20, 21, 22	(32 bit integer) Start Position of the File Title
23	Document RGB background color RED value
24	Document RGB background color GREEN value
25	Document RGB background color BLUE value
26 – 82	(57 byte length) [Not used yet, space for additional file format information]
83 – 90	(64 bit) Encryption Key [Not used yet]
91 – (91+ (FlowChart count*4))	(4 byte → 32 bit integer) start position of flow chart binary data record

...	(4 byte → 32 bit integer) start position of arrow binary data records
...	Raw binary object data records [flowcharts...] [arrows...]
...	(String) Document title

## 2. FLOW CHART RECORD

Byte Index	Description
0	Bit 0: text is bold Bit 1: flowchart is selected Bit 2: text is italic Bit 3: unused Bit 4: unused Bit 5: unused Bit 6: unused Bit 7: unused [NOTE: 0 means false, 1 means true]
1	flow chart RGB background color RED value
2	flow chart RGB background color GREEN value
3	flow chart RGB background color BLUE value
4	flow chart RGB text color RED value
5	flow chart RGB text color GREEN value
6	flow chart RGB text color BLUE value
7, 8, 9, 10	(32 bit integer) X position inside document in pixels
11, 12, 13, 14	(32 bit integer) Y position inside document in pixels
15, 16, 17, 18	(32 bit integer) Horizontal text align 0 = left align 1 = center align 2 = right align
19	Not used yet
20, 21, 22, 23	(32 bit integer) Vertical text align 0 = top align 1 = middle align

	2 = bottom align
24, 24, 25, 26	(32 bit integer) flow chart height in Pixels
28, 29, 30, 31	(32 bit integer) flow chart width in Pixels
32, 33, 34, 35	(32 bit integer) flow chart ID
36, 37, 38, 39	(32 bit integer) flow chart type 0 = rectangle 1 = hexagon 2 = parallelogram 3 = rounded rectangle 4 = curved rectangle 5 = diamond 6 = circle 7 = rectangle with two stripes 8 = rectangle with curved bottom 9 = disturbed flow 10 = abort flow 11 = disembodied text field
42, 43, 44, 45	(32 bit integer) Arrow ID docked in dock 0 [-1 means dock is empty]
46, 47, 48, 49	(32 bit integer) Arrow ID docked in dock 1 [-1 means dock is empty]
50, 51, 52, 53	(32 bit integer) Arrow ID docked in dock 2 [-1 means dock is empty]
54, 55, 56, 57	(32 bit integer) Arrow ID docked in dock 3 [-1 means dock is empty]
58, 59, 60, 61	(32 bit integer) Arrow ID docked in dock 4 [-1 means dock is empty]
62, 63, 64, 65	(32 bit integer) Arrow ID docked in dock 5 [-1 means dock is empty]
66, 67, 68, 69	(32 bit integer) Arrow ID docked in dock 6 [-1 means dock is empty]
70, 71, 72, 73	(32 bit integer) Arrow ID docked in dock 7 [-1 means dock is empty]
74, 75, 76, 78 ...	(String) flow chart text

### 3. ARROW RECORD

Byte Index	Description
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0	Bit 0: Arrow is selected Bit 1: Arrow is direct connected Bit 2: unused Bit 3: unused Bit 4: unused Bit 5: unused Bit 6: unused Bit 7: unused [NOTE: 0 means false, 1 means true]
1, 2, 3, 4	(32 bit integer) ArrowLineArray length
5, 6, 7, 8	(32 bit integer) Arrow type 0 = normal arrow
9, 10, 11, 12	(32 bit integer) Arrow ID
13, 14, 15, 16	(32 bit integer) Index of docking point in child
17, 18, 19, 20	(32 bit integer) Index of docking point in parent
21, 22, 23, 24	(32 bit integer) Spearhead width in pixels
25, 26, 27, 28	(32 bit integer) Spearhead height in pixels
29, 30, 31, 32	(32 bit integer) ID of child flow chart
33, 34, 35, 36	(32 bit integer) ID of parent flow chart
37 ... (37+(ArrowLineArray length*4))	(4 byte → 32 bit integer) Arrowline X positions in pixels
...	(4 byte → 32 bit integer) Arrowline Y positions in pixels

## 4. FORMAT

### 4.1. String

A String is formatted as follows:

Byte Index	Description
0,1,2,3	(32 bit integer) Byte length of following string
4-(Bytlength)	(2 byte -> UTF-16 formatted char)