ELECTRONICS INDUSTRY DATA EXCHANGE (EIDX)

Implementation Recommendations for Static Product Data

Specification/Technical Information (841)

IMPORTANT NOTE

Pre-1999 business models are undergoing recast into Unified Modeling Language (UML) notation, and some restructuring. In addition, we've been adding cross-references to XML standards, such as RosettaNet. The Downloadable business model documents have *not* been updated. **Always refer to the "Clickable Business Models" for the latest and greatest information.** That area of the website also contains very useful information on newer, internet-based technologies. The changes to the existing models *have not changed the original intent* of the models published here in this table, but are (we hope) improvements to presentation that enhance understanding of the business processes and how to implement them.

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Purpose

The purpose of this document is to provide recommendations on the ASC X12 Specification/Technical Information (841) transaction for simple product data to facilitate implementations. EIDX convention guidelines have recommendations on which segments and data element codes to use. This document is a detail supplement which every implementor should consider.

Of course, any implementation is an agreed upon method by trading partners. It is the intent of this document to make interpretation of this transaction more consistent so every implementation does not have its own set of rules but commonality.

GUIDELINE SPECIFIC USAGE
Physical product data is transmitted in the 841 Specification/Technical Information transaction. This recommended version of the 841 transaction is to convey product attributes which are traditionally found in paper price catalogs. Hard copy price catalogs often contain a substantial number of static physical product attributes like product description, speed, temperature range, and packaging. It is recommended that these static attributes be conveyed in the 841 transaction instead of the price catalog which may be updated more frequently.

This version of the 841 transaction does not convey engineering technical data.

The 841 transaction is also used to convey other data. DE 755 Report Type Code in Specification Identifier (SPI) segment should be used to identify which specific flavor of the 841 transaction is included. The EDI translator may recognize the code and direct the file to the correct process. Alternate recognition processes may require the sender to place the transaction into a specially designated mailbox or at least specify different codes on the GS segment so the process knows what to expect and route the transactions appropriately.

This is a sample of the types of data to be found in an 841 transactions.

REPORT TYPE (DE755)	***Meaning***
BM	Bill of Materials
DW	Drawing
EC	Engineering Change Order
ER	Engineering Change Request
MF	Manufacturing Specification
PB	Product Catalog
SP	Specification

STANDARDS VERSION
EIDX recommends at least ASC X12 version/release 3020 for this transaction. Higher versions/ releases were considered to accommodate different units of measurement for standard packaging quantities. The use of the value of PID05 with the PID04 = 'SQ1' accommodated the unit of measurement difference for all versions/ releases of ACS X12 841 Specification/Technical Information transaction.

Data segment and element positions refered to in this document are particular to ASC X12 Version 003020 and UN-EDIFACT Version/Release 92.1. Users of this document may need to adapt information when applying these recommendations to other standards versions.

Abbreviations Used

ANSI	American National Standards Institute
ASC X12	Accredited Standards Committee X12 (ANSI)
EDI	Electronic Data Interchange

Section 1 - Recommendations for Usage of Specification/Technical Information for Static Product Data (841)

Physical Product Descriptions Using the PID Segment

The 841 transaction can be sent with all products or products with changes only. Customers can update their systems with basic product data as needed, and utilize supplier product data for any of their applications.

Section 2 (below): Group A is the PID04 code list of static product attributes, which are not likely to change often. These product attributes are appropriate for the 841 transaction.

See the EIDX Specification/Technical Information (832) recommendations for more product codes for PID segments. They tend to be marketing oriented for the price catalog.
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All Products or Only Product Changes in a Transaction

A supplier has the option to send data for *all products or for selected products* in the 841 Specification/Technical Information transaction.

- Method 1: SEND ALL PRODUCTS (FULL CATALOG)
- Method 2: SEND ONLY NEW PRODUCTS, or PRODUCTS WITH ATTRIBUTE UPDATES (DELTA CATALOG)

METHOD	***DATA ELEMENT***	***DESCRIPTION***	***VALUE***	***MEANING***	***CONTENT***
	SPI: SPECIFICATION IDENTIFIER				
1	*SPI07*	*TRANSACTION SET PURPOSE CODE*	*00*	*ORIGINAL*	*ALL PRODUCTS*
2	*SPI07*	*TRANSACTION SET PURPOSE CODE*	*04*	*CHANGE*	*NEW or CHANGED PRODUCTS*

Consider the following when determining the transaction content.

METHOD 1: SEND ALL PRODUCTS (FULL PRODUCTS)
Whenever the Specification/Technical Information is received with the 'original' code (SPI07='00'), the *entire new Specification/Technical Information should totally overlay* the previous Specification/Technical Information from the supplier.

It is likely that a large volume of unchanged data from the last transmission is sent again if this method is used regularly. The 841 transaction could be a very costly transaction if unchanged product data is resent. Sending unchanged data has no added value.

It may suffice to send a full transaction with all products for the *initial* 841 Specification/Technical Information transaction to a customer or upon request from the customer.

METHOD 2: SEND ONLY NEW PRODUCTS, OR PRODUCTS WITH PRODUCT ATTRIBUTE UPDATES (NEW or CHANGED PRODUCTS)
The SPI07='04' (Change) is to be interpreted as a selective update of products.

This method is less costly to implement on a regular basis. Only new or changed products and their product attributes could be sent without a large volume of data. New products are considered 'changes' to the previous Specification/Technical Information.

Pairs of Product Description codes (PID04) and associated Descriptions (PID05) describe all product attributes and descriptions.

Both methods are independent of the number of product attributes sent with each product. Product attributes may be sent in the 841 transaction. EIDX recommends the 841 transaction for physical or static product attributes. The initial electronic Specification/Technical Information from a given supplier should have all the product attributes for each product.

Miscellaneous Segments

X12: HL – HIERARCHICAL LEVEL
X12: LIN – LINE ITEM IDENTIFICATION DETAIL
X12: DTM – DATE/TIME REFERENCE
X12: REF – REFERENCE
X12: TC2 – COMMODITY FOR HARMONIZED SYSTEM TARIFF CLASSIFICATION

HL - Hierarchical Level

A Specification/Technical Information transaction has an HL loop for each product.
The HL01 is a counter. The HL01 is increased by one for each LIN in this transactions.

- The HL03 is constant with 'D' for Product Description.

LIN - Item Identification Detail

The product identification (part number) is found in the LIN segment.

- Only the 'VP' qualifier (meaning Vendor Part) and the vendor part number are found on the LIN segment. Buyer part numbers are not appropriate for this 841 transaction.

DTM - Date/Time Reference

Use the following DTM02 Date/Time Qualifiers:

- 007 - EFFECTIVE DATE OF THE DATA
- 043 - PUBLICATION (for MATERIAL SAFETY DATA SHEET DATE)

REF - Reference for PART CLASSIFICATION

Use REF for Part Classification.

- REF02= 'PG' (Product Group)
- REF03 for the actual value.

TC2 - Commodity for HARMONIZED SYSTEM TARIFF CLASSIFICATION

Use TC2 for the Harmonized System Tariff Classification.

- TC202 = 'J' (Harmonized Code System)
- TC203 has the actual value.

Product Data/Product Attributes

X12: PID04/PID05 PRODUCT DESCRIPTION CODE/PRODUCT DESCRIPTION

EIDX has developed and will maintain code lists for PRODUCT DESCRIPTION CODE (PID04, data element 751) and DESCRIPTION (PID05, data element 352) to describe product attributes for products. The use of these codes across all trading partners should facilitate implementations.

Note the following:

1. Product attributes are conveyed in several PRODUCT/ITEM DESCRIPTION (PID) segments.

2. Every product attribute in a PID segment is optional. Send only product attributes that apply to your corporate data. Any specific PID04 description code can be used multiple times if applicable.

The PID segment is formatted like the following:

	PID01	**PID02**	**PID03**	**PID04**	**PID05**
PID*	S*	08*	EX*	(EIDX CODE)*	(your data)

NOTE: 'PID*S*08*EX' is constant for each PID segment.

Where:

'S'	=	STRUCTURED (FROM INDUSTRY CODE LIST)
'08'	=	PRODUCT
'EX'	=	ELECTRONIC INDUSTRY DATA EXCHANGE (EIDX) ASSOCIATION
(EIDX CODE)	=	one of EIDX's Product Description codes
(your data)	=	your corporate data or one of the codes from the code lists for the PID05

4. The PID05 Description contains your actual corporate specific data labeled or qualified by the PID04 Description Code.

5. Code values used in the PID05 can be reused among different PID04 fields, e.g.,'M' can be used with the Product Grade (GRD) code and the Temperature (TMP) code.

6. PID05 product data has one of the following data types:

DATA TYPE	**MEANING**
Code	The EIDX established code
Flag	The flag is 'Y' for yes or 'N' for no depending on if the product attribute applies.
Free Form Text	Anything keyed (1-80 characters)
Number	Any number

7. PRODUCT ATTRIBUTE DEFINITIONS

Definitions for most of the product attributes are believed to be obvious. If any code is not clear, let EIDX know so an attempt can be made to define the code in detail.

NOTES

It may not be possible to determine if a note (where PID04 = 'NTE') applies to the static or dynamic product attributes. The NTE segment may be used as necessary.

REFERENCE PRODUCT

A reference product may be found in PID05 when PID04 is set to 'REF'. It is optional. If the product in the LIN segment is obsolete, its replacement product may be placed in the PID05 data field when the PID04 is set to 'REF'.

Paired Product Attributes for Standard Package Type Codes

X12: PID04/PID05 PRODUCT DESCRIPTION CODE/PRODUCT DESCRIPTION

The usage of multiple Standard Package Type codes (ST1, ST2, ST3) is best explained with an example.

Package Type Code	Meaning
SQ1*4	4 units (ST1 indicates tubes; hence 4 units in a tube)
ST1*U	Tube (a unit of measurement associated with SQ1)
SQ2*144	144 units (ST2 indicates Q-Pack; hence 144 units in a Q-pack)
ST2*Q	Q-pack (a unit of measurement associated with SQ2)

The Standard Package Type-1 Code (ST1) and its associated Standard Package Quantity (SQ1) should contain the smallest packaging type for the product. For semiconductors, this may be tubes (ST1='T'). In the above example, 4 units of the product are in a tube.

The next level of packaging is found in Standard Package Type-2 code (ST2) and its quantity (SQ2). In the above example, 144 units of the product make a Q-Pack. The multiplication of number of tubes in a Q-pack times number of units in a tube is calculated by the supplier and the resulting number is sent in a SQ2.

A former Specification/Technical Information may convey '4 units to a tube' and '36 tubes make a Q-Pack'. The latter entity is not sent in the ASC X12 Specification/Technical Information transaction as defined by EIDX. Instead, the supplier sends the number of units in the smallest container and the number of units in the next level of packaging, e.g., '4 units to a tube' and '144 units make a Q-Pack'.

The next level of packaging may be sent with SQ3 and ST3 codes if necessary.

Paired Product Attributes for Numbers and Units of Measure

X12: PID04/PID05 PRODUCT DESCRIPTION CODE/PRODUCT DESCRIPTION

There are several product attributes which are represented by a NUMBER. The particular number needs a second code to convey unit of measurement for the number. For example, 'part access time' of '15 nanoseconds' required both the ATM and ATU codes in two PID segments.

These product attributes are suitable for 841 transactions since the data does not change often.

MEANING	PID04	PID05 EXAMPLES
Part Access Time Part Access Time Unit of Measurement	ATM ATU	15 NS (for nanoseconds)
Part Capacitance Number Part Capacitance Qualifier Code	CAP CAQ	10 UF (for microfarads)
Number of Contacts Contact Type Code	CNM CTY	132 P (for pins)
Part Read Cycle Part Read Cycle Unit of Measurement	RCY RCU	20 NS (for nanoseconds)
Part Serial Access Time Part Serial Access Time Unit of Measurement	SAT SAU	14 NS (for nanoseconds)
Shelf Life Shelf Life Unit of Measurement	SLF SLU	4 Y (for years)
Speed Speed Unit of Measurement	SPD SPU	15 NS (for nanoseconds)
Standard Packaging Quantity -1 (smallest package) Standard Packaging Quantity -1 Unit of Measurement (associated with SQ1)	SQ1 ST1	12 U (for tube)
Standard Packaging Quantity -2 (level 2 package: next level package after SQ1) Standard Packaging Quantity -2 Unit of Measurement (associated with SQ2)	SQ2 ST2	48 Q (for Q-Packs)
Standard Packaging Quantity -3 (level 3 package: next level package after SQ2) Standard Packaging Quantity -3 Unit of Measurement (associated with SQ3)	SQ3 ST3	
Temperature Range: Low Point Temperature Range: High Point Temperature Range Unit of Measurement	THL THM THQ	-100 100 C

The following attribute has its PID05 contain only a number. The unit of measurement is voltage by its definition.

MEANING	PID04	PID05
Part Voltage	VOL	15

Section 2 – EIDX Code Lists for Product Attributes

Group A: Product Physical (Static) Attributes

The product attributes in the following list should be transmitted in the 841 Specification/Technical Information transaction since their PID05 values do not change often.

Other EIDX product attributes which are related to pricing or marketing strategy should be conveyed in the Price Catalog (832) transaction. These codes are found below in *Section 2: Group B PRODUCT (DYNAMIC) ATTRIBUTES*. See the EIDX Price Catalog Recommendation document for more information about Group B codes.

PAIR Numbers
Items with the same Pair Number: EACH PAIR or SET OF ATTRIBUTES MUST USUALLY BE USED TOGETHER USUALLY TO SPECIFY THE UNIT OF MEASUREMENT WITH THE CODE OR NUMBER.

GROUP A BY PRODUCT DESCRIPTION CODE

	PID04 DE751	PAIR #	DATA ITEM	DATA TYPE	SAMPLE
1	ATM	1	PART 'ACCESS TIME'	NUMBER	1200
2	ATU	1	PART 'ACCESS TIME' UOM	NUMBER	NS
3	BRI		BRIGHTNESS	NUMBER	1400
4	BRU		BRIGHTNESS UOM	CODE	MCD
5	CAP	2	PART CAPACITANCE NUMBER	NUMBER	200
6	CAQ	2	PART CAPACITANCE QUALIFIER	CODE	PF
7	CLS		PRODUCT CLASSIFICATION	FREE FORM	C
8	CNM	3	NUMBER OF CONTACTS	NUMBER	12
9	CRC	4	RIPPLE CURRENT	NUMBER	100
10	CRU	4	RIPPLE CURRENT UOM	CODE	A
11	CTN		CAPACITOR TAN	NUMBER	10
12	CTY	3	CONTACT TYPE	CODE	P
13	CUR	5	CURRENT	NUMBER	100
14	CUU	5	CURRENT UOM	CODE	MA
15	CWU	6	WORKING VOLTAGE UOM	CODE	V
16	CWV	6	WORKING VOLTAGE	NUMBER	25
17	DEV		DEVELOPMENT TOOL FLAG	FLAG	Y
18	DRN	7	DRAIN CURRENT	NUMBER	125
19	DRU	7	DRAIN CURRENT UOM	CODE	A
20	DRV		DRIVE LEVEL	CODE	CMOS
21	DSC		COMPONENT DESCRIPTION	FREE FORM	CMOS,DUAL SLAC
22	ESR	8	EQUIVALENT SERIES RESISTANCE	NUMBER	25
23	ESU	8	EQUIVALENT SERIES RESISTANCE UOM	CODE	OHM
24	FNS		FINISH CODE	CODE	G
25	FQU	9	FREQUENCY	NUMBER	100
26	FQY	9	FREQUENCY UOM	CODE	H
27	FTH	10	FREQUENCY TOLERANCE - HIGH	NUMBER	50
28	FTI	10	FREQUENCY TOLERANCE - HIGH UOM	CODE	PPM
29	FTL	11	FREQUENCY TOLERANCE - LOW	NUMBER	-10
30	FTM	11	FREQUENCY TOLERANCE - LOW UOM	CODE	PPM
31	GRD		PRODUCT GRADE	CODE	M
32	GAI		GAIN RATIO	NUMBER	100

	PID04 DE751	PAIR #	DATA ITEM	DATA TYPE	SAMPLE
33	ICU	12	COLLECTOR CURRENT UOM	CODE	MA
34	ICX	12	COLLECTOR CURRENT	NUMBER	500
35	IFF	13	FORWARD CURRENT	NUMBER	
36	IFU	13	FORWARD CURRENT UOM	CODE	
37	JUN	14	JUNCTION CAPACITANCE	NUMBER	20
38	JUU	14	JUNCTION CAPACITANCE UOM	CODE	PF
39	LAP	15	INDUCTANCE	NUMBER	50
40	LAQ	15	INDUCTANCE UOM	CODE	PH
41	LCA	16	LOAD CAPACITANCE	NUMBER	10
42	LCU	16	LOAD CAPACITANCE UOM	CODE	F
43	LEK	17	LEAKAGE CURRENT	NUMBER	1
44	LEU	17	LEAKAGE CURRENT UOM	CODE	A
45	LPK		LED PACKAGE	CODE	T1
46	MEM		MEMORY TYPE	CODE	M
47	OSC		OSCILLATION MODE	CODE	3
48	PKG		PACKAGE TYPE OR CASE (of the component)	FREE FORM	B
49	PLN		PART FAMILY/PRODUCT LINE	FREE FORM	PLD
50	PWR		POWER DISSIPATION	NUMBER	100
51	PWU		POWER DISSIPATION UOM	CODE	M
52	QCD		Q-CODE	NUMBER	200
53	RAP	18	RESISTANCE AT AMBIENT	NUMBER	10
54	RAQ	18	RESISTANCE AT AMBIENT UOM	CODE	O
55	RCU	19	PART ‘READ CYCLE’ UOM	NUMBER	NS
56	RCY	19	PART ‘READ CYCLE’	NUMBER	20
57	RDS	20	RESISTANCE	NUMBER	
58	RDU	20	RESISTANCE UOM	CODE	
59	REF		REFERENCING PART	FREE FORM	PAL9875-12
60	RES		RESONANCE MODE	CODE	S
61	SAT	21	PART ‘SERIAL ACCESS TIME’	NUMBER	20
62	SAU	21	PART ‘SERIAL ACCESS TIME’ UOM	NUMBER	NS
63	SCN		SWITCH CONFIGURATION	CODE	D
64	SFT		SOFTWARE FLAG	FLAG	Y
65	SLF	22	SHELF LIFE	NUMBER	30
66	SLN		SOFTWARE LICENSE FLAG	FLAG	Y
67	SLU	22	SHELF LIFE UOM	NUMBER	D
68	SPD	23	SPEED	NUMBER	15
69	SPH		SPECIAL HANDLING CODE	CODE	D
70	SPO		SPECIAL PACKAGING OPTIONS	CODE	H
71	SPU	23	SPEED UOM	NUMBER	NS

	PID04 DE751	PAIR #	DATA ITEM	DATA TYPE	SAMPLE
72	**SQ1**	24	**STANDARD PACKAGING QUANTITY - smallest package**	NUMBER	12
73	**SQ2**	25	**STANDARD PACKAGING QUANTITY - LEVEL 2**	NUMBER	144
74	**SQ3**	26	**STANDARD PACKAGING QUANTITY - LEVEL 3**	NUMBER	
75	**SRR**		**SERIES RESISTANCE**	NUMBER	50
76	**SRU**		**SERIES RESISTANCE UOM**	CODE	O
77	**ST1**	24	**STANDARD PACKAGING TYPE CODE - for SQ1**	CODE	T
78	**ST2**	25	**STANDARD PACKAGING TYPE CODE - for SQ2**	CODE	Q
79	**ST3**	26	**STANDARD PACKAGING TYPE CODE - for SQ3**	CODE	
80	**TCE**	27	**TEMPERATURE CO-EFFICIENT AT AMBIENT**	NUMBER	30
81	**TCU**	27	**TEMPURATURE CO-EFFICIENT AT AMBIENT UOM**	CODE	
82	**TEC**		**TECHNOLOGY**	CODE	B
83	**THP**		**PART TOLERANCE: HIGH PERCENT**	NUMBER	10
84	**THR**		**THERMISTOR TYPE**	CODE	P
85	**TLP**		**PART TOLERANCE: LOW PERCENT**	NEGATIVE NUMBER	-10
86	**TMH**	28	**TEMPERATURE RANGE: HIGH**	NUMBER	50
87	**TML**	28	**TEMPERATURE RANGE: LOW**	NUMBER	-40
88	**TMP**		**TEMPERATURE CODE**	CODE	M
89	**TMQ**	28	**TEMPERATURE RANGE UOM**	CODE	C
90	**TRE**	29	**THERMISTOR RESISTANCE**	NUMBER	
91	**TRF**	29	**THERMISTOR RESISTANCE UOM**	CODE	
92	**TRR**	30	**REVERSE RECOVERY TIME**	NUMBER	
93	**TRU**	30	**REVERSE RECOVERY TIME UOM**	CODE	
94	**VGS**	31	**VOLTAGE GATE TO SOURCE THRESHOLD**	NUMBER	
95	**VGU**	31	**VOLTAGE GATE TO SOURCE THRESHOLD UOM**	CODE	
96	**VOL**		**PART VOLTAGE**	NUMBER	300
97	**VRA**		**REVERSE VOLTAGE**	NUMBER	
98	**VRB**		**REVERSE VOLTAGE UOM**	CODE	
99	**VRR**	32	**PEAK REVERSE VOLTAGE**	NUMBER	
100	**VRU**	32	**PEAK REVERSE VOLTAGE UOM**	CODE	
101	**VWA**		**VIEWING ANGLE (in degrees)**	NUMBER	
102	**VZU**	33	**ZENER VOLTAGE UOM**	CODE	
103	**VZZ**	33	**ZENER VOLTAGE**	NUMBER	
104	**WCU**	34	**PART 'WRITE CYCLE' UOM**	NUMBER	NS
105	**WCY**	34	**PART 'WRITE CYCLE'**	NUMBER	20

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GROUP A BY DESCRIPTION (DATA TYPE)

Attributes requiring Free-Form Text Descriptions

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	Following PID05 values have free form text. Anything can be found in the field.		
1	**PRODUCT CLASSIFICATION**	**CLS**	FREE FORM
2	**COMPONENT DESCRIPTION**	**DSC**	FREE FORM
3	**NOTE**	**NTE**	FREE FORM
4	**PACKAGE TYPE or CASE (of the component)**	**PKG**	FREE FORM
5	**PRODUCT FAMILY/PRODUCT LINE**	**PLN**	FREE FORM
6	**REFERENCING PRODUCT**	**REF**	FREE FORM

Attributes containing Yes/No Flags

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	Following PID05 codes have a 'Y' for YES, and 'N' for NO associated with them. You need not send any particular code, unless an exception applies, e.g. if 90% of parts are Price Protected, only send 'N' on the 10% which are not price protected.		
83	**DEVELOPMENT TOOL FLAG**	**DEV**	Y = yes if developmental tool (otherwise, do not send)
84	**SOFTWARE FLAG**	**SFT**	Y = yes if product is software (otherwise do not send)
85	**SOFTWARE LICENSE FLAG**	**SLN**	Y = yes license required (otherwise do not send)

Attributes containing Numbers or Units of Measurements

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	Following PID05 values have numbers or qualifiers to those numbers. (UOM= Unit of Measurement)		
7	**'ACCESS' TIME**	**ATM**	NUMBER
8	**'ACCESS' TIME UOM**	**ATU**	Unit of measurement for ATM
9	**BRIGHTNESS ('BRU' for UOM)**	**BRI**	NUMBER
10	**BRIGHTNESS UOM**	**BRU**	Unit of measurement for BRI
11	**CAPACITANCE ('CAQ' for UOM)**	**CAP**	NUMBER
12	**NUMBER OF CONTACTS ('CTY' for UOM)**	**CNM**	NUMBER
13	**RIPPLE CURRENT ('CRU' for UOM)**	**CRC**	NUMBER
14	**RIPPLE CURRENT UOM**	**CRU**	Unit of measurement for CRC A = Amp M = Milli Amp N = Nano Amp
15	**CAPACITOR TAN**	**CTN**	NUMBER
16	**CURRENT ('CUU' for UOM)**	**CUR**	NUMBER
17	**CURRENT UOM**	**CUU**	Unit of measurement for CUR A = Amp M = Milli Amp N = Nano Amp
18	**WORKING VOLTAGE UOM**	**CWU**	Unit of measurement for CWV
19	**WORKING VOLTAGE ('CWU' for UOM)**	**CWV**	NUMBER
20	**DRAIN CURRENT ('DRU' for UOM)**	**DRN**	NUMBER
21	**DRAIN CURRENT UOM**	**DRU**	Unit of measurement for DRN A = Amp M = Milli Amp N = Nano Amp
22	**EQUIVALENT SERIES RESISTANCE ('ESU' UOM)**	**ESR**	NUMBER
23	**EQUIVALENT SERIES RESISTANCE UOM**	**ESU**	Unit of measurement for ESR O = Ohm K= Kilo Ohm M = Mega Ohm
24	**FREQUENCY ('FQY for UOM)**	**FQU**	NUMBER
25	**FREQUENCY UOM**	**FQY**	Unit of measurement for FQU H = Hertz K = Kilo Hertz M = Mega Hertz G = Giga Hertz
26	**FREQUENCY TOLERANCE -HIGH ('FTI for UOM)**	**FTH**	NUMBER
27	**FREQUENCY TOLERANCE- LOW UOM**	**FTI**	Unit of measurement for FTH
28	**FREQUENCY TOLERANCE- LOW ('FTM for UOM)**	**FTL**	NUMBER
29	**FREQUENCY TOLERANCE - LOW UOM**	**FTM**	Unit of measurement for FTL
30	**COLLECTOR CURRENT ('ICX' for UOM)**	**ICU**	NUMBER
31	**COLLECTOR CURRENT UOM**	**ICX**	Unit of measurement for ICU A = Amp M = Milli Amp N = Nano Amp

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
32	**FORWARD CURRENT ('IFU' for UOM)**	**IFF**	NUMBER
33	**FORWARD CURRENT UOM**	**IFU**	Unit of measurement for IFU A = Amp M = Milli Amp N = Nano Amp
34	**GAIN RATION**	**GAI**	NUMBER
35	**JUNCTION CAPACITANCE ('JUU' for UOM)**	**JUN**	NUMBER
36	**JUNCTION CAPACITANCE UOM**	**JUU**	Unit of measurement for JUN A = Amp M = Milli Amp N = Nano Amp
37	**INDUCTANCE ('LAQ' for UOM)**	**LAP**	NUMBER
38	**INDUCTANCE UOM**	**LAQ**	Unit of measurement for LAP H = Henry N = Nano Henry M = Micro Henry
39	**LOAD CAPACITANCE ('LCU' for UOM)**	**LCA**	NUMBER
40	**LOAD CAPACITANCE UOM**	**LCU**	Unit of measurement for LCA NF= Micro Farads P = Pico Farads
41	**LEAKAGE CURRENT ('LEU' for UOM)**	**LEK**	NUMBER
42	**LEAKAGE CURRENT UOM**	**LEU**	Unit of measurement for LEK A = Amp M = Milli Amp N = Nano Amp
43	**POWER DISSIPATION**	**PWR**	NUMBER
44	**POWER DISSIPATION UOM**	**PWU**	Unit of measurement for PWR W= Watt MW= Milli Watt
45	**QCODE**	**QCD**	NUMBER
46	**RESISTANCE ('RAQ' for UOM)**	**RAP**	NUMBER
47	**RESISTANCE UOM**	**RAQ**	Unit of measurement for RAP O = Ohm K= Kilo Ohm M = Mega Ohm
48	**'READ CYCLE' UOM**	**RCU**	Unit of measurement for RCY
49	**'READ' CYCLE ('RCU' for UOM)**	**RCY**	NUMBER
50	**RESISTANCE ('RDU' for UOM)**	**RDS**	NUMBER
51	**RESISTANCE UOM**	**RDU**	Unit of measurement for RDS O = Ohm K= Kilo Ohm M = Mega Ohm
52	**'SERIAL ACCESS TIME' ('SAU' for UOM)**	**SAT**	NUMBER
53	**'SERIAL ACCESS TIME' UOM**	**SAU**	Unit of measurement for SAT
54	**SHELF LIFE ('SLU' for UOM)**	**SLF**	NUMBER
55	**SHELF LIFE UOM**	**SLU**	Unit of measurement for SLF
56	**SPEED ('SPU' for UOM)**	**SPD**	NUMBER
57	**SPEED UOM**	**SPU**	Unit of measurement for SPD

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
58	**STANDARD PACKAGING QUANTITY - lowest level**	**SQ1**	NUMBER
59	**STANDARD PACKAGING QUANTITY - level 2**	**SQ2**	NUMBER
60	**STANDARD PACKAGING QUANTITY - level 3**	**SQ3**	NUMBER
61	**SERIES RESISTANCE ('SRU' for UOM)**	**SRR**	NUMBER
62	**SERIES RESISTANCE UOM**	**SRU**	Unit of measurement for SRR O = Ohm K= Kilo Ohm M = Mega Ohm
63	**TEMPERATURE CO-EFFICIENT AT AMBIENT**	**TCE**	NUMBER
64	**TEMP. CO-EFFICIENT AT AMBIENT ('THF' for UOM)**	**TCU**	Unit of measurement for TCE
65	**TOLERANCE: HIGH PERCENT**	**THP**	NUMBER (e.g. +10% would send 10)
66	**TOLERANCE: LOW PERCENT**	**TLP**	NEGATIVE NUMBER (e.g. -10% would send -10)
67	**TEMPERATURE HIGH POINT ('TMQ' for UOM)**	**TMH**	NUMBER
68	**TEMPERATURE LOW POINT ('TMQ' for UOM)**	**TML**	NUMBER
69	**TEMPERATURE UOM**	**TMQ**	Unit of measurement for THM & TML C = Celsius
70	**REVERSE RECOVERY TIME ('TRU' for UOM)**	**TRR**	NUMBER
71	**REVERSE RECOVERY TIME UOM**	**TRU**	Unit of measurement for TRU
67	**TEMPERATURE HIGH POINT ('TMQ' for UOM)**	**TMH**	NUMBER
68	**TEMPERATURE LOW POINT ('TMQ' for UOM)**	**TML**	NUMBER
69	**TEMPERATURE UOM**	**TMQ**	Unit of measurement for THM & TML C = Celsius
70	**REVERSE RECOVERY TIME ('TRU' for UOM)**	**TRR**	NUMBER
71	**REVERSE RECOVERY TIME UOM**	**TRU**	Unit of measurement for TRU
72	**VOLTAGE GATE TO SOURCE THRESHOLD ('VGU' for UOM)**	**VGS**	NUMBER
73	**VOLTAGE GATE TO SOURCE THRESHOLD UOM**	**VGU**	Unit of measurement for VGS V= Volt MV=Milli Volt
74	**VOLTAGE**	**VOL**	NUMBER
75	**REVERSE VOLTAGE ('VRB' for UOM)**	**VRA**	NUMBER
76	**REVERSE VOLTAGE UOM**	**VRB**	Unit of measurement for VRA V= Volt MV=Milli Volt
77	**PEAK REVERSE VOLTAGE ('VRU' for UOM)**	**VRR**	NUMBER
78	**PEAK REVERSE VOLTAGE UOM**	**VRU**	Unit of measurement for VRR V= Volt MV=Milli Volt
79	**ZENER VOLTAGE ('VZZ' for UOM)**	**VZU**	NUMBER
80	**ZENE VOLTAGE UOM**	**VZZ**	Unit of measurement for VZU V= Volt MV=Milli Volt
81	**'WRITE CYCLE' UOM**	**WCU**	Unit of measurement for WCY
82	**'WRITE CYCLE' ('WCU' for UOM)**	**WCY**	NUMBER

Attributes containing Code Values

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	The following codes have a set of valid values.		
86	**PART CAPACITANCE QUALIFIER CODE**	**CAQ**	PF = Picofarads UF = Microfarads FA = Farads
87	**CONTACT TYPE CODE**	**CTY**	G = Gull J = J-wing L = Leadless M = Surface Mount Leads P = Pins S = Strands W = Low Profile Surface Mount Leads
88	**DRIVE LEVEL**	**DRV**	C = CMOS T = TTL
89	**FINISH CODE**	**FNS**	GD = Gold
			TN = Tin
			SB = Side Braised
			SD = Solder Dip
90	**PRODUCT GRADE CODE**	**GRD**	A = Automotive C = Commercial I = Industrial M = Military S = Space
91	**LED PACKAGE**	**LPK**	T = T-1
			5 = T-1.5
			7 = T-1.75
92	**MEMORY TYPE**	**MEM**	D = EEPROM
			E = EPROM
			F = FLASH
			M = MROM
			O = OTP
93	**OSCILLATION MODE**	**OSC**	F = Fundamental
			3 = 30T for 3rd Overtone
			5 = 50T for 5th Overtone
			7 = 70T for 7th Overtone

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
94	**RESONANCE MODE**	**RES**	P = Parallel S = Series
95	**SWITCH CONFIGURATION**	**SCN**	D = DPDT
			S = SPST
			T = SPDT
			3 = 3PDT
			4 = 4PDT
96	**SPECIAL HANDLING CODE**	**SPH**	E = Electro Static Discharge D = Drypack
97	**SPECIAL PACKAGING OPTIONS**	**SPO**	H = Heat Spreader P = Heat Slug with PWP Q = Power Quad 2 T = Thin Body X = Tape Translator
98	**STANDARD PACKAGING TYPE CODE - (at smallest unit of measure)**	**ST1**	A = Ammo pack B = Box D = Die G = Bag J = Jewel Pack Q = Q-Pack R = Tape and Reel S = Sticks and coins T = Tape U = Tube W = (Waffle) Tray
99	**STANDARD PKG TYPE CODE - level 2**	**ST2**	(see ST1 code list)
100	**STANDARD PKG TYPE CODE - level 3**	**ST3**	(see ST1 code list)
101	**TEMPERATURE CODE**	**TMP**	M = Military
			I = Industrial
			A = Automotive
			C = Commercial
102	**THERMISTOR TYPE**	**TRM**	N = NTC
			P = PTC

Return to

Group B: Product (Dynamic) Attributes

These product attributes should be transmitted in the 832 Price Catalog transaction since their PID05 values may change between new price catalogs.

GROUP B BY PRODUCT DESCRIPTION CODE

	PID04 DE751	NOTE	DATA ITEM	DATA TYPE	SAMPLE
1	**ALT**	1	**AVERAGE LEAD TIME**	NUMBER	7
2	**ALU**	1	**AVERAGE LEAD TIME UNIT OF MEASUREMENT**	CODE	Y
3	**CDR**		**(NON-RESALE) COST DIRECTION CODE**	CODE	D
4	**CLM**		**CLAIM CODE**	CODE	PP
5	**DOE**		**DIRECT ORDER FLAG**	FLAG	Y
6	**DRS**		**DROP SHIP FLAG**	FLAG	Y
7	**EXC**		**EXPORT CONTROL FLAG**	FLAG	N
8	**FAC**		**CONTACT FACTORY FLAG**	FLAG	N
9	**LIM**		**LIMITATIONS**	CODE	R
10	**LRP**		**LIMITED RETURN PRIVILEGE FLAG**	FLAG	Y
11	**MON**		**PRODUCT MONITORED CODE**	CODE	C
12	**MPP**		**MARKET PRICE FLAG**	FLAG	Y
13	**NTE**		**NOTE**	FREE FORM	See Note A
14	**ORG**		**COUNTRY OF ORIGIN CODE (Most Value Added)**	CODE	CA
15	**PNC**	2	**PRODUCT NUMBER CORRECTION FLAG**	FLAG	Y
16	**PPS**		**PRICE PROTECTION STATUS FLAG**	FLAG	Y
17	**PRM**		**PROMOTION PROGRAM**	FREE FORM	W
18	**PRP**		**PROPRIETARY FLAG**	FLAG	Y
19	**PST**		**PRODUCT STATUS CODE**	CODE	N
20	**REF**	2	**REFERENCING PRODUCT**	FREE FORM	
21	**RDR**		**RESALE COST DIRECTION CODE**	CODE	I
22	**RGR**		**REGISTERABLE CODE**	CODE	A
23	**ROS**		**REGION OF SALE**	CODE	A
24	**SAM**		**MODEL/SAMPLE AVAILABLE**	FLAG	Y
25	**WAV**		**WAIVER CODE**	CODE	P

NOTES:
1. ALT and ALU must be used together.
2. If PNC is sent to indicate a part correction, the 'new' product is in the LIN segment. The 'old' product that needs the correction is in a second PID segment with PID04 set to REF for Referencing Product.

GROUP B BY DESCRIPTION (DATA TYPE)

Attributes requiring Free-Form Text Descriptions

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	Following PID05 values have free form text. Anything can be found in the field.		
1	**NOTE**	**NTE**	FREE FORM
2	**PROMOTION PROGRAM**	**PRM**	FREE FORM
3	**REFERENCING PRODUCT**	**REF**	FREE FORM

Attributes containing Yes/No Flags

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	The following PID05 codes have a 'Y' for YES, and 'N' for NO associated with them. You need not send any particular code, unless an exception applies, e.g. if 90% of parts are Price Protected, only send 'N' on the 10% which are not price protected.		
5	**DIRECT ORDER FLAG**	**DOE**	Y = yes if direct order only (otherwise, do not send)
6	**DROP SHIP FLAG**	**DRS**	Y = yes if only drop ship allowed (otherwise, do not send)
7	**EXPORT CONTROL FLAG**	**EXC**	Y = government export control (otherwise, do not send)
8	**CONTACT FACTORY FLAG**	**FAC**	Y = no price established, call factory (otherwise, do not send)
9	**LIMITED RETURN PRIVILEGE FLAG**	**LRP**	Y = limited return privileges (otherwise do not send)
10	**MARKET PRICE FLAG**	**MPP**	Y = this is the market price (otherwise do not send)
11	**PART NUMBER CORRECTION FLAG**	**PNC**	Y = this is a part number correction (otherwise do not send)
12	**PRICE PROTECTION STATUS FLAG**	**PPS**	Y = product is price protected (otherwise do not send)
13	**PROPRIETARY FLAG**	**PRP**	Y = proprietary part (otherwise do not send)
14	**MODEL/SAMPLE AVAILABLE**	**SAM**	Y = yes if sample is available (otherwise, do not send)

Attributes containing Numbers or Units of Measurements

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	Following PID05 values have numbers or qualifiers to those numbers. (UOM= Unit of Measurement)		
4	**AVERAGE LEAD TIME ('ALU' for UOM)**	**ALT**	NUMBER

Attributes containing Code Values

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
	The following codes have a set of valid values.		
15	**AVERAGE LEAD TIME UNIT OF MEASUREMENT**	**ALU**	D=Working Days
			W=Weeks
			M = Months
			Y=Years
16	**(NON-RESALE) COST DIRECTION CODE**	**CDR**	I = Cost increase D = Cost decrease C = Any cost change
17	**CLAIM CODE**	**CLM**	DC = Product is discontinued meaning no longer available for ordering, inventory is not price protected
			NP = Non Price Protected meaning product is removed from price protection & remained in price catalog as non-price protected.
			RM = Remove from Price Protection meaning product is removed from price protection & removed from price catalog
			PI = Price Increase meaning product may have a 'bill-up' to the higher price
			PP = Price Protection (note: Along with a price decrease, a debit claim may be submitted)
18	**LIMITATIONS**	**LIM**	A = Returnable B = Return with offset order plus restock charge C = Restocking Charge F = Contact Factory N = Non-returnable P = Standard Package R = Non Cancelable; non-Returnable S = Return with offset order T = Time Constraints
19	**PRODUCT MONITORED CODE**	**MON**	C = by Dept of Commerce S = by State Department D = by Customs

	DATA ITEM	PID04 DE751 (1-12)	PID05 DE352 (1-80) Characters
20	**COUNTRY OF ORIGIN CODE (most value added)**	**ORG**	(Use ISO country codes)
21	**PART STATUS CODE**	**PST**	A = Allocation I = Order from Inventory; no more manufacturing H =Temporary hold on ordering N = New Part O = Obsolete R = Removed from price book S = Stock Part V = Available on request X = No parts available
22	**RESALE COST DIRECTION CODE**	**RDR**	I = Resale cost increase D = Resale cost decrease A = Any resale cost change
23	**REGISTERABLE CODE**	**RGR**	E = Lowest difficulty (easy) H = Most Difficult (hard) M = Medium difficulty Y = Registrable
24	**REGION OF SALE CODE** **(Use ISO two char. country codes for countries) Key samples are listed here:**	**ROS**	A = Asia/Pacific C = Central America E = Europe N = North America S = South America W = World Wide AU = Australia (ISO) J P = Japan (ISO) MX = Mexico (ISO) NZ = New Zealand (ISO) US = Unitied States (ISO)
25	**WAIVER CODE**	**WAV**	O = Order status (no testing) P = Performance not guaranteed S = Stop ship

Product Description Code List Update Procedure/Form

X12: PID04/PID05 DATA MAINTENANCE

Copy then complete this form. Attach a detailed explanation. Mail to the EIDX Secretariat.

PID04 AND PID05 DATA MAINTENANCE

PREPARED BY: _____ PHONE: _____

COMPANY: _____ DATE: _____

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1. RECOMMENDED PID04 THREE CHARACTER CODES TO BE ADDED:

PID04 CODE	DESCRIPTION

2. RECOMMENDED PID05 CODES TO BE ADDED FOR NEW OR EXISTING PID04 CODES:

PID04 CODE	PID05 DESCRIPTION (VALID VALUES)	DESCRIPTION

Section 3 – Transaction Example

Specification/Technical Information Example

There is one example of the use of the Specification/Technical Information transaction set on the following pages. All examples are using ASC X12 version 3020. These examples will be incorporated into the 841 Transaction Guideline in a future update.

Example A: Initial Specification/Technical Information, Including All Physical Product Attributes

This transaction has a transaction purpose indicating an original (00). An original transaction implies that *all products* are included in the transaction. Only one line item (product) is illustrated. The LIN loop will repeat for each product in the Specification/Technical Information. This specification/technical information includes physical product part attributes in PID segments.

SAMPLE	MEANING
ST~841~8767	This is 841 transaction with control number 8767.
SPI~02~PB~D96Q1~~~~00	The security level is Company Confidential, the product change information number is D96Q1. This is an Original transaction.
DTM~007~960308	The effective date is March 8, 1996 unless noted differently the line item.
N1~MF~ACME INC.~92~AC1	Transaction from manufacturer ACME INC. with seller code AC1.
HL~1~~D	This is the first HL loop. (The counter will increase once product.) The loop contains Product Description.
LIN~~VP~PAL1234	The item is identified as vendor part PAL1234.
PID~S~08~EX~ALT~7	The lead time is 7 units (use with ALU).
PID~S~08~EX~ALU~D	The lead time is measured in work days.
PID~S~08~EX~ATM~15	The part access time is 14 units (Use with ATU).
PID~S~08~EX~ATU~NS	The part access time is in nanoseconds (Use with ATM)
PID~S~08~EX~CAP~10	The part capacitance is 10 (Use with CAQ).
PID~S~08~EX~CAQ~UF	The capacitance is measured in microfarads. (Use with CAP).
PID~S~08~EX~CDR~D	The cost direction (not resale cost) is a cost decrease.
PID~S~08~EX~CLS~B	The part classification is B.
PID~S~08~EX~CNM~132	The number of contacts is 132
PID~S~08~EX~CTY~P	The contact type is pins.
PID~S~08~EX~DEV~Y	This part is a developmental tool.
PID~S~08~EX~DOE~Y	This part can be a direct order only.
PID~S~08~EX~DRS~Y	This part can be a drop ship only.
PID~S~08~EX~DSC~CMOS,CODEC,DUAL SLAC	The part description is 'CMOS,CODEC,DUAL SLAC'.
PID~S~08~EX~FNS~G	This part has a gold finish.
PID~S~08~EX~GRD~M	The product is a MILITARY GRADE.
PID~S~08~EX~HCC~3926.90.90.99	The Harmonized System Tariff Classification is 3926.90.90.99.
PID~S~08~EX~MON~C	The product is monitored by the Dept. of Commerce.
PID~S~08~EX~NTE~ATTACHMENT IS NEEDED	NOTE: A special attachment is needed.
PID~S~08~EX~ORG~U	The country of origin (most value added) is the United States.
PID~S~08~EX~PKG~FLAT PACK	The components are packaged as FLAT PACK.
PID~S~08~EX~PLN~PLD	The product group is PLD.
PID~S~08~EX~PNC~Y	This is a part correction.
PID~S~08~EX~PRM~V	The component is in the V promotion program.
PID~S~08~EX~PRP~Y	The component is proprietary.
PID~S~08~EX~PST~O	The part status is O for obsolete part.

PID~S~08~EX~RCY~10	The product's read cycle is 20 units (Use with RCU).
PID~S~08~EX~RCU~NS	This part's read cycle is in nano seconds (Use with RCY).
PID~S~08~EX~REF~PAL2345-65	The reference part is PAL2345-65.
PID~S~08~EX~RGR~E	The part may be registered. Registration class is E.
PID~S~08~EX~ROS~U	The region of sale is the United States.
PID~S~08~EX~SAM~Y	A sample component is available.
PID~S~08~EX~SAT~20	The component serial access time is 20 units (Use with SAU).
PID~S~08~EX~SAU~NS	The component serial access time is measured in nanoseconds (Use with SAT).
PID~S~08~EX~SLF~4	The shelf life is 4 units (Use with SLU).
PID~S~08~EX~SLU~Y	The shelf life unit is years (Use with SLF).
PID~S~08~EX~SPD~15	The component speed is 15 units (Use with SPU).
PID~S~08~EX~SPU~NS	The component speed unit is in nanoseconds (Use with SPD).
PID~S~08~EX~SPH~D	The components are special handled in DRYPACK.
PID~S~08~EX~SPO~H	Components have a heat spreader for special packaging option.
PID~S~08~EX~SQ1~12	A tube consist of 12 units (Use with ST1 for std package type).
PID~S~08~EX~ST1~U	The components are shipped in tubes.
PID~S~08~EX~SQ2~48	There are 48 units in level 2 (Use with ST2).
PID~S~08~EX~ST2~Q	The packaging type for SQ2 in Q-Packs (Use with SQ2).
PID~S~08~EX~TMP~M	The temperature code is M for military.
PID~S~08~EX~TML~15	The temperature range low point is 15.
PID~S~08~EX~TMH~30	The temperature range high point is 30.
PID~S~08~EX~TMQ~30	The temperature range (TML to TMH) is Celsius.
PID~S~08~EX~THP~10	The high tolerance percent is 10.
PID~S~08~EX~TLP~-10	The low tolerance percent is -10.
PID~S~08~EX~VOL~30	The voltage is 30 volts.
REF~ZZ~~DATES BELOW	
DTM~043~950616	The Material Safety Data Sheet date is June 16, 1995.
CTT~1	There is one line item (LIN) in this transaction.
SE~71~8767	This transaction consists of 71 segments. It is the end of control number 8767.