IBM MICROMEDEX® RED BOOK®- EXPANDED

DEVELOPER GUIDE

MAY 2018

IBM **Watson Health**

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PREFACE

Each manual at IBM Watson Health contains a standard format of conventions and implementation requirements that are important to the end user.

NCPDP Standards and IBM Micromedex® RED BOOK®

IBM Watson Health follows the National Council for Prescription Drug Program's (NCPDP) guidelines for billing unit standards. These guidelines can be found in the Billing Unit Standard Implementation Guide on the NCPDP Web site. NCPDP is an ANSI-accredited (American National Standards Institute) standards development organization. For more information regarding the NCPDP's standards, please visit http://www.ncpdp.org/standards.asp.

Confidentiality Information

⚠️ **WARNING**

This manual and any other materials describing the IBM Micromedex® RED BOOK® Expanded database, its file layouts, data elements, and delivery options, are strictly confidential; they are intended solely for internal use by current and prospective IBM Micromedex® RED BOOK® Expanded   database customers, and are not to be reproduced, reprinted, copied, forwarded, or otherwise distributed to any person outside the immediate company or organization of the person who received this information.

Conventions Used in This Manual

The following conventions are used in this manual:

- Product names and module names are in **bold**, *italics.*
- File names and table names are in lowercase and **bold**.

Implementation Requirements

The data and software implementation described in this manual are furnished under license and may be used only in accordance with the terms of such license. See your license agreement for all terms and conditions that apply.

Ensure that your IBM Micromedex® RED BOOK®Expanded implementation includes:

- Implementation of copyright statements and disclaimers as identified in your license agreement;

- Routine updating of the data;

- Daily Expiration Checking to ensure that the data is current;

- Version Checking when applying an update to ensure that a data update was not missed;

- At the conclusion/discontinuation of the term of the initial license and all subsequent renewal terms, all IBM Micromedex® RED BOOK® Expanded files must be removed from the developer and end user systems.

About This Manual

This manual describes the IBM Micromedex® RED BOOK® Expanded file layouts, data elements, and delivery options. Where appropriate, references to the other IBM Micromedex® RED BOOK® extracts are made. You should see the IBM Micromedex® RED BOOK® Drug Products and Pricing manual for each specific extract for more information.

Additionally, this manual has been designed to print double-sided. If you print this manual single-sided, blank pages will print. These blank pages are intentional. You are not missing any information.

AVERAGE WHOLESALE PRICE (AWP) POLICY

Revised: October 1, 2014

The Average Wholesale Price (AWP) as published by IBM Watson Health℠ is in most cases

the manufacturer's[1] suggested AWP and does not reflect the *actual* AWP charged by a wholesaler. IBM Watson Health bases the AWP data it publishes on the following:

- AWP is reported by the manufacturer, **or**

- AWP is calculated based on a markup specified by the manufacturer. This markup is typically based on the Wholesale Acquisition Cost (WAC) or Direct Price (DIRP), as provided by the manufacturer, but may be based on other pricing data provided by the manufacturer, **or**

- Suggested Wholesale Price (SWP) is reported by the manufacturer

When the manufacturer does not provide an AWP, a markup formula from which AWP can be calculated, or an SWP, IBM Watson Health will calculate the AWP by applying a standard 20% markup over the manufacturer supplied WAC. If a WAC is not provided, the standard markup will be applied to the DIRP.

When the manufacturer supplies an SWP, the IBM Watson Health AWP for that drug will be the manufacturer's reported SWP, even if the manufacturer supplies either or both a WAC and DIRP. Consequently, the published AWP may be greater than a 20% markup over the manufacturer supplied WAC or DIRP.

Please note that IBM Watson Health does not perform any independent analysis to determine or calculate the actual AWP paid by providers[2] to wholesalers. IBM Watson Health also does not independently investigate the actual WAC paid by wholesalers to manufacturers or DIRP paid by providers to manufacturers. IBM Watson Health relies on the manufacturers to report the values for these categories as described above.

IBM Watson Health provides a list of the manufacturers that do not provide the AWP or a markup formula. The list of these manufacturers and products is available at:

http://truvenhealth.com/Products/Micromedex/Product-Suites/Clinical-Knowledge/AWP-Export

Additionally, an ASCII text file with this same information is available to download. For more information on this file and instructions on downloading, please contact IBM Watson Health Technical Support at:

mdx.techsupp@us.ibm.com

Please refer to this AWP Policy as you review the pricing information contained in the IBM Watson Health products.

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1.The term "manufacturer" includes manufacturers, distributors, repackagers, and private labelers.

2.The term "provider" includes retailers, hospitals, physicians, and others buying either from the wholesaler or directly from the manufacturer for distribution to a patient.

ABBREVIATIONS AND ACRONYMS

This manual may contain any of the following acronyms and abbreviations throughout this document.

ANDA	Abbreviated New Drug Application
ASCII	American Standard Code for Information Interchange
AWP	Average Wholesale Price
BSA	Body Surface Area
CLA	Customer License Agreement
CMS	Centers for Medicare and Medicaid Services. Note: Formerly called Health Care Financing Administration (HCFA).
CPOE	Computerized Physician Order Entry
CPT® Codes[a]	Current Procedural Terminology codes. These codes are Level I HCPCS codes.
CSS	Cascading Style Sheets
DEA	Drug Enforcement Agency
DESI	Drug Efficacy Study Implementation
DIRP	Direct Price
DP	Direct Price
DTD	Document Type Definition
EMR	Electronic Medical Record
FDA	Food and Drug Administration
FUL	Federal Upper Limit
GCC	Generic Class Code
GCR	Generic Cross Reference Code.
GFC	Generic Formulation Code
GSM	Gold Standard Multimedia

HCFA	Health Care Financing Administration (HCFA). Note: Now called Centers for Medicare and Medicaid Services CMS.
HCPCS	Healthcare Common Procedure Coding System
HHS	Department of Health and Human Services
HIS	Health Information System
HRI	Health-Related Item
ICD-9	International Classification of Diseases, 9th Revision
J-Codes	Level II HCPCS codes
LIS	Lab Information System
NCPDP	National Council for Prescription Drug Programs
NDA	Non-Disclosure Agreement
NDA	New Drug Application
NDC	National Drug Code
OBRA	Omnibus Budget Reconciliation Act of 1990 (OBRA '90)
OTC	Over the Counter
PREA	Product Evaluation Agreement
PSD	Patient Specific Dosing
RB	IBM Micromedex® RED BOOK®™
SRP	Suggested Retail Price
UPC	Universal Product Code
WAC	Wholesale Acquisition Cost

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Office Locations

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Ann Arbor, MI 48108
USA

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Greenwood Village, CO 80111
USA

North Carolina Office

4205 South Miami Boulevard
Building 502
Durham, NC 27703
USA

CUSTOMER RESOURCE CENTER

Technical & Customer Support

At IBM Watson Health, our staff of technical and service experts has one goal - to quickly take care of your needs so that you are back to optimal performance with our solutions.

Our Customer Resource Center is available to all of our customers free of charge, and can be your single point of contact for the following services:

- Clinical Content Requests
- Technical Support Requests
- Product Use Support
- Product Enhancement Requests

24/7 Phone Support

United States & Canada:

Phone: **1-877-843-6796**

Select option 3 for the Support Services menu.
For urgent technical inquiries select 3,3

Outside the United States & Canada: Phone:

1-734-786-5401

Email Support (Business Hours Only)

mdx.techsupp@us.ibm.com

Email requests are answered during normal business hours.
Requests received outside of normal business hours are answered the next business day.

Normal Business Hours

Monday through Friday: 7:00 am through 5:00 pm (Mountain Time Zone).

Outside of normal business hours, technical support calls will be managed according to the guidelines shown below:

General Guidelines	Priority	Maximum Initial Response and Assessment
After business hours: **Voice mail messages** will be returned in the order they are received. Priority is assigned at that time. **Email** requests received outside of business hours will be assigned a priority level the following business day.	**Critical Priority** Multiple users cannot access or use major product functionality	Within 4 hours
	High Priority Missing or inaccurate data or functionality	Within 1 business day
	Medium Priority One user cannot access or use major product functionality	Within 2 business days
	Low Priority General questions or enhancement requests	Within 5 business days

TOTAL SUPPORT SOLUTIONS

We stand behind our products and our customers and believe that the *total* customer-experience is what differentiates us from the competition. Our total support solution offers top-notch service, training, and support to ensure you are able to realize all the benefits our products offer.

As part of our total support solution we will:

- **Provide flexible training** opportunities, such as webinars, on-site classes, unit-to-unit specialized training, eLearning, and more, to help you and all users at your site stay current on IBM Micromedex solutions.

- Solve questions and issues promptly with our **24/7 technical support**

- **Ask you for your input** on how we can continue to improve our products and services

- **Make it easy to do business with us** - on all fronts

Ask your Client Success Manager or Sales Executive how we can help you**.**

CHAPTER 1: INTRODUCTION

If your business requires pricing and descriptive information for prescription and over-the-counter drugs, the dynamic and comprehensive IBM Micromedex® RED BOOK®Expanded database is the authoritative source for the knowledge you need. It is comprised of nearly 200,000 line items with detailed information about health-care products—including the following:

- Prescription pharmaceuticals
- Over-the-counter pharmaceuticals
- Chemicals used for compounding
- Medical devices
- Medical supplies

Every business day, our database analysts input pricing and other NDC-level updates. The information is maintained in a relational database that accommodates a variety of media, formats and update frequencies.

KEY POINTS

The following are some key points about the IBM Micromedex® RED BOOK® Expandeddatabase:

- It includes virtually every drug product approved by the FDA for manufacture and distribution.
- Each product record lists Brand Name, Generic Name, NDC Number, Dosage Form, Strength, Route of Administration, and Package Size.
- Available fields indicate single-source, DESI and repackaged products; controlled substances; maintenance drugs; "Orange Book" codes, which are the FDA's therapeutic equivalence ratings for multi-source products; and CMS J-Codes for establishing and/or validating reimbursement schedules for injectable drugs.
- CPT® Codes[1] and short descriptions for Immune Globulins, Vaccines and Toxoids are included in the J-Code Relational Table.
- The database is updated with new product and/or pricing information more than 65,000 times per year, making it one of the most dynamic and comprehensive of its kind.
- NDC numbers are maintained in "5-4-2" and "Standard 10" formats; if a number changes, the database supplies both the new and old NDC.

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1. CPT copyright 2017 American Medical Association. All rights reserved.

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

CPT is a registered trademark of the American Medical Association.

- Unique numbering systems are available to assist in the identification and comparison of products with common generic ingredients, formulations, and therapeutic classifications.

KNOWLEDGE BASE

Similar to the other drug information systems, the IBM Micromedex® RED BOOK®Expanded database is a rapidly evolving knowledge base. Current uses for the database include the following:

- Billing
- Claims adjudication
- Retrospective analysis and auditing
- Establishing and maintaining reimbursement levels
- Prescription pricing analysis
- Establishing and managing drug formularies
- Utilization review and cost containment
- Market analysis
- Competitive analysis
- Forecasting
- Pricing research

IBM Micromedex® RED BOOK® subscribers may choose from the ***Expanded***, ***Select***, ***Extra***, or ***Advanced*** formats.

- The ***Expanded*** format contains all available data fields in each product record.
- The ***Select*** format provides a subset of selected data fields.
- The ***Extra*** format features over 100 fields of prices and descriptions and includes J-Code supporting tables.
- The ***Advanced*** format has all of the information contained in ***Expanded*** and ***Extra*** as well as, UltiMedex Code, Script ID, Composite Generic ID, Composite Size ID, and Generic Pricing.

Files are delivered in fixed ASCII format via an Internet download or CD-ROM.

CHAPTER 2: DATABASE STRUCTURE

The initial delivery of the IBM Micromedex® RED BOOK®Expanded database is accomplished via a master file containing nearly 200,000 product records, consisting of both active and deactivated records. Subsequent updates include all new records and records where there have been changes to any of the data elements. These periodic updates to add, change, or deactivate records in the file are delivered according to the Update frequency chosen by the customer—Quarterly, Monthly, or Weekly.

The Master File contains a separate record for each NDC in the database. The Expanded format record is divided into over 100 fields, depending on the types of pricing that apply. When the information in any of these fields changes, a revised copy of the entire record is transcribed to both the Master File and updates, then made available to all database users according to their update frequencies.

Updates contain copies of all records that have changed since production of the preceding update, plus all new records, records that have been reactivated, and all records flagged for deactivation.

Both the Select and Expanded Formats are available in DOS based files. The DOS-based files will contain "DOS" within the file name. For programming purposes, the end of record markers are as follows:

> DOS   - <CR> <LF>   carriage return, line feed

RECORD SEGMENTS

Each record contains five major segments. The IBM Micromedex® RED BOOK® Expanded database supplies additional pricing, historical, descriptive, and other comparative information. The segments are:

- Record Maintenance Segment
- NDC Segment
- Product Description Segment
- Formulary Management Segment
- Price Data Segment

Record Maintenance Segment

The Maintenance Segment determines whether the record will be used to update an existing record, or will be added, deactivated, or reactivated in the master file.

NDC Segment

The NDC Segment includes the current NDC number and, if changed, the previous one, in both 5-4-2 and Standard 10 format. Codes are used to indicate the original format employed by the manufacturer.

Product Description Segment

The Product Description Segment contains a wealth of information, including the product's dosage form, strength, route of administration, and package size. Also found here is the product's sales-volume ranking based on number of prescriptions dispensed, as well as fields indicating Orange Book code, controlled substance classification, and DESI status. Products may also be denoted as unit-dose, single-source, or maintenance drugs through special indicators appearing on the record.

Formulary Management Segment

The Formulary Management Segment includes unique numbering systems to identify products with common generic ingredients, generic formulations, and therapeutic classifications. It allows comparisons within and across classes.

Price Data Segment

The Price Data Segment provides the current, previous, and second previous prices in as many as four of the following pricing categories:

- Average Wholesale Price (AWP)
- Wholesale Acquisition Cost (WAC)
- Direct Price (DP)
- Federal Upper Limit Price (FUL)
- Suggested Retail Price (SRP)

All prices are expressed in package and unit terms, and each bears an effective date. If a numeric price field does not contain in value, it will be output as 0.0, with the correct number of significant digits. If the unit price of a product is greater than $999,999.99, the field will be output as "0" but will contain the correct package price. In this situation, the unit price will need to be calculated as described in Chapter 5: Unit Price Calculations.See Chapter 6: Field Descriptions for content descriptions of each field in the master database, as well as keys to the various codes employed. See Chapter 4: NDC Overview for an explanation of the protocols used to standardize NDC numbers and a description of the process used to convert U.S. package sizes into metric units.

FILE RELATIONSHIP DIAGRAM

The main database files and supporting tables are illustrated in the diagram on the following page. The supporting tables are shaded.

File Relation Diagram for IBM Micromedex® RED BOOK®™ Expanded
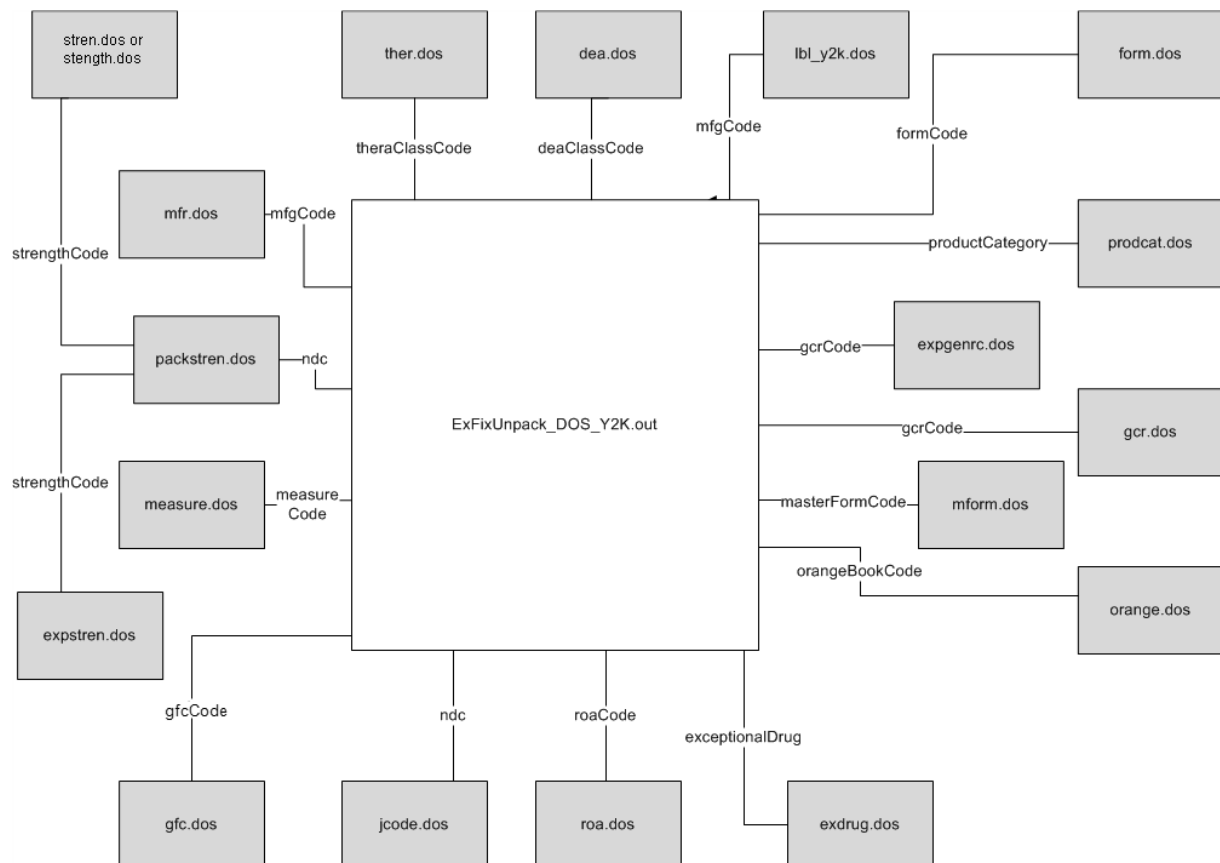
Lookup Tables / Files:

- dea.dos
- exdrug.dos
- expgenrc.dos
- expstren.dos
- form.dos
- gcr.dos
- gfc.dos
- jcode.dos
- lbl_y2k.dos
- mfr.dos

- mform.dos
- measure.dos
- orange.dos
- prodcat.dos
- packstren.dos
- roa.dos
- stren.dos
- strength.dos

ther.dos

CHAPTER 3: RECORD LAYOUTS

CONVENTIONS AND STANDARDS FOR RECORD LAYOUTS

This manual uses the following conventions and standards for record layouts:

- Pad Value is blank, unless otherwise specified.

- Nulls values are all blanks.

- Character (Type C) fields are Left Justified and contain only letters and special characters such as a decimal point or comma.

- Alpha/Numeric (Type AN) fields are Left Justified and contain letters and numbers.

- Numeric (Type N) fields are Right Justified and assumed to be positive values and contain only numbers.

- Date (Type D) fields are Right Justified and in the Format mm/dd/yyyy.

- Decimal (Type DP) fields have discreet decimal points, are Right Justified, and the precision value is enclosed in parentheses and included in the total field length. One byte is added to the length of a Decimal field to hold the decimal point ('.').

- Primary Keys are in boldface type

- Element formats are described using the following nomenclature:

Format	Meaning		
X(9)	X = alpha/numeric	Example	
X(9)	The number within the parentheses is the length of the element.	X(9)	This is an alpha/numeric element with a length of nine.
9(4)	9 = numeric	Example	
9(4)	The number within the parentheses is the length of the element.	9(4)	This is a numeric element with a length of four.

Note: Fields noted as "filler" are for future IBM Watson Health use. Develop your application so that the future use of this field does not affect your application until the time that you choose to implement these fields.

IBM Watson Health may add additional tables to the product in the future. Develop your application so that the addition of tables does not affect your application until the time that you choose to implement the data within these tables.

IBM Micromedex® RED BOOK®Expanded Master Record Layout

Note: Beginning on **December 2, 2016**, the layout details highlighted below in red will take effect. These changes will be delivered in new files named *ExFixUnpack_DOS_Y2K_new.out* or *ExFixUnpack_Y2K_new.out,* depending on your subscription. The old format will continue to be delivered until March 2, 2017 in the original files named *ExFixUnpack_DOS_Y2K.out* or *ExFixUnpack_Y2K.out,* depending on your subscription. The name of the deliverable that you download will remain the same. See Appendix A on page 77. These changes are being made to increase the field size of AWP and WAC pricing fields.

REF	Field Name	Byte Size	Data Type	Start Position	End Position
1	Record Change Indicator (Activity Indicator) (recordChange)	1	A/N	1	1
2	Record Change Date (recordChangeDate)	8	N	2	9
3	Last Price Change Date (priceChangeDate)	8	N	10	17
4	Add Indicator (addFlag)	1	A/N	18	18
5	Add Date (addDate)	8	N	19	26
6	Deactivate Indicator (deactivateFlag)	1	A/N	27	27
7	Deactivate Date (deactivateDate)	8	N	28	35
8	Reactivate Indicator (reactivateFlag)	1	A/N	36	36
9	Reactivate Date (reactivateDate)	8	N	37	44
10	Filler (filler1)	1	****	45	45
11	Previous NDC AWP Effective Date (prev_ndcAwpEffDate)	8	N	46	53
12	Previous NDC AWP Package Price (prev_ndcAwpPackPrice)	8	N	54	61
13	Previous NDC Discontinuation Date (prev_ndcDiscDate)	8	N	62	69
14	NDC 5-4-2 Format (ndc)	13	A/N	70	82
15	Filler (filler2)	2	****	83	84
16	NDC Original Configuration Code (ndcOrigConfig)	1	A/N	85	85
17	NDC Standard 10 Format (ndc10)	10	A/N	86	95
18	NDC Change Flag (ndcChangeFlag)	1	A/N	96	96
19	Previous NDC in 5-4-2 Format (prev_ndc)	13	A/N	97	109
20	Previous NDC Original Configuration Code (prev_ndcConfig)	1	A/N	110	110
21	Previous NDC Standard 10 Format (prev_ndc10)	10	A/N	111	120
22	Route of Administration Code (roaCode)	2	A/N	121	122
23	Master Form Code (masterFormCode)	3	A/N	123	125
24	Product Name (productName)	50	A/N	126	175
25	Additional Description (additionalDesc)	25	A/N	176	200
26	Manufacturer Name (mfgNameLong)	35	A/N	201	235

REF	Field Name	Byte Size	Data Type	Start Position	End Position
27	Product Category Code (productCategory)	2	A/N	236	237
28	Solid/Liquid Indicator (solidLiquid)	1	A/N	238	238
29	Form Code (formCode)	3	A/N	239	241
30	Metric Size (metricSize)	20	A/N	242	261
31	Strength (strengthName)	25	A/N	262	286
32	Orange Book Code (orangeBookCode)	3	A/N	287	289
33	Filler (filler3)	1	****	290	290
34	Orange Book Standard Flag (orangeBookStdFlag)	1	A/N	291	291
35	Unit Dose Flag (unitDoseFlag)	1	A/N	292	292
36	Dispensing Unit Flag (dispensingUnitFlag)	1	A/N	293	293
37	Package Size (Solid Size) (packageSize)	5	A/N	294	298
38	Package Quantity Code (packageQtyCode)	3	A/N	299	301
39	Product Weight/Volume (Liquid Size) (productSize)	13	A/N	302	314
40	Measure Code (measureCode)	1	A/N	315	315
41	Filler (filler4)	4	****	316	319
42	Top Volume Ranking (topVolumeRank)	3	A/N	320	322
43	Single Source Indicator (singleSourceFlag)	1	N	323	323
44	Maintenance Drug Indicator (maintenanceDrugFlag)	1	A/N	324	324
45	Exceptional Drug Indicator (exceptionalDrug)	2	A/N	325	326
46	DEA Class Code (deaClassCode)	5	A/N	327	331
47	Filler (filler5)	1	****	332	332
48	Filler (filler6)	3	****	333	335
49	DESI Drug Indicator (desiDrugFlag)	1	A/N	336	336
50	DESI Effective Date (desiEffectiveDate)	8	N	337	344
51	Therapeutic Class Code (theraClassCode)	10	A/N	345	354
52	Generic Class Code (genericClassCode)	8	N	355	362
53	Generic Cross Reference Code (GCR) (gcrCode)	6	N	363	368
54	Generic Formulation Code (GFC) (gfcCode)	6	N	369	374
55	Standard Package Size (stcPackageSize)	8	N	375	382
56	Standard Unit of Measure (unitOfMeasure)	2	C	383	384
57	Manufacturer Code (MCode) (mfgCode)	6	N	385	390
58	Wholesale Acquisition Price (WAC) Start Indicator (wacStartFlag)	2	A/N	391	392
59	Current WAC Package Price (wacPPrice)	8	N	393	400
60	Current WAC Unit Price (wacUPrice)	11	N	401	411
61	Current WAC Effective Date (wacEffDate)	8	N	412	419
62	First Previous WAC Package Price (wac1prePPrice)	8	N	420	427

REF	Field Name	Byte Size	Data Type	Start Position	End Position
63	First Previous WAC Unit Price (wac1preUPrice)	11	N	428	438
64	First Previous WAC Effective Date (wac1preEffDate)	8	N	439	446
65	Second Previous WAC Package Price (wac2prePPrice)	8	N	447	454
66	Second Prevous WAC Unit Price (wac2preUPrice)	11	N	455	465
67	Second Previous WAC Effective Date (wac2preEffDate)	8	N	466	473
68	Filler (filler7)	3	****	474	476
69	Filler (filler8)	2	****	477	478
70	Filler (filler9)	2	****	479	480
71	Average Wholesale Price (AWP) Start Indicator (awpStartFlag)	2	A/N	481	482
72	Current AWP Package Price (awpPPrice)	8	N	483	490
73	Current AWP Unit Price (awpUPrice)	11	N	491	501
74	Current AWP Effective Date (awpEffDate)	8	N	502	509
75	First Previous AWP Package Price (awp1prePPrice)	8	N	510	517
76	First Previous AWP Unit Price (awp1preUPrice)	11	N	518	528
77	First Previous AWP Effective Date (awp1preEffDate)	8	N	529	536
78	Second Previous AWP Package Price (awp2prePPrice)	8	N	537	544
79	Second Previous AWP Unit Price (awp2preUPrice)	11	N	545	555
80	Second Previous AWP Effective Date (awp2preEffDate)	8	N	556	563
81	Direct Price (DP) Start Indicator (dpStartFlag)	2	A/N	564	565
82	Current DP Package Price (dpPPrice)	7	N	566	572
83	Current DP Unit Price (dpUPrice)	9	N	573	581
84	Current DP Effective Date (dpEffDate)	8	N	582	589
85	First Previous DP Package Price (dp1prePPrice)	7	N	590	596
86	First Previous DP Unit Price (dp1preUPrice)	9	N	597	605
87	First Previous DP Effective Date (dp1preEffDate)	8	N	606	613
88	Second Previous DP Package Price (dp2prePPrice)	7	N	614	620
89	Second Previous DP Unit Price (dp2preUPrice)	9	N	621	629
90	Second Previous DP Effective Date (dp2preEffDate)	8	N	630	637
91	Federal Upper Limit Price (FUL) Start Indicator (fulStartFlag)	2	A/N	638	639
92	Current FUL Package Price (fulPPrice)	7	N	640	646
93	Current FUL Unit Price (fulUPrice)	9	N	647	655
94	Current FUL Effective Date (fulEffDate)	8	N	656	663

REF	Field Name	Byte Size	Data Type	Start Position	End Position
95	First Previous FUL Package Price (fulprePPrice)	7	N	664	670
96	First Previous FUL Unit Price (fulpreUPrice)	9	N	671	679
97	First Previous FUL Effective Date (fulpreEffDate)	8	N	680	687
98	Second Previous FUL Package Price (ful2prePPrice)	7	N	688	694
99	Second Previous FUL Unit Price (ful2preUPrice)	9	N	695	703
100	Second Previous FUL Effective Date (ful2preEffDate)	8	N	704	711
101	Suggested Retail Price (SRP) Start Indicator (srpStartFlag)	2	A/N	712	713
102	Current SRP Package Price (srpPPrice)	7	N	714	720
103	Current SRP Unit Price (srpUPrice)	9	N	721	729
104	Current SRP Effective Date (srpEffDate)	8	N	730	737
105	First Previous SRP Package Price (srp1prePPrice)	7	N	738	744
106	First Previous SRP Unit Price (srp1preUPrice)	9	N	745	753
107	First Previous SRP Effective Date (srp1preEffDate)	8	N	754	761
108	Second Previous SRP Package Price (srp2prePPrice)	7	N	762	768
109	Second Previous SRP Unit Price (srp2preUPrice)	9	N	769	777
110	Second Previous SRP Effective Date (srp2preEffDate)	8	N	778	785

Total Record Size (Bytes / Record):   785

SUPPORTING TABLES

To keep your system current with data values and associated descriptions, the following supporting tables will be included with your master file and each subsequent update when changes in pertinent information require a change to a table. Each file is in ASCII format, with vertical bar (|) as the field delimiter. The following tables are available.

DEA CLASS CODE TABLE (DEA.DOS)

Data Element	Type	Justification/ Pad Value	Maximum Length
deaClassCode	A/N	L	5
deaClassDesc	A/N	L	30

Text File Example:

```
CIII|Schedule III
```

EXCEPTIONAL DRUG INDICATOR TABLE (EXDRUG.DOS)

	Type	Justification/ Pad Value	Maximum Length
exceptionalDrug	C	L	2
exceptionalDrugDesc	C	L	20

Text File Example:

```
50|Genetically Engineered Entity
```

EXPANDED GENERIC CROSS REFERENCE (GCR) CODE TABLE (EXPGENRC.DOS)

	Type	Justification/ Pad Value	Maximum Length
gcrCode	N	R	6
gcrExpName	C	L	50

Text File Example:

```
046914|Acetaminophen/Aspirin/Caffeine/Salicylamide
```

Note: The Expanded Generic Cross Reference Code table provides the full string of ingredient names without any constraints due to number of ingredients or characters.

EXPANDED PRODUCT STRENGTH CODE TABLE (EXPSTREN.DOS)

	Type	Justification/ Pad Value	Maximum Length
strengthCode	N	R	7
strengthExpName	C	L	25

Text File Example:

```
2002239|110 MG-162 MG-32.4 MG-152 MG
```

Note: The Expanded Product Strength Code table provides the full string of ingredient strengths without any constraints due to number of ingredients or characters.

FORM CODE TABLE (FORM.DOS)

	Type	Justification/ Pad Value	Maximum Length
formCode	C	L	3
masterFormCode	C	L	3
formDesc	C	L	55

Text File Example:

```
ACC|ACC|Accessory
AER|AER|Aerosol Liquid
ARO|ARO|Aerosol Powder
```

GENERIC CROSS REFERENCE (GCR) CODE TABLE (GCR.DOS)

	Type	Justification/ Pad Value	Maximum Length
gcrCode	N	R	6
gcrName	C	L	50

Text File Example:

```
000002|Device
001700|Aspirin/Caffeine/Phenacetin
003370|Acacia
003640|Acebutolol Hydrochloride
```

GENERIC FORMULATION (GFC) CODE TABLE (GFC.DOS)

	Type	Justification/ Pad Value	Maximum Length
gfc	N	R	6
gfcMasterCode	N	R	6
gcrCode	N	R	6
formCode	A/N	L	3
strengthCode	N	R	7
roaCode	A/N	L	2
gfcDeact	C	L	1

Text File Example:

```
100002|100002|003640|CAP|1006120|PO|A
100003|100003|003640|CAP|1009330|PO|A
100004|100004|004046|CAP|2000274|PO|A
100007|100007|004050|TAB|1008060|PO|A
100008|100008|004050|TAB|1008090|PO|A
```

J-CODE RELATIONAL TABLE* (JCODE.DOS)

	Type	Justification/ Pad Value	Maximum Length
J_CODE	C	L	5
J_CODE_Desc	C	L	300
ndc	C	L	13
PRODUCT_NAME	C	L	55

Text File Example with CPT® code[1]:

```
90705|MEASLES VACCINE SC|00006458900|ATTENUVAX
90705|MEASLES VACCINE SC|00006470900|ATTENUVAX
90705|MEASLES VACCINE SC|00403369718|ATTENUVAX
90705|MEASLES VACCINE SC|00403420118|ATTENUVAX
90705|MEASLES VACCINE SC|54569236700|ATTENUVAX
90705|MEASLES VACCINE SC|54569253100|ATTENUVAX
```

- -

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LABELER CODE TABLE (LBL_Y2K.DOS)

	Type	Justification/ Pad Value	Maximum Length
mfgCode	C	L	6
labelerCode	C	L	5
rebateStatus	N	R	1
rebateEffectiveDate	D	R	8
rebateTerminationDate	D	R	8

The Labeler Code table correlates manufacturers with their appropriate labeler code(s). The labeler code is a five-digit number that corresponds with the first five characters in the NDC number.

This table can also be used to identify manufacturers that are participants in the Medicaid Drug Rebate program. The Omnibus Budget Reconciliation Act of 1990 (OBRA '90) and amendment of 1993 mandated that all manufacturers, in exchange for their products to be eligible for Medicaid reimbursement at the retail level, must enter into a rebate agreement with the Department of Health and Human Services (HHS) on behalf of the states. The labeler code is the basis for designation of Medicaid Drug Rebate program participants.

*Rebate Status: Indicates whether the manufacturer is currently participating in the Medicaid Drug Rebate Program. Valid values are:

- A '1' (one) in this field means the manufacturer is a participant.
- A '0' (zero) in this field means the manufacturer is not currently an active participant.

**Program Effective Date: Provides the most recent effective date that the manufacturer became a participant in the Medicaid Drug Rebate Program, employing the Gregorian calendar YYYY/MM/DD format.

***Program Termination Date: Provides the most recent termination date that the manufacturer withdrew from the CMS Medicaid Drug Rebate Program, employing the Gregorian calendar YYYY/MM/DD format.

Text File Example:

```
100174|57267|0|01/01/1991|07/01/2007
```

MANUFACTURER TABLE (MFR.DOS)

	Type	Justification/ Pad Value	Maximum Length
mfg_name_long	C		6
mfgName	C		35
mfgCode	N		20
address1	C		80
address2	C		50
city	C		30
state	C		2
ZIP	C		15
phoneAreaCode	N		3
phoneNumber	N		7
faxAreaCode	N		3
faxNumber	N		7

Text File Example:

```
PF3 B's Limited|3 B's Limited|100972|14434 WEST 100TH
STREET||LENEXA|KS|66215|888|4388102|913|5418119

3M Consumer Health Care|3M Consumer|100579|3M CENTER-BLDG 275-5W-05|P.O. BOX
33275|ST.
```

MASTER FORM CODE TABLE (MFORM.DOS)

	Type	Justification/ Pad Value	Maximum Length
masterFormCode	A/N	L	3
masterFormDesc	C	L	30

Text File Example:

```
ACC|Accessory
AER|Aerosol Liquid
ARO|Aerosol Powder
```

MEASURE CODE TABLE (MEASURE.DOS)

	Type	Justification/ Pad Value	Maximum Length
measureCode	A/N	R	1
measureDesc	C	L	40

Text File Example:

```
|each
B|ml(Milliliter)
C|gm(Grams)
```

ORANGE BOOK CODE TABLE (ORANGE.DOS)

	Maximum Length	Type	Justification/ Pad Value	Maximum Length
orangeBookCode	3	A/N	L	3
orangeBookDesc	30	C	L	37

Text File Example:

```
|NO CODE
AA|No BioEq Prob In Std Dose Form
AB|Meets BioEq Requirements
AB1|Meets BioEq to AB1 Rated Drugs
```

PRODUCT CATEGORY CODE TABLE (PRODCAT.DOS)

	Type	Justification/ Pad Value	Maximum Length
productCategory	A/N	L	2
productCatDesc	C	L	55

Text File Example:

```
01|Rx-only/Trade or Brand Name
02|Rx-only/Generic
03|Surgical/Device
```

PACKAGE ID/EXPANDED STRENGTH CODE LINKING TABLE (PACKSTREN.DOS)

	Type	Justification/ Pad Value	Maximum Length
packageID	N	R	9
ndc	A/N	L	11
strengthCode	N	R	7

Text File Example:

```
10049780|00002032702|1003720
10049783|00002032902|1007000
10049786|00002032903|1007000
10049794|00002034602|1010620
```

ROUTE OF ADMINISTRATION CODE TABLE (ROA.DOS)

	Type	Justification/ Pad Value	Maximum Length
roaCode	A/N	L	2
roaName	C	L	20

Text File Example:

```
DE|Dental
EP|Epidural
IC|Intracavernosal
```

STRENGTH CODE TABLES

There are three tables that can be used to identify the strength of the ingredients in a product: EXPSTREN.DOS, STREN.DOS and STRENGTH.DOS.

The table STREN.DOS contains strengths for products with three or fewer ingredients listed in a maximum of 25 characters.

The table STRENGTH.DOS contains the same two fields as the table STREN.DOS and has the same constraints, but it contains an additional field (StrengthNameLong) which spells out "Units" and "International Units." Both of these tables contain many blank values because the associated products contain more than three ingredients or because the StrengthName or StrengthNameLong exceeds the 25-character limit.

If you need strength descriptions for products that contain more than three ingredients and do not have character-length limitations, use the Expanded Strength descriptions in the table EXPSTREN.DOS.

STRENGTH CODE TABLE (STREN.DOS)

Data Element	Type	Justification/ Pad Value	Maximum Length
strengthCode	N	R	7
strengthName	A/N	L	25

Text File Example:

```
0001209|
1000010|0.005%
1000020|0.01 MG/ML
```

STRENGTH CODE TABLE (STRENGTH.DOS)

	Type	Justification/ Pad Value	Maximum Length
strengthCode	N	R	7
strengthName	A/N	L	25
StrengthNameLong	C	L	100

Text File Example:

```
1002120|1500 MG-200 IU|1500 MG-200 INTERNATIONAL UNITS
1002140|1600 MG|1600 MG
1002150|1 BILLION U|1 BILLION UNITS
```

THERAPEUTIC CLASS CODE TABLE (THER.DOS)

	Type	Justification/ Pad Value	Maximum Length
theraClassCode	A/N	L	10
theraClassDesc	C	L	55

Text File Example:

0401010550|Astemizole & Comb.

0401011000|Azatadine & Comb.

0401011500|Brompheniramine & Comb.

0401012500|Carbinoxamine & Comb.

0401012600|Cetirizine & Comb.

CHAPTER 4: NDC OVERVIEW

BEGINNING STAGES

The National Drug Code system provided a standard way of identifying drug products, using a number with three component parts:

- Labeler (manufacturer) number
- Product number
- Package size number

Together, these components form a unique number for every strength, dosage form, and package size of a drug.

In 1967, when the NDC systems was first initiated, the number was ten digits long to match the total length of other numbering schemes, such as the Universal Product Code (UPC). Four digits were assigned to the labeler (manufacturer) code, four to the product code, and two to the package code. The number was originally numeric, but for a short time, alpha characters were allowed. Alpha characters are now no longer acceptable but may exist on historical, inactive records.

In the beginning of NDC registration, the FDA assigned a four–digit number to all manufacturers (labelers) who voluntarily applied to participate. The labelers assigned four digits to each strength and dosage form of the drug, and two digits to each package size. However, the last two digits were not standardized, which meant that any two labelers might use completely different codes to indicate the same package size.

All NDC numbers followed the 4-4-2 configuration: Four positions for the manufacturer, four for the product, and two for the package size. Presently, however, this configuration has changed.

PRESENT DAY

In 1971, the Federal Government made the NDC system mandatory for all labelers who marketed prescription drugs.

Note: Assignment of NDC numbers to over-the-counter drug products remains voluntary, but is encouraged by the FDA.

Because the Federal Government mandated that all labelers of Rx drugs participate in the NDC system, a four–digit labeler number could not accommodate the larger group of companies. Therefore, the FDA began to assign five–digit numbers to labelers. Labelers who had a five–digit number were given two options of using:

- Three digits as a product number and two digits as a package–size code, or
- Four digits for the product and one for the package size

This method kept the total length of the NDC number at its original ten digits.

NDC CONFIGURATIONS

The following three configurations are in use:

- 4-4-2 Configuration
- 5-3-2 Configuration
- 5-4-1 Configuration

Since the length of all three components can vary, they are always defined by dashes. The dashes prevent confusion, and assure that each number remains unique.

Claim forms, such as the NCPDP Universal Claim Form, provide eleven positions for entry of the NDC number. The eleven positions are the 5-4-2 format that standardized entry of any NDC configuration. In 5-4-2, each component is large enough to hold the maximum number of digits allotted in any of the official configurations. However, one component is one digit longer than necessary and the excess position is filled with a zero.

The extra zero is always inserted immediately preceding the official number's short component. Placement of the zeros is shown in the following configuration: 4–4–2, 5–3–2, and 5–4–1.

Converting the 4–4–2 Configuration

When the official NDC number has only four digits in its first (labeler) component, add a zero at the beginning of the five–position labeler field. For example:

Enter 1234-1234-12 as: 01234-1234-12

Converting the 5–3–2 Configuration

When the official NDC number has only three digits in its second (product) component, add a zero at the beginning of the four–position package–size field. For example:

Enter 12345-123-12 as: 12345-0123-12

Converting the 5–4–1 Configuration

When the official NDC number has only one digit in its third (package size) component, add a zero at the beginning of the two–position package–size field. For instance:

Enter 12345-1234-1 as: 12345-1234-01

When converting official numbers to 5-4-2 format, ignore any alpha characters that may be printed on the package immediately preceding the numerals.

UPC AND HRI CONFIGURATION

It was determined that a similar need existed in the marketplace to format the 10-digit Universal Product Code (UPC) and 10-digit Health-Related Item (HRI) Code to 11-digits. IBM Watson Health has followed the following convention.

Configuration

UPC

- 5-5 – 12345-12345 is converted to 12345-0123-45
- 6-4 – 123456-1234 is converted to 12345-6123-40
- 4-6 – 1234-123456 is converted to 01234-1234-56

HRI

- 4-6 – 1234-123456 is converted to 01234-1234-56
- 5-5 – 12345-12345 is converted to 12345-0123-45

CHAPTER 5: UNIT PRICE CALCULATIONS

Each drug record in the IBM Micromedex® RED BOOK®Expanded database contains up to four of the following price quotations:

- Average Wholesale Price (AWP)
- Manufacturer's Direct Price (DP) or Wholesale Acquisition Cost (WAC)
- Federal Upper Limit Price (FUL)
- Suggested Retail Price (SRP)

Each quotation is expressed in per-package (or lot) and per-unit terms.

The unit price is determined by dividing the per-package price by the total metric size of the package, if applicable, or by the total number of items, such as capsules or tablets that the package contains. Unit prices thus can be denoted three ways:

1. Price per gram (for products measured by weight, such as powders and ointments).
2. Price per milliliter (for products measured by liquid volume).
3. Price each or apiece (for products sold by the item, such as tablets, lozenges, and suppositories).

For products measured by weight or volume, the following factors are used in converting to grams and milliliters.

LIQUID	DRY
1 cc = 1 ml	4 drams = 15 gm
1 oz = 30 ml	1 oz = 30 gm
1 pt = 480 ml	1 lb = 454 gm
1 qt = 960 ml	
1 gal = 3840 ml	

The following formulas are used to calculate unit prices. The values employed for package-quantity per lot are always either one or a dozen.

Formula 1 (for products sold by the item where standard_unit_of_measure = EA)

Unit Price = Package_Price/Package_Size

> Example: Unit Price = $22.66/100EA = $0.22660/EA

> Example: Unit Price = $64.00/250EA = $0.25600/EA

Formula 2 (for single products sold by the weight or volume where standard_unit_of_measure = GM or ML)

Unit Price = Package_Price/Product_Size

> Example: Unit Price = $82.75/473ML = $0.17495/ML

> Example: Unit Price = $2.41/60GM = $0.04017/GM

Formula 3 (for packages of multiple containers of the products where standard_unit_of_measure = GM or ML)

Unit Price = Package_Price/(Package_Size x Standard_Package_Size)

Example: Unit Price = $182.11/(25 x 2ML) = $3.64220/ML

Example: Unit Price = $1179.97/(5 x 3GM) = $78.66467/GM

Note: Customers who also subscribe to IBM Micromedex® RED BOOK® Online® may notice a discrepancy for some products between the AWP in IBM Micromedex® RED BOOK® Online and IBM Micromedex® RED BOOK®™ Expanded. This is due to the rounding method used to calculate the AWP. Both numbers are accurate to the thousandths decimal place with the IBM Micromedex® RED BOOK® Online AWP being slightly more precise beyond that. See the following example:
IBM Micromedex® RED BOOK® Expanded presents a unit Price of 6,998.94189
IBM Micromedex® RED BOOK® Online presents a unit price of 6,998.94167

UNIT PRICES GREATER THAN $999,999.99

Due to current field sizes, if the unit price of a product is greater than $999,999.99, the unit price field will be output as "0.00000", but the package price field will contain the correct package price. In this situation, the unit price will need to be calculated as noted above.

CHAPTER 6: FIELD DESCRIPTIONS

RECORD MAINTENANCE DATA

RECORD CHANGE INDICATOR (ACTIVITY INDICATOR) (RECORDCHANGE)

FIELD NAME	Record Change Indicator (Activity Indicator) (recordChange)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	01

Description: In the Expanded format, presence of a "C" in this field indicates a change in the product record.

RECORD CHANGE DATE (RECORDCHANGEDATE)

FIELD NAME	Record Change Date (recordChangeDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	02

Description: Gives the date of the most recent change in the product record, employing the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format.

LAST PRICE CHANGE DATE (PRICECHANGEDATE)

FIELD NAME	Last Price Change Date (priceChangeDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	03

Description: Gives the date of the most recent price change in the product record, employing the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format.

ADD INDICATOR (ADDFLAG)

FIELD NAME	Add Indicator (addFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	04

Description: Presence of an "A" in this field indicates that the product record is to be added to the IBM Micromedex® RED BOOK® Expanded database.

ADD DATE (ADDDATE)

FIELD NAME	Add Date (addDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	05

Description: Gives effective date of the product record's addition to the IBM Micromedex® RED BOOK® Expanded database, employing the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format.

DEACTIVATE INDICATOR (DEACTIVATEFLAG)

FIELD NAME	Deactivate Indicator (deactivateFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	06

Description: Presence of a "D" in this field indicates that the product is deactivated/ inactive and the record is deactivated from the current IBM Micromedex® RED BOOK® Expanded database.

DEACTIVATE DATE (DEACTIVATEDATE)

FIELD NAME	Deactivate Date (deactivateDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	07

Description: Gives the effective date of the product record's deactivation, employing the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format.

REACTIVATE INDICATOR (REACTIVATEFLAG)

FIELD NAME	Reactivate Indicator (reactivateFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	08

Description: Presence of an "R" in this field indicates that the product record's status is to be changed from inactive to active, reinstating it in the current IBM Micromedex® RED BOOK® Expanded database.

REACTIVATE DATE (REACTIVATEDATE)

FIELD NAME	Reactivate Date (reactivateDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	09

Description: Gives the effective date of the product record's reactivation, employing the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format.

FILLER-1 (FILLER1)

ELEMENT NAME	FILLER-1 (filler1)
ELEMENT TYPE	Character
ELEMENT FORMAT	X(50)
RECORD ORDER	10

Description: Reserved for future use.

PREVIOUS NDC - AWP EFFECTIVE DATE (PREV_NDCAWPEFFDATE)

FIELD NAME	Previous NDC - AWP Effective Date (prev_ndcAwpEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	11

Description: Supplies the effective date of the Average Wholesale Price in force immediately prior to the change in NDC. The date is a Year-2000 compliant, Gregorian (YYYYMMDD) format.

.

> **Note:** Beginning on **December 2, 2016**, the element format highlighted in red in the following table will take effect. This change will be delivered in new files named *ExFixUnpack_DOS_Y2K_new.out* or *ExFixUnpack_Y2K_new.out,* depending on your subscription. The old format will continue to be delivered until March 2, 2017 in the original files named *ExFixUnpack_DOS_Y2K.out* or *ExFixUnpack_Y2K.out,* depending on your subscription. The name of the deliverable that you download will remain the same. See Appendix A on page 77. This change is being made to increase the field size for AWP pricing fields.

PREVIOUS NDC AWP PACKAGE PRICE (PREV_NDCAWPPACKPRICE)

FIELD NAME	Previous NDC AWP Package Price (prev_ndcAwpPackPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(6).9(2)
RECORD ORDER	12

Description: Contains the Average Wholesale Price in force immediately prior to the product record's change in NDC.

PREVIOUS NDC - DISCONTINUATION DATE (PREV_NDCDISCDATE)

FIELD NAME	Previous NDC - Discontinuation Date (prev_ndcDiscDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	13

Description: Supplies the date on which the previous NDC was discontinued and the current NDC became effective. The date is a Year-2000 compliant, Gregorian (YYYYMMDD) format.

NDC 5-4-2 FORMAT (NDC)

FIELD NAME	NDC 5-4-2 Format (ndc)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(13)
RECORD ORDER	14

Description:

Supplies the 5-4-2 configuration of the product's current National Drug Code (NDC), Universal Product Code (UPC), or Health-Related Item (HRI) Code, with embedded dashes. The Select extract does not contain hyphens, but the Expanded extract does include hyphens in this field.

If the product carries a Universal Product Code or Health-Related Item number, it is supplied in the NDC Standard 10 Format Field rather than this field.

The three official NDC configurations are converted to 5-4-2 claim-form format as follows:

4-4-2:An extra zero is inserted in the first position of the first component.
Example: 1234-1234-12 becomes 01234-1234-12
5-3-2:An extra zero is inserted in the first position of the second component.
Example: 12345-123-12 becomes 12345-0123-12
5-4-1:An extra zero is inserted in the first position of the third component.
Example: 12345-1234-1 becomes 12345-1234-01

For additional information on the various NDC configurations, see Chapter 4: NDC Overview.

FILLER-2 (FILLER2)

ELEMENT NAME	FILLER-2 (filler2)
ELEMENT TYPE	Character
ELEMENT FORMAT	X(30)
RECORD ORDER	15

Description: Reserved for future use.

NDC ORIGINAL CONFIGURATION CODE (NDCORIGCONFIG)

ELEMENT NAME	NDC Original Configuration Code (ndcOrigConfig)
ELEMENT TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	16

Description: Identifies the original configuration of the product's National Drug Code (NDC), Universal Product Code (UPC), or Health-Related Item (HRI) Code.

The following table lists the codes employed.

Code	Original Configuration
1	NDC 4-4-2
2	NDC 5-3-2
3	NDC 5-4-1
4	Universal Product Code 5-5
5	Health-Related Item 5-5
6	Health-Related Item 4-6
X	Universal Product Code 6-4
Z	Universal Product Code 4-6

NDC STANDARD 10 FORMAT (NDC10)

FIELD NAME	NDC Standard 10 Format (ndc10)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(10)
RECORD ORDER	17

Description:

Supplies the product's current NDC, Universal Product Code, or Health-Related Item number in 10-digit format with no embedded dashes. The original configuration of this number is identified in the NDC Original Configuration Code field.

NDC CHANGE FLAG (NDCCHANGEFLAG)

FIELD NAME	NDC Change Flag (ndcChangeFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	18

Description:

Signals a change in the product's NDC number.

The current number is supplied in the NDC 5-4-2 Format and/or NDC Standard 10 Format field.

The previous number appears in the Previous NDC 5-4-2 Format and/or Previous NDC Standard 10 Format fields.

A "1" in this position indicates a change.

A blank in this position means no change.

PREVIOUS NDC 5-4-2 FORMAT (PREV_NDC)

FIELD NAME	Previous NDC 5-4-2 Format (prev_ndc)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(13)
RECORD ORDER	19

Description:

Supplies the product's previous National Drug Code (NDC), Universal Product Code (UPC), or Health-Related Item (HRI) Code, if any, in 5-4-2 format. An associated record is retained in the IBM Micromedex® RED BOOK® Expanded database.

PREVIOUS NDC ORIGINAL CONFIGURATION CODE (PREV_NDCCONFIG)

FIELD NAME	Previous NDC Original Configuration Code (prev_ndcConfig)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	20

Description: Identifies the original configuration of the product's previous National Drug Code (NDC), Universal Product Code (UPC), or Health-Related Item (HRI) Code.

PREVIOUS NDC STANDARD 10 FORMAT (PREV_NDC10)

FIELD NAME	Previous NDC Standard 10 Format (prev_ndc10)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(10)
RECORD ORDER	21

Description: Supplies the product's previous National Drug Code (NDC), Universal Product Code (UPC), or Health-Related Item (HRI) Code., if any, in 10-digit format with no embedded dashes.
The original configuration of this number is identified in the Previous NDC Original Configuration Code field.

ROUTE OF ADMINISTRATION CODE (ROACODE)

FIELD NAME	Route of Administration Code (roaCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	22

Description: Identifies the product's intake or application method.

The following table lists some codes that may be employed. Access the Route of Administration Code table for a complete list of codes.

Admin Code	Route	Admin Code	Route
	Blank	MM	Mucous Membrane
BC	Buccal	MR	Multiple Routes
DE	Dental	NA	Not Applicable
EP	Epidural	NS	Nasal
IC	Intracavernosal	OP	Ophthalmic
ID	Intradermal	OT	Otic
IH	Inhalation	PL	Intrapleural
IJ	Injection	PO	Oral
IL	Intravesical	PT	Intraperitoneal
IM	Intramuscular	RC	Rectal
IN	Intrathecal	SC	Subcutaneous
IO	Intraocular	SL	Sublingual
IP	Implantation	TD	Transdermal
IR	Irrigation	TP	Topical
IT	Intratracheal	UR	Intraurethral
IU	Intrauterine	VG	Vaginal
IV	Intravenous		

MASTER FORM CODE (MASTERFORMCODE)

FIELD NAME	Master Form Code (masterFormCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(3)
RECORD ORDER	23

Description: Designates the dosage form or the type of medical supply.

The following table lists some codes that may be employed. Access the Master Form Code table for a complete list of codes.

CODE	FORM	CODE	FORM
ACC	Accessory	GEL	Gel/Jelly
AER	Aerosol Liquid (Inhaler)	GER	Granule, Extended Release
APP	Applicator	GFS	Gel Forming Solution (Gel Drop)
ARA	Aerosol Liquid with Adapter (Inhaler)	GRA	Granule
ARO	Aerosol Solid (Inhaler)	GRR	Granule for Reconstitution (Suspension)
BAL	Balm	GUM	Gum
BAN	Bandage	ICR	Insert, Controlled Release
BAR	Bar	IMP	Implant
BEA	Beads	INJ	Injection
BLO	Block	KIT	Kit
C12	Capsule Extended Release, 12 HR	LEA	Leaf
C24	Capsule Extended Release, 24 HR	LIQ	Liquid
CAK	Cake	LOT	Lotion
CAP	Capsule	LOZ	Lozenge/Troche
CAT	Catheter	LUM	Lump
CER	Capsule, Extended Release	NDL	Needle
CHI	Chip	NMA	Enema
CNT	Concentrate	ODT	Orally Disintegrating Tablet
COT	Cotton	OIL	Oil

CODE	FORM	CODE	FORM
COT	Cotton	OIN	Ointment
CRE	Cream	PAD	Pad
CRE	Cream	PAK	Patient Pack
CRY	Crystal	PAS	Paste
CRY	Crystal	PDR	Powder for Reconstitution (Suspension)
CTB	Chewable Tablet	PDS	Powder for Solution
CTB	Chewable Tablet	PEL	Pellet
CTG	Cartridge	PI1	Powder for Injection, 1 Month
CTG	Cartridge	PI3	Powder for Injection, 3 Month
DEV	Device	PI4	Powder for Injection, 4 Month
DEV	Device	PIH	Powder for Inhalation
DEV	Device	PKT	Packet
DIA	Diaphragm	POD	Pod
DIA	Diaphragm	POW	Powder
DIA	Diaphragm	PRO	Prophylactic
DRE	Dressing	PUD	Pudding
DRE	Dressing	SER	Suspension, Extended Release
DSK	Disk	SOA	Soap
DSK	Disk	SOL	Solution
ECC	Enteric Coated Capsule	SPG	Sponge
ECC	Enteric Coated Capsule	SPR	Spray
ECT	Enteric Coated Tablet	SRN	Syringe
ECT	Enteric Coated Tablet	STI	Stick
ELI	Elixir	SUP	Suppository
EMU	Emulsion	SUS	Suspension
FDS	Food, Solid	SWA	Swab
FIL	Film	SYR	Syrup
FLA	Flake	T12	Tablet Extended Release, 12 HR
FOA	Foam	T24	Tablet Extended Release, 24 HR

CODE	FORM	CODE	FORM
GAS	Gas	TAB	Tablet
GAU	Gauze	TAM	Tampon
GEF	Granule, Effervescent (Powder)		

PRODUCT NAME (PRODUCTNAME)

FIELD NAME	Product Name (productName)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(50)
RECORD ORDER	24

Description: Supplies the name given to the product by the manufacturer.

Since each package size of each strength is maintained in the IBM Micromedex® RED BOOK® Expanded database as a separate drug record, this name may appear in several other records.

ADDITIONAL DESCRIPTION (ADDITIONALDESC)

FIELD NAME	Additional Description (additionalDesc)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	x(25)
RECORD ORDER	25

Description:

Provides further information on product characteristics not captured in other data fields.

Included are details of packaging and preparation, such as "dialpak," "fliptop vial," "premixed," and "micronized." Flavors may be listed when applicable. Also shown, when appropriate, is information on package dimensions -- for example, "2 x 5 x 10"—and descriptive material such as "sulfite-free," "refill," and "non-drowsy."

Below is a table describing some of the abbreviations used in this field.

Abbreviation	Explanation
A.F.	Alcohol-free
D.F.	Dye-free
EXT. STR.	Extra Strength
MAX. STR.	Maximum Strength
M.D.V.	Multi-dose vial
P.B.	Piggy-back
S.D.V.	Single-dose vial
S.F.	Sugar-free
U.S.P.	U.S. Pharmacopoeia
U.S.P./N.F.	U.S. Pharmacopoeia/National Formulary

MANUFACTURER NAME (MFGNAMELONG)

FIELD NAME	Manufacturer Name (mfgNameLong)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(35)
RECORD ORDER	26

Description:

Identifies the name of the company that markets the product. The name appearing in this field corresponds to the FDA-registered labeler name identified by the five-digit labeler code on the NDC number. Therefore, names appearing in this field will include distributors and repackagers in addition to original manufacturers.

PRODUCT CATEGORY CODE (PRODUCTCATEGORY)

FIELD NAME	Product Category Code (productCategory)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	27

Description: Access the Manufacturer table to see the complete manufacturer information. Products in the IBM Micromedex® RED BOOK® Expanded database are coded with their prescription and trade-name status. This permits extraction of all records in a particular category, such as prescription generics, or branded OTCs. Products of repackagers are coded separately to accommodate specialized processing.

The following table lists some codes that may be employed. Access the Product Category Code table for a complete list of codes.

CODE	CATEGORY
01	Rx/Brand Name
02	Rx/Generic
03	Surgical/Device
04	Rx/Repackaged Brand Name Product
05	Rx/Branded Generic
06	Cosmetics
07	OTC/Brand Name
08	OTC/Generic
09	OTC/Repackaged
10	Rx/Repackaged Branded Generic Product
11	Rx/Chemical for Compounding

SOLID/LIQUID INDICATOR (SOLIDLIQUID)

FIELD NAME	Solid/Liquid Indicator (solidLiquid)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	28

Description: Indicates the product's composition, and appears in all records.

The following table lists the codes employed.

Code	Composition
S	Solid
L	Liquid

FORM CODE (FORMCODE)

FIELD NAME	Form Code (formCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	x(3)
RECORD ORDER	29

Description: Designates the dosage form or the type of medical supply, with the following codes.

The following table lists some codes that may be employed. Access the Form Code table for a complete code list.

CODE	FORM	CODE	FORM
ACC	Accessory	GEL	Gel/Jelly
AER	Aerosol Liquid (Inhaler)	GER	Granule, Extended Release
APP	Applicator	GFS	Gel Forming Solution (Gel Drop)
ARA	Aerosol Liquid with Adapter (Inhaler)	GRA	Granule
ARO	Aerosol Solid (Inhaler)	GRR	Granule for Reconstitution (Suspension)
BAL	Balm	GUM	Gum
BAN	Bandage	ICR	Insert, Controlled Release
BAR	Bar	IMP	Implant
BEA	Beads	INJ	Injection
BLO	Block	KIT	Kit

CODE	FORM	CODE	FORM
C12	Capsule Extended Release, 12 HR	LEA	Leaf
C24	Capsule Extended Release, 24 HR	LIQ	Liquid
CAK	Cake	LOT	Lotion
CAP	Capsule	LOZ	Lozenge/Troche
CAT	Catheter	LUM	Lump
CER	Capsule, Extended Release	NDL	Needle
CHI	Chip	NMA	Enema
CNT	Concentrate	ODT	Orally Disintegrating Tablet
COT	Cotton	OIL	Oil
COT	Cotton	OIN	Ointment
CRE	Cream	PAD	Pad
CRE	Cream	PAK	Patient Pack
CRY	Crystal	PAS	Paste
CRY	Crystal	PDR	Powder for Reconstitution (Suspension)
CTB	Chewable Tablet	PDS	Powder for Solution
CTB	Chewable Tablet	PEL	Pellet
CTG	Cartridge	PI1	Powder for Injection, 1 Month
CTG	Cartridge	PI3	Powder for Injection, 3 Month
DEV	Device	PI4	Powder for Injection, 4 Month
DEV	Device	PIH	Powder for Inhalation
DEV	Device	PKT	Packet
DIA	Diaphragm	POD	Pod
DIA	Diaphragm	POW	Powder
DIA	Diaphragm	PRO	Prophylactic
DRE	Dressing	PUD	Pudding
DRE	Dressing	SER	Suspension, Extended Release
DSK	Disk	SOA	Soap
DSK	Disk	SOL	Solution
ECC	Enteric Coated Capsule	SPG	Sponge
ECC	Enteric Coated Capsule	SPR	Spray

CODE	FORM	CODE	FORM
ECT	Enteric Coated Tablet	SRN	Syringe
ECT	Enteric Coated Tablet	STI	Stick
ELI	Elixir	SUP	Suppository
EMU	Emulsion	SUS	Suspension
FDS	Food, Solid	SWA	Swab
FIL	Film	SYR	Syrup
FLA	Flake	T12	Tablet Extended Release, 12 HR
FOA	Foam	T24	Tablet Extended Release, 24 HR
GAS	Gas	TAB	Tablet
GAU	Gauze	TAM	Tampon
GEF	Granule, Effervescent (Powder)		

METRIC SIZE (METRICSIZE)

FIELD NAME	Metric Size (metricSize)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	Alpha/Numeric (The format employed is numeric, decimal, 6 digits before, 4 digits after, plus alpha and numeric modifiers.)
RECORD ORDER	30

Description: Indicates in metric units, or by number of items, the total amount of the product contained in the package to which the record pertains. The format employed is numeric, decimal, 6 digits before, 4 digits after, plus alpha and numeric modifiers. This field will not contain any leading spaces – all spaces will occur at the end of the field entry.

If the value in the Product Weight/Volume field is already expressed in metric units and the product is sold one to a package, the Total Metric Quantity field is left blank. If the product is measured by item, as with tablets, capsules, or suppositories, the Package Size is repeated in this field.

For products sold by weight or volume, one to a package, in U.S. measure, the entry in this field is determined as follows.

Product Weight/Volume	Total Metric Size	Metric Size Field Entry
16 oz.	480 ml	000480.0000ML

For products measured in metric units and packaged in multiples, the total amount of the product contained in the package is expressed in this field as the Product Weight/Volume multiplied by Package Size. For

example, if 2 ml ampules are packaged in boxes of 100, the field entry is determined as follows.

Total Metric Size	Metric Size Field Entry
2ml x 100	000002.0000ML x-100

Finally, if a package contains more than one container denoted in U.S. measure, the total amount of the product in the package is expressed as the Product Weight/Volume in metric-equivalent units multiplied by the Package Size. For instance, a package of 50 one-ounce ampules is entered as follows.

Product Weight/Volume	Total Metric Size	Metric Size Field Entry
1 oz.	30 ml x 50	000030.0000ML x-0050

STRENGTH (STRENGTHNAME)

FIELD NAME	Strength (strengthName)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(25)
RECORD ORDER	31

Description: Supplies the strength of the product. Consistent with FDA nomenclature, the order in which strengths are listed corresponds to the alphabetical order of the active ingredients. Please note that for products containing more than three active ingredients, this field is left blank.For combination products, a hyphen separates the individual strengths of the active ingredients. For example, the strength of acetaminophen with codeine is expressed as 325 mg-30 mg.

ORANGE BOOK CODE (ORANGEBOOKCODE)

FIELD NAME	Orange Book Code (orangeBookCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(3)
RECORD ORDER	32

Description: Supplies FDA's therapeutic equivalence code for multi-source drug products, if applicable. "A" codes signify that the product is deemed therapeutically equivalent to other products containing the same active ingredient in an identical amount and dosage form. Codes beginning with "B" indicate that bioequivalence has not been confirmed.

Code	Interpretation
AA	No bioequivalence problems in conventional dosage forms
AB	Meets necessary bioequivalence requirements
AB1	Meets bioequivalence requirement to AB1 rated reference drug
AB2	Meets bioequivalence requirement to AB2 rated reference drug
AB3	Meets bioequivalence requirement to AB3 rated reference drug
AB4	Meets bioequivalence requirement to AB4 rated reference drug
AN	Solution or powder for aerosolization
AO	Injectable oil solution
AP	Injectable aqueous solution
AT	Topical product
BC	Controlled-release tablet, capsule, or injectable
BD	Documented bioequivalence problem
BE	Enteric-coated oral dosage form
BN	Product in aerosol-nebulizer delivery system
BP	Potential bioequivalence problem
BR	Suppository or enema for systemic use
BS	Testing standards are insufficient for determination
BT	Topical product with bioequivalence issues
BX	Insufficient data to confirm bioequivalence
B*	Requires further FDA investigation and review
EE	The entity has been evaluated by the FDA, but a rating is not available for this labeler's product

Products appearing in the Orange Book historically have been limited to those manufacturers holding the original approved new drug application

(NDA) or abbreviated new drug application (ANDA). However, in recognition of the fact that generic products are available from a widespread number of sources, IBM Micromedex® RED BOOK® extends Orange Book ratings to distributors and generic labelers other than the holder of the NDA or ANDA. All ratings applied to such labelers have been directly supplied to IBM Micromedex® RED BOOK® through written certification attesting to the accuracy of the codes supplied.

Recently FDA has added a third character to some Orange Book codes, illustrated as follows:

If two manufacturers market the "same" drug, and there are no bioequivalence studies to confirm that they are substitutable, FDA will assign a "B" rating to both drugs, meaning they cannot be substituted for each other. If a generic manufacturer decides to apply for an ANDA for one of the products, part of the approval process is for FDA to assign an "AB1" rating to one of the reference drugs and "AB2" to the other. This rating is arbitrary and does not reflect preference. The new generic drug, when approved, will have the same rating as the reference drug for which it demonstrated bioequivalence.

FILLER-3 (FILLER3)

ELEMENT NAME	FILLER-3 (filler3)
ELEMENT TYPE	Character
ELEMENT FORMAT	X(54)
RECORD ORDER	33

Description: Reserved for future use.

ORANGE BOOK STANDARD FLAG (ORANGEBOOKSTDFLAG)

FIELD NAME	Orange Book Standard Flag (orangeBookStdFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	34

Description: Marks the product as an "Orange Book Standard" drug, the benchmark to which equivalent generic products are compared during the approval process. Also known as Reference Listed Drugs, Orange Book Standard drugs set the bioequivalence criteria for their generic counterparts.

A "1" this field indicates that the product is an Orange Book Standard. For all other products, the field is blank.

UNIT DOSE FLAG (UNITDOSEFLAG)

FIELD NAME	Unit Dose Flag (unitDoseFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	35

Description: A "1" in this field indicates that the record pertains to a unit-dose container of the product. For all other products, the field is left blank.

DISPENSING UNIT FLAG (DISPENSINGUNITFLAG)

FIELD NAME	Dispensing Unit Flag (dispensingUnitFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	36

Description: Serves as confirmation that the product is dispensed by weight or volume in a single container.

A "1" in this field indicates that the package prices and unit prices in the record are identical. For all other products, the field is left blank.

PACKAGE SIZE (SOLID SIZE) (PACKAGESIZE)

FIELD NAME	Package Size (Solid Size) (packageSize)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(5)
RECORD ORDER	37

Description: Specifies the number of items, such as tablets, capsules, ampules, or packets, contained in this package to which the record pertains.

PACKAGE QUANTITY CODE (PACKAGEQTYCODE)

FIELD NAME	Package Quantity Code (packageQtyCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(3)
RECORD ORDER	38

Indicates the number of packages to which the prices in the record apply.

The following table lists the codes employed.

Code	Number of packages
ea	1
doz	12

PRODUCT WEIGHT/VOLUME (LIQUID SIZE) (PRODUCTSIZE)

FIELD NAME	Product Weight/Volume (Liquid Size) (productSize)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(7).9(6)
RECORD ORDER	39

Description: Specifies the size of one container of any product measured by weight or volume. Examples include ampules, jars, bottles, and packets. This field does not apply to products measured by item, such as tablets, capsules, or gauze pads; for such products, this field is left blank. This field is expressed in the labeled unit of measure, which can be found in the Measure Code field and is formatted as an implied decimal, 7 digits before, and 6 digits after (e.g., 9999999.999999)

MEASURE CODE (MEASURECODE)

FIELD NAME	Measure Code (measureCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	40

Description: Denotes the labeled unit of measure in which Package Size or Product Weight/Volume is expressed. The measure code identifies the unit type used to calculate the unit price.

The following table lists the measure code values that are used.

Code	Unit of Measure
	each
B	ml (Milliliters)
C	gm (Grams)

FILLER-4 (FILLER4)

ELEMENT NAME	FILLER-4 (filler4)
ELEMENT TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	41

Description: Reserved for future use.

TOP VOLUME RANKING (TOPVOLUMERANK)

FIELD NAME	Top Volume Ranking (topVolumeRank)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(3)
RECORD ORDER	42

Indicates the top volume products' rankings as determined by syndicated market research studies. Volume rankings are updated annually based on the total number of prescriptions dispensed (new and refills) through retail pharmacy outlets.

All forms and package sizes of the product are factored into the aggregate rank; therefore, each applicable NDC carries the same rank number. For products ranked below the top 1,000, the field is populated with 000.

SINGLE SOURCE INDICATOR (SINGLESOURCEFLAG)

FIELD NAME	Single Source Indicator (singleSourceFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	43

Indicates whether the product's generic formulation is available from one or more manufacturers/distributors (not including repackagers). The generic formulation is defined by active ingredients, master dosage form, and route of administration.

A "1" in the field indicates that the product is a single-source drug. A blank in this field indicates that the generic formulation is available from more than one source.

MAINTENANCE DRUG INDICATOR (MAINTENANCEDRUGFLAG)

FIELD NAME	Maintenance Drug Indicator (maintenanceDrugFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	44

Description: Identifies products typically used on a continuing basis, as well as drugs that may be used for maintenance therapy in certain cases. This field may be of particular use in establishing criteria for generic incentive and mail order programs.

The following table lists the codes employed.

Code	Description
Blank	Used primarily for **short-term** treatment of **acute** conditions
1	Use primarily for **long-term** treatment of **chronic** conditions
2	Used for both **acute** and **chronic** conditions
3	Not Applicable

EXCEPTIONAL DRUG INDICATOR (EXCEPTIONALFLAG)

FIELD NAME	Exceptional Drug Indicator (exceptionalFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	x(2)
RECORD ORDER	45

Description: Identifies products that may be excluded from coverage by certain third-party programs. Codes employed in this field denote the excluded category into which the product falls.

The following table lists some codes that may be employed. Access the Exceptional Drug Indication table for a complete code list.

Code	Category	Code	Category
12	Amphetamines/ Anorectics	59	Syringes and needles (non-insulin)
18	Antipsychotic (atypical)	63	Insulin
19	Antineoplastics	64	Insulin syringes and needles
28	Contraceptives	70	Monoclonal biologicals
34	Diabetic supplies (OTC)	79	Nicotine
37	Diagnostic Agents (Rx)	83	Contraceptives (hormonal)
38	Diagnostic tests (OTC)	90	Serums, toxoids, vaccines
40	Fertility Drugs	94	Topical Rx, cosmetic nature
46	Fluorides	96	Vitamins (Rx)
50	Genetically engineered drugs	97	Device
53	Hematinics (Rx)	98	Enteral Nutrition
56	Hemophilic Drugs	99	Homeopathic/Natural Product

DEA CLASS CODE (DEACLASSCODE)

FIELD NAME	DEA Class Code (deaClassCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(5)
RECORD ORDER	46

Description: Indicates the class to which the Drug Enforcement Agency has assigned the product under the Controlled Substances Act of 1970.

The following table lists some codes that may be employed. See the DEA Class Code table for the complete code list.

Note: A product that has been granted an exemption from the Controlled Substances Act by the Drug Enforcement Administration will display the value RX.

Code	Interpretation
CI	Schedule 1
CII	Schedule 2
CIII	Schedule 3
CIV	Schedule 4
CV	Schedule 5
RX	Not classified under the Controlled Substances Act; includes all other prescription drugs
(Blank)	OTC product

FILLER-5 (FILLER5)

FIELD NAME	FILLER-5 (filler5)
FIELD TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	47

Description: Reserved for future use.

FILLER-6 (FILLER6)

FIELD NAME	FILLER-6 (filler6)
FIELD TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	48

Description: Reserved for future use.

DESI DRUG INDICATOR (DESIDRUGFLAG)

FIELD NAME	DESI Drug Indicator (desiDrugFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(1)
RECORD ORDER	49

Description: Indicates that the product "lacks substantial evidence of effectiveness," as determined by the FDA's Drug Efficacy Study Implementation (DESI) review.

A "1" in this field marks the product as a DESI drug. A blank in this field means the product is not a DESI drug.

DESI EFFECTIVE DATE (DESIEFFECTIVEDATE)

FIELD NAME	DESI Effective Date (desiEffectiveDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	50

Description: Supplies the date on which the FDA categorized the product as a DESI drug. The date employs the Gregorian calendar in a Year-2000 compliant, YYYYMMDD format. For non-DESI products, zeros appear. If the DESI Drug Indicator contains a "1", then the most recent effective date will be in the Effective Date field. If there is a "0" in the DESI Drug Indicator field, and there is a date in the DESI Effective Date field, this represents the date that the drug stopped being designated DESI.

THERAPEUTIC CLASS CODE (THERACLASSCODE)

FIELD NAME	Therapeutic Class Code (theraClassCode)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(10)
RECORD ORDER	51

Description: Supplies the therapeutic/pharmacologic category of the product. The IBM Micromedex® RED BOOK® Expanded database classification system employs a 10-digit hierarchical code that categorizes drugs down to the generic ingredient level.

The code is structured as follows.

Digits	Category	Example
First 2	Main Therapeutic Heading	Cardiovascular Agents
Next 2	First Subcategory	Cardiac Drugs
Next 2	Second Subcategory	ACE Inhibitors and Combinations
Last 4	Unique or Primary Agent	Lisinopril

GENERIC CLASS CODE (GCC) (GENERICCLASSCODE)

FIELD NAME	Generic Class Code (GCC) (genericClassCode)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(8)
RECORD ORDER	52

Description:

Supplies a unique 8-digit code given to any group of products with identical entries in the following fields:

- •Generic Cross Reference
- •Therapeutic Class Code
- •Master Form Code
- •Route of Administration
- •Strength
- •Package Quantity Code
- •Package Size
- •Product Weight/Volume

Extracting all records containing it will yield a list of exact dispensing alternatives.

GENERIC CROSS REFERENCE CODE (GCR) (GCRCODE)

FIELD NAME	Generic Cross Reference Code (GCR) (gcrCode)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(6)
RECORD ORDER	53

Description:

Contains a unique 6-digit code assigned to all products that contain the same set of active ingredients. By extracting all records containing this code, users can identify comparable products regardless of trade or generic name.

Access the Generic Cross Reference Code table to associate Generic Cross Reference Codes and descriptions.

GENERIC FORMULATION CODE (GFC) (GFCCODE)

FIELD NAME	Generic Formulation Code (GFC) (gfcCode)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(6)
RECORD ORDER	54

Description:

Supplies a unique 6-digit code identifying drugs with common active ingredients, master dosage form, strength, and route of administration. The GFC is not manufacturer or package size specific, and can therefore be used in preparation of drug utilization reports and analysis of generic

alternatives for substitution and formulary development.

The GFC may also be used within pharmacy and claims administration systems as an efficient means of linking NDC numbers to clinical screening functions.

The following table provides an example of GFC definitions with associated data elements.

GFC	PRODUCT	MFG	GCR	FORM	STR	ROUTE	SIZE
111137	Valium	Roche	176990	TAB	2 mg	PO	100
111137	Valium	Roche	176990	TAB	2 mg	PO	500
111137	Diazepam	Rugby	176990	TAB	2 mg	PO	1000
111138	Valium	Roche	176990	TAB	5 mg	PO	100
111138	Diazepam	Barr	176990	TAB	5 mg	PO	100
111138	Diazepam	Geneva	176990	TAB	5 mg	PO	500

GFCs identify the subset of drugs with the same active ingredients, master dosage form, strength, and route of administration. The Generic Cross Reference (GCR) code is listed here to identify all diazepam products.

The Generic Formulation Code table associates each unique GFC with GCR, form, strength, and route.

STANDARD PACKAGE SIZE (STCPACKAGESIZE)

FIELD NAME	Standard Package Size (stcPackageSize)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(5)9(3)
RECORD ORDER	55

Description: Indicates the amount of product contained in the package as defined by the billing unit standard of the National Council for Prescription Drug Programs (NCPDP). This amount corresponds directly to the NCPDP "Metric Decimal Quantity" field and is formatted as an implied decimal, 5 digits before, 3 digits after (e.g., 99999.999).

For solids, this field conveys a count of the number of items (e.g., tablets, and capsules) contained in the package.

For products measured by weight or volume, such as liquids, aerosols or creams, this field conveys the weight or volume of the product contained in the individual vial, inhaler, or tube.

STANDARD UNIT OF MEASURE (UNITOFMEASURE)

FIELD NAME	Standard Unit of Measure (unitOfMeasure)
FIELD TYPE	Character
ELEMENT FORMAT	X(2)
RECORD ORDER	56

Description: Provides the two-character abbreviation corresponding to valid units of measure per the NCPDP standard. The only valid values for this field are "ea," "gm," or "ml.

MANUFACTURER CODE (M_CODE) (MFGCODE)

FIELD NAME	Manufacturer Code (M_Code) (mfgCode)
FIELD TYPE	Numeric
ELEMENT FORMAT	9(6)
RECORD ORDER	57

Description: A six digit numeric code used to associate product records with manufacturer information that is delivered in an associated relational file.

WHOLESALE ACQUISITION COST (WAC) START INDICATOR (WACSTARTFLAG)

FIELD NAME	Wholesale Acquisition Cost (WAC) Start Indicator (wacStartFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	58

Description: Presence of the code "05" in this field indicates availability of Wholesale Acquisition Cost information in the sector that follows. If this field is blank, no WAC information will be found.

WHOLESALE ACQUISITION COST (WAC) SECTOR

Provides manufacturer-quoted list prices to wholesale distributors. Alternatively referred to as "Net Wholesale" or "List Price" within the pharmaceutical industry, this field may be used in lieu of or in conjunction with AWP for product comparisons and trend analysis. This field is not reflective of bids, rebates, volume purchase agreements, or other types of exclusive contracts, which may alter the price charged on an account-specific basis.

The WAC sector contains fields for the current, first previous, and second previous Wholesale Acquisition Cost, per package and per unit. It also indicates effective date of each price.

Note: Beginning on **December 2, 2016**, the element formats highlighted in red in tables throughout this section will take effect. These changes will be delivered in new files named *ExFixUnpack_DOS_Y2K_new.out* or *ExFixUnpack_Y2K_new.out,* depending on your subscription. The old format will continue to be delivered until March 2, 2017 in the original files named *ExFixUnpack_DOS_Y2K.out* or *ExFixUnpack_Y2K.out,* depending on your subscription. The name of the deliverable that you download will remain the same. See Appendix A on page 77. These changes are being made to increase the field sizes for AWP and WAC pricing fields.

Wholesale Acquisition Cost fields are as follows.

Field Name	Format
*Current Price	Decimal, 6 digits before, 2 digits after
*Current Unit Price	Decimal, 6 digits before, 5 digits after
*Effective Date	Gregorian Date, YYYYMMDD sequence
*First Previous Price	Decimal, 6 digits before, 2 digits after
*First Previous Unit Price	Decimal, 6 digits before, 5 digits after
*Effective Date	Gregorian Date, YYYYMMDD sequence
*Second Previous Price	Decimal, 6 digits before, 2 digits after
*Second Previous Unit Price	Decimal, 6 digits before, 5 digits after
*Effective Date	Gregorian Date, YYYYMMDD sequence

WHOLESALER ACQUISITION COST (WAC) CURRENT PRICE

FIELD NAME	Wholesaler Acquisition Cost (WAC) Current Price (wacPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
RECORD ORDER	59

Description: Contains the Wholesaler Acquisition Cost (WAC) Current Price

WHOLESALER ACQUISITION COST (WAC) CURRENT UNIT PRICE

FIELD NAME	Wholesaler Acquisition Cost (WAC) Current Unit Price (wacUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
RECORD ORDER	60

Description: Contains the Current WAC Unit Price. In the absence of a price, the field is 0.0000. Due to current field sizes, if the unit price of a product is greater than $9,999.99, the unit price field will be output as "0.00000", but the package price field will contain the correct package price. In this situation, the unit price will need to be calculated as noted in Chapter 5: Unit Price Calculations.

WHOLESALE ACQUISITION COST (WAC) CURRENT EFFECTIVE DATE

FIELD NAME	Wholesale Acquisition Cost (WAC) Current Effective Date (wacEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	61

Description: Indicates the effective date of the most recent WAC price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

WHOLESALE ACQUISITION COST (WAC) FIRST PREVIOUS PACKAGE PRICE

FIELD NAME	Wholesale Acquisition Cost (WAC) First Previous Package Price (wac1prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
RECORD ORDER	62

Description: Contains the First Previous WAC Package Price. In the absence of a price, the field is 0.

WHOLESALE ACQUISITION COST (WAC) FIRST PREVIOUS UNIT PRICE

FIELD NAME	Wholesale Acquisition Cost (WAC) First Previous Unit Price (wac1preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
RECORD ORDER	63

Description: Contains the First Previous WAC Unit Price. In the absence of a price, the field is 0.

WHOLESALE ACQUISITION COST (WAC) FIRST PREVIOUS EFFECTIVE DATE

FIELD NAME	Wholesale Acquisition Cost (WAC) First Previous Effective Date (wac1preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Date, YYYYMMDD
RECORD ORDER	64

Description: Indicates the effective date of the Second Previous WAC price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

WHOLESALE ACQUISITION COST (WAC) SECOND PREVIOUS PACKAGE PRICE

FIELD NAME	Wholesale Acquisition Cost (WAC) Second Previous Package Price (wac2prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
RECORD ORDER	65

Description: Contains the Second Previous WAC Package Price. In the absence of a price, the field is 0.

WHOLESALE ACQUISITION COST (WAC) SECOND PREVIOUS UNIT PRICE

FIELD NAME	Wholesale Acquisition Cost (WAC) Second Previous Unit Price (wac2preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
RECORD ORDER	66

Description: Contains the Second Previous WAC Unit Price. In the absence of a price, the field is 0.

WHOLESALE ACQUISITION COST (WAC) SECOND PREVIOUS EFFECTIVE DATE

FIELD NAME	Wholesale Acquisition Cost (WAC) Second Previous Effective Date (wac2preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	67

Description: Indicates the effective date of the Second Previous WAC price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

FILLER-7 (FILLER7)

FIELD NAME	FILLER-7 (filler7)
FIELD TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	68

Description: Reserved for future use.

FILLER-8 (FILLER8)

FIELD NAME	FILLER-8 (filler8)
FIELD TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	69

Description: Reserved for future use.

FILLER-9 (FILLER9)

FIELD NAME	FILLER-9 (filler9)
FIELD TYPE	Character
ELEMENT FORMAT	
RECORD ORDER	70

Description: Reserved for future use.

AVERAGE WHOLESALE PRICE (AWP) START INDICATOR (AWPSTARTFLAG)

FIELD NAME	Average Wholesale Price (AWP) Start Indicator (awpStartFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	
RECORD ORDER	71

Description: Presence of the code "01" in this field indicates availability of AWP information in the sector that follows. If this field is blank, there is no AWP information.

AVERAGE WHOLESALE PRICE (AWP) SECTOR

Provides the product's nationally recognized suggested wholesale price based on data obtained from manufacturers, distributors, and other suppliers. The AWP sector contains fields for the current, first previous, and second previous Average Wholesale Prices, per package and per unit. It also indicates effective date of each price. If a numeric price field is empty, it will be output as "0" instead of blank. The fields are as follows.

Note: Beginning on **December 2, 2016**, the element formats highlighted in red in tables throughout this section will take effect. These changes will be delivered in new files named *ExFixUnpack_DOS_Y2K_new.out* or *ExFixUnpack_Y2K_new.out,* depending on your subscription. The old format will continue to be delivered until March 2, 2017 in the original files named *ExFixUnpack_DOS_Y2K.out* or *ExFixUnpack_Y2K.out,* depending on your subscription. The name of the deliverable that you download will remain the same. See Appendix A on . These changes are being made to increase the field sizes for AWP and WAC pricing fields.

CURRENT AVERAGE WHOLESALE PRICE

FIELD NAME	Current Average Wholesale Price (awpPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
FIELD NAME	72

Description: Contains the Current AWP Price.

AVERAGE WHOLESALE PRICE (AWP) CURRENT UNIT PRICE

FIELD NAME	Average Wholesale Price (AWP) Current Unit Price (awpUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
FIELD NAME	73

Description: Contains the Current AWP Unit Price. In the absence of a price, the field is 0.

AVERAGE WHOLESALE PRICE (AWP) CURRENT EFFECTIVE DATE

FIELD NAME	Average Wholesale Price (AWP) Current Effective Date (awpEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
FIELD NAME	74

Description: Indicates the effective date of the most recent AWP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

AVERAGE WHOLESALE PRICE (AWP) FIRST PREVIOUS PACKAGE PRICE

FIELD NAME	Average Wholesale Price (AWP) First Previous Package Price (awp1prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
RECORD ORDER	75

Description: Contains the First Previous AWP Package Price. In the absence of a price, the field is 0.

AVERAGE WHOLESALE PRICE (AWP) FIRST PREVIOUS UNIT PRICE

FIELD NAME	Average Wholesale Price (AWP) First Previous Unit Price (awp1preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
FIELD NAME	76

Description: Contains the First Previous AWP Unit Price. In the absence of a price, the field is 0.

AVERAGE WHOLESALE PRICE (AWP) FIRST PREVIOUS EFFECTIVE DATE

FIELD NAME	Average Wholesale Price (AWP) First Previous Effective Date (awp1preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	77

Description: Indicates the effective date of the First Previous AWP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

AVERAGE WHOLESALE PRICE (AWP) SECOND PREVIOUS PACKAGE PRICE

FIELD NAME	Average Wholesale Price (AWP) Second Previous Package Price (awp2prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 2 digits after
RECORD ORDER	78

Description: Contains the Second Previous AWP Package Price. In the absence of a price, the field is 0.

AVERAGE WHOLESALE PRICE (AWP) SECOND PREVIOUS UNIT PRICE

FIELD NAME	Average Wholesale Price (AWP) Second Previous Unit Price (awp2preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 6 digits before, 5 digits after
RECORD ORDER	79

Description: Contains the Second Previous AWP Unit Price. In the absence of a price, the field is 0.

AVERAGE WHOLESALE PRICE (AWP) SECOND PREVIOUS EFFECTIVE DATE

FIELD NAME	Average Wholesale Price (AWP) Second Previous Effective Date (awp2preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	YYYYMMDD
RECORD ORDER	80

Description: Indicates the effective date of the Second Previous AWP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

DIRECT PRICE (DP) START INDICATOR (DPSTARTFLAG)

FIELD NAME	Direct Price (DP) Start Indicator (dpStartFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	81

Description: Presence of the code "02" in this field indicates availability of Direct Price information in the sector that follows. If this field is blank, no DP information will be found.

DIRECT PRICE (DP) SECTOR

Reflects manufacturer pricing to direct-buying retailers. The DP sector contains fields for the current, first previous, and second previous Direct Prices, per package and per unit. The Direct Price sector also indicates effective date of each price. Direct Price fields are as follows.

DIRECT PRICE (DP) CURRENT PACKAGE PRICE

FIELD NAME	Direct Price (DP) Current Price (dpPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
FIELD NAME	82

Description: Contains the Current DP Price.

DIRECT PRICE (DP) CURRENT UNIT PRICE

FIELD NAME	Direct Price (DP) Current Unit Price (dpUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
FIELD NAME	83

Description: Contains the Current DP Unit Price. In the absence of a price, the field is 0.

DIRECT PRICE (DP) CURRENT EFFECTIVE DATE

FIELD NAME	Direct Price (DP) Current Effective Date (dpEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
FIELD NAME	84

Description: Indicates the effective date of the most recent DP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

DIRECT PRICE (DP) FIRST PREVIOUS PACKAGE PRICE

FIELD NAME	Direct Price (DP) First Previous Package Price (dp1prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	85

Description: Contains the First Previous DP Package Price. In the absence of a price, the field is 0.

DIRECT PRICE (DP) FIRST PREVIOUS UNIT PRICE

FIELD NAME	Direct Price (DP) First Previous Unit Price (dp1preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
FIELD NAME	86

Description: Contains the First Previous DP Unit Price. In the absence of a price, the field is 0.

DIRECT PRICE (DP) FIRST PREVIOUS EFFECTIVE DATE

FIELD NAME	Direct Price (DP) First Previous Effective Date (dp1preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	87

Description: Indicates the effective date of the First Previous DP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

DIRECT PRICE (DP) SECOND PREVIOUS PACKAGE PRICE

FIELD NAME	Direct Price (DP) Second Previous Package Price (dp2prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	88

Description: Contains the Second Previous DP Package Price. In the absence of a price, the field is 0.

DIRECT PRICE (DP) SECOND PREVIOUS UNIT PRICE

FIELD NAME	Direct Price (DP) Second Previous Unit Price (dp2preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
RECORD ORDER	89

Description: Contains the Second Previous DP Unit Price. In the absence of a price, the field is 0.

DIRECT PRICE (DP) SECOND PREVIOUS PACKAGE EFFECTIVE DATE

FIELD NAME	Direct Price (DP) Second Previous Package Effective Date (dp2preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	90

Description: Indicates the effective date of the Second Previous DP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

FEDERAL UPPER LIMIT PRICE (FUL) START INDICATOR (FULSTARTFLAG)

FIELD NAME	Federal Upper Limit Price (FUL) Start Indicator (fulStartFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	91

Description: Presence of the code "03" in this field indicates availability of Federal Upper Limit Price information in the sector that follows. If this field is blank, there is no FUL information.

FEDERAL UPPER LIMIT PRICE (FUL) SECTOR

Provides the maximum amount of federal financial participation for Medicaid reimbursement for certain therapeutically equivalent multi-source drugs as determined by the Center for Medicare and Medicaid Services (CMS). The FUL sector contains fields for the current, first previous, and second previous Federal Upper Limit Prices, per package and per unit. It also indicates effective date of each price.

CURRENT FEDERAL UPPER LIMIT PRICE (FUL)

FIELD NAME	Current Federal Upper Limit Price (FUL) (fulPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	92

Description: Contains the Current Federal Upper Limit Price (FUL).

FEDERAL UPPER LIMIT PRICE (FUL) CURRENT UNIT PRICE

FIELD NAME	Federal Upper Limit Price (FUL) Current Unit Price (fulUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
FIELD NAME	93

Description: Contains the Current FUL Unit Price. In the absence of a price, the field is 0.

FEDERAL UPPER LIMIT PRICE (FUL) CURRENT EFFECTIVE DATE

FIELD NAME	Federal Upper Limit Price (FUL) Current Effective Date (fulEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
FIELD NAME	94

Description: Indicates the effective date of the most recent FUL price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

FEDERAL UPPER LIMIT PRICE (FUL) FIRST PREVIOUS PACKAGE PRICE

FIELD NAME	Federal Upper Limit Price (FUL) First Previous Package Price (fulprePPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	95

Description: Contains the First Previous FUL Package Price. In the absence of a price, the field is 0.

FEDERAL UPPER LIMIT PRICE (FUL) FIRST PREVIOUS UNIT PRICE

FIELD NAME	Federal Upper Limit Price (FUL) First Previous Unit Price (fulpreUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
FIELD NAME	96

Description: Contains the First Previous FUL Unit Price. In the absence of a price, the field is 0.

FEDERAL UPPER LIMIT PRICE (FUL) FIRST PREVIOUS EFFECTIVE DATE

FIELD NAME	Federal Upper Limit Price (FUL) First Previous Effective Date (fulpreEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	97

Description: Indicates the effective date of the First Previous FUL price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

FEDERAL UPPER LIMIT PRICE (FUL) SECOND PREVIOUS PACKAGE PRICE

FIELD NAME	Federal Upper Limit Price (FUL) Second Previous Package Price (ful2prePPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	98

Description: Contains the Second Previous FUL Package Price. In the absence of a price, the field is 0.

FEDERAL UPPER LIMIT PRICE (FUL) SECOND PREVIOUS UNIT PRICE

FIELD NAME	Federal Upper Limit Price (FUL) Second Previous Unit Price (ful2preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
RECORD ORDER	99

Description: Contains the Second Previous FUL Unit Price. In the absence of a price, the field is 0.

FEDERAL UPPER LIMIT PRICE (FUL) SECOND PREVIOUS EFFECTIVE DATE

FIELD NAME	*Effective Date (ful2preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	100

Description: Indicates the effective date of the Second Previous FUL price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

SUGGESTED RETAIL PRICE (SRP) START INDICATOR (SRPSTARTFLAG)

FIELD NAME	Suggested Retail Price (SRP) Start Indicator (srpStartFlag)
FIELD TYPE	Alpha/Numeric
ELEMENT FORMAT	X(2)
RECORD ORDER	101

Description: Presence of the code "04" in this field indicates availability of Suggested Retail Price information in the sector that follows. If this field is blank, no SRP information is found.

SUGGESTED RETAIL PRICE (SRP) SECTOR

Provides the manufacturer's suggested retail price typically associated with OTC products. The SRP sector contains fields for the current, first previous, and second previous Suggested Retail Prices, per package and per unit. It also indicates effective date of each price. Fields are as follows.

SUGGESTED RETAIL PRICE (SRP) CURRENT PRICE

FIELD NAME	Suggested Retail Price (SRP) Current Package Price (srpPPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	102

Description: Contains the Current SRP Price.

SUGGESTED RETAIL PRICE (SRP) CURRENT UNIT PRICE

FIELD NAME	Suggested Retail Price (SRP) Current Unit Price (srpUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
RECORD ORDER	103

Description: Contains the Current SRP Unit Price. In the absence of a price, the field is 0.

SUGGESTED RETAIL PRICE (SRP) CURRENT EFFECTIVE DATE

FIELD NAME	Suggested Retail Price (SRP) Current Effective Date (srpEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	104

Description: Indicates the effective date of the most recent SRP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

SUGGESTED RETAIL PRICE (SRP) FIRST PREVIOUS PACKAGE PRICE

FIELD NAME	Suggested Retail Price (SRP) First Previous Package Price (srp1prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	105

Description: Contains the First Previous SRP Package Price. In the absence of a price, the field is 0.

SUGGESTED RETAIL PRICE (SRP) FIRST PREVIOUS UNIT PRICE

FIELD NAME	Suggested Retail Price (SRP) First Previous Unit Price (srp1preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
RECORD ORDER	106

Description: Contains the First Previous SRP Unit Price. In the absence of a price, the field is 0.

SUGGESTED RETAIL PRICE (SRP) FIRST PREVIOUS EFFECTIVE DATE

FIELD NAME	Suggested Retail Price (SRP) First Previous Effective Date (srp1preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	107

Description: Indicates the effective date of the First Previous SRP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

SUGGESTED RETAIL PRICE (SRP) SECOND PREVIOUS PACKAGE PRICE

FIELD NAME	Suggested Retail Price (SRP) Second Previous Package Price (srp2prePPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 5 digits before, 2 digits after
RECORD ORDER	108

Description: Contains the Second Previous SRP Package Price. In the absence of a price, the field is 0.

SUGGESTED RETAIL PRICE (SRP) SECOND PREVIOUS UNIT PRICE

FIELD NAME	Suggested Retail Price (SRP) Second Previous Unit Price (srp2preUPrice)
FIELD TYPE	Numeric
ELEMENT FORMAT	Decimal, 4 digits before, 5 digits after
RECORD ORDER	109

Description: Contains the Second Previous SRP Unit Price. In the absence of a price, the field is 0.

SUGGESTED RETAIL PRICE (SRP) SECOND PREVIOUS EFFECTIVE DATE

FIELD NAME	Suggested Retail Price (SRP) Second Previous Effective Date (srp2preEffDate)
FIELD TYPE	Numeric
ELEMENT FORMAT	Gregorian Date, YYYYMMDD sequence
RECORD ORDER	110

Description: Indicates the effective date of the Second Previous SRP price change, employing the Gregorian format in a Year 2000 compliant format, YYYYMMDD. In the absence of a price, the field is blank.

APPENDIX A: LOADING AND UPDATING

The IBM Micromedex® RED BOOK® Expanded files are available on the download site within the following self-extracting zip files:

Description	File
Monthly Master DOS	**rbemmd.exe**
Monthly Update DOS	**rbemud.exe**
Quarterly Master DOS	**rbeqmd.exe**
Weekly Master DOS	**rbewmd.exe**
Weekly Update DOS	**rbewud.exe**

APPENDIX B: IMPLEMENTATION REQUIREMENTS

The data and software implementation described in this manual are furnished under license and may be used only in accordance with the terms of such license. See your license agreement for all terms and conditions that apply.

When implementing the IBM Micromedex® RED BOOK®Expanded data products ensure that your implementation includes:

- Implementation of copyright statements and disclaimers as identified in your license agreement;

- Routine updating of the data;

- Daily Expiration Checking to ensure that the data is current;

- Version Checking when applying an update to ensure that data update was not missed;

- At the conclusion/discontinuation of the term of the initial license and all subsequent renewal terms, all IBM Micromedex® RED BOOK® Expanded files must be removed from the developer and end user systems.

To aid in the implementation of these requirements, the following provides a brief description of how the data provided is to be used.

1. Routine Updating: The data provided through IBM Micromedex® RED BOOK® Expanded is constantly changing as changes occur by the manufacturer and in the clinical environment. The data must be updated as outlined in your licensing agreement.

2. Daily Expiration Checking: At the start of each day (i.e. start of business or 12:01 am), the current date is to be checked against the expiration date provided in the header record (bytes 9-16). If the current date is greater than the expiration date but the difference is 30 days or less, a message stating that the data is being used under a grace period and that the data needs to be updated before the expiration date plus 31 days or the system will be disabled (exact wording of the message to be determined by the developer). When the system date is 31 days or greater than the expiration date, the system using IBM Micromedex® RED BOOK® Expanded data should be disabled until the data has been updated.

   Sample wording for the message could be: The IBM Micromedex® RED BOOK® Expanded data has expired on [expiration date] and is currently being used in the grace period. If the data is not updated by the end of the grace period, your application will be disabled until such time as the data is updated.

   Refer to your license agreement for any adjustments in the length of the grace period.

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