

# **OPERATIONS MANUAL**

## **ENC-EPX-G-1000**

**NOTE:** *This manual has been designed and created for use as part of WinSystems Technical Manuals CD and/or the WinSystems website. If this manual or any portion of the manual is downloaded, copied or emailed, the links to additional information (i.e. software, cable drawings) may be inoperable.*

WinSystems reserves the right to make changes in the circuitry and specifications at any time without notice.  
©Copyright 2009 by WinSystems. All Rights Reserved.

## REVISION HISTORY

P/N

ECO Number	Date Code	Rev Level
ORIGINATED	080620	A
08-167, 08-171	090113	A.1

# Table of Contents

<b>Introduction</b> .....	<b>1</b>
<b>General Information</b> .....	<b>1</b>
Features	1
Ordering Information	2
Construction	2
<b>Cables</b> .....	<b>3</b>
<b>Mechanical Drawing</b> .....	<b>4</b>
Three Dimensional Assembly Model	4
8" Extrusion	5
End Plate-Power	6
End Plate I/O	7
EPX CPU Mount Plate	8
Ethernet Connector Mount Plate	9
Profile Data	10
<b>Specifications</b> .....	<b>12</b>
<b>WARRANTY REPAIR INFORMATION</b> .....	<b>13</b>

This page is intentionally left blank.

## **Introduction**

This manual is intended to provide the necessary information regarding configuration and usage of the ENC-EPX-G-1000 enclosure. WinSystems maintains a Technical Support Group to help answer questions regarding usage of the enclosure. For answers to questions not adequately addressed in this manual, contact Technical Support at (817) 274-7553, Monday through Friday, between 8 AM and 5 PM Central Standard Time (CST).

## **General Information**

### **Features**

#### **Enclosure**

- Low cost EPIC SBC Enclosure
- Quick and easy assembly
- Accepts PC/104 modules
- Up to 2 modules can be mounted inside
- Custom configured end plates available
- SBC mounting plate with PEM standoffs
- Mounting plate slides in/out of main housing
- Rugged 0.080" thick end plates
- End plate I/O connector cutouts provided
- RoHS compliant

#### **Construction**

- Heavy duty extruded aluminum construction
- Black Painted Outer Shell finish
- Dimensions: 9.5"W x 6.0"D x 3.0"H

The ENC-EPX-G-1000 is a simple, low-cost enclosure for EPIC-based single board computer (SBC) systems with PC/104 expansion modules. The interior of the enclosure is large enough to install any PC/104 module even with latching I/O connectors.

The enclosure allows a designer to package a variety of system configurations quickly and easily. Applications include military/defense, communications/networking, industrial data acquisition, control, and instrumentation.

### **Ordering Information**

The ENC-EPX-G-1000 enclosure supports the EPIC SBC [EPX-GX500](#). WinSystems has standard end plates and cable sets for its EPIC single board computers. The kit, part number KIT-HW-G-322-ENC1 is the hardware kit for the ENC-EPX-G-1000 using the EPX-GX500.

WinSystems also offers custom end plates for customers needing 50 or more units.

Contact your WinSystems Applications Engineer for more information about custom units.

### **Construction**

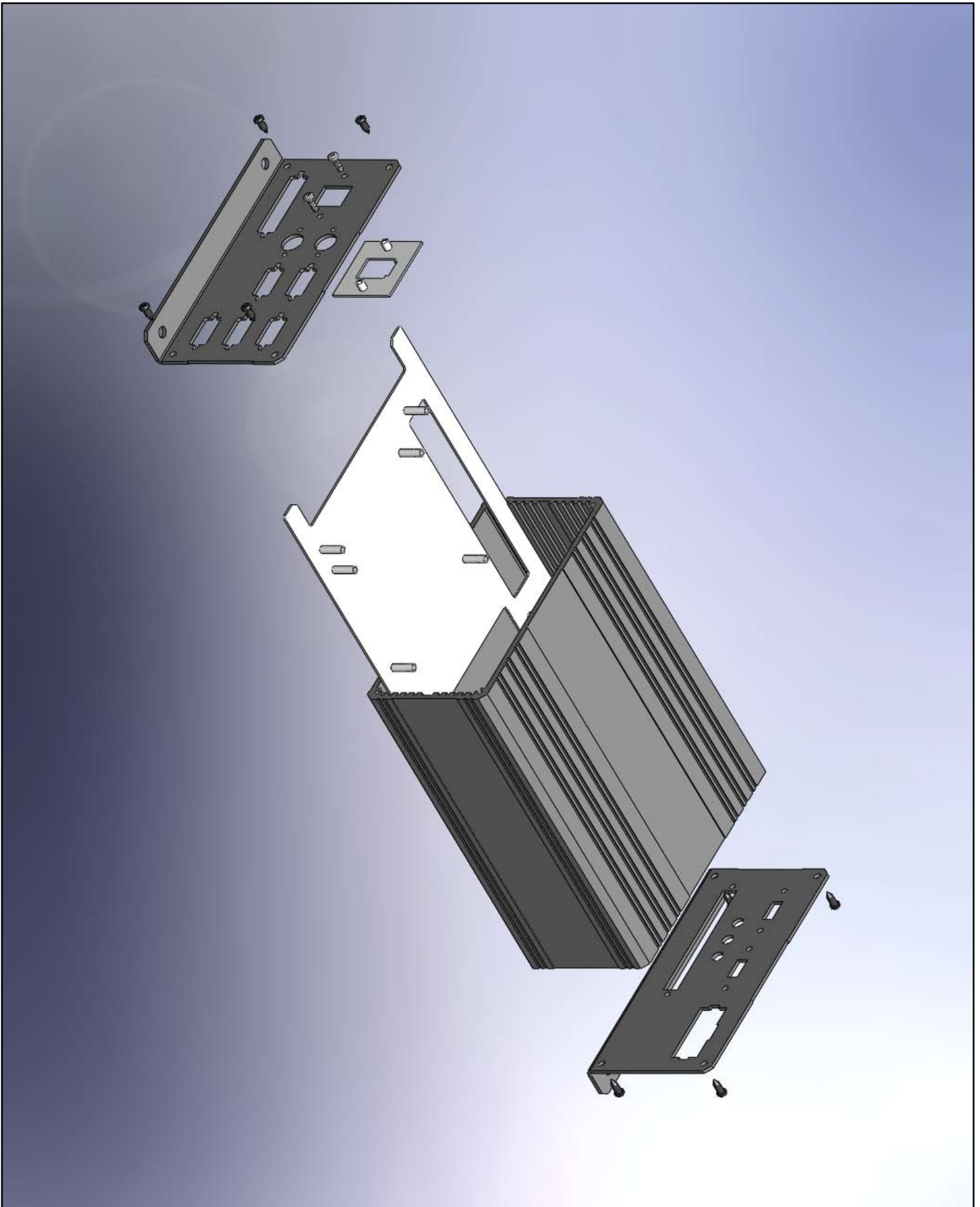
The ENC-EPX-G-1000 is made up of an extruded aluminum outer cover, two end plates and an EPIC computer module base plate, and can mount in a variety of configurations. The enclosure weighs 2.4 lbs and is RoHS compliant. The standard end plates do not come with cables attached. WinSystems offers the cable set, part number [CBL-SET-322-G-ENC-1](#) to support the ENC-EPX-G-1000.

See the [Mechanical Drawing](#) section of this document for more information on specific dimensions

## **Cables**

<b>Part Number</b>	<b>Description</b>
<b>CBL-SET-322-G-ENC-1</b>	ENC-EPX-G-1000 complete cable set for the EPX-GX500
<a href="#">CBL-234-G-1-0.916</a>	14-pin ribbon to 15-pin D-sub CRT adapter
<a href="#">CBL-251-G-2-1.0</a>	Multi-I/O Cable
<a href="#">CBL-270-G-3-0.583</a>	Audio Access Cable
<a href="#">CBL-275-G-2-0.667</a>	USB Cable
<a href="#">CBL-316-G-1-0.5</a>	Internal power supply cable
<a href="#">CBL-317-G-2-1.5</a>	External power supply cable w/o external termination
<a href="#">CBL-327-G-1-1.08</a>	Digital I/O Cable

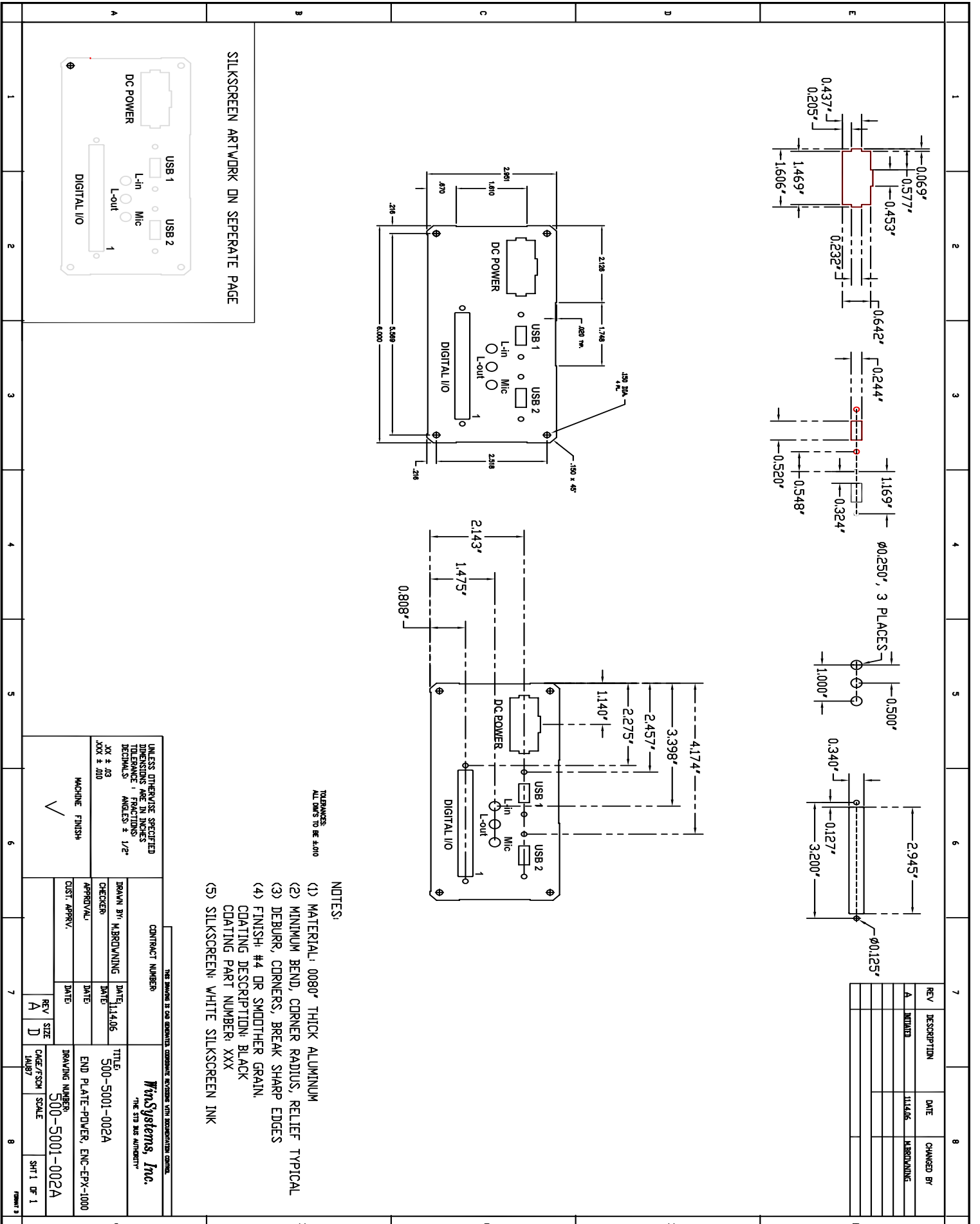
**Mechanical Drawing**  
**Three Dimensional Assembly Model**







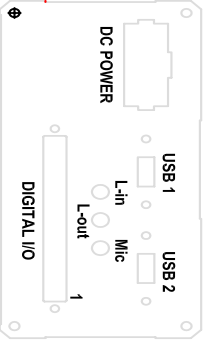
# End Plate-Power



SILKSCREEN ARTWORK ON SEPERATE PAGE

TOLERANCES  
ALL DIMS TO BE ±.010

- NOTES:
- (1) MATERIAL: 0080" THICK ALUMINUM
  - (2) MINIMUM BEND, CORNER RADIUS, RELIEF TYPICAL
  - (3) DEBURR, CORNERS, BREAK SHARP EDGES
  - (4) FINISH: #4 DR SMOOTHER GRAIN.  
COATING DESCRIPTION: BLACK  
COATING PART NUMBER: XXX
  - (5) SILKSCREEN: WHITE SILKSCREEN INK

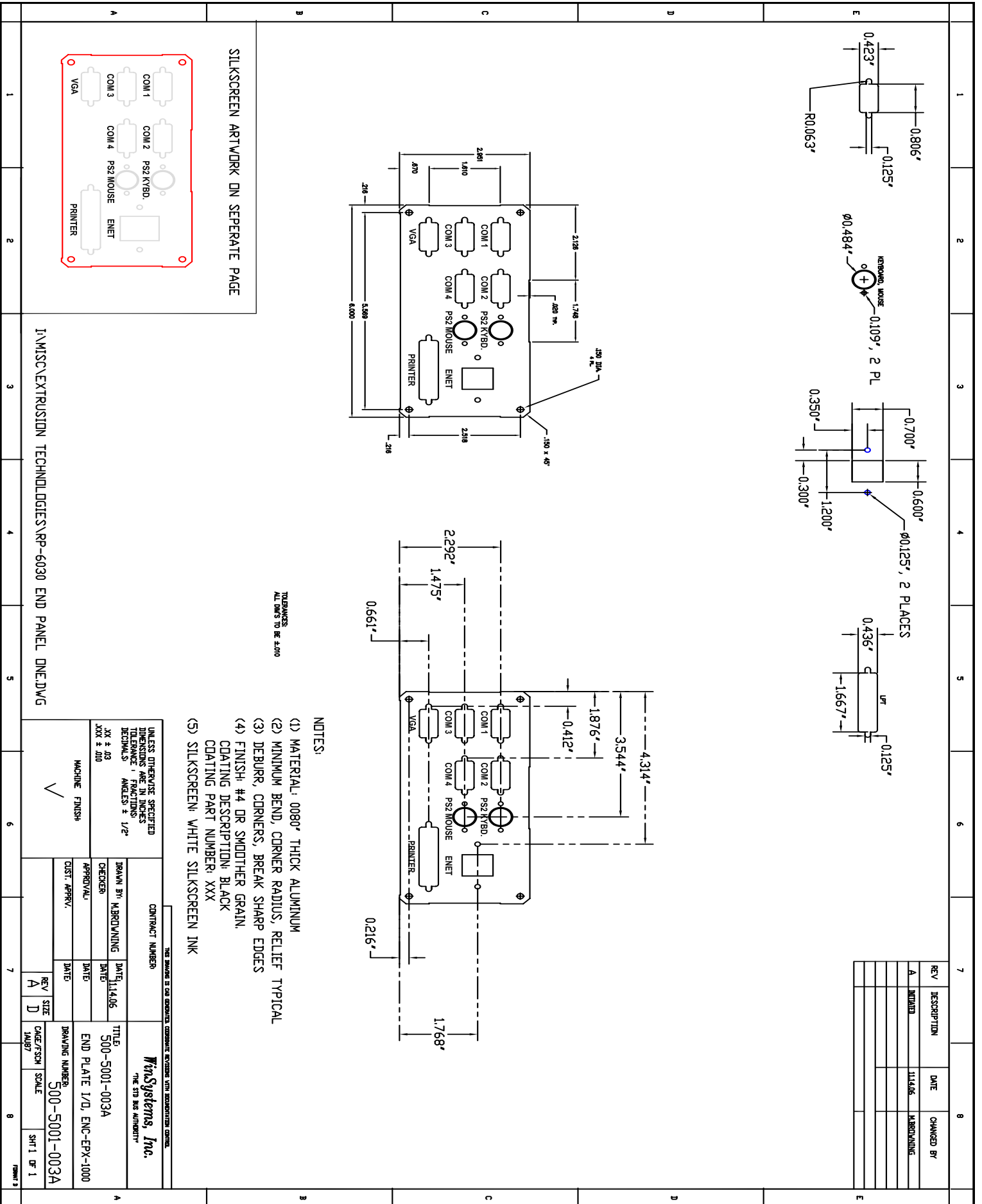


UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCE: FRACTIONS: 1/2"  
DECIMALS: ANGLES: ±

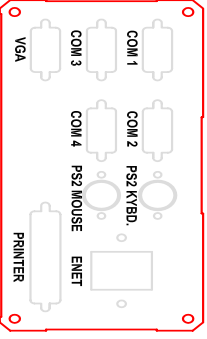
MACHINE FINISH

CONTRACT NUMBER		THIS DRAWING IS OUR PROPERTY. CONTINUE WORKING WITH US UNTIL WE RECEIVE YOUR RETURNED DRAWING.	
WINSYSTEMS, Inc. "THE STD BUS AUTHORITY"			
DRAWN BY: M.BROWNING	DATE: 11/14/06	TITLE: 500-5001-002A	
CHECKER:	DATE:	END PLATE-POWER, ENC-EPX-1000	
APPROVAL:	DATE:	DRAWING NUMBER: 500-5001-002A	
DATE:	DATE:	SCALE: 1:1	
REV / SIZE	DATE	DATE	
A	D	DATE	
SHEET 1 OF 1		FORM 3	

# End Plate I/O



SILKSCREEN ARTWORK ON SEPERATE PAGE



I:\MISC\EXTRUSION TECHNOLOGIES\RP-6030 END PANEL ONE.DWG

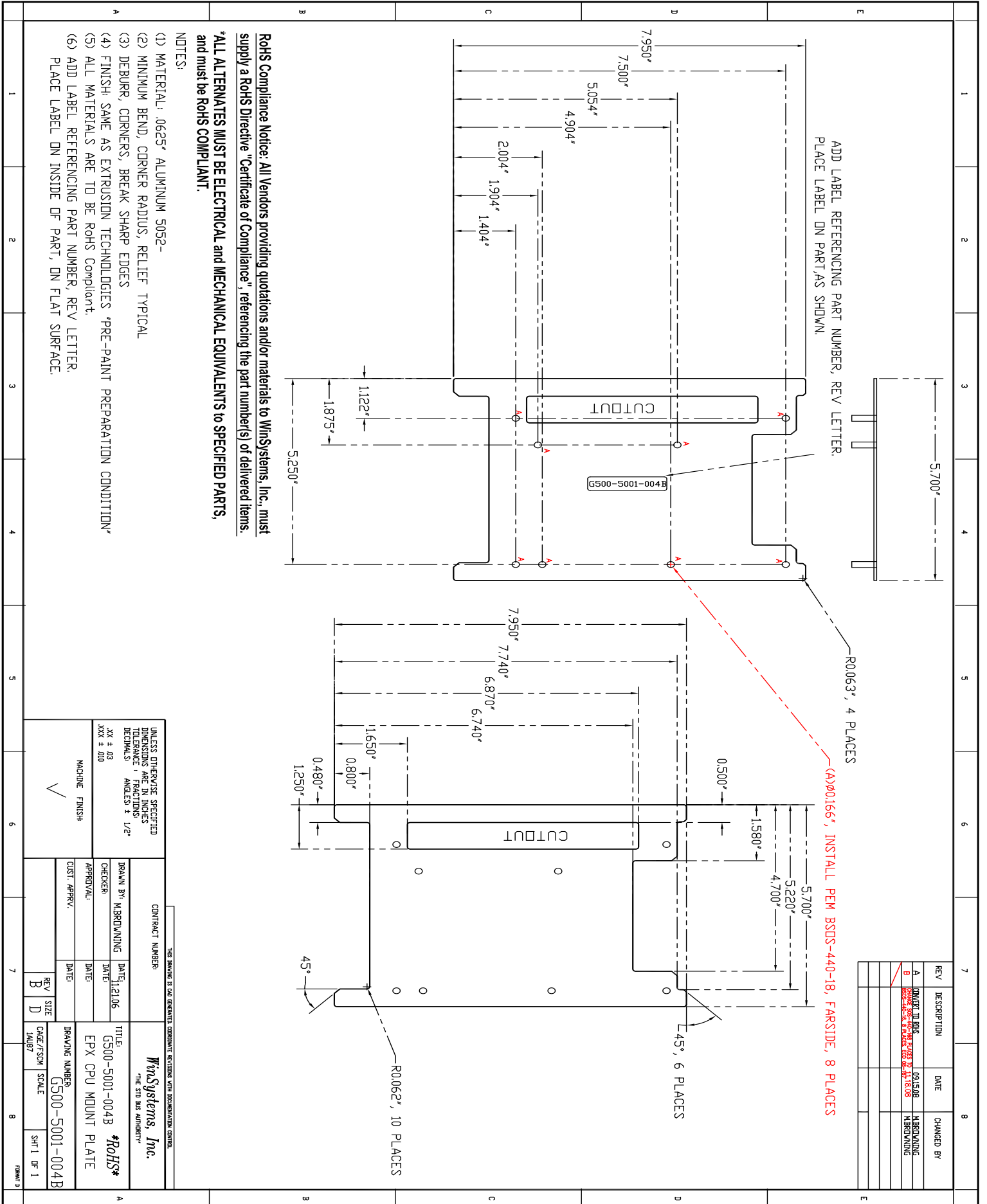
TOLERANCES  
ALL DIMS TO BE ±.010

- NOTES:
- (1) MATERIAL: .0080" THICK ALUMINIUM
  - (2) MINIMUM BEND, CORNER RADIUS, RELIEF TYPICAL
  - (3) DEBURR, CORNERS, BREAK SHARP EDGES
  - (4) FINISH: #4 DR SMOOTHER GRAIN.  
COATING DESCRIPTION: BLACK  
COATING PART NUMBER: XXX
  - (5) SILKSCREEN: WHITE SILKSCREEN INK

REV	DESCRIPTION	DATE	CHANGED BY
A	MODIFIED	11/14/06	MARQUANINE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES - FRACTIONS: DECIMALS ANGLES ± 1/2° XX ± .03 XXX ± .010		CONTRACT NUMBER		WINSYSTEMS, Inc. THE STD BUS AUTHORITY™	
DRAWN BY: MARQUANINE		DATE: 11/14/06		TITLE: 500-5001-003A	
CHECKER:		DATE:		END PLATE I/O, ENC-EPX-1000	
APPROVAL:		DATE:		DRAWING NUMBER: 500-5001-003A	
CUST. APPRV:		DATE:		CAGE/FSN SCALE: 500-5001-003A	
MACHINE FINISH		REV A		SIZE D	
		DATE		SHEET 1 OF 1	

# EPX CPU Mount Plate



**RoHS Compliance Notice:** All Vendors providing quotations and/or materials to WinSystems, Inc., must supply a RoHS Directive "Certificate of Compliance", referencing the part number(s) of delivered items.  
**\* ALL ALTERNATES MUST BE ELECTRICAL and MECHANICAL EQUIVALENTS to SPECIFIED PARTS, and must be ROHS COMPLIANT.**

**NOTES:**

- (1) MATERIAL: .0625" ALUMINUM 5052-
- (2) MINIMUM BEND, CORNER RADIUS, RELIEF TYPICAL
- (3) DEBURR, CORNERS, BREAK SHARP EDGES
- (4) FINISH: SAME AS EXTRUSION TECHNOLOGIES "PRE-PAINT PREPARATION CONDITION"
- (5) ALL MATERIALS ARE TO BE ROHS COMPLIANT.
- (6) ADD LABEL REFERENCING PART NUMBER, REV LETTER PLACE LABEL ON INSIDE OF PART, ON FLAT SURFACE.

ADD LABEL REFERENCING PART NUMBER, REV LETTER PLACE LABEL ON PART AS SHOWN

R0063, 4 PLACES  
 (A)0.166", INSTALL PEM BSDS-440-18, FARSIDE, 8 PLACES

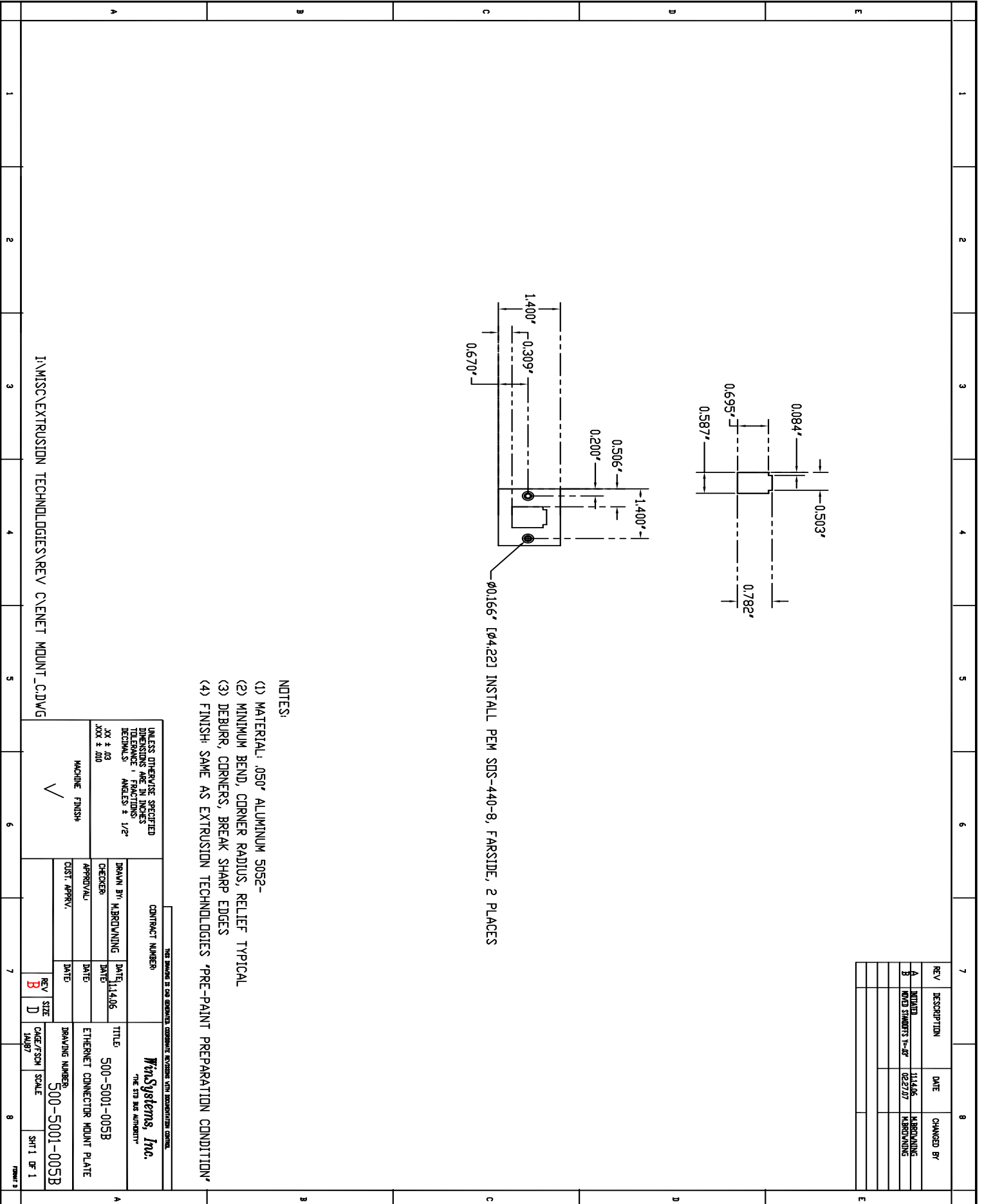
REV	DESCRIPTION	DATE	CHANGED BY
A	CONVERT TO DIM	09/15/08	M.BROWNING
B	CHANGE SIZE OF DIMS TO 11.15.08	11/15/08	M.BROWNING
C	CHANGE DIMS TO 11.15.08	11/15/08	M.BROWNING

THIS DRAWING IS OUR PROPERTY. CONFIDENTIAL. REVISIONS WITH APPROVED CHANGES.

**WinSystems, Inc.**  
 THE STD BUS AUTHORITY™

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES ± 1/2°		CONTRACT NUMBER	
XX ± .03	XXX ± .010	DRAWN BY: M.BROWNING	DATE: 11/21/06
MACHINE FINISH		CHECKER:	DATE:
✓		APPROVAL:	DATE:
TITLE: G500-5001-004B *RoHS* EPX CPU MOUNT PLATE		CUST. APPRV:	DATE:
DRAWING NUMBER: G500-5001-004B		REV: B	SIZE: D
CAGE/733N SCALE: 1:1		DATE:	DATE:
JOB#		SCALE:	SHT 1 OF 1

# Ethernet Connector Mount Plate

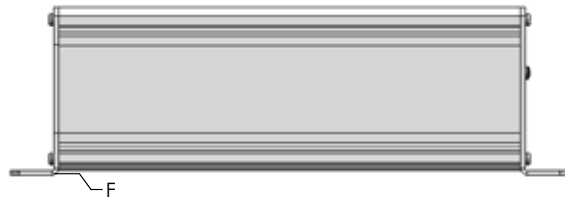
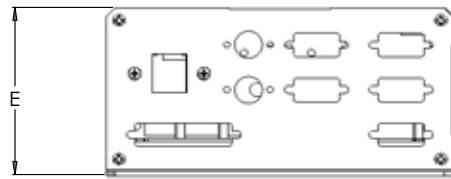
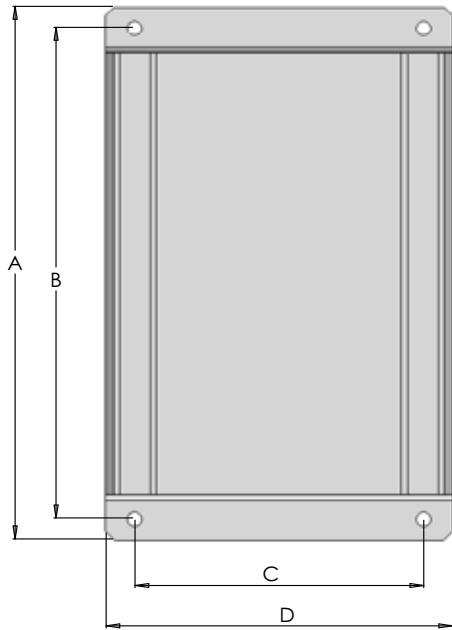
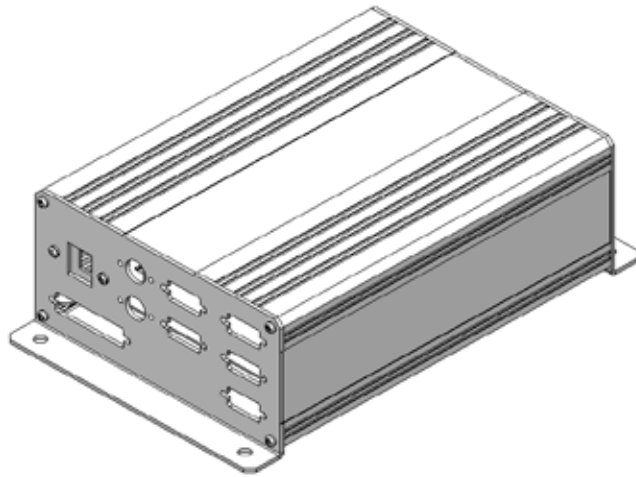


REV	DESCRIPTION	DATE	CHANGED BY
A	INITIAL	11/14/06	M.BROWNING
B	MINI STANDARD 1/8"	02/27/07	M.BROWNING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES FRACTIONS DECIMALS ANGLES ± 1/2° XX ± .03 XXX ± .010		CONTRACT NUMBER		THIS DRAWING IS FOR QUOTES. COMMENTS EXCEEDING FIVE WORDS/PHRASES CONTAINING <b>WinSystems, Inc.</b> "THE STD. BRS. AUTHORITY"	
DRAWN BY: M.BROWNING		DATE: 11/14/06		TITLE: 500-5001-005B	
CHECKED:		DATE:		ETHERNET CONNECTOR MOUNT PLATE	
APPROVAL:		DATE:		DRAWING NUMBER: 500-5001-005B	
CUST. APPRV.:		DATE:		CAGE/FSN SCALE: 500-5001-005B	
MACHINE FINISH		REV: B		SHT 1 OF 1	
✓		D		10/07	

I:\MISC\EXTRUSION TECHNOLOGIES\REV C\ENET MOUNT\_C.DWG

# Profile Data



Profile Data	
A = 9.68"	Mounting Flange - Overall
B = 8.92"	Mount Hole, 1/4", 4 Places
C = 5.00"	Mount Hole 1/4", 4 Places
D = 6.00"	Assembly - Overall
E = 3.03"	Height - Overall
F = .08"	Clearance

## **Specifications**

### **Materials**

<b>Outer cover</b>	:Extruded aluminum
<b>End plates</b>	:0.080" aluminum
<b>Base plate</b>	:0.625" aluminum
<b>Finish</b>	:Black paint (except for the clear internal mouting plate)

### **Mechanical**

<b>Size</b>	:9.5"W x 6.0"D x 3.0"H
<b>Weight</b>	:2.4 lbs

## **WARRANTY REPAIR INFORMATION**

(<http://www.winsystems.com/company/warranty.cfm>)

### **WARRANTY**

WinSystems warrants to Customer that for a period of two (2) years from the date of shipment any Products and Software purchased or licensed hereunder which have been developed or manufactured by WinSystems shall be free of any material defects and shall perform substantially in accordance with WinSystems' specifications therefore. With respect to any Products or Software purchased or licensed hereunder which have been developed or manufactured by others, WinSystems shall transfer and assign to Customer any warranty of such manufacturer or developer held by WinSystems, provided that the warranty, if any, may be assigned. Notwithstanding anything herein to the contrary, this warranty granted by WinSystems to the Customer shall be for the sole benefit of the Customer, and may not be assigned, transferred or conveyed to any third party. The sole obligation of WinSystems for any breach of warranty contained herein shall be, at its option, either (i) to repair or replace at its expense any materially defective Products or Software, or (ii) to take back such Products and Software and refund the Customer the purchase price and any license fees paid for the same. Customer shall pay all freight, duty, broker's fees, insurance charges for the return of any Products or Software to WinSystems under this warranty. WinSystems shall pay freight and insurance charges for any repaired or replaced Products or Software thereafter delivered to Customer within the United States. All fees and costs for shipment outside of the United States shall be paid by Customer. The foregoing warranty shall not apply to any Products of Software which have been subject to abuse, misuse, vandalism, accidents, alteration, neglect, unauthorized repair or improper installations.

THERE ARE NO WARRANTIES BY WINSYSTEMS EXCEPT AS STATED HEREIN, THERE ARE NO OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN NO EVENT SHALL WINSYSTEMS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF DATA, PROFITS OR GOODWILL. WINSYSTEMS' MAXIMUM LIABILITY FOR ANY BREACH OF THIS AGREEMENT OR OTHER CLAIM RELATED TO ANY PRODUCTS, SOFTWARE, OR THE SUBJECT MATTER HEREOF, SHALL NOT EXCEED THE PURCHASE PRICE OR LICENSE FEE PAID BY CUSTOMER TO WINSYSTEMS FOR THE PRODUCTS OR SOFTWARE OR PORTION THEREOF TO WHICH SUCH BREACH OR CLAIM PERTAINS.

### **WARRANTY SERVICE**

1. To obtain service under this warranty, obtain a return authorization number. In the United States, contact the WinSystems' Service Center for a return authorization number. Outside the United States, contact your local sales agent for a return authorization number.
2. You must send the product postage prepaid and insured. You must enclose the products in an anti-static bag to protect from damage by static electricity. WinSystems is not responsible for damage to the product due to static electricity.