Intermec

Programmer's Guide

DEX/UCS

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There are U.S. and foreign patents pending.

Document Change Record

This page records changes to this document. The document was originally released as Revision A.

Revision	Date	Description of Change
C	10/2004	Added changes that occurred since version 000305 (UCS).

Contents

3 Download Files 41

4 Upload Files 53

7 **Changes Between DEX/UCS Versions**

Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Summary

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

Do not repair or adjust alone

Do not repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.

First aid

Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

Resuscitation

Begin resuscitation immediately if someone is injured and stops breathing. Any delay could result in death. To work on or near high voltage, you should be familiar with approved industrial first aid methods.

Energized equipment

Never work on energized equipment unless authorized by a responsible authority. Energized electrical equipment is dangerous. Electrical shock from energized equipment can cause death. If you must perform authorized emergency work on energized equipment, be sure that you comply strictly with approved safety regulations.

Safety Icons

This section explains how to identify and understand dangers, warnings, cautions, and notes that are in this manual. You may also see icons that tell you when to follow ESD procedures and when to take special precautions for handling optical parts.

A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.

Avertissement: Un avertissement vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour éviter l'occurrence de mort ou de blessures graves aux personnes manupulant l'équipement.

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Attention: Une précaution vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour empêcher l'endommagement ou la destruction de l'équipement, ou l'altération ou la perte de données.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at http://www.intermec.com and click **Service & Support**. The Intermec Global Sales & Service page appears. From the **Service & Support** menu, move your pointer over **Support**, and then click **Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided "as is with all faults." All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

Web Support

Visit the Intermec web site at http://www.intermec.com to download our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at http://intermec.custhelp.com to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec Technologies Corporation.

Service	Description	In the U.S.A. and Canada call 1-800-755-5505 and choose this option
Factory Repair and On-site Repair	Request a return authorization number for authorized service center repair, or request an on-site repair technician.	1
Technical Support	Get technical support on your Intermec product.	2
Service Contract Status	Inquire about an existing contract, renew a contract, or ask invoicing questions.	3
Schedule Site Surveys or Installations	Schedule a site survey, or request a product or system installation.	4
Ordering Products	Talk to sales administration, place an order, or check the status of your order.	5

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **Contact**.

Who Should Read this Guide?

This document provides general guidelines and suggestions for implementing DEX/UCS functionality in an application. This document need not be regarded as strict rules for DEX/UCS implementation. This is because many parts of DEX/UCS may have very business-specific ramifications, and may vary widely from customer to customer.

This document was written with the Intermec Technologies in-house application programming staff as the primary intended audience. It may be distributed to other groups.

This document assumes readers have familiarized themselves with the *UCS for DSD — Implementation and User Guide* and the *DEX/UCS Support Routines Reference Guide,* and have the following associated documents:

Document Title	Part Number
UCS for Direct Store Delivery Implementation and User Guide	Not Applicable
UCS Standards Manual	Not Applicable
PL/N DEX/UCS Support Routines Reference Guide	541-001-803*
Norand PL/N Subroutines and Functions	541-001-803*
Norand PL/N DEX/UCS Direct Connect I/O Driver User Interface	541-002-540*
DEX/UCS PL/N Notebook	977-033-004*
DEX/UCS "C" Manual	977-033-005*
* Available from Intermec Technologies as electronic documents included on the media	

The Intermec web site at http://www.intermec.com contains our documents that you can download in PDF format.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

1 Common Acronyms

This chapter lists some of the more common acronyms used in discussing DEX/UCS. It is useful to review this list before reading this document.

DEX/UCS (Direct EXchange/Uniform Communications Standard)

This refers to the part of UCS which is transmitted directly between computers with no intervening network. It is a face-to-face exchange between parties. DEX/UCS involves the exchange of invoice information between a supplier and a retailer at the retailer's back door receiving area.

DSD (Direct Store Delivery)

That section of the grocery industry dealing with products delivered from a supplier directly to a store, rather than to some intermediate warehouse or distributor. DSD offers retailers reduced overhead expenses, but carries as a cost a loss of inventory control.

EDI (Electronic Data Interchange)

Specifically EDI Standards. The EDI Standards are a collective group of standards of different industries used for exchanging data between computers. All EDI Standards share certain basic concepts for formatting data. There are EDI standards covering transportation, warehousing, grocery retail, general merchandise retail, general business, and other industries.

GTIN (Global Trade Item Number)

The foundation for the EAN.UCC System for uniquely identifying trade items (product and services) sold, delivered, warehoused, and billed throughout the retail and commercial distributions channels.

NEX/UCS (Network EXchange/Uniform Communications Standard)

This refers to the part of UCS transmitted using telephone networks. This typically refers to headquarters-to-headquarters or headquarters-to-branch data exchanges. Common NEX/UCS transactions include promotion announcements, statements, orders, and authorized product lists.

RIC (Record Integrity Check)

This value is transmitted as a part of each DEX/UCS transaction set, not just at the time of the transmission but, more importantly, after the data has been archived. The RIC is a CRC-16 checksum value, represented in hexadecimal, of all the data in the transaction set, beginning with the "ST" in the transaction set header segment, and ending with the line feed immediately preceding the "G85" segment.

UCC (Uniform Code Council)

The UCC is responsible for many things, one of which is the administration of UCS. The UCC is also responsible for assigning UPCs to suppliers.

UCS (Uniform Communications Standard)

UCS is an EDI Standard that applies specifically to the grocery retail industry.

UCS/DSD (Uniform Communications Standard/Direct Store Delivery)

This refers to the subset of UCS which deals specifically with direct store delivery. Grocers hope to regain some of the lost inventory control by using UCS/DSD. They also hope to increase efficiency.

UPC (Universal Product Code)

A bar code symbology used throughout the grocery and retail industries.

2 Field by Field Discussion of DEX/UCS Transaction Sets

This chapter lists each field (data element) of the DEX/UCS transaction sets and what is necessary from the application to set these fields. Note this supplements and should be used with sections B, C and D in the *UCS for Direct Store Delivery Implementation and User Guide*. The notation used is as follows:

```
<Segment ID> - <Segment Name>

    <Reference Designator> - <Element Name>
```

`<Segment ID>`	The EDI segment identifier for the data segment.
`<Segment Name>`	The name of the data segment.
`<Reference Designator>`	The EDI "reference designator" for the data element, which has the segment ID of the data segment, the two-digit offset of the element (an offset "01") within the segment. For example, `G8203` is the third element in the `G82` segment.
`<Element Name>`	The name of the data element.

Data element and segments are defined as one of these:

M (Mandatory)	Use this data segment or data element in this place.
C (Conditional)	The presence of this data element is dependent on the presence or absence of other data elements in the same segment. This classification applies only to data elements. Data segments can only be mandatory or optional.
O (Optional)	Available information that may be useful to the message receiver and you may include in the transaction set *at the option of the sender*.

Some elements in the *UCS for Direct Store Delivery Implementation and User Guide* list the interelemental conditional relationships that are mandatory to meet. Element conditions are expressed in the `An1[n2[n3...]]` format (such as `P0607` or `E050809`), where "nn" is a two-digit number specifying an offset of an element within the segment, and "A" is a character which defines the kind of conditional relationship which must occur between these elements. The machine readable relationships defined are:

P (Paired)	If any one of the referenced data elements are present, they all must be present.
R (Required)	At least one of the referenced data elements must be present.
E (Exclusive)	Only one referenced data element may be present.
C (Conditional)	If the first referenced data element is present, then all remaining referenced data elements must be present.
L (Conditional Paired)	If the first referenced data elements is present, then at least one of the remaining data elements must be present.

Data elements can be of the following types:

Nm (Numeric)	Implied decimal points "m" character positions before the end.
Rm (Decimal)	Decimal point required, with "m" as the *maximum* decimal digits permitted. For Integer values, do not transmit the decimal point. The decimal point character, if used, is not included in the maximum or minimum character count for the data element.
AN (Alpha/Numeric)	For DEX/UCS, leading spaces are not allowed.
DT (Date)	Expressed as YYMMDD.
TM (Time)	Expressed HHMM in military format (0-24).
ID (Identification)	Expressed as a code, as defined for the data element in question in the Data Element Dictionary.

All quantitative data elements are assumed *positive* or zero unless preceded by a minus (-) sign, subject to the following restrictions:

- All data elements that express quantities, (pieces, cases, pounds, percentages) are positive or zero.
- Data elements which increase the monetary amount due the seller are positive. (With DSD returns, the retailer is considered the seller.)
- Data elements that decrease the monetary amount due the seller, are negative and must be preceded by a minus (-) sign.

DEX/UCS Envelope Header and Trailer

Under DEX/UCS, all transaction sets are enclosed in a DXS/DXE envelope. A DXS data segment must appear before the first transaction set in a transmission. A DXE data segment must appear after the last transaction set in a transmission. This is typically a debit and credit invoice (base record) or adjustments and acknowledgments to these invoices. This chapter discusses what you should know about generating the envelope around transaction sets to be transmitted.

DXS — DEX/UCS Application Header

This control segment provides identification and control information. It must appear as the first segment in any DEX/UCS transmission. *Se Chapter 4, "Upload Files" for information about the "xxDEX" file.*

DXS01 — Communications ID (of the Sender)
Check this value if the "Comm Id Matching Mode" in "xxDEX" is set correctly. A debug message would be:
"DXS01 – Received Retailer's Comm Id Does Not Match."

Classification	Type	Min/Max
M	AN	01/10

Transmission	The supplier's UCS Communications ID. This field is downloaded in a route level record of the "xxDEX" file.
Reception	The retailer's UCS Communications ID. This field is downloaded in a customer level record of the "xxDEX" file.

DXS02 — Functional Identifier
A suitable debug message would be the following, where where "xx" is the functional identifier received.:
"DXS02 – Unsupported Functional Group xx"

Classification	Type	Min/Max
M	ID	02/02

Transmission	At this time, only the 894 and 895 transaction sets are defined for DEX/UCS. These are both in the "DX" functional group. Thus, hard-code the application to put "DX" in this field.
Reception	The application should generate an error if this field contains any value other than "DX."

DXS03 — Version

A suitable debug message would be the following, where "xxxxxxxxxxxx" is the version that was received.:

```
"DXS03 - Incorrect      DEX/UCS Version xxxxxxxxxxxx"
```

Classification	Type	Min/Max
M	AN	01/12

Transmission	This corresponds to the data format version used in the DEX/UCS format tables by the DEX/UCS support routines. This field is downloaded in the customer level record in the "xxDEX" file.
	In theory, all DEX/UCS partners support the current and previous versions of DEX/UCS, as the versions can update every twelve months. Supporting two versions guarantees an overlap and communications between partners.
	The version to use for data exchange is determined by the first transaction set to send, which is the 894 transaction set that must come from the supplier. The supplier is not required to support more than one version, as the supplier always picks the version.
	Suppliers generally want to support at least two versions to accommodate early and late retailers upgrading in the twelve month period.
Reception	This field must match the value downloaded in the customer level record of the "xxDEX" file. If not, the application should generate an error.

DXS04 — Transmission Control Number

Classification	Type	Min/Max
M	N0	01/05

Transmission	A sequence number, not unlike an invoice number. After each good transmission, this number should increment, rolling over when necessary. The initial value of this number is downloaded in the route level record of the "xxDEX" file.
Reception	Ignore this field.

DXS05 — Communication ID (of Recipient)

This is an optional field, and if received, checked based on the value of the "COMM ID MATCHING MODE" flag from the "xxDEX" file record for this customer. An error message should generate if this field does not match the downloaded value.

Classification	Type	Min/Max
O	AN	01/10

Transmission	This is the UCC Communications ID for the retailer. It is downloaded in a customer level record of the "xxDEX" file.
Reception	This is the UCC Communications ID for the supplier. It is downloaded in a route level record in the "xxDEX" file.

DXS06 — Test Indicator

There must be information specifically defined in the specification regarding this element to use it. If no request to use this element, then ignore it.

Classification	Type	Min/Max
O	ID	01/01

Transmission	An optional field that indicates whether the transmission is used for Test versus Production purposes. There are only two valid values for this field: • "P" Production Data • "T" Test Data
Reception	Ignore this field.

DXE — DEX/UCS Application Trailer

This control segment delineates the transactions and provide control information. It must appear as the last data segment in each DEX/UCS transmission.

DXE01 — Transmission Control Number

Classification	Type	Min/Max
M	N0	01/05

Transmission	This field *must* contain the same value as was assigned in the DXS04 data element. If they are different, an error is generated.
Reception	Ignore this field.

DXE02 — Number of Included Sets

If the received value is incorrect, an error is generated by the DEX/UCS support routines.

Classification	Type	Min/Max
M	N0	01/06

Transmission	This field is automatically generated by the DEX/UCS support routines when this segment is "written."
Reception	Ignore this field.

Transmitting Delivery and Return Base Record

(894 Base Record Transaction Set)

This transaction set is, essentially, an invoice. Only the supplier is allowed to transmit this transaction set. This transactions set contains either debits (sales) or credits (returns). Debits and credits cannot mix on the same invoice. This chapter discusses what you should know about generating and transmitting the Base Record.

ST — Transaction Set Header

This data segment starts any transaction set, and assigns a control number to it. It is coded here to indicate that this transaction set is a delivery and return base record. *See Chapter 4, "Upload Files" for information about the "xxDEX" file.*

ST01 — Transaction Set Identifier Code
This field should always contain the value "894."

Classification	Type	Min/Max
M	ID	03/03

ST02 — Transaction Set Control Number
An application can treat this number as a sequence number in a similar manner to the DXS04 element. It should increment with every transaction set so that all transaction sets have a different number. The application should roll this number over when necessary. The initial value is downloaded in the route level record of the "xxDEX" file.

Classification	Type	Min/Max
M	AN	04/09

ST03 — Implemention Convention Release
This field is not supported.

Classification	Type	Min/Max
O	AN	01/35

G82 — Delivery and Return Base Record Identifier

This segment transmits identifying number, dates, and other basic data relating to this transaction set. *See Chapter 4, "Upload Files" for information about the "xxDEX" file.*

G8201 — Credit and Debit Flag

This indicates whether this record is for a delivery or a return. C (Credit) is used for any *returns* transaction. D (Debit) is used for any *delivery* transaction. Within DEX/UCS, invoices must consist entirely of either debit items or credit items. This application must logically separate tickets to accommodate this requirement.

Classification	Type	Min/Max
M	ID	01/01

G8202 — Supplier Delivery and Return Number

This field value should be the same as the invoice number that would appear on the printed ticket.

Classification	Type	Min/Max
M	AN	01/22

G8203 — DUNS Number for the <u>Receiver</u>

The DUNS number assigned by Dun & Bradstreet. The number uniquely identifies the company with this receiver. It is downloaded in a customer record from the "xxDEX" file.

Classification	Type	Min/Max
M	ID	09/02

G8204 — Receiver's Location Number

This is downloaded in a customer record from the "xxDEX" file. The retailer uses this to uniquely identify a particular location.

Classification	Type	Min/Max
M	AN	01/06

G8205 — DUNS Number for the <u>Supplier</u>

The DUNS number assigned by Dun & Bradstreet. The number uniquely identifies the company associated with this supplier. It is downloaded in a customer record from the "xxDEX" file.

Classification	Type	Min/Max
M	ID	09/09

G8206 — Supplier's Location Number

This field is downloaded in a route level record from the "xxDEX" file. The retailer uses it to uniquely identify a particular location or route.

Classification	Type	Min/Max
M	AN	01/06

G8207 — Physical Delivery or Return Date

This is the current Date from the system clock at the time the transaction set is generated.

Classification	Type	Min/Max
M	DT	08/08

G8208 — Product Ownership Transfer Date

Intermec Technologies does not support this field.

Classification	Type	Min/Max
O	DT	08/08

G8209 — Purchase Order Number

If this is known to the application, and it is a requirement, then we can assign the PO Number to this field. Otherwise, this field is not supported.

Classification	Type	Min/Max
O	AN	01/22

G8210 — Purchase Order Date

If this is known to the application, and it is a requirement, then we can assign the PO Date to this field. Otherwise, this field is not supported.

Classification	Type	Min/Max
O	DT	08/08

G8211 — Shipment Method of Payment

This field is not supported.

Classification	Type	Min/Max
O	ID	02/02

G8212 — COD Method of Payment

This field is not supported.

Classification	Type	Min/Max
O	ID	01/01

N9 — Reference Number

This optional segment provides tax reference numbers, for Canadian requirements.

N901 — Reference Number Qualifier

The two values valid in the DEX/UCS environment are: 4O (Canadian Goods and Services or Quebec Sales Tax Reference Number) or 4G (Provincial Tax Identification Number).

Classification	Type	Min/Max	Relationship
M	ID	02/03	None

N902 — Reference Number

The reference associated with the N901 qualifier.

Classification	Type	Min/Max	Relationship
M	AN	01/50	R0203

N903 — Free-Form Description

Not supported in DEX/UCS.

Classification	Type	Min/Max	Relationship
C	AN	01/45	R0203

N904 — Date

Not supported in DEX/UCS.

Classification	Type	Min/Max	Relationship
O	DT	08/08	None

N905 — Time

Not supported in DEX/UCS.

Classification	Type	Min/Max	Relationship
O	TM	04/08	C0605

N906 — Time Code

Not supported in DEX/UCS.

Classification	Type	Min/Max	Relationship
O	ID	02/02	C0605

LS — Loop Header

The loop header indicates that the next segment begins a loop. It is used once before any loop iterations are made. It indicates the beginning of line item detail records.

LS01 — Loop Identifier

Always transmit the string "0100." **Note:** The leading "0" is important. No other value is supported.

Classification	Type	Min/Max
M	ID	01/06

G83 — Line Item Detail and DSD

This data segment provides the basic and most often used line item data for the delivery and return. Use it at the start of each item loop.

These segments should generate and transmit in the same order in which they would appear on the invoice, with exception of free goods and samples. Free goods and samples require special handling — these are not handled as line items under DEX/UCS, but rather as allowances to a line item.

Example

To sell ten items and get two free, send a line item for twelve items with a corresponding allowance which states two are free.

Note: To handle this in an application when generating the 894 transaction set, search for free items before the G83 record is written. If a free item does not have a corresponding sale item (same item sold and given free), then a "dummy" sale item should generate related to the free item.

No line items with a zero quantity should transmit with the base invoice. For applications with case and unit entry of items, DEX/UCS treats them as separate line items. Thus, one line item would have to generate for the case quantity and another would have to generate for the unit quantity. *See Chapter 4, "Upload Files" for information about the "xxDXP" file.*

G8301 — DSD Sequence Number

This sequence number serially labels the individual G83 segments in the base record. The transmission of line items must follow the order of this sequence number, such as the first item has sequence number "1," the second is "2," the third is "3," etc.

Classification	Type	Min/Max	Relationship
M	N0	01/04	None

G8302 — Quantity

This is the quantity of the item sold or returned. It must have associated with it a unit of measure given in G8303. This must *always* be positive.

Classification	Type	Min/Max	Relationship
M	R3	01/15	None

G8303 — Unit of Measure Code

This data element is used with quantity to specify the quantity of the delivery or return. The valid unit of measure codes for DEX/UCS are:

- "BX" (box)
- "CA" (case)
- "CT" (carton)
- "EA" (each)
- "DZ" (dozen)
- "GA" (gallon)
- "KE" (keg)
- "KG" (kilograms)
- "LB" (pound)
- "PK" (package)
- "PL" (pallet/unit load)
- "TK" (tank)
- "UN" (unit)

Classification	Type	Min/Max	Relationship
M	ID	02/02	None

Note: As of version 005010UCS (5010), G8304 is no longer used. G8305 and G8306 now identify the item level Global Trade Item Number (GTIN).

G8304 — UPC Consumer Package Code

This identifies the retail selling unit. Either this field, a "product and service ID," or both must transmit with each line item as a means of identifying what it is. If the UPC (Universal Product Code) is nonzero, then use it here. If not, then use G8305 and G8306 data elements to identify products. ***Note:** This field is 12 digits long, a UPC code is 10 digits long. Under UCS, a UPC code is preceded by a two-digit prefix. The most commonly used prefix is "00." If the prefix is not known or included in the download, use "00." You may include the prefix in the "xxDXP" file.*

Classification	Type	Min/Max	Relationship
C	AN	12/12	R0405

G8305 — Product/Service ID Qualifier

This is a code identifying the type or source of the descriptive number used in Product/Service ID (G8306). See the *Product/Service ID Qualifiers (G8305)* table below.

Classification	Type	Min/Max	Relationship
C	ID	02/02	R0405, P0506

Product/Service ID Qualifiers (G8305)

"DI"	Deposit Item Number	Used for deposit items such as empty bottles that do not contain products for resale. G8306 identifies the deposit item, using an identifying code, usually a GTIN.
"EN"	EAN/UCC-13	Data structure for the 13-digit EAN.UCC GTIN.
"EO"	EAN/UCC-8	Data structure for the 8-digit EAN.UCC GTIN.
"NR"	Nonresaleable item number	(excludes deposits) Identifies items other than deposits that are not for resale, such as display racks. G8306 identifies the non-resale item, using either a code or a description.
"UK"	GTIN 14-digit Data Structure	Data structure for the 14-digit EAN.UCC GTIN.
"UP"	UCC-12	Data structure for the 12-digit EAN.UCC GTIN. Also known as the UPC.
"VN"	Vendor's (Seller's) item number	If the product delivered or returned is identified by way of a vendor number instead of a GTIN, G8305 should code as "VN" and the item number provided in G8306.

G8306 — Product/Service ID

Identifying number for a product or a service. G8306 is a form of identification number qualified by G8305.

Classification	Type	Min/Max	Relationship
C	ID	01/48	P0506

Note: As of version 005010UCS (5010), G8307 is no longer used. G8311 and G8312 now identify the item level GTIN.

G8307 — UPC Case Code

This field may be in the "xxDXP" file or the Product Master file. If it exists and is nonzero then it should transmit. The UPC prefix, also in the "xxDXP" or Product Master, should concatenate to the beginning of this element, if not already. *Note: There is a **paired** relationship between this element and the G8309 - Pack element. If this element is sent, then you must also send the G8309 element.*

Classification	Type	Min/Max	Relationship
C	AN	12/12	C0709

G8308 — Item List Cost

This is the cost of the item as it would appear on the printed invoice, prior to subtracting any discounts or adding any charges (such as deposits). This field *should always be positive,* regardless of invoice type. ***Note:*** *For free or sample items without a corresponding sale item, the application must determine what the list cost for the item would be. More explanation of how free items are sent is discussed later.*

Classification	Type	Min/Max	Relationship
C	R4	01/09	None

G8309 — Pack

This field is sent if the Unit of Measure Code used in element G8303 is "CA," otherwise ignore it. The value should pertain to the number of items with same UPC as assigned to the G8304 element.

Classification	Type	Min/Max	Relationship
C	N0	01/06	C0709

G8310 — Cash Register Item Description

This provides a description of the item for use in the check-in process. It corresponds to the product description field in the product master file. It should transmit if any of the following conditions are true:

• The TRANSMIT PRODUCT DESCRIPTION field in the "xxDEX" file record for the customer is on (set to 1).

• The TRANSMIT PRODUCT DESCRIPTION field in the "xxDXP" file record for the item is turned on (set to 1).

• No UPC Consumer Package Code (G8304) field is transmitted with product.

Classification	Type	Min/Max	Relationship
O	AN	01/20	None

G8311 — Product/Service ID Qualifier

Code identifying the type or source of the descriptive number in Product/Service ID. See the *Product/Service ID Qualifiers (G8311)* table below.

Classification	Type	Min/Max	Relationship
C	ID	02/02	P1112

Product/Service ID Qualifiers (G8311)

"AC"	Aggregation Code	Consolidates part families. Identifies an aggregation or grouping, such as a style, to which this item belongs and can be treated as a set for check-in count purposes. G8305/G8306 identify the specific item or case. G8312 provides this item's aggregation or group identification. All items in the aggregation should list consecutively in delivery/return records.
"EN"	EAN/UCC-13	Data structure for the 13-digit EAN.UCC GTIN.
"EO"	EAN/UCC-8	Data structure for the 8-digit EAN.UCC GTIN.
"UK"	GTIN 14-digit Data Structure	Data structure for the 14-digit EAN.UCC GTIN.
"UP"	UCC-12	Data structure for the 12-digit EAN.UCC GTIN. Also known as the UPC.
"WA"	Random Weight Aggregation Code	Identifies a random weight aggregation or grouping to which this item belongs and which can be treated as a set for check-purposes. Use of this code indicates that receiving should take place at the group level, with the group quantity being the total number of G83 segments with an identical group identifier in G8312. Item level receiving allows adjustments to the item weight. There can be a separate G83 segment for each random weight item. G8302 should contain the actual weight of the random weight item indicated in this G83 segment only. G8303 should contain the code "LB" (pounds), "KG" (kilograms), or other weight-related items. G8308 should contain the cost per unit of measure referenced in G8303. G8312 should contain a descriptor for the group. All items belonging to the same aggregation/group should list separately in the delivery/return record, with the same value in the G8311 and G8312.

G8312 — Product/Service ID

Identifying number for a product or service. G8311 and G8312 can identify the case level GTIN and do allow a supplier to use G8305 and G8306 to identify the consumer unit. See the *Method for Specifying Case Deliveries in DEX/UCS* table below.

Classification	Type	Min/Max	Relationship
C	AN	01/48	P1112

Method for Specifying Case Deliveries in DEX/UCS

G8302	Quantity	Indicates number of cases
G8303	Unit of Measure	"CA" (case)
G8305	Product/Service ID Qualifier	"UP"
G8306	Product/Service ID	GTIN of consumer package inside case.
G8308	Item List Cost	Cost of the case of product.
G8309	Pack	Number of consumer units inside case.
G8311	Product/Service ID Qualifier	"UP"
G8312	Product/Service ID	GTIN of case package.

G8313 — Inner Pack

The number of eaches per inner container. The data element provides the number of eaches per inner pack. For example, if there were 2 inner containers within a shipping container and each inner container held 6 consumer units, the value is this data element would be 6.

Classification	Type	Min/Max	Relationship
O	N0	01/06	None

G22 — Pricing Information

This data segment provides information concerning retail pricing. Only use this segment if an item's retail price is known by the application, *and* that retail price is printed on the invoice.

G2201 — Pre-Priced Option Code

The only code to use in this field is "Y."

Classification	Type	Min/Max
M	ID	01/01

G2202 — Price New, Suggested Retail

Transmits retail price value to print on the invoice.

Classification	Type	Min/Max
O	N2	02/07

G2203 — Multiple Price Quantity

This field is not supported.

Classification	Type	Min/Max
O	N2	01/02

G2204 — Free-Form Message

This field is not supported.

Classification	Type	Min/Max
O	AN	01/60

G2205 — Date

Not supported in DEX/UCS.

Classification	Type	Min/Max
O	DT	08/08

G72 — Allowance or Charge (<u>Item Level</u>)

This data segment specifies allowances or charges that are applied to the list item cost provided for this particular line item in the data element G8308 on page 17.

The sign convention requires that all charges that *increase* the amount due the seller state as positive amounts or rates (unsigned) and that all allowances that *decrease* the amount due the seller state as negatively signed quantities or rates. Hence, charges are always positive and allowances are always negative, regardless of invoice type (debit or credit).

Allowances or charges can be sent as a rate, amount, or percent and are specified using data elements G7205, G7208 or G7209, respectively. Only use *one* of these elements in each occurrence of a G72 data segment. This choice of which to use depends on how to express the allowance or charge.

G7201 — Allowance or Charge Code

This identifies the type of allowance or charge that is to apply. Examples are as follows. There are other values that can be specified here. See the UCS manual for information.

”1” Free Goods Allowance	For free or sample items.
”97” Cents Off Allowance	A "generic" code used for any type of discount.
"525" Deposit Charge	Typically used for bottles or cans from a beverage supplier.

Classification	Type	Min/Max	Relationship
M	ID	01/03	None

G7202 — Method of Handling Code

This code indicates the method of handling for the allowance or charge. See the *Method of Handling Codes (Item Level)* table below for supported codes.

Classification	Type	Min/Max	Relationship
M	ID	02/02	None

Method of Handling Codes (Item Level)

"02" (Off Invoice) *typically this code is used.*	The other codes described here are for special circumstances and only be used if a customer requests that they be used.
"15" (Information Only)	When this code is used, the allowance or charge amounts are not to add or subtract from the transaction. The information is provided for information only.
"12" (Not Processed)	Only use this code in the 895 acknowledgement and Adjust Record to remove G72 segments for an item.

G7203 — Allowance or Charge Number

This field is not supported.

Classification	Type	Min/Max	Relationship
C	AN	01/16	R03050809

G7204 — Exception Number

This field is not supported.

Classification	Type	Min/Max	Relationship
C	AN	12/12	None

G7205 — Allowance or Charge Rate

This data element is used if the allowance or charge to apply is specified in terms of a rate, such as dollar amount per unit. It is positive for charges and negative for allowances. For allowances, transmit the discount amount per item. For deposits, transmit the deposit amount per item. For free items or samples, transmit the negation of the item cost (G8308).

Classification	Type	Min/Max	Relationship
O	R4	01/15	E050809, R03050809

G7206 — Allowance or Charge Quantity

If this element is transmitted, then the following element (G7207) must also transmit. These fields only need to transmit if the quantity that is to receive the allowance or charge defined in G7205 is different from those assigned in the G8302 and G8303 elements.

For deposits, do not use this field, as all items are typically charged for deposits regardless if they are a free item or sample.

For discounts, this field is only used if an item has a discount and the some item is also being given away as the result of a promotion or sample. In this case, the quantity receiving the discount is the quantity from the G8302 element less the free item or sample quantity.

For free or sample items, this field would contain the quantity of free or samples items being given to the retailer.

Classification	Type	Min/Max	Relationship
C	R3	01/10	P0607

G7207 — Unit of Measure Code

This field is required if and only if an allowance or charge quantity (G7206) is transmitted. It should contain the same code transmitted in the line item detail (G8303).

Classification	Type	Min/Max	Relationship
C	ID	02/02	P0607

G7208 — Allowance or Charge Total Amount

This field would contain the actual total amount of the allowance or charge for this item. items are sent is discussed later.

Classification	Type	Min/Max	Relationship
C	N2	01/15	E050809, R03050809

G7209 — Allowance or Charge Percent

This data element expresses the allowance (negative amount) or charge (positive amount) in terms of a percent. 10.5% or .105 of the dollar basis is expressed as 10.5 in this field.

Classification	Type	Min/Max	Relationship
C	R3	01/06	E050809, P0910

G7210 — Dollar Basis for Percent

Use this data element if G7209 is used and state the dollar basis to which the percent allowance or charge is applied calculate its dollar amount. This should be positive.

Classification	Type	Min/Max	Relationship
C	R2	01/09	P0910

G7211 — Option Number

This field is not supported.

Classification	Type	Min/Max	Relationship
O	AN	01/20	C1103

G23 — Terms of Sale (Item Level)

This data segment is not supported in any application at this time. It would specify terms of sale that apply specifically to this line item.

LE — Loop Trailer

The loop trailer indicates the end of the line item detail section. It is used once after all loop iterations are made.

LE01 — Loop Identifier

Always transmit the string "0100." *Note: The leading "0" is important. No other value is supported.*

Classification	Type	Min/Max
M	ID	01/06

G72 — Allowance or Charge (<u>Record Level</u>)

Usage for this segment is to show any taxes or whole ticket discounts. Taxes are represented as percentages, and whole ticket discounts may represent as a dollar value discount or percentage discount. In either case, the rules for sending amounts or percentages are the same as those outlined in the Item level G72. The details are repeated here for clarity.

The sign convention requires that you state all charges that *increase* the amount due the seller as positive quantities or rates (unsigned) and that you state all allowances that *decrease* the amount due the seller as negatively signed quantities or rates. Hence, charges are always positive and allowances are always negative, regardless of invoice type (debit or credit).

Send allowances or charges as a rate, amount, or percent and is specified using data elements G7205, G7208 or G7209, respectively. Use only *one* of these elements in each occurrence of a G72 data segment. This choice of which to use depends on how to express the allowance or charge. *Note that "Class" is short for "Classification."*

G7201 — Allowance or Charge Code

This identifies the type of allowance or charge that is to apply. Examples are as follows. There are other values that can be specified here. See the UCS manual for information.

"1" Free Goods Allowance	For free or sample items.
"97" Cents Off Allowance	A "generic" code used for any type of discount.
"501" Taxes	Identifies tax details.
"525" Deposit Charge	Typically used for bottles or cans from a beverage supplier.

Classification	Type	Min/Max	Relationship
M	ID	01/03	None

G7202 — Method of Handling Code

This code indicates the method of handling for the allowance or charge. See the *Method of Handling Codes (Record Level)* table below for supported codes.

Classification	Type	Min/Max	Relationship
M	ID	02/02	None

Method of Handling Codes (Record Level)

"02" (Off Invoice) *Typically this code is used.*	The other codes described here are for special circumstances and be used if a customer requests that they be used.
"15" (Information Only)	When this code is used, the allowance or charge amounts are not to add or subtract from the transaction. The information is provided for information only.
"12" (Not Processed)	Only use this code in the 895 acknowledgement or Adjust Record to remove G72 segments for an item.

G7203 — Allowance or Charge Number
This field is not supported.

Classification	Type	Min/Max	Relationship
C	AN	01/16	R03050809

G7204 — Exception Number
This field is not supported.

Classification	Type	Min/Max	Relationship
C	AN	01/16	None

G7205 — Allowance or Charge Rate
This data element is used if the allowance or charge to apply is specified in terms of a rate, such as dollar amount per unit. It is positive for charges and negative for allowances. For allowances, transmit the discount amount per item. For deposits, transmit the deposit amount per item. For free items or samples, transmit the negation of the item cost (G8308).

Classification	Type	Min/Max	Relationship
O	R4	01/15	E050809, R03050809

G7206 — Allowance or Charge Quantity
If this element is transmitted, then the following element (G7207) must also transmit. These fields only need to transmit if the quantity to receive the allowance or charge defined in G7205 is different from those assigned in the G8302 and G8303 elements.

For deposits, do not use this field, as all items are typically charged for deposits regardless if they are a free item or sample.

For discounts, use this field if an item has a discount and the same item is also given away as the result of a promotion or sample. In this case, the quantity receiving the discount is the quantity from the G8302 element less the free item or sample quantity.

For free or sample items, this field would contain the quantity of free or samples items being given to the retailer.

Classification	Type	Min/Max	Relationship
C	R3	01/10	P0607

G7207 — Unit of Measure Code
This field is required if and only if an allowance or charge quantity (G7206) is transmitted. It should contain the same code transmitted in the line item detail (G8303).

Classification	Type	Min/Max	Relationship
C	ID	02/02	P0607

G7208 — Allowance or Charge Total Amount

This field would contain the actual total amount of the allowance or charge for this item. items are sent is discussed later.

Classification	Type	Min/Max	Relationship
C	N2	01/15	E050809, R03050809

G7209 — Allowance or Charge Percent

This data element expresses the allowance (negative amount) or charge (positive amount) in terms of a percent. 10.5% or .105 of the dollar basis is expressed as 10.5 in this field.

Classification	Type	Min/Max	Relationship
C	R3	01/06	E050809, P0910

G7210 — Dollar Basis for Percent

Use this data element if G7209 is used and state the dollar basis to which the percent allowance or charge is applied calculate its dollar amount. This should be positive.

Classification	Type	Min/Max	Relationship
C	R2	01/09	P0910

G7211 — Option Number

This field is not supported.

Classification	Type	Min/Max	Relationship
O	AN	01/20	C1103

G23 — Terms of Sale (Record Level)

This data segment is not supported in any application. It would specify terms of sale that apply to the delivery or return transactions as a whole.

G84 — Delivery and Return Record Totals

The data segment provides summary data on the total items in the delivery or return in terms of quantity and amount. In it, use either G8401, G8402, or both.

G8401 — Quantity

The quantity is the numerical sum of all G8302 quantities in the base re-cord. Where a mix of units of measure is used, this sum has no physical meaning. It serves as a numerical check.

Classification	Type	Min/Max	Relationship
C	R3	01/15	R0102

G8402 — Total Invoice Amount

This is the total amount due for this DEX/UCS invoice. This total should be positive unless allowances exceed costs. *Note: Do not include previous balance due amounts in this field.*

Classification	Type	Min/Max	Relationship
C	N2	01/10	R0102

G8403 — Total Deposit Dollar Amount

This is the total of all extended amounts for deposit charges on line items. Although deposit amounts are reflected here, also include them in the To-tal invoice amount (G8402). This total is generated by either of the fol-lowing segments and the data contained within those segments:

- The G83 Line Item Detail segments where G8305 is coded "DI." Here the contribution to the total deposit dollar amount is calculated by mul-tiplying the quantity in G8302 by the item list cost in G8308 for each deposit item segment.

- The G72 data segments at the item level having the G7201 Allowance or Charge Code set equal to "525." Here, the contribution to the total deposit dollar amount is calculated by multiplying the G7205 dollar rate per unit by the quantity in G7206 if used; otherwise by the quantity in G8302 for the associated line item.

Classification	Type	Min/Max	Relationship
O	N2	01/06	R0102

G86 — Signature

G8601 — Electronic Signature

This field is generated by the DEX/UCS standard routines. The algorithm used in calculating this value depends on which version of DEX/UCS is supported.

- *For versions prior to 003050UCS (3050),*
  the CRC-16 value of the data characters, starting with the "S" in the "ST" segment and ending with the line feed before the "G86," is computed. The Signature Key Value downloaded in the route level "xxDEX" file is converted to a 32-bit number, which can be thought of as a 4-byte string. The 4-byte string is passed through the CRC-16 algorithm, yielding a new CRC-16 value based on both the data and the downloaded key. The resulting CRC-16 value is converted into its 4-character hexadecimal representation. This becomes the signature.

- *For version 003050UCS and greater,*
  the CRC-16 value of the data from the following data elements is computed:

Classification	Type	Min/Max
M	AN	01/12

G8602 — Name

G8602 can provide a keyed representation of a signature in clear text. The Signature Key Value downloaded in the route level "xxDEX" file is converted to a 32-bit number, which can be thought of as a 4-byte string. The 4-byte string is passed through the CRC-16 algorithm, yielding a new CRC-16 value based on both the data and the downloaded key. The resulting CRC-16 value is converted into its 4-character hexadecimal representation. This becomes the signature.

Classification	Type	Min/Max
O	AN	01/60

G85 — Record Integrity Check

This segment provides a secure means for checking whether the contents of the records, including the signature are unchanged.

G8501 — Integrity Check Value

This is generated by the DEX/UCS standard routines. It is calculated by using the CRC algorithm in the *UCS for DSD Implementors and User Guide*. The algorithm is applied to the contents of the entire transaction set up to this segment (such as from the beginning of the ST segment up through and including the end of the G86 segment).

Note: If the DEX/UCS Standard Routines that begin PGDU, are used to assign this value, a segment read should execute to retrieve this value. This value is needed to verify any acknowledgment or adjustment transaction set being returned by the retailer.

Note: If the DEX/UCS Standard Routines that begin PGDX, are used to assign this value, then the values are returned in the array SNDSTAT.RIC_ARRAY.

Classification	Type	Min/Max
M	AN	01/12

SE — Transaction Set Trailer

This data segment indicates the end of the transaction set and provides the count of the transmitted segments.

SE01 — Number of Included Segments

This value is generated by the DEX/UCS standard routines. It contains the total number of data segments contained in this particular transaction set (the base record), including both the header and trailer segments.

Classification	Type	Min/Max
M	N0	01/10

SE02 — Transaction Set Control Number

This element contains the same transaction set control number that was entered in ST02 of the ST data segment of this transaction.

Classification	Type	Min/Max
M	AN	04/09

Transmitting Delivery or Return Acknowledgment or Adjustment

(895 Transaction Set)

This chapter describes how an application should generate the 895 transaction sets, and how it should handle receiving 895 transaction sets from a retailer.

Any 895 transaction set containing only the mandatory data segments is considered an acknowledgment. When a valid acknowledgment is exchanged, the invoice is considered complete and closed. The application should not allow the user to modify an acknowledged invoice, this includes voiding the invoice.

Under DEX/UCS, it is convention to only resolve quantities at the back door. Pricing and discount or charge disputes should resolve at a higher level, typically headquarters. However, discussions with retailers have yielded that, although they do not want disputes to occur at the back door, they may send back price and discount or charge differences if their systems thinks they are wrong.

Applications should track when a quantity adjustments create a change to discount values, and should retransmit the discounts when this occurs.

The 895 Transaction set is enclosed between the DXS and DXE segments in the same way that the 894 Transaction set is. See the previous chapter related to the DXS and DXE segments for information regarding the transmission and reception of these segments.

ST — Transaction Set Header

The data segment indicates the start of a transaction and to assign a control number.

ST01 — Transaction Set ID

Classification	Type	Min/Max
M	ID	03/03

Transmission	Always send "895," to identify this as an acknowledgment/adjustment transaction.
Reception	The retailer is only allowed to send "895" in this field. If any other value appears here, regard the transaction as invalid.

ST02 — Transaction Set Control Number

Classification	Type	Min/Max
M	AN	04/09

Transmission	An application can treat this number as a sequence number in a similar manner to the DXS04 element. It should increment with every transaction set so that all transaction sets have a different number. The application should roll this number over when necessary. The initial value is downloaded in the route level record of the "xxDEX" file.
Reception	Ignore this field. **Note**: This field is compared to the value in the data element SE02, by the DEX/UCS Standard Routines. If they are not the same, an error is generated.

ST03 — Implemention Convention Release

Classification	Type	Min/Max
O	AN	01/35

Transmission	This field is not supported.
Reception	Ignore this field.

G87 — Delivery and Return Adjustment Identification

This data segment provides reference data concerning the acknowledgement and adjust record. It is different from the data (G82) used in the base record for this purpose.

G8701 — Initiator Code
This indicates the party initiating this record.

Classification	Type	Min/Max
M	ID	01/01

Transmission	Always transmit an "S" for Supplier.
Reception	An error should generate if any value other than an "R," for Retailer, is received.

G8702 — Credit Debit Flag

This reference code indicates whether the transaction is a debit or a credit. It must have the same value as the G8201 data element in the base record.

Classification	Type	Min/Max
M	ID	01/01

Transmission	Send the same value that was sent in the G8201 element of the base invoice record (894).
Reception	Generate an error if it is not the same as the G8201 element from the base invoice (894).

G8703 — Supplier's Delivery or Return Number

This reference data element provides the transaction number assigned by the supplier to identify this particular record set. It is a *mandatory* field and should have the same value as data element G8202 in the base record for this set.

Classification	Type	Min/Max
M	AN	01/22

Transmission	Send the same value that was sent in the G8202 element of the base invoice record (894).
Reception	Generate an error if it is not the same as the G8202 element from the base invoice (894).

G8704 — Integrity Check Value

This reference data element should duplicate the value of the integrity check value contained in the data element G8501 of the immediately preceding acknowledgement and adjust record, or of the base record if this is the first acknowledgement and adjust record.

Classification	Type	Min/Max
M	AN	01/22

Transmission	The last value from the G8501 data element received or sent in the base record.
Reception	Generate and error if this value does not match the last RIC value exchanged for this transaction. **Note:** The application should retain the values of the last RIC value successfully sent or received for each invoice within a transaction set for use in this field.

G8705 — Adjustment Number

This data element sequentially numbers the acknowledgement and adjust records from one up to a maximum of nine.

Classification	Type	Min/Max
M	N0	01/01

Transmission	Transmit the current adjustment number for the invoice.
Reception	An error should generate if the adjustment number received does not match the value expected by the application. **Note:** The application should maintain the adjustment count for each invoice. It should start at one and be incremented after an adjustment is successfully exchanged.

G8706 — Receiver's Delivery or Return Number

This reference data element provides the transaction number assigned by the receiver to identify this particular record set.

Classification	Type	Min/Max
O	AN	01/22

Transmission	Only send this field if it was previously received in an adjustment from the retailer.
Reception	Retain this field for transmission in subsequent acknowledgement and adjust records. The value is not important, other than to have the capability to transmit it.

G88 — Delivery or Return Identification Adjustment

This data segment transmits identification adjustment data.

Transmission	There is no support for sending this segment.
Reception	If this segment is received from the retailers system, ignore it beyond the fact that the transaction set is *not* an acknowledgment. Only change data if the application design call for it.

G8801 — Physical Delivery or Return Date

Pertains to the value sent in the G8207 data element.

Classification	Type	Min/Max
O	DT	08/08

G8802 — Product Ownership Transfer Date

Pertains to the value sent in the G8208 data element.

Classification	Type	Min/Max
O	DT	08/08

G8803 — Purchase Order Number

Pertains to the value sent in the G8209 data element.

Classification	Type	Min/Max
O	AN	01/22

G8804 — Purchase Order Date

Pertains to the value sent in the G8210 data element.

Classification	Type	Min/Max
O	DT	08/08

G8805 — Receiver's Location Number

Pertains to the value sent in the G8204 data element.

Classification	Type	Min/Max
O	AN	01/06

LS — Loop Header

Transmission	This segment is sent if and only if line item adjustments are to transmit.
Reception	This segment is received if and only if line item adjustments were sent by the retailer.

LS01 — Loop Identifier

Classification	Type	Min/Max
M	ID	01/06

Transmission	Always transmit the string "0100." **Note:** The leading "0" is important. No other value is supported.
Reception	Ignore this field. **Note:** The DEX/UCS Standard Routines generate an error if any value other than "0100" is found in this field, regardless of whether the segment is transmitted or received.

G89 — Line Item Detail Adjustment

While not a requirement under DEX/UCS, a business convention used by some DEX/UCS partners is to only resolve the invoice quantities at the back door, and resolve cost disputes at the headquarters level.

However, there are some retailers who attempt to resolve cost discrepancies at the back door, by sending back cost and discount information to the supplier. Rather than get into a *dueling* situation with the retailer, the application should treat these adjustments as information only. As far as replacing current price and discount values on the invoice, that is for the supplier to decide at design time.

When new items are added to an invoice, they are assigned sequence numbers N+1, N+2, . . . , where "N" is the highest sequence number assigned thus far. The requirement that items transmit in ascending sequence number order, as in the 894 transaction set, is not true for the 895 transaction set. Rather than having to verify received sequence numbers, use these as look-up keys. Treat any key value that fails a search as a retailer add item.

There are three situations when an adjustment to a line item should transmit. They are:

- The quantity had adjusted,
- The item is a retailer add item which is rejected; or
- The discounts applied to an item have changed.

G8901 — DSD Sequence Number

Classification	Type	Min/Max
M	ID	01/03

Transmission	When transmitting a line item that was part of the base invoice, this value should be the same as the G8301 value for this item.
	When an transmitting an item that was added by the supplier, this number should be the next unused sequence number following the N+1, N+2, . . . , rule described above.
	When transmitting an item that was added by the retailer, this number should be the same as the G8901 value that was received from the retailer.eading "0" is important. No other value is supported.
Reception	This field determines which line item from the original invoice the retailer is trying to adjust.
	Any item received with a sequence number which does not already exist should be treated as an add item.

G8902 — Quantity

Classification	Type	Min/Max
O	R3	01/15

Transmission	The new adjusted quantity for the item should transmit here. If a retailer add item is rejected, then a quantity of zero should transmit. This quantity should include any free or sample quantities.
Reception	The quantity received in this field replaces the current invoice item quantity. **Note:** Just because a line item adjustment is received, that does not mean the quantity is changed.

G8903 — Unit of Measure

Classification	Type	Min/Max
O	ID	02/02

Transmission	This field should only transmit if this is an item that was added by the supplier and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	If this is not a retailer add item, then ignore this field. If this is a retailer add item, and a "xxDXP" file record exists for the item, the values should compare for validity. If the Units of Measure are the same, the product could consider valid. If not, generate an adjustment returning the Unit of Measure value from the "xxDXP" file and any quantity adjustment required.

G8904 — UPC/EAN Consumer Package Code

Note: For versions 005010UCS (5010) and later, this field is no longer used.

Classification	Type	Min/Max
O	AN	12/12

For versions prior to 005010UCS (5010):	
Transmission	This field should not transmit unless this is an item that was added by the supplier, and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	If this is not a retailer add item, ignore this field. If this is a retailer add item, it should identify the item the retailer is trying to add.

G8905 — Product/Service ID Qualifier

Classification	Type	Min/Max
O	ID	02/02

Transmission	This field should not transmit unless this is an item that was added by the supplier and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	If this is not a retailer add item, ignore this field. If this is a retailer add item, then this field contains the qualifier as to the contents of the item identification in the G8906 element.

G8906 — Product/Service ID

Classification	Type	Min/Max
O	AN	01/30

Transmission	This field should not transmit unless this is an item that was added by the supplier and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	If this is not a retailer add item, then ignore this field. If this is a retailer add item, then this field contains the item identification value.

G8907 — UPC Consumer Package Code

Note: For versions 005010UCS (5010) and later, this field is no longer used.

Classification	Type	Min/Max
O	AN	12/12

For versions prior to 005010UCS (5010):	
Transmission	This field should not transmit unless this is an item that was added by the supplier and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	If this is not a retailer add item, then ignore this field. If this is a retailer add item, the value contained in this field should identify the product added by the retailer.

G8908 — Item List Cost

Classification	Type	Min/Max
O	R4	01/09

Transmission	This field should not transmit unless this is an item that was added by the supplier and is transmitted for the first time. If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	Ignore this field. In most cases the application reprices the item based on download files.

G8909 — Pack

Classification	Type	Min/Max
O	N0	01/06

Transmission	This field should not transmit unless this is an item that was added by the supplier and is transmitted for the first time, and the unit of measure associated with this item is "CA." If this is the case, the same rules for transmitting this field in the G83 data segment apply.
Reception	Ignore this field.

G8910 — Inner Pack

The number of eaches per inner container.

Classification	Type	Min/Max
O	N0	01/06

Transmission	This field is not currently used.
Reception	Ignore this field.

G22 — Pricing Information

Transmission	This data segment should not transmit unless the item was added by the supplier. If this is a supplier add item, the same rules apply as in the 894 Base Record transaction set.
Reception	Ignore this data segment, if received, beyond the fact that the transaction set is not an acknowledgment.

G72 — Allowance or Charge (Item Level)

Transmission	These segments should only transmit if a discount has changed for an item. If a discount has changed for the item, remove any G72 segments that were sent before sending the new discount values. To inform the retailer to remove existing G72 segments, send the following G72 segment *before* sending any new G72 segments. • G7201 (Allowance or Charge Code) "96" • G7202 (Method of Handling Code) "12" • G7203 (Allowance or Charge Number) "96"
Reception	We would like to ignore received allowance or charge information because we do not want to put the route person in the situation of resolving specific costs at the back door. However, some applications allow the route person the ability to view or change allowances and charges if they are received. This is an application specific request, and if there is no mention in the specification for supporting this, all G72 segments received are ignored. There is one case where we do not want to ignore a received allowance, and that is when the received allowance is a free goods allowance. Current applications handle free goods and samples as separate line items. We want to separate the free goods quantity from the sold quantity. Another reason this is important is related to cost. Although we are not trying to resolve exact costs at the back door, we do not want the retailer deciding what they do and do not have to pay for. Note for invoices which are strictly free goods and samples, you can ignore the received G72 segments because there is never any question as to what the retailer must pay for. Only when sales and returns and free goods are mixed on the same ticket do we have to check for receiving free goods allowances.

The handling of received G72 segments at the item level is as follows.

G7201 — Allowance or Charge Code
This field describes the type of adjusted allowance or charge. Possible values include:

- "1" Frees

- "97" Cents off

- "525" Deposits

G7202 — Method of Handling
Ignore this field.

G7203 — Allowance or Charge Number
Ignore this field.

G7204 — Exception Number
Ignore this field.

G7205 — Allowance or Charge Rate
This field if received contains the adjusted rate of the allowance or charge.

G7206 — Allowance or Charge Quantity
Only receive this field if the quantity an adjustment is applied to needs to adjustment. It is most likely this field is only sent if free items are adjusted or if quantity is different from the value that was sent in G8302/G8902.

G7207 — Unit of Measure Code

Ignore this field. An assumption made is that the Unit of Measure is the same as that which is transmitted in the G8303/G8903 field.

G7208 — Allowance or Charge Total Amount

This field contains the adjusted total amount of the allowance or charge.

G7209 — Allowance or Charge Percent

This field contains the percent that the adjusted allowance or charge is using.

G7210 — Dollar Basis for Percent

This field contains the adjusted dollar basis for percent, which when multiplied by the value in G7209, would yield the amount of the allowance or charge.

G23 — Terms of Sale (Item Level)

Transmission

This data segment is not supported.

Reception

If this data segment is received, ignore it beyond the fact that this transaction set is not an acknowledgment.

LE — Loop Trailer

Transmission	This data segment is transmitted if and only if line item adjustments were generated.
Reception	This data segment is received if and only if line item adjustments were received.

LE01 — Loop Identifier

Transmission	This field should always contain the string "0100."
Reception	Ignore this field. The DEX/UCS Standard Routines generates an error if an invalid loop identifier is contained in this field.

G72 — Allowance or Charge (Record Level)

Transmission	To avoid an adjustment duel with the retailer over cost, transmit this data segment only when an invoice-level allowance or charge changes. In this event, the same rules apply as in the 895 Base Record transaction set.
Reception	Processing of Record level adjustments should follow the same conventions as those outlined in the Item Level G72 Reception process. If the application does not define a process for reviewing allowance/charge changes, then ignore this segment beyond the fact that the transaction set is not an acknowledgment.

G23 — Terms of Sale (Record Level)

Transmission	This data segment is not supported.
Reception	This data segment is received, ignore it beyond the fact that this transaction set is not an acknowledgment.

G84 — Delivery and Return Record Totals

This data segment should transmit if and only if any of the following conditions exist:

- A line item adjustment (G89) is transmitted somewhere in this transaction set (as this would indicate a quantity or discount adjustment).

- The application contains a flag to resend totals after receiving adjustments from the retailer in order for the retailer to have up-to-date totals on their system.

G8401 — Quantity

Transmission	Transmit the hash total quantity of the *entire invoice,* such as what the G8401 value would be in an 894 transaction set if you were sending it at this point.
Reception	Ignore this field.

G8402 — Total Invoice Amount

Transmission	Transmit the total dollar amount for the entire invoice, in the same manner as with the 894 transaction set.
Reception	Ignore this field.

G8403 — Total Deposit Dollar Amount
The number of eaches per inner container.

Transmission	Transmit the deposit dollar amount total for the entire invoice, in the same manner as with the 894 transaction set.
Reception	Ignore this field.

G86 — Signature

Transmission	Same as with the 894 transaction set.
Reception	Ignore this field.

G85 — Record Integrity Check

Transmission	Same as with the 894 transaction set.
Reception	Retain this value to return in the G87 data segment.

SE — Transaction Set Trailer

Transmission	Same as with the 894 transaction set.
Reception	Ignore this segment beyond the fact that it signifies the end of one set of data pertaining to one invoice.

3 Download Files

To add DEX/UCS to an application with minimal disruption to host processing requirements, the parameters which control DEX/UCS processing in the mobile computer are downloaded in separate files. This was done for three reasons:

- It does not require our existing customers to modify the download formats of existing files.

- It does not require existing customers to carry DEX/UCS overhead if they do not wish to utilize DEX/UCS.

- DEX/UCS overhead can be confined to that subset of retail customers which use DEX/UCS.

DEX/UCS Parameter File "xxDEX"

This file contains the DEX/UCS parameter information at the route level and the customer level. The name of this file should be "xxDEX," where "xx" is the filename prefix used by the download files.

This file contains two record types of level information:

- Type 0   Route
- Type 1   Customer

Type 0 records should always be the first record in file, followed by type 1 records for every DEX/UCS customer.

Type 0 — Route Level Information

This record contains all DEX/UCS parameters relevant to the entire route. The fields in this record are as follows:

Supplier's UCS Communications ID	A 10-digit number field. The first six are assigned to the supplier by the UCC. The last four are at the suppliers discretion to assign.
Supplier's DUNS Number	A 9-digit number field assigned to the supplier by Dun and Bradstreet.
Supplier's Location Number	A 6-character field assigned by the supplier.
Signature Key	A nonzero, 32-bit (10-digit) number as a key to generate all signature values.
Transaction Set Control Number	A 9-digit number that is the initial value of the transaction set control number.
Transmission Control Number	A 5-digit number that is the initial value of the transmission control number.
Audit Trail Error Handling Mode	This flag designates what information goes into the DEX/UCS audit trail file in the event that a data format error is detected while processing DEX/UCS data. It can have the following values: • 0 Do not retain any DEX/UCS data containing data format errors. • 1 Retain DEX/UCS data up to the point where the data format error was detected. • 2 Retain all DEX/UCS data, regardless of whether data format errors were detected.

Type 1 — Customer Level Information

This record contains all DEX/UCS parameters relevant to individual customers on a route. The fields in this record are as follows:

Field	Description
Customer Number	The customer number as it appears in the downloaded customer file. It is used here as a look-up key.
Stop Number *(when applicable)*	The customer stop number, as it appears in the customer master file.
Retailer's UCS Communications ID	A 10-digit number. The first six are assigned by the UCC. The last four are at the retailer's discretion to assign.
Retailer's DUNS Number	A 9-digit number field assigned by Dun and Bradstreet.
Retailer's Location Number	A 6-character field assigned by the retailer.
DEX/UCS Version	The DEX/UCS version to be used with this retailer. This is a 12-character field.
Communications Initiator Flag	This flag designates who is to start communications and has these values: • 0 Supplier always initiates. • 1 The party wishing to send data initiates. • 2 "Autosenses" who is to initiate. **Note:** For flag values "0" and "2," the flag can pass directly into the PGDXC1P routine as the "COMM_MODE" parameter. For flag values "1," the application must determine whether to pass in a mode of "0" or "1," depending on whether the application is ready to send or receive data, respectively.
Communications ID Matching Mode	This flag specifies whether the Communications IDs received from the retailer are to be matched against those downloaded to the mobile computer. This is important as different DEX/UCS partners may place different priorities on what fields identify each other. These values are supported: • 0 Do not check Communications IDs. • 1 Check retailer's Communications ID. If no match, generate an error. • 2 Check supplier's Communications ID. If no match, generate an error. • 3 Check both retailer and supplier Communications IDs. If neither matches, generate an error. **Note:** This flag should be ANDed with 1 to get the mode to pass to the PGDXC1P routine as the "ID_CHECK" parameter. The application must check the Communications IDs in the DXS segment. The flag ANDed with "1" determines if the downloaded retailer's Communications ID must match the value in DXS01. The flag ANDed with "2" determines if the downloaded supplier's Communications ID must match the value in DXS05.

(continued)

Field	Description
Debugging Mode	The complexity of DEX/UCS should not be visible to the route person. When an error is detected, a descriptive message is uploaded in the DEX/UCS audit trail to help a programmer find the cause of the problem. However, when two DEX/UCS partners get together for the first time, it may prove necessary to display these descriptive messages. Therefore, this flag was introduced here strictly to aid in testing. These values are supported: • 0 Do not display debug messages. Process all data errors. • 1 Do not display debug messages. Ignore invalid RIC value. • 2 Display debug messages. Process all data errors. • 3 Display debug messages. Ignore invalid RIC value. **Note**: This value should be ANDed with "1" to determine what value to pass for an ICC_CHECK parameter. If the result of the AND is "1," pass a zero. If the result is a "1," pass a zero. This value should be ANDed with "2" to determine if the application should display data format error messages. The application needs to generate data format errors.
Product Aggregation Mode *(when applicable)*	Some applications group their products by some value. **Example :**Beverage applications may group products by container type (6-pack, 12-pack).For those applications which allow product delivery grouping to be specified, it is desirable to allow the transmission of an aggregation code to speed the receiving process. This flag has these values: • 0 Do not transmit aggregation codes with products. • 1 Transmit aggregation codes with products. **Note**: The aggregation information is placed in the Product or Service ID and Product or Service ID Qualifier fields of G83 and G89 data segments for items that are not using these fields for other purposes.
Transmit Product Description	The product description is an optional field in DEX/UCS. Its primary purpose is to allow retailers the opportunity to receive a product which may not be on their files. Transmitting the description with every line item increases the size of the audit trail significantly, therefore, this feature was made optional. This flag has these values: • 0 Do not transmit product descriptions. • 1 Transmit product description.

Sample File Layout

The following is a *sample* DEX/UCS parameter file layout. This example assumes an eight-digit customer number. Based on the differences between applications, account for the customer number, the stop number, and additional flag values in the header definition and the record redefinition.

Filename: DEX/UCS Parameter File
File Header: `<DxxDEX 00000X001N020N009X023>`

Sample DEX/UCS Parameter File Layout

	Field	Picture	Comments
Route:	Type	9	= 0
	Signature Key	N(10)	1–4294967295
	Supplier's Communications ID	N(10)	
	Supplier's DUNS Number	N(9)	
	Location Number	9(6)	
	Transaction Set Control Number	Z(5)9(4)	
	Transmission Control Number	Z(4)9	
	Audit Trail Error Handling Mode	9	0 Discard bad data 1 Retain bad data up to point of error *2 Retain all data
	Filler	99	
Customer:	Type	9	= 1
	Filler	NN	
	Customer Number	N(8)	
	Retailer's Communications ID	N(10)	
	Retailer's DUNS Number	N(9)	
	Retailer's Location	XZ(5)	
	DEX/UCS Version	XZ(11)	
	Communication Initiator Flag	9	0 Supplier initiates 1 Sender initiates *2 Autosense
	Communications ID Matching Mode	9	*0 Do not check 1 Check retailer's 2 Check supplier's 3 Check both
	Debugging Mode	9	0 Check RIC, do not show debug *1 Do not check RIC, do not show debug 2 Check RIC, show debug 3 Do not check RIC, show debug
	Product Aggregation	9	0 Do not aggregate 1 Aggregate products
	Transmit Product Description	9	0 Do not transmit 1 Transmit

* Denotes default values.

DEX/UCS Product Information "xxDXP"

There is some additional information required for DEX/UCS which is not generally supported in existing applications. This information is supplied in a separate file called "xxDXP," where "xx" is the file name prefix used by the application.

Some customers may choose to provide this additional information in their current product file, or the information may already be in the current product file. If this is the case, then this file is not needed by the application and can be omitted. The reasons for adding this information in a separate file are:

- It does not require customers to change the download formats of their existing files.

- It does not require customers to carry DEX/UCS overhead if they do not wish to utilize DEX/UCS.

- DEX/UCS overhead on products can be restricted to that group of products which DEX/UCS retailers are allowed to buy.

This file contains two record types:

Type 1	DEX/UCS product information for specific products.
Type 0	Default DEX/UCS product information for those products without Type 1 records.

Type 0 — Default Product Information

This record should contain the DEX/UCS product parameters for those products that do not have specific DEX/UCS product information records. The fields on this record are:

Unit of Measure *(where applicable)*	The unit of measure code to transmit with a line item. This corresponds to the selling unit for the line item. In general, this is "EA" for each, or "CA" for case. There are various other units of measure to use for products sold by weight "LB," the only *allowable* values in DEX/UCS can be found in the previous section under the G8303 — Unit of Measure field discussion.
UPC Prefix	A two-digit number which is concatenated to the beginning of the UPC for a line item. The first digit represents the country, and the second digit represents product type. **Example :** B"00" is United States Grocery and "03" is United States Drug. *Note: The UPC Prefix is no longer in use as of version 005010UCS (5010).*
Transmit Product Description	As mentioned before, the product description is an optional field in DEX/UCS, whose primary purpose is to allow retailers an opportunity to receive a product which may not be on their files. It provides the ability to select individual products whose descriptions are transmitted, rather than sending all product descriptions. This flag has these values: • 0 Transmission of product description depends on flag in the "xxDEX" file. Do not override. • 1 Always transmit a product description. Override flag in the "xxDEX" file.

Type 1 — Product Specific Information

Product Description	Corresponds to the product number in the product master file. It acts as a key in finding a DEX/UCS product information record. *Note: If there is no corresponding type "1" record for a product, then use the type "0" default record.*
Unit of Measure *(where applicable)*	See comment above.
UPC Prefix	See comment above. *Note: The UPC Prefix is no longer in use as of version 005010UCS (5010).*
UPC Case	The UPC contained in this field pertains to the *case* of the product sold. The Unit of Measure in the preceding field should be "CA," and this field would contain the UPC for the case of items. This field should only transmit if it is nonzero. **Note**: *For versions prior to 005010UCS (5010)*: For items that do not have a type "1" record, no UPC should transmit in the G8307 or G8907 fields. It is the responsibility of this download file to give us the information we need. *For versions 005010UCS (5010) or greater:* For items that do not have a type "1" record, no UPC should transmit in the G8912 field.
Transmit Product Description	See comment above.

Sample File Layout

The following is a *sample* DEX/UCS product information file layout. This example assumes a six-digit customer number.

Note: Based on the differences between applications, account for customer number, stop number, and additional flag values in the header definition and in the redefinition of the records.

Filename: DEX/UCS Product Information
File Header: `<DxxDXP 00000X001N006X002N002X014X001>`

Sample DEX/UCS Product Information File Layout

	Field	Picture	Comments
Default:	Type	9	= 0
	Filler	Z(5)N	zero fill
	Unit of Measure	XX	
	UPC Prefix	NN	
	Filler	X(14)	Spaces
	Transmit Product	9	
	Description		
Product:	Type	9	= 1
	Product Number	Z(5)N	
	Unit of Measure	XX	
	UPC Prefix	NN	
	Case UPC	X(14)	Left justified, leading spaces.
	Transmit Product	9	
	Description		
* Denotes default values.			

Product Master File — Global Trade Item Number (GTIN)

The GTIN is the primary product identifier under DEX/UCS. Unless a product does not have a GTIN, the GTIN should transmit as the primary product identifier.

In the product master, the GTIN field must reflect the Consumer Package GTIN. This is typically the UPC that scans the product in a store's check-out lane. Case code are located in the "xxDXP" file, unless provided for in the product master file.

All products that are identified by a GTIN should contain the GTIN in the product master file. With rare exceptions, this typically includes all sellable and returnable items.

Products not identified by a GTIN should contain all spaces in this field.

While it is highly suggested that all GTINs be unique in the product master file, it is not required.

Customer Master File

Note that you should treat all customers as *split-ticket* customers, regardless of what is downloaded as the ticket type. Beyond separating debits (sales, samples) from credits (returns, buybacks), there is no specification as to how to split up tickets.

DEX/UCS Table Files

Since the DEX/UCS Standards may update every year, the requirements are handled through a table-driven system. This allows many of the changes to the standard to implement simply by updating the tables, without any application changes.

DEX/UCS Data Format Tables Definitions

Following are the file descriptions for the table files required by the DEX/ UCS library functions. The tables are version driven, such that there may be multiple copies of the same set, segment, and element in a table to represent different revision versions of the data formats. If the same set, segment, and data element appears in a given table more than once, the occurrences are assumed in descending order by version date, such as the first occurrence corresponds to the most recent version.

There are five table files in all, each indexing another. These tables are based on the formats outlined in *UCS Standards Manual.*

DEX/UCS Table 1: Transaction Set Names

This file is the uppermost table in the DEX/UCS table hierarchy. It lists the transaction set names and IDs for each version. Entries are grouped in descending order by version date. Transaction sets within a given version are in ascending order by transaction set ID.

All transaction sets for a given version are listed, even if the list is redundant across versions. This allows the application using these tables to easily determine whether a transaction set is not valid for a given version.

Note that the first record in this file is special. Rather than referring to a particular transaction set, it defines the version of the table format used in this record, only the first four bytes of the "SET_VERSION" field, the VERSION YEAR and the VERSION MONTH are significant; all other fields are filler. Tables of the same revision are upward compatible across levels.

Example

A program that understands revision 3, level 5, would also understand revision 3, level 7, but not necessarily revision 3, level 3, unless special considerations were made in the program.

Tables are not compatible across revisions. The YEAR and MONTH fields of this record correspond to the date this table format came into effect.

DEX/UCS Table 2: Data Segments in Each Transaction Set

This file contains the data segment layouts for each transaction set. There may be multiple layouts for the same transaction set, each corresponding to a different implementation version of the transaction set.

In addition to specifying the relative order of the data segments in a transaction set, each record specifies:

- The requirement status of the segment in the transaction set.
- The maximum number of times the segment may repeat continuously.
- The loop control variable (if the segment appears in a loop).
- The loop index, such as the maximum number of loop repetitions.

This file also indexes Table 3, the data segment name table.

DEX/UCS Table 3: Data Segment Names

This file contains the name of each data segment. Note that there may be multiple occurrences of the same segment within this table, each corresponding to a different implementation version.

Segments are grouped by version in descending order by version date. Within each version, segments are in ascending order by their ID.

Each record in this file contains a pointer to its element layout in Table 4.

DEX/UCS Table 4: Data Elements in each Data Segment

This file lists the element layout of each data segment. There may be multiple layouts for the same data segment, each corresponding to a different implementation version.

Layouts are grouped by version in descending order by implementation date. Each segment within a version, is in ascending order by segment ID.

In addition to the relative element order of each segment, each record specifies the following:

- The requirement status of the element within a transaction set.
- Any special processing requirements.

Records in this file contain a pointer to its element definition in Table 5.

DEX/UCS Table 5: Data Element Names

This file lists all of the data element names and types. There may be multiple occurrences of the same element in this table, each corresponding to a different implementation version.

Elements are grouped by version in descending order by implementation date. Within each version, elements are in ascending order by element ID. Besides the name and type of each element, this table contains:

- Minimum and maximum DEX/UCS character length of each element.
- Any special processing requirements for the element.

DEX/UCS Literal Table

This file contains the names of all transaction sets, data segments, and data elements, as referenced by the literal index field of Tables 1, 3, and 5.

This table is optional. It may be downloaded to aid in debugging, but it is not required due to the space it takes up.

Communications Table Definition

This file stores information pertaining to various versions of the DEX/UCS Communications Protocol. The first record is special. The REVISION and LEVEL fields correspond to the version of the table itself. The tables are upward compatible across levels within a revision, meaning that applications need only check that the revisions match and the level is greater than or equal to the level defined by the constants DEXCOM_REVISION and DEXCOM_LEVEL. The PROTOCOL and associated WORKSPACE correspond to what to use for the initial handshake sequence rather than a particular version.

4 **Upload Files**

Transaction File

No transaction file changes need to implementation for DEX/UCS customers. If the ticket type is uploaded, it should always upload as split ticket regardless of the download value. Customers wishing to gain the full benefits of DEX/UCS have to process the audit trail.

DEX/UCS Audit Trail "xxADT"

To fully gain all the benefits of DEX/UCS, keep a complete audit trail of all DEX/UCS transactions. Thus, a DEX/UCS audit trail file is maintained and uploaded containing a complete copy of all DEX/UCS transactions which have taken place since the last successful telecommunications. This information is supplied in a separate file called "xxADT", where "xx" is the file name prefix used by the application.

To aid in the host processing of this file, the application may intersperse some sort of delimiter records amongst the DEX/UCS data. These records mark the beginning and ending of DEX/UCS transmissions and DEX/UCS invoices. These records are defines in "pseudo-EDI" format, such that they follow basic EDI conventions for data formatting although they are not true EDI data segments.

Note: The application is responsible for writing these records at the appropriate times.

Begin DEX/UCS Invoice — BEGINV

This record is written by the application when it is first known that this invoice is processed through DEX/UCS. This includes when DEX/UCS invoice processing is restarted after an abort occurs.

BEGINV	*	BEGINV01 START DATE M　　DT　　06/06	*	BEGINV02 START TIME M　　TM　　06/06	*

	BEGINV03 SUPPLIER DEL/RTN NUMBER M　　AN　　01/22	*	BEGINV04 CUSTOMER NUMBER R0405 C　　AN　　01/??	*

	BEGINV05 STOP NUMBER R0405 C　　N0　　01/??	*	BEGINV06 COMPLETION CODE M　　N0　　03/03	N L

BEGINV01 — Invoice Start Date	The date is taken from the system clock when it is known that this invoice is handled through DEX/UCS.
BEGINV02 — Invoice Start Time	The time is taken from the system clock when it is known that this invoice is handled through DEX/UCS.
BEGINV03 — Supplier Delivery or Return Number	The invoice number. It should match the value transmitted in the 894 transaction set. **Note**: If there are multiple invoice numbers used, such as a single burst, then place the **first** invoice number in this field.
BEGINV04 — Customer Number	The customer number. Its maximum length is not specified as it varies from program to program.
BEGINV05 — Stop Number *(if applicable)*	The stop number. Its maximum length is not specified as it varies from program to program. If an application does not support stop numbers, then remove this field from this data segment.
BEGINV06 — Completion Code	This field specifies the completion status code for DEX/UCS processing for this invoice. Zero indicates that the DEX/UCS processing was completed successfully. Any other value means there was a problem. The application should upload one of the following values:

	0	DEX/UCS completed successfully. The invoice was processed and accepted through DEX/UCS.
	1	User Abort. The route person aborted DEX/UCS processing.
	2	System Abort — Too Many Adjustments. Too many adjustments were made to the invoice.
	3	Fatal Systems Abort — Cannot Create Data. Data generated by the application was not syntactically correct and an application change is required.
	4	Fatal Systems Abort — Cannot Read Data. The program could not process the syntactically correct data.
	104	Initialization Error — Work Area Too Small. The internal buffer for DEX/UCS processing is not large enough to accommodate the largest data segment in the desired DEX/UCS version.
	105	Initialization Error — Unsupported Version. The desired DEX/UCS version is not present in the downloaded DEX/UCS tables. Either the customer information is incorrect, or download new tables that support the desired version.
	106	Initialization Error — DEX/UCS Table Files Missing. One or more of the required DEX/UCS tables is missing.
	107	Initialization Error — Memory Full. There is not enough memory to create the necessary work files for DEX/UCS.
	108	Initialization Error — Directory Full. There are too many files present to create the necessary work files for DEX/UCS.
	109	Initialization Error — Stack Overflow. Attempted to use too much memory to access DEX/UCS.
	110	Initialization Error — Incompatible Tables. The downloaded DEX/UCS data format tables are incompatible with the application. Download new tables.

End DEX/UCS Invoice — ENDINV

This record is written by the application whenever DEX/UCS processing ends for an invoice. This means either the invoice was acknowledged, or that DEX/UCS processing was aborted. This record is written after a DEX/UCS processing abort, even if DEX/UCS processing is restarted.

| ENDINV | * | ENDINV01

SUPPLIER DEL/RTN NUMBER

M   AN   01/22 | * | ENDINV02

END TIME

M   TM   06/06 | N L |

ENDINV01 — Supplier Delivery or Return Number	The invoice number. It should match the value assigned in the BEGINV03 field.
BEGINV02 — Invoice End Time	The time at which DEX/UCS invoice processing was completed.

Begin DEX/UCS Data Generation — BEGGEN

This record is written by the application whenever the application begins to generate DEX/UCS data to transmit. This segment and the ENDGEN segment act as an envelope around the DEX/UCS data that is generated.

BEGGEN	*	BEGGEN01 NUMBER OF DATA CHARACTERS GENERATED M N0 01/06	*	BEGGEN02 DATA GENERATION STATUS CODE M AN 01/01	*

BEGGEN03 DATA SENT SUCCESSFULLY M N0 01/01	N L

BEGGEN01 — Number of DEX/UCS Data Characters Generated	The number of DEX/UCS data characters stored in this BEGGEN/END-GEN envelope. The amount and type of data that follows this segment depends on the value of the Audit Trail Error Handling Mode flag from the "xxDEX" file.
BEGGEN02 — Data Generation Status Code	A one-character code that indicates the success or failure of DEX/UCS data generation. A code of "G" indicates a "Good" conversion, such as no data format errors were detected. Any other code indicates an error. The following codes are defined. *Note this value can be found in the SNDSTAT.ERR_CODE field.*
	G No data format errors detected.
	D Invalid data for field type.
	F Special processing requirements failed.
	L Invalid field length.
	M Mandatory information missing.
	S Incorrect segment ID encountered.
	U Invalid or incorrect code.
	X "ST" data segment missing.
	T Error while reading from a file.
	K Error while writing to a file.
BEGGEN03 — Data Sent Successfully	Signifies whether the DEX/UCS data generated here was eventually transmitted successfully. The following values are defined:
	0 Data was *not* sent successfully.
	1 Data was sent successfully.

End DEX/UCS Data Generation — ENDGEN

This record is written by the application upon the completion of generating DEX/UCS data to transmit.

ENDGEN	*	ENDGEN01 DATA FORMAT ERROR MESSAGE C AN 01/60	N L

ENDGEN01 — Data Format Error Message	An English text error message describing the error that was encountered. This field is only written if the value of BEGGEN02 is not "G." **Note**: This value can be found in the SNDSTAT.ERR_MESSAGE field.

Begin DEX/UCS Data Reading — BEGRED

This record is written by the application whenever the application begins to read and process DEX/UCS data received from a retailer. This segment and the ENDRED segment serve as an envelope around the received DEX/UCS data.

BEGRED	*	BEGRED01 NUMBER OF DATA CHARACTERS READ M N0 01/06	*	BEGRED02 DATA READ STATUS CODE M AN 01/01	N L

BEGRED01 — Number of DEX/UCS Data Characters Read	The number of DEX/UCS data characters stored in this BEGRED/ENDRED envelope. The amount and type of data that follows this segment depends on the value of the Audit Trail Error Handling Mode flag from the "xxDEX" file.
BEGRED02 — Data Read Status Code	A one-character code that indicates the success or failure of processing received DEX/UCS data. A code of "G" indicates a "Good" conversion, such as no data format errors were detected. Any other code indicates an error. The following codes are defined: ***Note***: *Except for codes "W" and "C," this value is found in the RCVSTAT.ERROR_CODE field. The application should generate codes "W" and "C."*
	G No data format errors detected.
	W Warning, transaction set ignored. Data received did not match any existing pending DEX/UCS invoice.
	C Communications IDs do not match based on the value of the COMM ID MATCHING MODE field in the "xxDEX" file described earlier.
	D Invalid data for field type.
	F Special processing requirements failed.
	L Invalid field length.
	M Mandatory information missing.
	S Incorrect segment ID encountered.
	V Invalid or incorrect code.
	X "ST" data segment missing.
	T Error while reading from a file.
	K Error while writing to a file.

End DEX/UCS Data Reading — ENDRED

This record is written by the application upon the completion of reading and processing DEX/UCS data received.

		ENDRED01 DATA FORMAT ERROR MESSAGE C AN 01/60	N L
ENDRED	∗		

ENDRED01 — Data Format Error Message	An English text error message describing the error that was encountered. This field is only written if the value of ENDRED02 is not "G" or "C."

Begin DEX/UCS Communications Session — BEGCOM

This record is written by the application when a DEX/UCS communications session is started.

		BEGCOM01 COMMUNICATIONS START TIME M TM 06/06	N L
BEGCOM	∗		

BEGCOM01 — Communications Start Time	The System clock time at the point DEX/UCS communications is started.

End DEX/UCS Communications Session — ENDCOM

This segment is written by the application when a DEX/UCS communications session has ended.

		ENDCOM01 COMMUNICATIONS END TIME M TM 06/06		ENDCOM02 COMMUNICATIONS COMPLETION CODE M N0 03/03	
ENDCOM	∗		∗		∗

	ENDCOM03 COMMUNICATIONS COMPLETE SUB- STATUS M N0 01/05		ENDCOM04 COMMUNICATIONS ERROR STAGE M N0 01/01	N L
		∗		

ENDCOM01 — Communications End Time	The system clock time at the point when DEX/UCS communications ends.	
ENDCOM02 — Communications Completion Code	Specifies whether or not DEX/UCS communications was successful. Zero indicates that DEX/UCS was successful. Any other value indicates that communication was not successful. This code has the following values. *Note: This value can be found in the COMMSTAT.STATUS_CODE field.*	
	0	Communications successful.
	1	Communications protocol error.
	2	Nonzero handshake response code received from the retailer or transmitted by the application.
	3	File access error.
	4	Bad Communications ID. Retailer responded with a Communications ID that did not match the one we had on record for them. This error only occurs if the COMM ID MATCHING MODE flag is set to check the retailer's Communications ID.
	5	Received invalid communications handshake block from the retailer.
	6	User aborted communications.
	7	Bad Communications version. Retailer responded with a communications version not in our list.
	201	Error processing DEX/UCS communications table. No communications versions in the table that the application could support.
	202	Incompatible DEX/UCS communications table. Either a new DEX/UCS communications table required, or a program change required.
ENDCOM03 — Communications Completion Substatus	Further defines the completion status of the DEX/UCS communications session. It is meaningful only for certain COMPLETION CODE values. For completion code values not listed below, ignore this field. *Note: This value can be found in the COMMSTAT.SUB_STATUS field.*	
	Completion Code 0 — Successful Communications Substatus values: "0" Data was received, "1" Data was transmitted.	
	Completion Code 1 — Protocol Error The substatus field contains the error code returned by the DEX/UCS communications device driver.	
	Completion Code 2 — Nonzero Response Code The substatus field contains the received nonzero response code.	
	Completion Code 3 — File Access Error Substatus field contains the error code returned by file handler device driver.	
ENDCOM04 — Communications Error Stage	Indicates the point at which DEX/UCS communications failed. It should only be present if the COMPLETION CODE is nonzero. It has the following values. *Note: This value can be found in the COMMSTAT.STAGE field.*	
	0	Communications failed prior to any actual communications.
	1	Communications failed during the initial bid for line control.
	2	Communications failed in exchanging the handshake initiator block.
	3	Communications failed in exchanging the Handshake response block.
	4	Communications failed in exchanging the DEX/UCS data.

5 Graphical Representation of DEX/UCS Data Segments

To better understand the software requirements of the DEX/UCS process, it may be helpful to view the requirements of a DEX/UCS transaction, as defined in the UCS Standards Manual.

A transaction set is composed of a series of data segments that are made up of data elements. A data element provides an individual piece of information, such as a name or a quantity. A data segment provides a logical collection of data elements, such as the name and address of a party to the transaction or the quantity, identification, and cost of an item in an order.

A data segment starts with a data segment identifier, then contains one or more data elements separated by and asterisk (*) delimiter, and is terminated by the ASCII control characters CR and LF.

Each data segment used in DEX/UCS is laid out below, with each data element described in the following manner:

```
┌─────────────────────────────┬───┐
│ XXX9            9999         │ * │
│ 9                           │ or│
│                             │   │
│   X──────────────X          │ N │
│         (xmmnn)             │ L │
│                             │   │
│                             │   │
│ X       Type   min/max      │   │
└─────────────────────────────┴───┘
```

XXX99	Each data element within a segment is identified by its sequential position in the segment. In this label, "XXX" is the Segment ID, and "00" is the position in the segment, starting at 1.
9999	A two-to-four digit numerical code identifier assigned to this data element in the Date Element Dictionary contained in the UCS Standards Manual.
X-----X	The description of the data element.
(Xmmnn) *(optional)*	Specifies any data element relationship requirements. "X" specifies the type of requirement; "mm" and "nn" refer to the first and last two digits of data elements in the data segment to which the rule applies.
	P (Paired)	If any one element is present, all must be present.
	R (Required)	At least one element must be present.
	E (Exclusive)	Only one element must be present.
	C (Conditional)	If first element is present, then remaining elements must be present.
	L (Conditional Paired)	If first element is present, then at least one of the remaining elements must be present.
X	Letter specifying element classification.
	M (Mandatory)	This element must be present.
	C (Conditional)	This element may be useful to the message receiver and may be included in the transaction set at the option of the sender.
Type	Data element types:
	Nm (Numeric)	Implied decimal point "m" characters positions before the end.
	Rm (Decimal)	Decimal point explicitly required. Maximum of "m" characters after the decimal point are allowed.
	AN (Alpha/Numeric)	Leading spaces or zeros are *not* allowed.
	DT (Date)	Expressed YYMMDD.
	TM (Time)	Expressed HHMM in military format (0-24).
	ID (Identification)	Expressed as code, as defined for data elements in the Data Element Dictionary.
min/max	The minimum and maximum length of the data element. Decimal points and numeric signs are not counted as part of the length.
*	The element delimiter. If an optional data element is left out, successive delimiters must indicate its unused position. An exception to this rule is where one or more optional data elements are left out *at the end* of a data segment. Here the data segment terminator can terminate the segment at the appropriate earlier point in the segment.
NL	The segment terminator. In DEX/UCS, where data is transmitted in ASCII characters, it consists of the ASCII control characters CR and LF.

DXS — DEX/UCS Application Header

DXS	*	DXS01 402 SENDERS COMM ID M AN 01/10	*	DXS02 479 FUNCTIONAL ID M ID 02/02	*	DXS03 480 VERSION M ID 01/12	*

DXS04 404 TRANSMISSION CONTROL NUMBER M N0 01/05	*	DXS05 402 RECEIVER'S COMM ID O AN 01/10	*	DXS06 376 TEST INDICATOR O AN 01/01	N L

ST — Transaction Set Header

ST	*	ST01 143 TRANSACTION SET ID M ID 03/03	*	ST02 329 TRANSACTION SET CONTROL NUMBER M AN 04/09	*	ST03 1705 IMPLEMENTATION CONVENTION REFERENCE O AN 01/35	N L

G82 — Delivery/Return Base Record Identifier

G82	*	G8201 478 DEBIT/CREDIT FLAG M ID 01/01	*	G8202 861 SUPPLIER'S DEL/RTN NUMBER M AN 01/22	*	G8203 860 RECEIVER'S DUNS NUMBER M ID 09/09	*
		G8204 862 RECEIVER'S LOCATION NUMBER M AN 01/06	*	G8205 860 SUPPLIER'S DUNS NUMBER M ID 09/09	*	G8206 860 SUPPLIER'S LOCATION NUMBER M AN 01/06	*
		G8207 872 PHYSICAL DEL/RTN DATE M DT 08/08	*	G8208 873 PRODUCT OWNERSHIP TRANSFER DATE O DT 08/08	*	G8209 324 P.O. NUMBER O AN 01/22	*
		G8210 323 P.O. DATE O DT 08/08	*	G8211 146 SHIPMENT METHOD OF PAYMENT O ID 02/02	*	G8212 625 COD METHOD OF PAYMENT O ID 01/01	N L

N9 — Reference Number

N9	*	N901 128 REFERENCE NUMBER QUALIFIER M ID 02/02	*	N902 127 REFERENCE NUMBER R0203 C AN 01/30	*	N903 369 FREE-FORM DESCRIPTION R0203 C AN 01/45	*
		N904 373 DATE O DT 08/08	*	N905 337 TIME C TM 04/08	*	N906 623 TIME CODE C ID 02/02	N L

LS — Loop Header

LS	*	LS01 447 LOOP IDENTIFIER M ID 01/06	N L

G83 — Line Item Detail/Direct Store Delivery

G83	*	G8301 204 DSD SEQUENCE NUMBER M N0 01/04	*	G8302 380 QUANTITY M R3 01/15	*	G8303 355 UNIT OR BASIS FOR MEASUREMENT CODE M ID 02/02	*

G8304 766 UPC/EAN CONSUMER PACKAGE CODE R0405 C AN 12/12	*	G8305 235 PRODUCT/SERVICE ID QUALIFIER (R0405, P0506) C ID 02/02	*	G8306 234 PRODUCT/SERVICE ID P0506 C AN 01/48	*

G8307 438 CASE UPC CODE C0709 O AN 12/12	*	G8308 237 ITEM LIST COST O R4 01/09	*	G8309 356 PACK C0709 O N0 01/06	*

G8310 878 CASH REGISTER ITEM DESCRIPTION O AN 01/20	*	G8311 235 PRODUCT/SERVICE ID QUALIFIER P1112 O ID 02/02	*	G8312 234 PRODUCT/SERVICE ID O AN 01/30	*

G8313 810 INNER PACK O N0 01/06	N L

G22 — Pre-Pricing Information

| G22 | * | G2201 288
PRE-PRICED OPTION CODE
M ID 01/01 | * | G2202 420
PRICE NEW, SUGGESTED RETAIL
O N2 02/07 | * | G2203 289
MULTIPLE PRICE QUANTITY
O N0 01/02 | * |

| G2204 3
FREE-FORM MESSAGE
O AN 01/60 | * | G2205 373
DATE
O DT 08/08 | N L |

G72 — Allowance or Charge

| G72 | * | G7201 340
ALLOWANCE OR CHARGE CODE
M ID 01/03 | * | G7202 331
ALLOWANCE OR CHARGE METHOD OF HANDLING CODE
M ID 02/02 | * | G7203 341
ALLOWANCE OR CHARGE NUMBER R03050809
C AN 01/16 | * |

| G7204 769
EXCEPTION NUMBER
O AN 01/16 | * | G7205 359
ALLOWANCE OR CHARGE RATE E050809, R03050809
C R4 01/15 | * | G7206 339
ALLOWANCE OR CHARGE QUANTITY P0607
C R3 01/10 | * |

| G7207 355
UNIT OR BASIS OF MEASUREMENT CODE P0607
C ID 02/02 | * | G7208 360
ALLOWANCE OR CHARGE TOTAL AMOUNT E050809, R03050809
C N2 01/15 | * | G7209 332
PERCENT, DECIMAL FORMAT E050809, P0910
C R3 01/06 | * |

| G7210 828
DOLLAR BASIS FOR PERCENT P0910
C R2 01/09 | * | G7211 770
OPTION NUMBER C1103
O AN 01/20 | N L |

G23 — Terms of Sale

Not supported at this time.

LE — Loop Trailer

LE	*	LE01 447 LOOP IDENTIFIER M AN 01/06	N L

G84 — Delivery and Return Record Totals

G84	*	G8401 380 QUANTITY R0102 C R3 01/15	*	G8402 361 TOTAL INVOICE AMOUNT R0102 C N2 01/10	*	G8403 865 TOTAL DEPOSIT DOLLAR AMOUNT O N2 01/06	N L

G85 — Record Integrity Check

G85	*	G8501 886 INTEGRITY CHECK VALUE M AN 01/12	N L

G86 — Signature

G86	*	G8601 867 SIGNATURE O AN 01/12	*	G8602 93 NAME O AN 01/60	N L

SE — Transaction Set Trailer

SE	*	SE01 96 NUMBER OF INCLUDED SEGMENTS M N0 01/10	*	SE02 329 TRANSACTION SET CONTROL NUMBER M AN 04/09	N L

DXE — DEX/UCS Application Trailer

DXE	*	DXE01 96 TRANSMISSION CONTROL NUMBER M N0 01/05	*	DXE02 97 NUMBER OF TRANSACTION SETS INCLUDED M N0 01/06	N L

G87 — Delivery and Return Adjustment Identification

G87	*	G8701 868 INITIATOR CODE M ID 01/01	*	G8702 478 CREDIT/DEBIT FLAG CODE M ID 01/01	*	G8703 861 SUPPLIER DELIVERY /RETURN NUMBER M AN 01/22	*

		G8704 866 INTEGRITY CHECK VALUE M AN 01/12	*	G8705 869 ADJUSTMENT NUMBER M N0 01/01	*	G8706 870 RECEIVER DELIVERY/ RETURN NUMBER O AN 01/22	N L

G88 — Delivery or Return Identification Adjustment

| G88 | * | G8801   872

PHYSICAL DELIVERY
OR RETURN DATE

O   DT   08/08 | * | G8802   873

PRODUCT
OWNERSHIP
TRANSFER DATE

O   DT   08/08 | * | G8803   324

PURCHASE ORDER
NUMBER

O   AN   01/22 | * |

| G8804   323

PURCHASE ORDER
DATE

O   DT   08/08 | * | G8805   862

RECEIVER'S
LOCATION
NUMBER

O   AN   01/06 | N
L |

G89 — Line Item Detail Adjustment

| G89 | * | G8901   204

DSD SEQUENCE
NUMBER

M   N0   01/04 | * | G8902   380

QUANTITY

O   R3   01/15 | * | G8903   355

UNIT OR BASIS FOR
MEASUREMENT
CODE

O   ID   02/02 | * |

| G8904   766

UPC/EAN CONSUMER
PACKAGE CODE

O   AN   12/12 | * | G8905   235

PRODUCT/SERVICE
ID QUALIFIER

O   ID   02/02 | * | G8906   234

PRODUCT/SERVICE
ID
P0506

O   AN   01/48 | * |

| G8907   438

UPC CASE CODE

O   AN   12/12 | * | G8908   237

ITEM LIST COST

O   R4   01/09 | * | G8909   356

PACK

O   N0   01/06 | * |

| G8910   810

INNER PACK

O   N0   01/06 | N
L |

6 DEX/UCS Configuration of Base Programs

SDM

How Invoices are transmitted:	Single burst
DEX Version(s) tested with:	3040/3050
Number of invoices that can be DEX'd per customer:	• Debits/Sales: 1 • Credits: 1 • Samples: None • Others: None
Displaying Retailer changes:	Display quantity, price, and allowance changes
Sending Totals:	Flag controlled
Price Changes:	Allowed
Allowance Changes:	Allowed
Adding Products:	Allowed
Pending Invoices:	No
DEX Delayed Invoices:	No

Base Dairy

How Invoices are transmitted:	Single burst
DEX Version(s) tested with:	3040/3050
Number of invoices that can be DEX'd per customer:	• Debits/Sales: 1 • Credits: 1 (returns) • Samples: 1 • Others: 1 (buybacks)
Displaying Retailer changes:	Display quantity, price, and allowance changes
Sending Totals:	Flag controlled
Price Changes:	Allowed
Allowance Changes:	Allowed
Adding Products:	Allowed
Pending Invoices:	Yes
DEX Delayed Invoices:	No

Beverage Route Book

How Invoices are transmitted:	Single burst
DEX Version(s) tested with:	3040/3050
Number of invoices that can be DEX'd per customer:	• Debits/Sales: 1 • Credits: **2** • Samples: 1 • Others: None
Displaying Retailer changes:	Display quantity, price, and allowance changes
Sending Totals:	Flag controlled
Price Changes:	Allowed
Allowance Changes:	Allowed
Adding Products:	Allowed
Pending Invoices:	No
DEX Delayed Invoices:	No

Base Bakery

How Invoices are transmitted:	Multiburst
DEX Version(s) tested with:	3030/3040
Number of invoices that can be DEX'd per customer:	• Debits/Sales: up to 4 • Credits: up to 4 • Samples: None • Others: None
Displaying Retailer changes:	Display quantity changes
Sending Totals:	Only when sending adjustments back to the retailer
Price Changes:	Ignored
Allowance Changes:	Ignored
Adding Products:	Allowed
Pending Invoices:	Yes
DEX Delayed Invoices:	Yes

Standard Distribution

How Invoices are transmitted:	Single burst
DEX Version(s) tested with:	3040/3050
Number of invoices that can be DEX'd per customer:	• Debits/Sales: 1 • Credits: 1 • Samples: None • Others: None
Displaying Retailer changes:	Display quantity, price, and allowance changes
Sending Totals:	Flag controlled
Price Changes:	Allowed
Allowance Changes:	No
Adding Products:	Allowed
Pending Invoices:	Yes
DEX Delayed Invoices:	No

7 Changes Between DEX/UCS Versions

This chapter details changes made to DEX/UCS Standards.

Version U3/1 and 003030UCS Differences

- Data element 380 (Quantity) was changed from a maximum of 10 characters to a maximum of 15 characters.

- A relational condition was added to the G83 segment which makes G8309 (Pack) required if G8307 (UPC Case Code) is used. The requirement designator of G8309 (Pack) was therefore changed from Optional to Conditional.

- The Version number used in DXS03 (Version/Release/Industry ID) are in the new format 003030UCS.

The guidelines for specifying case deliveries in the G83 segment were changed to the following:

Method for Specifying Case Deliveries in DEX/UCS

Segment	Meaning
G8302 Quantity	Number of cases
G8303 Unit of Measure	CA (case)
G8304 UPC Consumer Package Code	Consumer package UPC in case
G8305 Product or Service ID Qualifier	Do not use for Case UPC
G8306 Product or Service ID	Do not use for Case UPC
G8307 UPC Case Code	UPC code for product case
G8308 Item List Cost	Cost of product case
G8309 Pack	Always indicates number of consumer packages in case

Version 003030UCS and 003040UCS Differences

- Add existing code 15 (Information Only) as a valid code for G7202 (Method of Handling Code) and add the following (U98-38) guideline for its use:

  When this code is used, the allowance or charge amounts are not to be added or subtracted from the transaction. The data is provided for information only.

- Add the following sentence to the first dash point under G8204 (Receiver's Location Number): "The DUNS plus 4 can be used by placing the DUNS Number in G8203 and the four-digit suffix in G8204 (left justified)."

- Add the following sentence to the first dash point under G8206 (Supplier's Location Number): "The DUNS plus 4 can be used by placing the DUNS Number in G8205 and the four-digit suffix in G8206 (left justified)."

- Add DE235 (Product or Service ID Qualifier) and DE234 (Product or Service ID) to the end of segment G83 (Line Item Detail/DSD) as G8311 and G8312 respectively and Optional, Relational Condition R1112. Also, add the following (U93-08) guideline:

  This second pair of Product or Service ID Qualifier and Product or Service ID data elements allow a supplier to use G8305 to identify the type of item (such as non-resale or deposit item) and at the same time, use G8311 and G8312 to specify a second type of identifier such as the user-defined shipping container (Code UF) in which the item was shipped, or an aggregate code (Code AC) to group items by style.

- The new standard for Deposit items — Not Associated With an Item is listed below. This standard is now consistent with the standard for deposit items which are directly associated with a resale item. (U93-72)

G83 Line-Item Detail and DSD

Segment	Meaning
G8301 DSD Sequence Number	Sequence number
G8302 Quantity	Number of deposit units
G8303 Unit of Measure Code	EA (each)
G8305 Product or Service ID Qualifier	DI (deposit item)
G8306 Product or Service ID	12-digit UPC code
G8308 Item List Cost	Zero

G72 Allowance or Charge (Item Level)

Segment	Meaning
G7201 Allowance or Charge Code	550 (deposit charge or nonresale item)
G7202 Method of Handling	02 (off invoice)
G7205 Allowance or Charge Rate	Deposit charge per unit
G7206 Allowance or Charge Quantity	
G7207 Unit of Measure	

Add the following new convention to section E. SPECIAL CONVENTIONS:

- **FREE GOODS**
  When delivering consumer items which are free due to a special promotion, the total quantity of all goods ordered or invoiced at the regular cost should be stated in the G83 segment as G8302 (DE380 Quantity) and G8308 (DE237 Item List Cost). Use the G72 segment to provide the details of the free goods offering.

Example

A supplier delivers 11 units of a product, giving one unit free. The regular cost of the product is $1.55 each. The Delivery or Return Base Record Transaction Set (894) example is as follows:

G83 Line Item Detail/DSD

G8301 DSD Sequence Number	1
G8302 Quantity	11
G8303 Unit of Measure Code	EA (each)
G8304 UPC Consumer Package Code	001234542345
G8308 Item List Cost	Zero
G8309 Pack	

G72 Allowance or Charge (Item Level)

G7201 Allowance or Charge Code	1 (free goods)
G7202 Method of Handling	02 (off invoice)
G7205 Allowance or Charge Rate	-1.55
G7206 Allowance or Charge Quantity	1
G7207 Unit of Measure	EA (each)

Version 003040UCS and 003050UCS Differences

1 Use the following standard algorithm to calculate the electronic signature in the G86 segment:

- **894 — Delivery or Return Base Record**
  Use: G8201 (Credit and Debit Flag Code)
  G8202 (Supplier Delivery or Return Number)
  Private Algorithm
  Signature Key

- **895 — Delivery or Return Acknowledgement and Adjustment**
  Use: G8702 (Credit and Debit Flag Code)
  G8703 (Supplier Delivery or Return Number)
  Private Algorithm
  Signature Key

2 Add DE373 (Date) to the end of the G22 (Pricing Information) segment as G2205, Optional. This change was approved for use in the Price Change Transaction Set (879). Since this data element is not required for DSD, a guideline is added to the *DSD Implementation and User Guide* which states that G2205 (DE373 Date) is not used in DEX/UCS. (U94-17)

3 Add the N9 (Reference Number) segment to the Header Area, Optional, Maximum Use of >1. (U94-23, U94-47, and U94-48)

4 Add the following code values to N901:

- **08 Carrier Assigned Package Identification Number**
  Provides a third-party delivery service tracking number when using the 894 transaction set in the NEX/UCS environment.

- **4O Canadian Goods and Services or Quebec Sales Tax Reference Number**

- **4G Provincial Tax Identification Number**

- **LA Shipping Label Serial Number**
  UCC/EAN-128 Serial Shipping Container Code. This code is normally used in the NEX/UCS environment.

Version 003050UCS and 003070UCS Differences

1 The guidelines for specifying delivery of random weight items were defined. There are two methods that can be used, both are detailed below:

The first method uses a single G83 segment:

G83 Line Item Detail/DSD

Segment Element	Meaning
G8301 DSD Sequence Number	Item sequence number
G8302 Quantity	Total random weight of all pieces
G8303 Unit of Measure	LB (pounds)
G8304 UPC/EAN Consumer Package Code	UPC of item
G8308 Item List Cost	Price per unit of measure
G8310 Cash Register Item Description	Description of item

The second method uses a separate G83 segment for each random weight item:

G83 Line Item Detail/DSD

Segment Element	Meaning
G8301 DSD Sequence Number	Item sequence number
G8302 Quantity	Random weight of a single item
G8303 Unit of Measure	LB (pounds)
G8304 UPC/EAN Consumer Package Code	UPC of item (same for each occurrence)
G8305 Product/Service ID Qualifier	WA (random weight aggregation code)
G8306 Product/Service ID	Descriptor for the group
G8308 Item List Cost	Price per unit of measure
G8310 Cash Register Item Description	Description of item

2 Added a new element to the G83 Line Item Detail/DSD segment. **G8313 — Inner Pack** provides the number of eaches per inner pack. For example, if there were 2 inner containers within a shipping container and each inner container held 6 consumer units, then the value in this data element would be 6.

3 Added a new element to the G86 Signature segment. **G8606 — Name** can provide a keyed representation of a signature in clear text.

4 Added a new element to the G89 Line Item Detail Adjustment. **G8910 — Inner Pack** corresponds to the G83 element G8313 Inner Pack element.

Version 003070UCS and 004010UCS Differences

1 For Y2K purposes, expanded all Date fields in the 894 and 895 transaction sets to 8 digits.

Segments affected: G82 — Delivery/Return Base Record Identifier
N9 — Reference Number
G22 — Pricing Information
G23 — Terms of Sale
G88 — Delivery/Return Identification Adjustment

2 Changed the maximum size of the G7205 — Allowance or Charge Rate from 9 to 15.

Version 004010UCS and 005010UCS Differences

1 Marked G8304 (UPC./EAN Consumer Package Code) in transaction set 894 as "Not Used." Use G8305 (Product/Service ID Qualifier) and G8306 (Product/Service ID) to specify item level GTINs instead.

2 Continued to use G8305 and G8306 in transaction set 894 to specify the following. Leave these codes in G8305:
DI — Deposit Item Number
NR — Non-resaleable Item (excluding deposit) Number
VN — Vendor's (Seller's) Item Number

3 Do not use G8305 and G8306 in transaction set 894 to specify the following. Use G8311 and G8312 instead.
AC — Aggregation Code
UC — UPC Suffix (Defines Packing Variation)
UF — User-defined Shipping Container Identifier
UO — SSCC-18 and Application Identifier
WA — Random Weight Aggregation Code

4 Added the following codes to G8305 in transaction set 894 to specify the appropriate item level GTIN in G8306:
EN — EAN/UCC-13
EO — EAN/UCC-8
UK — EAN/UCC-14
UP — UCC-12

5 Marked G8307 (UPC. Case Code) in transaction set 894 as "Not Used". Use G8311 and G8312 to specify case level GTINs.

6 Added the following codes to G8311 in transaction set 894 to specify the appropriate case level GTIN in G8312.
EN — EAN/UCC-13
EO — EAN/UCC-8
UK — EAN/UCC-14
UP — UCC-12

7 Marked G8904 (UPC./EAN Consumer Package Code) in the G89 segment in transaction set 895 as "Not Used." Use G8905 (Product/Service ID Qualifier) and G8906 (Product/Service ID).

8 Marked G8907(UPC./EAN Consumer Package Code) in the G89 segment in transaction set 895 as "Not Used." Use G8911 (Product/Service ID Qualifier) and G8912 (Product/Service ID).

Note: The current definition of the G89 segment does not include the G8911 (Product/Service ID Qualifier) and G8912 (Product/Service ID) elements. This is remedied in a later version of the DEX.UCS standard.

The GTIN is the EAN.UCC System identifier for the trade items which encompasses both products and services. GTINs provide the capability to deliver unique identification worldwide. The most commonly recognized and used GTINs are the UPC. and EAN-13 symbols.

This changes the representation of delivery items in the G83 and G89 segments. Changes to the G83 segment for each and case deliveries are detailed below:

G83 Line Item Detail/DSD (Eaches delivery)

Segment Element	Meaning
G8301 DSD Sequence Number	Item sequence number
G8302 Quantity	Quantity being delivered
G8303 Unit of Measure	EA (eaches)
G8304 UPC/EAN Consumer Package Code	*Not Used*
G8305 Product/Service ID Qualifier	"UP" (UCC-12 aka UPC)
G8306 Product/Service ID	GTIN of item (12-digit UPC)
G8308 Item List Cost	Price per unit of measure
G8310 Cash Register Item Description	Description of item

G83 Line Item Detail/DSD (Case delivery)

Segment Element	Meaning
G8301 DSD Sequence Number	Item sequence number
G8302 Quantity	Quantity being delivered
G8303 Unit of Measure	CA (cases)
G8304 UPC/EAN Consumer Package Code	*Not Used*
G8305 Product/Service ID Qualifier	"UP" (UCC-12 aka UPC)
G8306 Product/Service ID	GTIN of item (12-digit UPC)
G8307 UPC Case Code	*Not Used*
G8308 Item List Cost	Price per unit of measure
G8310 Cash Register Item Description	Description of item
G8311 Product/Service ID Qualifier	"UP" (UCC-12 aka UPC)
G8312 Product/Service ID	GTIN of case (12-digit UPC)

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DEX/UCS Programmer's Guide - October 2004

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