Enhanced Inspection Data File Specification.

The Global Leader in Infrastructure Asset Management Solutions

Contents

1 Document Control

1.1 Author

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1.2 Document Summary

This document specifies the EID file format supported by the new Inspection Loader to be released in version 4.3.0.0 of MAI.

1.3 Document History

Document History			
Revision	Date	By	Description
1.0	29-Jan-2010	Mike Huitson	Initial Version
1.1	10-Feb-2010	Mike Huitson	Added note that Alphanumeric fields can optionaly be enclosed by double quotes.
1.2	05-Mar-2010	Mike Huitson	Inspection Time on the G Record is mandatory.
1.3	27-Oct-2010	Mike Huitson	Altered definition of the Change Inventory flag.

1.4 Reference documents

1.5 Distribution

- Exor internal.

1.6 Quality Assurance

Document Details	
File	Prepared By
Enhanced Inspection Data File Specification.doc	Mike Huitson
Document Name	Reviewed By
Enhanced Inspection Data File Specification	n/a
Version	Approved for issue by
1.2	n/a
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2 Introduction

This document describes the data file format for loading inspection data into Maintenance Manager from exor's data collection software (***datacapture*** and ***mapcapture***).

This is a controlled document, and supersedes all previous versions.

3 Record Types.

All records must be enclosed by double quotes.
All Alphanumeric fields, with the exception of the Record Type, may also be optionally enclosed by double quotes (ASCII 34).

3.1 '1' – Data File Information

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain "1".
Data Version	Alphanumeric	10	✓	Version number "1.8".
Software version	Alphanumeric	10		Software version number.
File Type	Alphanumeric	4	✓	May contain one of the following values:- "RMMS" – Safety or Detailed Inspection "ENHN" – Defect Survey (with optional BOQs) "ASST" – Asset based survey.
Description	Alphanumeric	240		Any useful description for the file.

Example:-
"1,1.8,4.1.122,ENHN,Inspection File 1"

3.2 'G' – Inspection Details (Beginning of Inspection Block)

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'G'.
rse_he_id (ne_id)	Integer	9		Exor internal id of the Section.
Link	Alphanumeric	10	✓	Agency/Link Code.
Section	Alphanumeric	5	✓	Section Number.
First Inspector	Alphanumeric	3	✓	The Inspectors Initials (As Stored within the exor Database).
Inspection Date	Alphanumeric	YYMMDD	✓	Date of the Inspection e.g. 100129
Inspection Time	Alphanumeric	HHMM	✓	Time of the inspection e.g. 1503 (24 hour format).
Safety/Detailed	Alphanumeric	1	✓	'D' for Detailed or 'S' for Safety.
Initiation Type	Alphanumeric	3	✓	Any valid initiation type from the pedif file.
Direction	Alphanumeric	1	✓	Inspection Direction in relation to the Sections Start Node. 'Y' incicates reverse direction. 'N' indicates forward direction.
Second Inspector	Alphanumeric	3		The second Inspectors Initials (As Stored within the exor Database).
Weather Condition	Alphanumeric	4		Any vaild weather condition from the pedif file e.g. 'FINE', 'FOG', 'RAIN' etc.
Road Surface Condition	Alphanumeric	4		Any vaild road surface condition from the pedif file e.g. 'DRY', 'WET', 'SNOW' etc.
Section Description	Alphanumeric	240		Section Description.

Example:-
"G,,2300B62842,00010,LC,20040930,1408,D,NRM,N,,FINE,DRY,"Section Description""

3.3 'H' – Inspection Activities

A list of Activities carried out during the inspection, this list can contain 1 or more Activity codes.

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain "H".
Activity 1	Alphanumeric	2	✓	Any vaild Activity Code from the pedif file.
Activity …	Alphanumeric	2		Any vaild Activity Code from the pedif file.
Activity n	Alphanumeric	2		Any vaild Activity Code from the pedif file.

Example:-
"H,CW,FW,LP,MC,MH,SG"

3.4 'I' – Defect Location Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'I'.
Defect Activity	Alphanumeric	2	✓	Defect Activity Code.
XSP	Alphanumeric	1		Cross-sectional position of the Defect.
Chainage	Integer	6		Chainage of the Defect.
Location	Alphanumeric	40		Textual description of the Defects location.
Time	Alphanumeric	HHMM	✓	Time the Defect was observed e.g. 1503 (24 hour format).
Identity Code	Alphanumeric	8		Identity code of the asset (sign, traffic signal etc).
Diagram Number	Alphanumeric	7		Diagram Number of the asset (sign etc).
Asset Type	Alphanumeric	2		Asset Type of the associated Asset.
Inventory Change Indicator	Alphanumeric	1		Any valid value from the Asset Modification domain (included in the pedif file).
Marshall Sub-Head Code	Alphanumeric	3		Standard Item Sub Section (SISS) Code.
Notifiable Organisation	Alphanumeric	10		Notifiable Organisation Code.
Rechargeable Organisation	Alphanumeric	10		Rechargeable Organisation Code.
Special Instructions	Alphanumeric	254		Text field for any special instructions relating to the defect.
Description	Alphanumeric	240		Defect Description text field.

Example:-

"I,CW,5,415,EAST END OF ACCESS TO EDISCUM GARTH,1411,,,,,,,Special Instruction,Large Pot Hole"

3.5 'J' – Additional Defect Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'J'.
Defect Type	Alphanumeric	4	✓	Defect Type Code.
Prority	Alphanumeric	4	✓	Defect Priority.
Defect Category	Alphanumeric	4		Defect Response Category.
Asset Id	Integer	10		Exor Internal Id of the associated Asset.
Easting	Decimal Number	38 (including decimal point)		X Co-ordinate of the Defect.
Northing	Decimal Number	38 (including decimal point)		Y Co-ordinate of the Defect.
Attribute 1	Alphanumeric (Dependent on the Attribute)	Dependent on the column used by the Attribute		Value for Attribute 1 as defeined against the Defect Type.
Attribute 2	Alphanumeric (Dependent on the Attribute)	Dependent on the column used by the Attribute		Value for Attribute 1 as defeined against the Defect Type.
Attribute 3	Alphanumeric (Dependent on the Attribute)	Dependent on the column used by the Attribute		Value for Attribute 1 as defeined against the Defect Type.
Attribute 4	Alphanumeric (Dependent on the Attribute)	Dependent on the column used by the Attribute		Value for Attribute 1 as defeined against the Defect Type.
Road Stud Indicator	Alphanumeric	1		Road Stud indicator 'M' indicated Mandatory 'A' incidates Advisory This field should be NULL if the defect is not associated with a Road Stud.

Example:-

"J,CPOT,1,,,12345,54321,28,570,,,"

3.6 'D' – Defect Document Attachments

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'D'.
Type	Alphanumeric	4		Document Type code. (If not supplied the value of Product Option DEFDOCTYPE will be used).
Title	Alphanumeric	60		Document Title.
Description	Alphanumeric	2000		Document Description.
Category	Alphanumeric	8		Document Category code.
Location	Alphanumeric	30		Document Manager Location Name. (If not supplied the value of Product Option DEFDOCLOCN will be used).
Filename	Alphanumeric	254	✓	Name of the file to be attached.

Zero or more D records can be specified for each Defect specified in the file.
In order to associate documents with a given Defect the D records must be positioned directly after the relevant J record in the file.

Example:-

"D,PHOT,Before Photo,"Pot Hole, before repair",,DEFECT_PHOTOS,def1001291501.jpg"

3.7 'K' – Immediate Action Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'K'.
Repair Description	Alphanumeric	240		Description of the Immediate Action taken or recommended.
Date Repaired	Alphanumeric	YYMMDD	✓	Date the Immediate Action was taken.
Time Repaired	Alphanumeric	HHMM	✓	Time the Immediate Action was taken e.g. 1504 (24 hour format).

Example:-

"K,MARKED UP,20040930,1411"

3.8 'L' – Temporary Action Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'L'.
Repair Description	Alphanumeric	240		Description of the Temporary Action taken or recommended.
Date Repaired	Alphanumeric	YYMMDD		Date the Action was taken. NULL if the Action was not carried out at the time of the Inspection.
Time Repaired	Integer	HHMM		Time the Action was taken e.g. 1504 (24 hour format). NULL if the Action was not carried out at the time of the Inspection.
Treatment	Alphanumeric	4		Treatment Code.

Example:-

"L,FILL POTHOLE,20041001,1600,PATG"

3.9 'M' – Permanent Category 1 Action Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'M'.
Repair Description	Alphanumeric	240		Description of the Permenent Action taken or recommended.
Date Repaired	Alphanumeric	YYMMDD		Date the Action was taken. NULL if the Action was not carried out at the time of the Inspection.
Time Repaired	Integer	HHMM		Time the Action was taken e.g. 1504 (24 hour format). NULL if the Action was not carried out at the time of the Inspection.
Treatment	Alphanumeric	4		Treatment Code.

Example:-

"M,PATCH AREA,,,FTPR"

3.10 'N' – Permanent Category 2 Action Details

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'N'.
Repair Description	Alphanumeric	240		Description of the recommended Permanent Action.
Treatment	Alphanumeric	4		Treatment Code.
Sub Category	Integer			Not used in EID Format files.

Example:-

"N,POTHOLE FORMING LANE 2,/PRI,0001"

3.11 'Q' – BOQ Details.

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'Q'.
Item Code	Alphanumeric	10	✓	Description of the recommended Permanent Action.
Dimension 1	Number	10,2 (99999999.99)	✓	First Dimension of the Item. If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded.
Dimension 2	Number	10,2 (99999999.99)		Second Dimension of the Item. If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded.
Dimension 3	Number	10,2 (99999999.99)		Third Dimension of the Item. If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded.
Quantity	Number	10,2 (99999999.99)	✓	Total Quantity i.e. the product of the specified Dimensions.

Zero or more Q records (BOQs) can be specified for each Temporary or Permanent Action specified in the file (BOQs are not allowed on Immediate Actions).
In order to associate BOQs with a given Action the Q records must be positioned directly after the relevant Action record in the file.

Example:-

"K,MARKED UP,20040930,1411"
"L,FILL POTHOLE,20041001,1600,PATG"
"Q,1011106,0.92,,,0.92"
"Q,1008101,0.8,0.8,,0.6400000000000001"
"M,PATCH AREA,,,FTPR"
"Q,1008102,2.3,0.6,,1.38"

3.12 'R' – Comments

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'R'.
Comment Class	Alphanumeric	8	✓	Document Category.
Comment Text	Alphanumeric	240	✓	The text to be recorded as the Comment.

Example:-

"R,GENERAL,BACK STREET NOT INSPECTED"

3.13 'P' – End of Inspection Block

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'P'.
Start Chainage	Integer	6	✓	Chainage at the start of the Inspection.
End Chainage	Integer	6	✓	Chainage at the end of the Inspection. The value 999999 will be interpreted as the end of the Section being inspected.

For an RMMS safety survey the Start Chainage must be 0 and the End Chainage must be 999999
Example:-

"P,0,999999"

3.14 'X' – End Of File

Field	Datatype	Max Size	Mandatory	Description
Record Type	Alphanumeric	1	✓	Must contain 'X'.
G	Integer	38	✓	Count of "G" records in the file.
H	Integer	38	✓	Count of "H" records in the file.
I	Integer	38	✓	Count of "I" records in the file.
J	Integer	38	✓	Count of "J" records in the file.
D	Integer	38	✓	Count of "D" records in the file.
K	Integer	38	✓	Count of "K" records in the file.
L	Integer	38	✓	Count of "L" records in the file.
M	Integer	38	✓	Count of "M" records in the file.
N	Integer	38	✓	Count of "N" records in the file.
P	Integer	38	✓	Count of "P" records in the file.
Q	Integer	38	✓	Count of "Q" records in the file.
R	Integer	38	✓	Count of "R" records in the file.
S	Integer	38	✓	Count of "S" records in the file.

Example:-
"X,4,4,15,15,0,0,0,0,15,4,0,0,0"

The values can be zero padded e.g.

"X,0041,0041,0038,0038,0000,0000,0038,0000,0041,0000,0009,0000"

4 Data Structure.

The following is included to illustrate the structure of the blocks of data in this file format, the structure and order of the records in the data file is important as it is this structure that provides the relationship between the Activities, Defects, Actions, BOQs etc.
The indentation or records below is for illustration only the real data file should not be indented.

```
1 Data file Block
  G - Inspection Details block
    H - Inspection Activities
      I - Defect Location Details
      J - Additional Defect Details
        D - Defect Document Attachment (optional)
        …
        D - Defect Document Attachment (optional)
        K - Immediate Action (optional)
        L - Temporary Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        M - Permanent Category 1 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        N - Permanent Category 2 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
      …
      I - Defect Location Details
      J - Additional Defect Details
        D - Defect Document Attachment (optional)
        …
        D - Defect Document Attachment (optional)
        K - Immediate Action (optional)
        L - Temporary Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        M - Permanent Category 1 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        N - Permanent Category 2 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
    R - Comment (optional)
    …
    R - Comment (optional)
  P - End Inspection Details block
  …
  G - Inspection Details block
    H - Inspection Activities
      I - Defect Location Details
      J - Additional Defect Details
```

```
        D - Defect Document Attachment (optional)
        …
        D - Defect Document Attachment (optional)
        K - Immediate Action (optional)
        L – Temporary Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        M - Permanent Category 1 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        N - Permanent Category 2 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
      …
      I - Defect Location Details
      J - Additional Defect Details
        D - Defect Document Attachment (optional)
        …
        D - Defect Document Attachment (optional)
        K - Immediate Action (optional)
        L – Temporary Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        M - Permanent Category 1 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
        N - Permanent Category 2 Action (optional)
          Q - Job Item (optional)
          …
          Q - Job Item (optional)
    R - Comment (optional)
    …
    R - Comment (optional)
  P - End Inspection Details block
X - End of Data File Block
```