Title: **PROCEDURE, COMMODITY CODE DEFINITION, ADP**

Summary: LIST AND DEFINE ALL COMMODITY CODES WERE USED ON ADP

Name		Initial / Date	Distribution Restriction
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1. OVERVIEW

Define each commodity code at ASCENX TECHNOLOGIES US

2. SCOPE

These commodity code definitions apply to all entire ASCENX TECHNOLOGIES US.

3. DEFINITIONS

ADP: Ascenx Design Part

PDM: Product Data Management

Assembly or Subassembly: A group of two or more related parts fastened together by permanent (inseparable) or removable (separate) means which assembles provides a specific function. It is built, test (functions), stocked, and fastened together.

BOM: Bill of Material

CAD: Computer Aided Design.

CES: Customer Engineering Special

DEA: Design Engineering Authority

ECO: Engineering Change Order

MEA: Manufacture Engineering Authority

OMS: Operational Method Sheet

PCB: Printed Circuit Board

PCBA: Printed Circuit Board Assembly

PMA: Production Management Authority

4. ROLES AND RESPONSIBILITIES

It is the responsibility of every designer, or any individual reserving a part number, to reference this document and select the correct commodity code prior to making a part number reservation. Do not copy a similar part's commodity code without first referencing this document to check its accuracy. Do not always assume the commodity code for existing part is correct.

ASCENX TECHNOLOGIES DOCUMENT CONTROL (ATDC) is responsible for updating and maintaining this document.

5. REFERENCE DOCUMENTS AND WEB ADDRESSES

Old program: PDM - Link: app1.ascenx.com/pdm

New program: ADP - Link: app.ascenx.com/adp/administrator

6. REQUIRED TOOLS AND EQUIPMENTS

Internet, Office 2003, Adobe Acrobat,…

7. PREPARATIONS AND WARNINGS

There're many differences between PDM & ADP (active mode, database, commodity codes…)

Contact with administrator of program to get account and program guideline

8. Procedure Steps

8.1. ASCENX DESIGN PART (ADP) COMMODITY CODE DEFINTIONS

100 Assembly Cable

- Has one major trunk regardless of termination point.
- Uses cable (Can be a single wire).
- BOM is required for all items made up of structured Ascenx Technologies components. Where a BOM exists, it must match all other BOMs or parts lists.
- The drawing shall contain all required dimensions, assembly techniques, forming requirements, and items necessary for fabrication and assembly. Physical requirements shall be accurately delineated in full form of a flat pattern.
- The main pictorial information shall be on the first sheet of the drawing and shall depict the overall cable.
- A wire list may be prepared to list all wire run/communication information, and should be on the first sheet, if possible. The wire list should include all the following information: from, to, color, AWG, item number and signals.
- All reference designations indicated in the wire list shall be shown on the face of the drawing at each termination. A delta note adjacent to the reference designator or item number for making label shall refer to the standard note for marking reference designator labels as found in **510** - XXXXXX-XX (procedure for labels/labeling requirements).
- Manufacture per Ascenx Technologies **527**-XXXXXX-XX Workmanship Standard.
- Test per Ascenx Technologies **528** -XXXXXX-XX Cable and Harness Test Requirements.

150 Assembly Box/Enclosure

An assembly box may include box (housing and cover), screws, stands-off, PCBAs, cables, and panel mount connectors.

200 Assembly PCB

A PCB which has components are fixed by solder/ or screw tie. Component leads and integrated circuits pins may pass through holes or surface mount.

244 PCB Fabrication

- This drawing is used to produce the bare printed circuit board.

- PCB fabrication drawings provide the complete engineering description of the board as applicable.
- Dimensions of board fabrication board.
- Drill table relating to the drill symbols shown on the board.
- Detail of layer configuration denoting layer stack-up and/or dielectric separation between layers (four or more layer boards).
- Reference documents call out:
  - PCBA : **200** – XXXXXX-XX
  - Gerber : **524**-XXXXXX-XX
  - Schematic – PCB : **517**- XXXXXX-XX
  - Test Spec : **528** -XXXXXX-XX (Required for all customer release boards)

256 Retrofitted Kits

All KITs that there is the test pro. to follow

302 Packaging (For example: Crate, box, bag, pad, and bubble…)

303 Raw Material

An unprocessed natural resource or product used in manufacturing.

For example: plastic, metal foil, paper, foil, thermal conductivity material, packing paper.

400 KIT

All KITs that no need the test pro. to follow

401 CES

A package of project customer requested (Including all offshore projects**)**

500 Test Fixture

510 Procedures/Standards, Retrofit Instructions and OMSs.

- Procedures, policies, retrofit instructions, specifications and work instructions etc (Text and/or graphs).
- No customer purchased manuals.
- Neither computer BOMs nor reference BOMs are allowed.
- Graphic assembly procedures will contain the same basic information required in the text template and have a banner stating: Procedure Assembly Part/or Kit **510**-XXXXXX-XX.

Example: 510-XXXXXX-XX - Procedure Repair "Description"

510-XXXXXX-XX - Procedure Shipping "Description"

510-XXXXXX-XX - Procedure Receiving "Description"

510-XXXXXX-XX - Procedure Assembly "Description"

510-XXXXXX-XX - Procedure Test "Description"

510-XXXXXX-XX - Procedure Manufacturing "Description"

510-XXXXXX-XX - Procedure Maintenance "Description"

510-XXXXXX-XX - Procedure Calibration "Description "

510-XXXXXX-XX - Procedure Audit "Description "

511 MRB

This code reserves for Material Review Board documents (control/ verification/ Disposition of the defective material)

512 Training Matrix (list of training courses/or procedures that requires employee to be completed prior to perform/or operate a defined task on his/or her duty)

517 Schematic

519 Software development (Custom development software by AscenX for specific application/ or requirement)

525 Template

Provide a standard format apply for documents such as (*.doc, *.dwg, *.dxf, *.sch).

List of Standard Software that are using at Ascenx to create/or open template, documentation, schematic, drawing including (SolidWork 2009, AutoCad 2008, Orcad 16, LabView 8.5, Pro-E wildfire 4.0, and Microsoft Office 2007)

526 Standard File Name Convention

527 Standard Workmanship

528 Ascenx Test Specifications

530 Equipment Master Files

Document to control equipments/tools that are using at Ascenx (including equipments provided by customers, or Ascenx buy to test customer's product with specification from the customers) for the tracking record of calibration/ and maintenance periodically.

540 Product Master Record

This code reserves for all the records relating to that specific product such as test data (Hard copy/and or Soft Copy

550 Product Master Files

Master tree documents to control all relating documents/files that are used to produce, test, and record a product (controlled by Ascenx part number in accordance with customer master file numbers). This helps to track the update files on Ascenx database with the change/or updated of customer files.

560 Forms

Form that has specified criteria need to be filled out or checked

570 Safety Document

All documents about Safety

8.2. OEM PART COMMODITY CODE DEFINITIONS

ASCENX TECHNOLOGIES COMMODITY CODES for OEM parts are used to identify commercial available products, where the products are purchased per the manufacturers specifications without any modifications. Specifications of the commercial parts are controlled by their manufacturers. OEM parts are not revision controlled and may not be overwritten or modified.

201 Adhesives

202 Batteries

203 Bearings – All Types

204 Belts – All Types

205 Bolts

206 Crimp tool / Wire Stripper

207 Brackets

208 Buzzer

209 Cables – All Types

Including stranded, multi-conductor, or solid wire cable

210 Capacitors – All Types

Including SMT, or thru hole capacitor

211 Chassis/Enclosures

212 Data Acquisition

213 Computer and Peripherals

214 Conduit

215 Connector / Adapter - All Types

216 Relay – All Types

217 **Terminal Block / Strips**

218 **Socket**

219 **Controllers – All types**

220 **Crystal.**

221 **Dials – Instruments, All types**

222 **Test Instrument – All types**

(Data Logger, Oscilloscope, Volt Meter, Power Meter, Pressure Meter, Sound Meter, Wavelength meter, Thermometer, Tachometer,…)

223 **Plastic – All types**

225 **Fittings / Pipe/ Tubing / Hose**

227 **Jumpers / Header**

228 **Fasteners** - All Types

(Including anchor, pins, helical insert, thread insert, studs, Rivet, Retaining Ring…)

230 **Foams**

231 **Solenoid**

232 **Valves**

233 **Heaters**

234 **Heat sink**

235 **Diodes – All types**

236 **IC – All types**

237 **Switch - All Types**

(Including all type of device that changes connection in a circuit.

For example: power switch, contactor switch, limit switch, dip switch, slide switch, tactile switch…

Exclude any type of pneumatic and hydraulic switch, relay, timer and contactor)

238 **Brakes**

239 **Circuit Breaker**

240 **Nuts – All Types**

All kinds of nut from different material, or thickness
For example: hex nuts, lock nuts, slotted nuts, flange nuts, coupling nuts, acorn nuts, square nuts, thumb nuts, wings nuts..

241 **Pulleys**

242 **Module**

243 **LEDs – All Types**

245 **O-Rings**

246 **Power Supplies – All Types**

247 **Sensors – All Types**

248 **Pressure Gauges**

251 **Track**

252 **Resistors – All Types**

253 **Fuse / Fuse Holder**

254 **Screws – All types**

All type of screws: Shoulder screws, machine screws, cap screws, socket cap screws.
Excluding: ball screws, lead screws

255 **Shrink Tubing**

257 **Tapes – All types**

258 **Tie wrap**

259 **Brailed Sleeve**

260 **Lubricant** (For Example: Grease, Oil,..)

261 **Labels**

262 **Terminals – all types**

263 **Amplifiers**

264 **Pins / Contacts/ Crimps – All Types**

265 **Inductors – All Types**

266 **Transformers – All types**

267 **Transistors – All types**

268 **Encoder**

269 **Stage**

270 **Lock-Tie**

271 **Spacers/Standoffs**

Plastic and Metal stand-offs that are used in mechanics and electronics assembly to separate parts.
For example: female unthread standoffs, female thread standoffs, female unthread hex

standoffs, female thread hex standoffs, male-female thread hex standoffs, male-male thread hex standoffs.

272 Washers

Type of parts placed beneath a nut or at some joints to redistribute pressure, relieve friction or prevent leakage (all type of material and thickness). For example: square hole washers, round hole washers, slot washers, spherical washers, spring lock washers, tooth-lock washers, wave washers, shoulder washers, structural washers

273 Feet, Grommets and Self Sticking Bumpers

274 Software tools

(from OEM vendor including Self- coding software, software library, and firmware). The standard Software are using at Ascenx are Orcad 16, AutoCad 2008, LabView 8.5, SolidWork 2009, EQT 32, Pro-E Wifi 4.0, Microsoft Office 2007, Adobe.

275 Flip Flop

276 Motors – All Types

277 Vacuum

278 CCD

282 Actuator – All Types

A mechanical device takes energy, created by air, use of pressurized gas to effect mechanical motion.
Including all pneumatic part that plays the role of actuators.
For example: pump, cylinder, pneumatic motor, ejector.

284 Housing

285 Shaft

286 Gear

300 Gilles – All types

301 Din Rail

304 Springs

306 Ferrules

9. APPENDIX

<Appendix>