



Early Indicator Technical Specifications Version 5.1

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Input File Field Definitions

The EarlyIndicator® (EI) Input file is a data file that contains loan data and is used by EI, along with current economic data included in the software, to calculate a score for each loan. The file contains 72 variables or fields of data, is in comma separated value (*.csv) format, has a *.csv extension, and contains a record—a separate line of data—for each loan to be scored. When creating and assembling an Input file the following should be considered:

- Apostrophes and Quotation Marks

EarlyIndicator is not fond of apostrophes, so please do not include any in the data fields. Quotation marks are not necessary in any of the EI Input file fields. Although the software is usually accepting, it has been known to reject them from time to time. Therefore, it is recommended that you not insert quotation marks.

- Default Values and Missing Data

For fields that have default values, those values are indicated in the Default column in the chart provided below. If you have reliable data, always use it to populate a given field. If any data is missing, do not code the default value into your data extract program that creates the Input file unless you have information to approximate a better value than the default value shown. Default values may change over time. By relying on EarlyIndicator to calculate values, there is no need to make changes to your extract program. Keep in mind that when a default value is used in lieu of the actual data, the loan will be scored and it will also receive an EI Warning Message.

If a field does not have a default value, the model will attempt to score a loan using the information that is provided. However, the resulting score may not be the optimal score. In some cases, the model may not be able to produce a score and will return a fatal error.

- Fields Reserved for Future Use by Freddie Mac

Customers who have been using an earlier version of EarlyIndicator should note that some fields previously termed “Optional: Customer-defined field” are now being either utilized or termed as “Reserved for Future Use: Freddie Mac-defined field.” If you are currently populating any of these fields, you will need to adjust your data extract program.

The following chart presents the 72 fields to be included in the Input file.

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#	Field Name	Description	Value Range / Enumeration	Example	Default
1.	LndrLoanNm	Lender Loan Number	Lender defined	23-09879, KJ234, 12345678 90	None
2.	TapeDate	Closing or system date on which the file was created	Ccyyymmdd	20040213	
3.	OrigLoanNoteAmt	Original loan note amount	\$1–\$9,999,999	1, 35000, 102000, 9999999	None
4.	CurAmt	Current unpaid principal balance (UPB) on loan	\$1–\$9,999,999	1, 35000, 102000, 9999999	None
5.	FirstorSecond	First or second mortgage indicator	1 = First mortgage 2 = Second mortgage carried separately	1, 2	1
6.	SubprimeFlag	Indicates whether or not the loan is a subprime mortgage	0 = Not a subprime mortgage 1 = Subprime mortgage	0, 1	0
7.	BnkRptChp	Current Bankruptcy Chapter: Indicates whether or not a loan is currently in bankruptcy and, if so, provides the Chapter	0 = Not currently in bankruptcy 7 = Currently in Chapter 7 bankruptcy 11 = Currently in Chapter 11 bankruptcy 12 = Currently in Chapter 12 bankruptcy 13 = Currently in Chapter 13 bankruptcy 99 = Currently in other or unknown chapter of bankruptcy	0, 7, 11, 12, 13, 99	0
8.	CurrFcloseFig	Current foreclosure flag indicating if loan is an active foreclosure. Do not include if foreclosure has ended.	0 = No 1 = Yes	0, 1	0
9.	LoanPurp	Purpose of loan	1 = Purchase 2 = Refinance, non-cash out 3 = Refinance, cash out 9 = Missing or invalid	1, 2, 3, 9	1 (Used for null value or if value of 9 is entered in this field.)
10.	OrigApprAmt	Original property appraised value amount	\$1–\$9,999,999	1, 35000, 102000, 9999999	None
11.	OrigSalesAmt	Original property sales price amount	\$1–\$9,999,999 In the case of a refinance, leave blank	1, 35000, 102000, 9999999	None
12.	PropState	Property state code	Valid state code as recognized by the U.S. Postal Service for the 50 states plus DC and PR	CA, DC, IA, NY, PR, WI	None
13.	PropZip	Property zip code	Valid 5- or 9-digit zip code as recognized by the U.S. Postal Service Important: If zip code is more than 5 digits, EI requires a hyphen (-) in the 6 th position	00768, 53118, 20007- 1813	None

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#	Field Name	Description	Value Range / Enumeration	Example	Default
14.	PropType	Indicates the type of property	01 = Manufactured 04 = Condo – include apartment condos 08 = Mobile Home 09 = PUD – including <i>de minimis</i> (condos) 13 = COOP 14 = Single-family residence (detached) 15 = 2–4-unit (includes duplex, twin home, etc.) 16 = Townhouse (row house) 18 = Multifamily UN = Unknown or invalid	01, 04, 08, 09, 13, 14, 15, 16, 18, UN	14 (used in place of null values or when value in field is UN)
15.	OrigTerm	Original amortization term of loan in months	12–480	60, 120, 360	None
16.	AssumptionDate	For FHA/VA loans, date the loan was assumed by the current borrower	Ccyymmdd	19970604, 20040101	None
17.	AcquisitionDate	Date Servicer acquired servicing rights to this loan	Ccyymmdd	19970505, 20040101	None
18.	DelReason	Delinquency reason	001 = Death of principal mortgagor 002 = Illness of principal mortgagor 003 = Illness of mortgagor's family member 004 = Death of mortgagor's family member 005 = Marital difficulties 006 = Income curtailment 007 = Excessive obligations 008 = Abandonment of property 009 = Distant employment transfer 011 = Property problem 012 = Inability to sell property 013 = Inability to rent property 014 = Military service 015 = Other 016 = Unemployment 017 = Business failure 019 = Casualty loss 022 = Energy-environment cost 023 = Servicing problems 026 = Payment adjustment 027 = Payment dispute 029 = Transfer of ownership pending 030 = Fraud 031 = Unable to contact borrower INC = Incarceration Caution: If delinquency reason is not available, leave field blank— do not populate using 015.	003, 013, 014, 029	None

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#	Field Name	Description	Value Range / Enumeration	Example	Default
19.	InvCode	Investor Code	1 = FNMA 2 = FHLMC 3 = GNMA 4 = Private 5 = Warehouse 6 = Portfolio	1, 2, 3, 4, 5, 6	None
20.	SelfEmplyFlg	Self-employed at time of origination	0 = No 1 = Yes	0, 1	0
21.	OccupCode	Occupancy status at origination	1 = Primary residence 2 = Second home 3 = Investor	1, 2, 3	1
22.	DueForDate	Due For Date—Date next payment is due; i.e., 1 st payment due date in current spell of delinquency where corresponding payment has not been received	Ccyymmdd	1 st of month: 19970601, 20040101 Odd due date: 20030917, 20040120	None
23.	OrigDate	Date loan was originated	Ccyymmdd	19930227, 20040123	None
24.	NumUnits	Number of living units	1–4 Note: The software will not score loans where NumUnits >4, since these loans are assumed to be multifamily.	1, 2, 3, 4	Default value = 1 unless PropType = 15, where default value = 2
25.	ProductType	Product type	1 = Fixed 0–20 2 = Fixed > 20 3 = GPMs or TPMs 4 = Adjustable Rate Mortgage 5 = Balloons - maturity up to 5 years 6 = Balloons - maturity > 5 years	1, 2, 3, 4, 5, 6	2
26.	NegAmFlg	Potential negative amortization	0 = No 1 = Yes	0, 1	0
27.	LoanType	Type of loan Note: If the Subprime Flag variable (Field 6) is equal to 1, then LoanType does not need to be populated.	1 = Conventional 2 = Conventional with MI 3 = FHA 4 = VA	1, 2, 3, 4	1
28.	Reserved for Future Use	Freddie Mac-defined field			
29.	Reserved for Future Use	Freddie Mac-defined field			
30.	High Risk Alt-A	Indicates whether or not the loan is a high risk Alt-A mortgage	0 = No 1 = Yes	0, 1	0
31.	DebtToIncomeRatio	DebtToIncomeRatio = (Total Monthly Debt Obligations) / (Monthly Income) If Monthly Income = 0 or is Null OR Total Monthly Debt Obligations is Null, then set DebtToIncomeRatio = Null	Valid values = GT 0 and LE 1.20 Important: Enter the value as is (e.g., 0.257); do not enter the value in percentage terms (e.g., 25.7)	Use: 0.257, 0.375, 1.20 Do not use: 25.7, 37.5, 120	None

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#	Field Name	Description	Value Range / Enumeration	Example	Default
32.	CurrOccupStatus Code	Current Occupancy Status	01 = Vacant 03 = Borrower Occupied 04 = Tenant Occupied 06 = Unknown 15 = Occupied by Unknown	01, 03, 04, 06, 15	None
33.	RepaymentPlan	Indicates if a repayment agreement is in effect	0 = No 1 = Yes	0, 1	0
34.	SubprimeRiskGrade	Value assigned by loan underwriter (This field is not currently used by EI and may be used in a future release.)			
35.	LoanMod	Indicates if the terms of the loan have been previously modified	0 = No 1 = Yes	0, 1	0
36.	OrigLTV	Original Loan-to-Value When computing original loan-to-value for conventional purchases, use the lesser of Appraisal Value or Sales Amount and round up.	2–125	Use: 95.51, 85, 90.3 Do not use: .9551 or 9551	None
37.	EstCurVal	Estimated current market value This is an optional field. Leave this field blank unless you are sure you have a true market value that is not more than one year old.	\$1,000–\$9,999,999	1000, 83000, 125000, 9999999	None
38.	InvLoanNum	Investor Loan Number	Investor defined	46574- A44	None
39.	PayDue1	Payment history due date	ccyymmdd	20030501	None
40.	PayRec1	Payment history received date	ccyymmdd	20030512	None
41.	PayDue2	Payment history due date	ccyymmdd	20030401	None
42.	PayRec2	Payment history received date	ccyymmdd	20030409	None
43.	PayDue3	Payment history due date	ccyymmdd	20030301	None
44.	PayRec3	Payment history received date	ccyymmdd	20030305	None
45.	PayDue4	Payment history due date	ccyymmdd	20030201	None
46.	PayRec4	Payment history received date	ccyymmdd	20030212	None
47.	PayDue5	Payment history due date	ccyymmdd	20030101	None
48.	PayRec5	Payment history received date	ccyymmdd	20030111	None
49.	PayDue6	Payment history due date	ccyymmdd	20021201	None
50.	PayRec6	Payment history received date	ccyymmdd	20021220	None
51.	PayDue7	Payment history due date	ccyymmdd	20021101	None
52.	PayRec7	Payment history received date	ccyymmdd	20021105	None
53.	PayDue8	Payment history due date	ccyymmdd	20021001	None
54.	PayRec8	Payment history received date	ccyymmdd	20021010	None
55.	PayDue9	Payment history due date	ccyymmdd	20020901	None
56.	PayRec9	Payment history received date	ccyymmdd	20020908	None
57.	PayDue10	Payment history due date	ccyymmdd	20020801	None

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#	Field Name	Description	Value Range / Enumeration	Example	Default
58.	PayRec10	Payment history received date	ccyymmdd	20020807	None
59.	PayDue11	Payment history due date	ccyymmdd	20020701	None
60.	PayRec11	Payment history received date	ccyymmdd	20020710	None
61.	PayDue12	Payment history due date	ccyymmdd	20020601	None
62.	PayRec12	Payment history received date	ccyymmdd	20020605	None
63.	Times30	Number of times 30 days past due (2 payments missed) in the last 9 months This field is not required if payment history (fields 39–62) is provided.	0–9	1, 9	None
64.	Times60	Number of times 60 days past due (3 payments missed) in the last 9 months This field is not required if payment history (fields 39–62) is provided.	0–9	1, 9	None
65.	Times90	Number of times 90 or more days past due (4 or more payments missed) in the last 9 months This field is not required if payment history (fields 39–62) is provided.	0–9	1, 9	None
66.	NumBorrower	Number of borrowers on mortgage	1 = 1 2 = 2 3 = 3 or more	1, 2, 3	1
67.	OrigNoteRate	Original note rate—interest rate (in percentage term) on loan at the time of origination	1–25	Use: 7.25, 8.35, 11.6 Do not use: .0725 or 725	None
68.	CurrNoteRate	Current note rate—current interest rate (in percentage term) on loan	1–25	Use: 7.25, 8.35, 11.6 Do not use: .0725 or 725	None
69.	MatureDate	Date last payment would be made assuming no prepayments	ccyymmdd	20130227	None
70.	FcloseHistFlag	Loan has been in foreclosure in the past and is not currently in foreclosure; or loan is currently in foreclosure and has been in one or more foreclosures in a different spell in the past	0 = No 1 = Yes	0, 1	0

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#	Field Name	Description	Value Range / Enumeration	Example	Default
71.	CreditScore	Credit score—Optional; however, if supplied then: a) CreditInd (field 72) must be provided b) Credit score must not be more than 6 months old	350-950	350, 567, 765, 950	None
72.	CreditInd	Credit indicator	1 = FICO	1	None

Output File Field Definitions

EarlyIndicator® produces an Output file, which contains the same 72 variables or fields of data that are on the Input file. In addition, the Output file contains the EI score, Model used, Error codes, and alphabetic grade for each loan. The file is in comma separated value (*.csv) format, has an *.out extension, and contains a record—a separate line of data—for each scored loan. The field content and sequence are defined below.



Output File Definitions for Fields 1 – 72 are the same as Input File Definitions for Fields 1 – 72. See Fields 1 – 72 in Input File Field Definitions for valid values.

#	Field Name	Description	Value Range / Enumeration	Example
73.	Score	EarlyIndicator Score	000–099 Collection Scores 101–400 Loss Mitigation Scores	024, 358
74.	Model	Model run	EI16S = Due for one payment subprime, no credit EI16T = Due for one payment subprime, credit EI16G = Due for one payment FHA/VA, no credit EI16H = Due for one payment FHA/VA, credit EI16N = Due for one payment conventional, no credit EI16C = Due for one payment conventional, credit EI30S = Due for two or three payments subprime EI30G = Due for two or three payments FHA/VA EI30N = Due for two payments conventional, no credit EI30C = Due for two payments conventional, credit EI60N = Due for three payments conventional, no credit EI60C = Due for three payments conventional, credit EI90S = Due for four or more payments or in foreclosure subprime EI90G = Due for four or more payments or in foreclosure FHA/VA EI90N = Due for four or more payments conventional, no credit EI90C = Due for four or more payments conventional, credit EIFRC = Foreclosure, conventional	EI16S, EI16T, EI16G, EI16H, EI16N, EI16C, EI30S, EI30G, EI30N, EI30C, EI60N, EI60C, EI90S, EI90G, EI90N, EI90C, EIFRC
75.	DateScore	Date the loan was scored	Ccyyymmdd	20040227

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#	Field Name	Description	Value Range / Enumeration	Example
76.	Error1	Non-fatal error code 1	Non-Fatal Loss Mitigation Errors: 302 = Missing, invalid, or unrecognized property zip code—property state used 303 = Missing or invalid property state—state from zip to FIPS referential table used 304 = Missing or invalid original loan amount—current loan amount used 305 = Missing or invalid loan purpose—LoanPurp=1 (purchase) used 308 = Missing or invalid property type—PropType=14 (singlefamily residence) used 310 = Payment history due gap, gap filled (with correct due dates) 311 = Payment history received gap, some payments received ignored 312 = Missing or invalid delinquency reason—special default value used, not one of the values for DelReason 314 = Missing or invalid occupancy code—OccupCode=1 (primary residence) used 315 = Missing or invalid current occupancy code—assumption that property is not vacant was used 316 = Missing or invalid loan type—LoanType=1 (conventional) used 318 = Inconsistent property state and property zip code—property state used 320 = Warning! – Model will expire if software is not updated 321 = Missing or invalid chapter of bankruptcy—BnkRptChp=0 (not currently in bankruptcy) used 322 = Missing or invalid original LTV—used:	300's, 500's
76.	Error1 (cont'd)	Non-fatal error code 1	LTV=90 (if LoanType=2), LTV=97 (if LoanType=3), LTV=100 (if LoanType=4), LTV=80 (if LoanType not equal to 2, 3 or 4) 324 = Missing or invalid current foreclosure flag—CurrFcloseFlag=0 (not currently in foreclosure) used 325 = Missing or invalid repayment plan—RepaymentPlan=0 (no repayment agreement in) effect 326 = Missing or invalid debt to income ratio 334 = Missing or invalid product type—ProductType=2 (Fixed>20) used 337 = Missing or invalid number of units—if PropType not equal 15, then NumUnits==1 used; if PropType=15, then NumUnits=2 used 340 = Payment history not usable—TooNew=1 (new loan) used 341 = Missing or invalid note rate—appropriate historical rate used 344 = Missing or invalid foreclosure history flag—FcloseHistFlag=0 (no previous foreclosures) used 345 = Incomplete or invalid credit score and/or credit indicator, credit model was not used for scoring—non-credit model used 346 = Missing or invalid first or second mortgage flag—FirstorSecond=1 (first mortgage) used 347 = Missing or invalid subprime flag—SubprimeFlag=0 (not a subprime mortgage) used 348 = Invalid assumption date—loan not assumed used 349 = Missing or invalid loan modification flag—LoanMod=0 (not a loan modification) used 350 = Invalid acquisition date—origination date used	

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#	Field Name	Description	Value Range / Enumeration	Example
			Non-Fatal Collection Errors: 500 = Incomplete or invalid credit score or credit indicator, credit model was not used for scoring—non-credit model used 501 = Payment history due gap, gap filled (with correct due dates) 502 = Warning! – Model will expire if software is not updated 511 = Payment history received gap, some payments received ignored 524 = Missing or invalid current foreclosure flag—CurrFcloseFlag=0 (not currently in foreclosure) used 547 = Missing or invalid subprime flag—Subprime Flag=0 (not a subprime mortgage) used	
77.	Error2	Non-fatal error code 2	See Error1 for valid values	300's, 500's
78.	Error3	Non-fatal error code 3	See Error1 for valid values	300's, 500's
79.	Error4	Non-fatal error code 4	See Error1 for valid values	300's, 500's
80.	Error5	Non-fatal error code 5	See Error1 for valid values	300's, 500's
81.	AlphaGrade	Alpha grade assigned to EI score	Collection: 000 = F 001 - 006 = F 007 - 010 = E 011 - 044 = D 045 - 066 = C 067 - 070 = B 097 - 099 = A Note: Range 071-096 is reserved for future use Loss Mitigation: 101 - 200 = F 201 - 250 = E 251 - 310 = D 311 - 360 = C 361 - 390 = B 391 - 400 = A	A, B, C, D, E, F
82.	For Future Use			
83.	For Future Use			
84.	For Future Use			
85.	For Future Use			
86.	For Future Use			
87.	For Future Use			
88.	For Future Use			
89.	For Future Use			
90.	For Future Use			

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Fatal Error File Field Definitions

EarlyIndicator® produces a Fatal Error file of unscored loans, which contains the same 72 variables or fields of data that are on the Input file. In addition, the Fatal Error file contains an EI score for each loan, the value of which will be missing or null; the model through which each loan was scored; the date on which the loans were scored; a fatal error in field 76; a possible fatal or non-fatal error in field 77; and non-fatal errors in fields 78-80, if applicable. The file is in comma separated value (*.csv) format, has an *.err extension, and contains a record—a separate line of data—for each scored loan. The field content and sequence are defined below.



Output File Definitions for Fields 1 – 72 are the same as Input File Definitions for Fields 1 – 72. See Fields 1 – 72 in Input File Field Definitions for valid values.

#	Field Name	Description	Value Range / Enumeration	Example
73.	Score		Missing, null	
74.	Model	Model run	EI16S = Due for one payment subprime, no credit EI16T = Due for one payment subprime, credit EI16G = Due for one payment FHA/VA, no credit EI16H = Due for one payment FHA/VA, credit EI16N = Due for one payment conventional, no credit EI16C = Due for one payment conventional, credit EI30S = Due for two or three payments subprime EI30G = Due for two or three payments FHA/VA EI30N = Due for two payments conventional, no credit EI30C = Due for two payments conventional, credit EI60N = Due for three payments conventional, no credit	EI16S, EI16T, EI16G, EI16H, EI16N, EI16C, EI30S, EI30G, EI30N, EI30C, EI60N, EI60C, EI90S, EI90G, EI90N, EI90C, EIFRC, UNKNW, NOTSC
74.	Model (cont.)		EI60C = Due for three payments conventional, credit EI90S = Due for four or more payments or in foreclosure subprime EI90G = Due for four or more payments or in foreclosure FHA/VA EI90N = Due for four or more payments conventional, no credit EI90C = Due for four or more payments conventional, credit EIFRC = Foreclosure, conventional UNKNW = No model determined NOTSC = Not scored	

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#	Field Name	Description	Value Range / Enumeration	Example
75.	DateScore	Date the loan was scored	Ccyyymmdd	20040227
76.	Error1	Fatal error code 1	<p>Fatal Global Errors: 101 = Invalid token count 102 = Missing lender loan number 103 = Missing or invalid tape date 104 = Missing or invalid due for date 105 = Tape date before due for date 106 = Model has expired</p> <p>Fatal Loss Mitigation Errors: 201 = Missing or invalid origination date 203 = Missing or invalid property state 204 = Unable to calculate current LTV 205 = Database connection error 206 = Database error – database returns invalid value 207 = Unable to retrieve system date 208 = Unable to allocate memory 209 = Property type is multifamily—EI cannot process multifamily-type properties 210 = Number of units is greater than 4—EI cannot process multifamily-type properties, defined as having more than four units 211 = Unable to calculate mark-to-market LTV 212 = Current amount missing or invalid 213 = Second mortgage due for more than one payment 214 = Subprime loan with missing or invalid note rate 215 = Invalid current LTV</p> <p>Fatal Collection Errors: 400 = Invalid payment history due date 402 = Payment history due dates out of sequential order 410 = Invalid payment history received date 412 = Payment history received dates out of sequential order 420 = Unmatched payment history due date and payment history received date 430 = Due for date is inconsistent with payment due date number one</p>	100's, 200's, 400's

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#	Field Name	Description	Value Range / Enumeration	Example
77.	Error2	Fatal error code 2 or non-fatal error	See Error1 in #76 above for fatal error descriptions, or see Output file field #76 for non-fatal error descriptions—all fatal error codes will be listed first and nonfatal codes will be provided once all fatal errors have been identified	100's, 200's, 300's, 400's, 500's
78.	Error3	Fatal error code 3 or non-fatal error	See Error1 in #76 above for fatal error descriptions, or see Output file field #76 for nonfatal error descriptions	100's, 200's, 300's, 400's, 500's
79.	Error4	Fatal error code 4 or non-fatal error	See Error1 in #76 above for fatal error descriptions, or see Output file field #76 for nonfatal error descriptions	100's, 200's, 300's, 400's, 500's
80.	Error5	Fatal error code 5 or non-fatal error	See Error1 in #76 above for fatal error descriptions, or see Output file field #76 for nonfatal error descriptions	100's, 200's, 300's, 400's, 500's
81.	AlphaGrade	No value assigned in Fatal Error file		
82.	For Future Use			
83.	For Future Use			
84.	For Future Use			
85.	For Future Use			
86.	For Future Use			
87.	For Future Use			
88.	For Future Use			
89.	For Future Use			
90.	For Future Use			