AYDIN DISPLAYS

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USER'S MANUAL

for the

Model 4419A1

19 INCH AMLCD FLAT PANEL COLOR MONITOR

P/N 356-7067-501

Doc. No. 150-4419-004 (–), February 2015

NOTICE

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Doc. No. 150-4419-004 (–), February 2015

WARNING

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS UNLESS THE PRONGS CAN BE FULLY INSERTED.

DO NOT OPEN THE CABINET. THERE ARE HIGH VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK, NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that un-insulated voltage within the unit may be large enough to cause electric shock. Therefore, it is dangerous to touch any part inside the unit.

This symbol alerts the user that important literature about the operation and maintenance of this unit has been included. Read it carefully to avoid any problems.

PRODUCT SAFETY PRECAUTIONS

- Follow all warnings and instructions marked on the display.
- Do not attempt to service this display yourself. Removing the display cover or back may expose you to dangerous voltage or other risks. Refer all servicing to qualified service personnel.
- Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the display from overheating. Do not block ventilation slots and openings or install the display in a place where ventilation may be hindered.
- This display should be operated from the type of power source indicated on the displays rating label.
- Do not allow metal pieces or objects of any kind to fall into the display through the ventilation holes.

Thank you for purchasing this Aydin Displays LCD Display.

The carton contains the items listed below:

- 4419A1 LCD Display
- Product CD containing:
  - This User's Guide
  - Warranty Guide

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1 INTRODUCTION

The Model 4419A1 AMLCD Monitor is a 19” diagonal display with a native resolution of 1280 x 1024 (UXGA) pixels. The display is designed to operate from 115 VAC, 60Hz, single phase. Inputs are provided for DVI-D and VGA. Generally, all VESA compatible video formats are supported. If a mode isn’t supported, the factory can add special modes.

2 CONNECTIONS

2.1 Inputs

2.1.1 Power

Connector:	IEC 60320 C14
Input Voltage:	Universal AC Input Range 90-264 VAC
Input Current:	0.61/0.32 Amps at 115/220VAC
Input Frequency:	50/60 Hz
Input Power:	45 W

2.1.2 DVI

Connector: Single-Link DVI-D (Standard DVI pin-out)

Bandwidth: Supports up to 162 MHz operation.

2.1.3 Analog R-G-B

Connector: HD15 female (Standard VGA pin-out)

Synchronization: Supports separate H & V sync, separate composite sync, and sync on green.

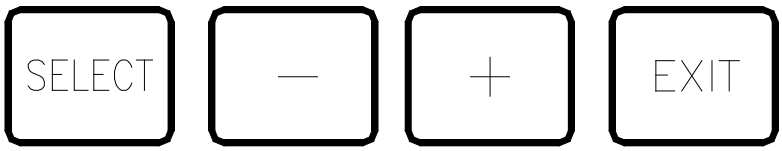
3 DISPLAY SETUP

When the VGA input is connected (HD15 or BNC inputs), the display must be adjusted to accommodate the video input levels from the VGA source. This is done by displaying an image with full intensity Red, Green and Blue and performing an Auto Gain adjust followed by an Auto Adjust.

4 FRONT PANEL BUTTONS/ON-SCREEN DISPLAY

4.1 Front Panel Buttons

Press MENU to display the On-Screen-Display (OSD). Use the + and - buttons to move the cursor to the desired menu selection and press MENU to access the adjustment or function. With the EXIT button you can exit the current function and go back to the previous menu point.



BUTTON	OPERATION PERFORMED IF OSD NOT DISPLAYED	OPERATION PERFORMED WHEN OSD DISPLAYED
-	Enables backlight brightness adjustment window	Selects next menu option or next sub-menu option or decrease selected value
+	Video input select	Selects previous menu option or previous sub-menu option or increase selected value
EXIT	Performs auto adjust	Exits sub-menu option or exits OSD
SELECT	Enables OSD	Selects menu option or sub-menu option

4.2 OSD Menu

Observe the following Top-Level Menu Selection Tabs on the OSD Menu:

- **INPUT**
- **SETUP**
- **COLOR ADJUST**
- **PICTURE ADJUST**
- **TOOL BOX**
- **EXIT/SAVE**

INPUT SELECT is the default foreground menu; the active menu will always appear in the foreground.

The Selection Tab of the active menu will be highlighted in blue.

See the OSD – SAMPLE IMAGES section of this document for sample images of OSD menus.

4.2.1 Input Select

Selects the input source for the LCD display.

If the OSD is not visible, press the front panel “SELECT” key once to activate the OSD. Observe the following choices in the input select List:

- **VGA**
- **DVI**

4.2.2 Setup

The following adjustments are provided under the Setup Menu tab:

- **Brightness**
- **Contrast**
- **Black level**
- **EXIT**

4.2.3 Color Adjust

The following adjustments are provided under the Color Adjust Menu tab:

- **Auto Color**
- **sRGB Adjust**
- **Color Temperature**
- **EXIT**

4.2.4 Picture Adjust

NOTE: Image adjust is pattern sensitive. The pattern should contain a border around the entire image and high frequency data content i.e. SMPTE133.

A typical Image adjustment procedure would be:

For picture width: Display an image with a border. Select the Clock adjustment and increase the picture width until one side of the image goes off the screen. Using the Hor. Position adjustment, center the image on the screen. Select the Clock adjustment again and increase the picture width until the image goes off the screen. Repeat this sequence until the image is centered and fills the screen.

For phase adjustment: Display an image with high frequency content. Select and adjust the phase until the high frequency image content is homogeneous.

The following adjustments are provided under the Picture Adjust Menu tab:

- **Auto Position**
- **Width Adjust**
- **Phase Adjust**
- **Horizontal Pos**
- **Vertical Pos**
- **EXIT**

4.2.5 Tool Box

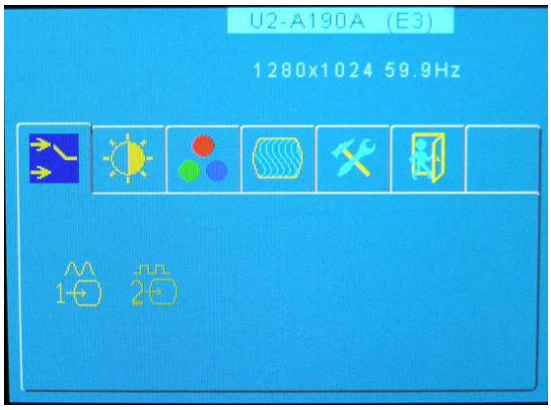
The following adjustments are provided under the Tool Box Menu tab:

- **OSD**
- **Factory Reset**
- **Factory Reset Color**
- **Factory Reset Position**
- **Sharpness Adjust**
- **640 x 720**
- **EXIT**

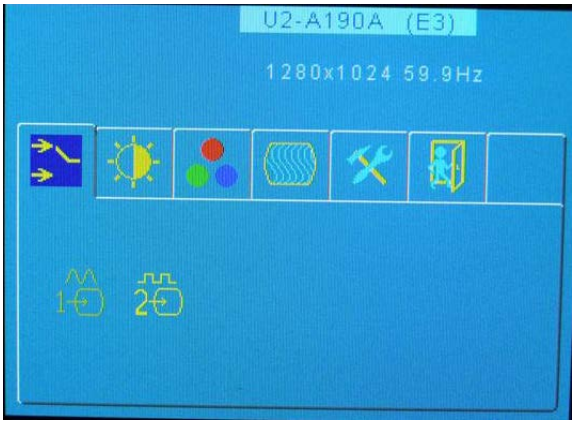
4.2.6 Exit OSD Menu

Displays Resolution.

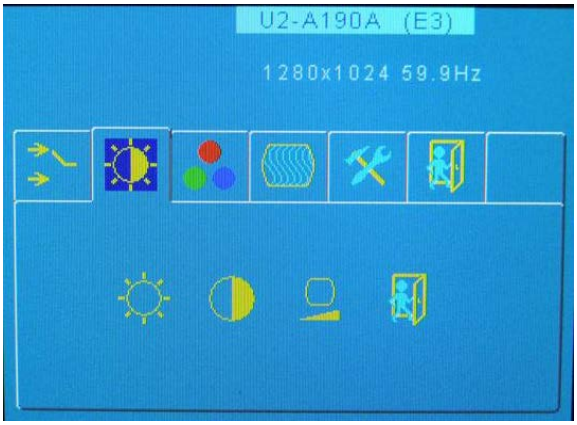
4.2.7 OSD MENU – SAMPLE IMAGES



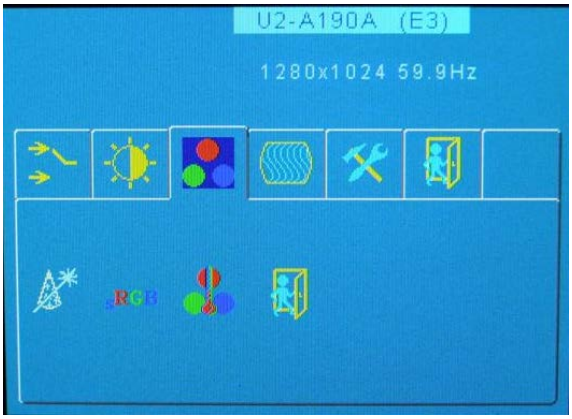
INPUT SELECT (VGA)



INPUT SELECT (DVI)



SETUP



COLOR ADJUST

PICTURE ADJUST (VGA)

TOOL BOX

EXIT OSD MENU

5 4419A1 SPECIFICATIONS

5.1 LCD Module

- Active matrix thin film transistor (TFT) liquid crystal display (LCD)
- Native Resolution (Pixel Count): 1280 (H) x 1024 V)
- Pixel pitch: 0.294 mm (H) x 0.294 mm (V)
- Aspect Ratio: 5:4
- Viewing angle: ±89° (typical all directions with more than 10:1 contrast ratio)
- Contrast Ratio: 1000:1 typical (dark environment)
- Display colors: 16,777,216
- Dimming Range: 0% to 100%
- Diagonal: 19-IN nominal
- Viewable Image Size: 376.32mm (14.8-IN) H, 301.05mm (11.85-IN) V nominal

5.2 RGB Video Input Signal

- Video: Analog 0 to 0.8 Vp-p (0.7 Vp-p/75 Ohms)
- Sync: Separate Sync TTL Level; Horizontal Sync Positive/Negative; Vertical Sync Positive/Negative; Composite Sync Positive/Negative, TTL Level; Sync on Green Video (Positive) 0.7 Vp-p and sync Negative 0.3 Vp-p

5.3 DIGITAL Video Input Signal

- Digital Visual Interface DVI-D as defined by the Digital Display Working Group

5.4 Refresh Rate

- Horizontal: 24.8 kHz to 91 kHz
- Vertical: 47.2 Hz to 89 Hz

5.5 Backlight Brightness

- 300 cd/m^2 minimum

5.6 Dimming Range

- Full dimming

5.7 VESA Resolutions Supported

NOTE

Resolution is based on horizontal and vertical frequencies only.

MODE #	VIDEO MODE INPUT	Vertical Refresh Rate	Horizontal Frequency	Pixel Frequency	Standard Mode
1	640 x 400	85 Hz	37.9 KHz	31.500 MHz	DOS
2	640 x 480	60 Hz	31.5 KHz	25.175 MHz	VGA
3	640 x 480	72 Hz	37.9 KHz	31.500 MHz	VGA
4	640 x 480	75 Hz	37.5 KHz	31.500 MHz	VGA
5	640 x 480	85 Hz	43.3 KHz	36.000 MHz	VGA
6	720 x 400	85 Hz	37.9 KHz	35.500 MHz	VGA
7	800 x 600	56 Hz	35.1 KHz	36.000 MHz	SVGA
8	800 x 600	60 Hz	37.9 KHz	40.000 MHz	SVGA
9	800 x 600	72 Hz	48.1 KHz	50.000 MHz	SVGA
10	800 x 600	75 Hz	46.9 KHz	49.500 MHz	SVGA
11	800 x 600	85 Hz	53.7 KHz	56.250 MHz	SVGA
12	1024 x 768	60 Hz	48.4 KHz	65.000 MHz	XGA
13	1024 x 768	70 Hz	56.5 KHz	75.000 MHz	XGA
14	1024 x 768	75 Hz	60.0 KHz	78.750 MHz	XGA
15	1024 x 768	85 Hz	68.7 KHz	94.500 MHz	XGA
16	1280 x 1024	60 Hz	64.0 KHz	108.000 MHz	SXGA

5.8 Power Consumption

- Input 115 VAC 60Hz single-phase at 0.82 Amps, 40 W (typ.)

5.9 Dimensions

See the dimension drawings at the back of this User's Guide.

5.10 Weight

- Panel (19-in): 11 lbs Nominal

5.11 Operating Environment

- Temperature: 0°C to 40°C; MIL-STD-810G Method 501/502, Procedure II
- Humidity: 5% to 85% non-condensing; MIL-STD-810G, Method 507, Procedure I
- Shock: MIL-S-901D, Grade B, Class I, Type A
- Vibration: MIL-STD-167-1A, Type I
- Drip Proof: MIL-STD-810G, Method 506, Procedure II, Front Panel Only
- Altitude: MIL-STD-810G, Method 500, Procedure II, 0 - 15,000 feet above sea level
- Sand and Dust: MIL-STD-810G, Method 510, Procedures I & II, Front Panel Only

5.12 Non-Operating Environment

- Temperature: -20°C to +60°C; MIL-STD-810G, Method 501/502, Procedure I
- Altitude: MIL-STD-810G, Method 500, 0 - 40,000 ft. above sea level

6 MAINTENANCE

6.1 Preventive Maintenance

The only periodic maintenance recommended is EXTERIOR SURFACE cleaning when necessary.

6.1.1 Surface Cleaning

The window and exterior surfaces may be cleaned with isopropyl alcohol followed by distilled water rinse, applied with a soft cloth to avoid scratching the anti-reflective coating on the glass panel.

NOTE: INTERIOR CLEANING OF THE MONITOR IS NEITHER REQUIRED NOR RECOMMENDED.

6.1.2 Image Persistence

Image persistence is the occurrence of a ghost image that remains on the display screen even after the display monitor has been turned off. Unlike cathode ray tube monitors that permanently burn the image into the phosphors, with liquid crystal displays, image persistence is not permanent. LCD's suffering from image persistence can be cleared by turning off the display monitor for a period equivalent to the duration in time that the offending image was displayed. If the image was displayed for one hour, turn the monitor off for one hour to erase the ghost image.

NOTE: The use of a screen saver is recommended whenever the screen is idle.

6.2 CORRECTIVE MAINTENANCE

Any corrective maintenance should be deferred to the depot or factory.

6.3 Troubleshooting (No Picture)

1. If no front panel indicators are lit, the most likely cause is no power input:

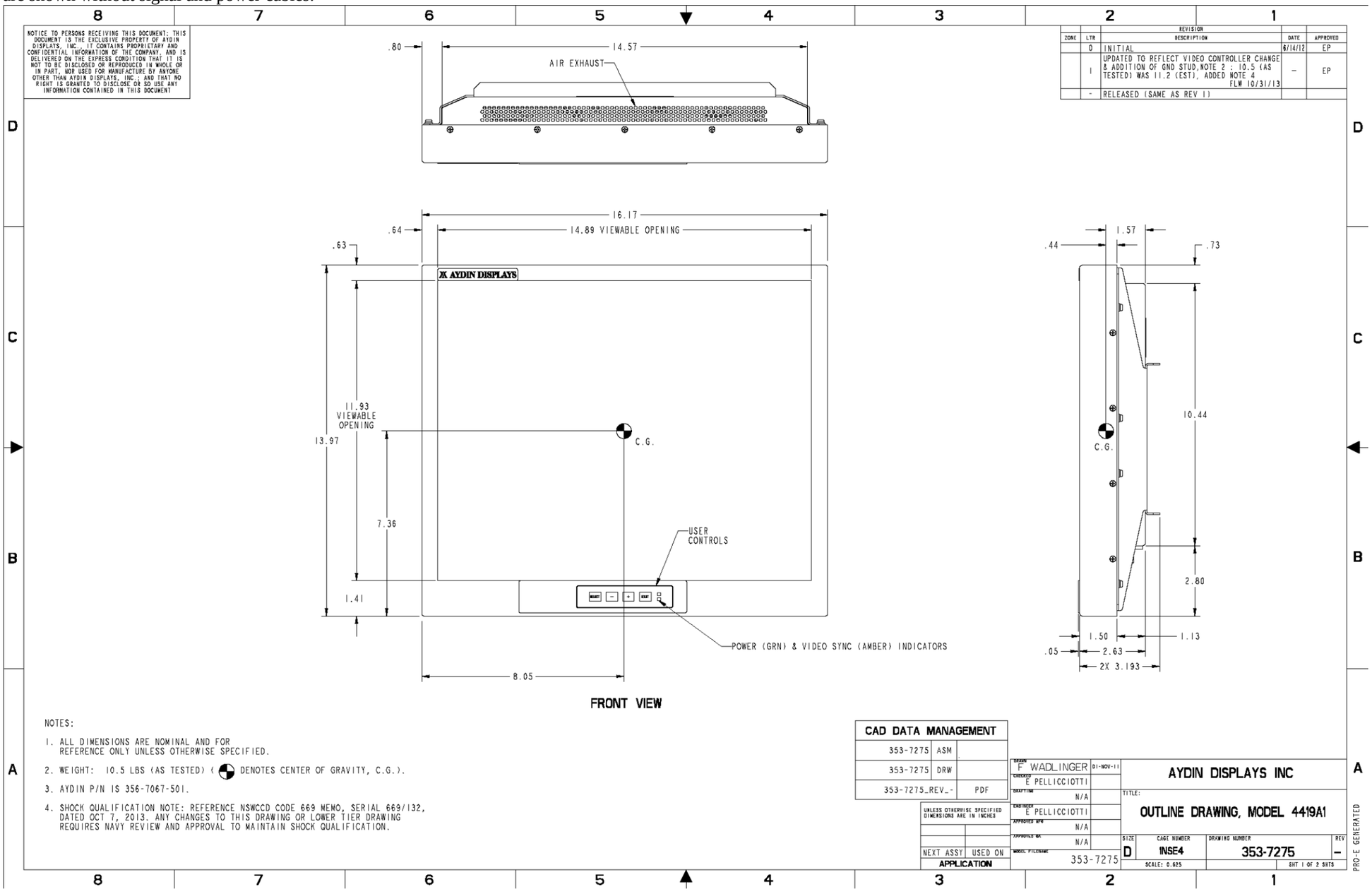
    a) Is power connected? (Make sure the power cord is fully seated.)
    b) Is the POWER switch ON?
    c) Is the fuse OK?

2. If the Yellow NO SYNC indicator is lit, most likely the monitor is not receiving a video input or that video input is not selected as the Main Picture Channel Input. (See section 3.1.1)

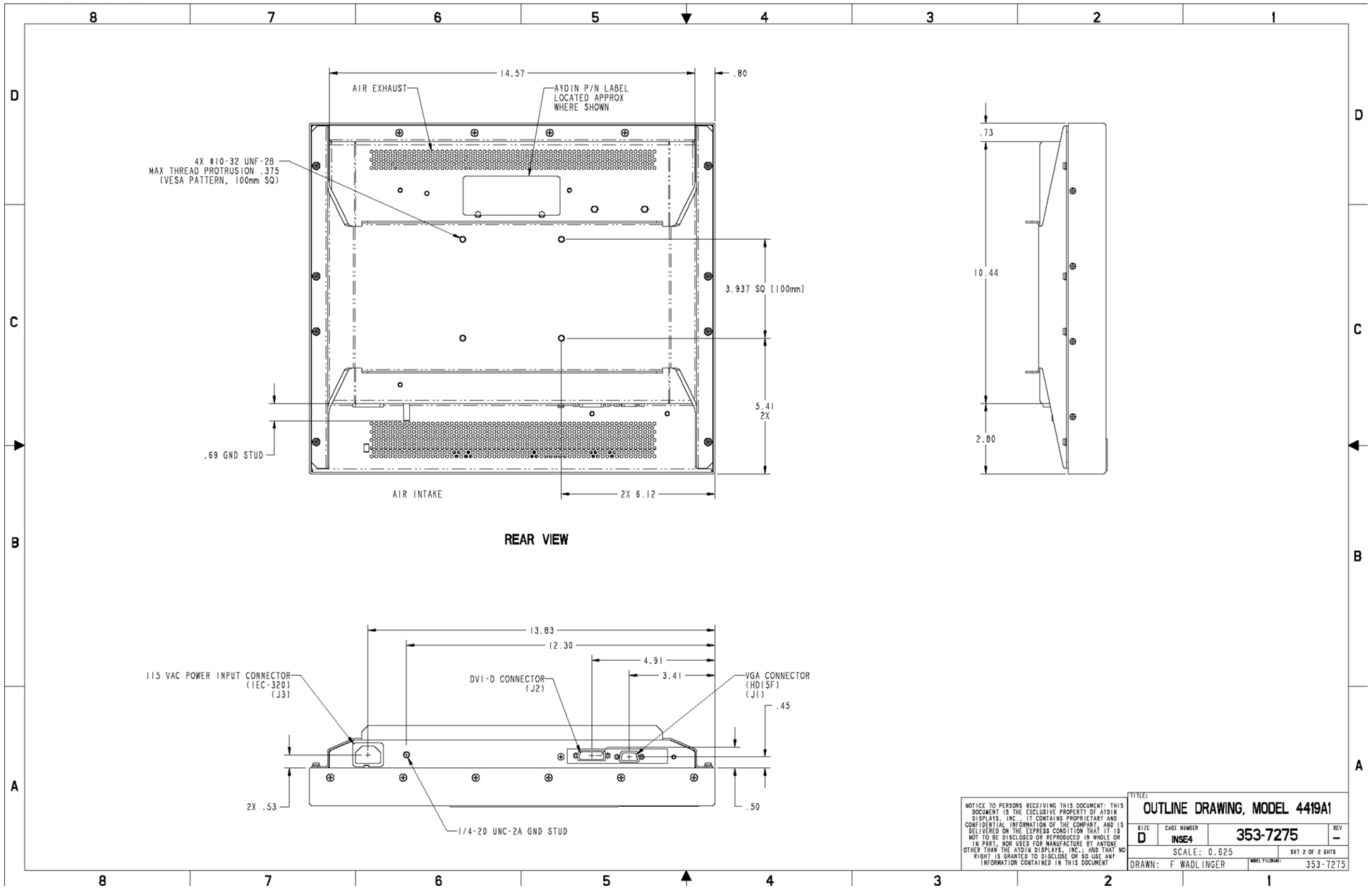
3. If the OUT OF RANGE indicator is lit, most likely the monitor is not receiving a valid format.

7 4419A1 DISPLAY DIMENSIONS

For clarity, displays are shown without signal and power cables.



4419A1 DISPLAY DIMENSIONS CONT.



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PL 354-7068-501 **REV:** PR

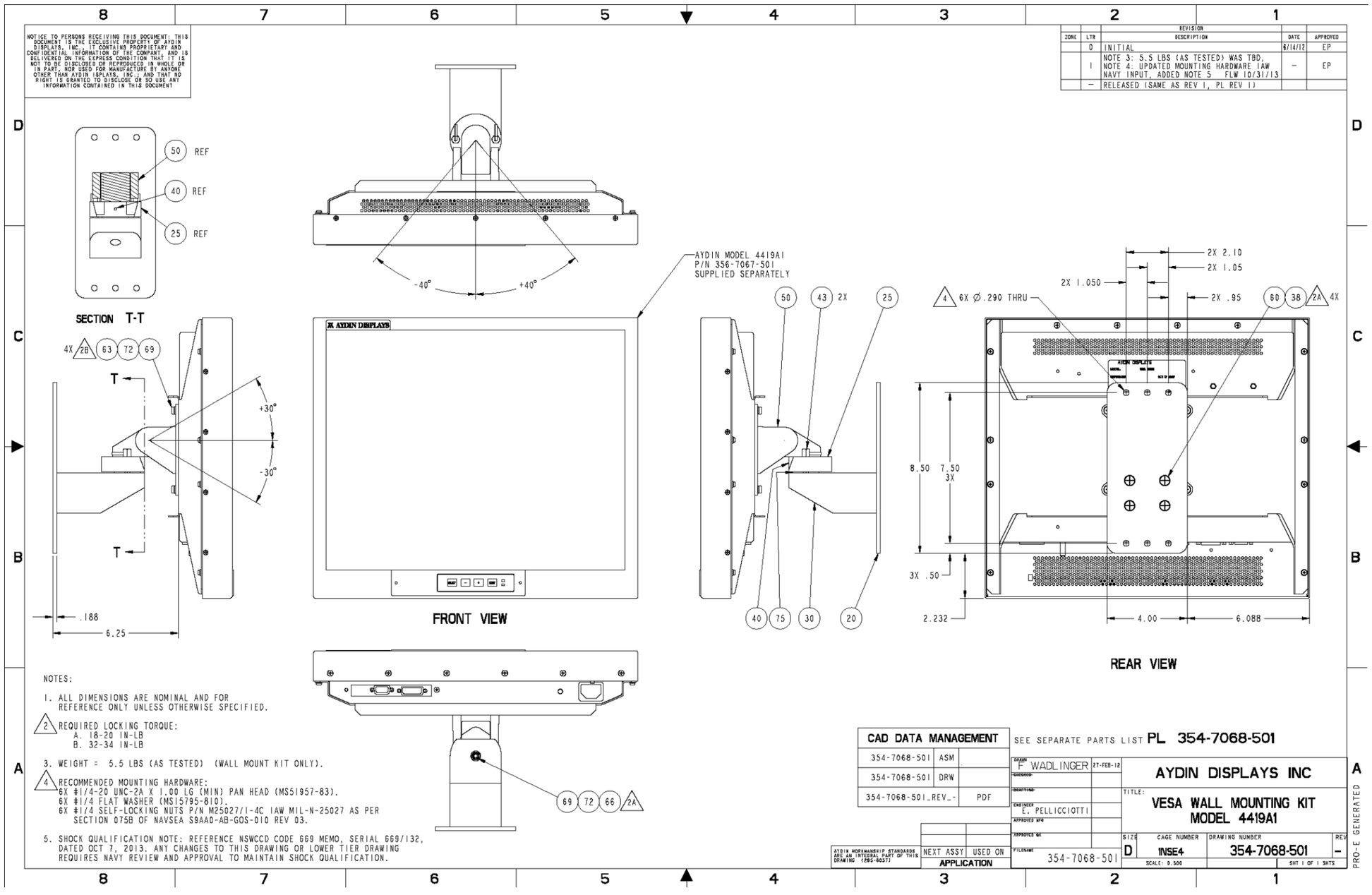
PARTS LIST TITLE: VESA WALL MNT KIT (4419A1)

CAGE CODE: 70MF8

Item No.	Qty Req	UM	Cage Code	Document Number	Manufacturer Part Number	Description	Notes
020	1	EA	70MF8	207-7105-001	207-7105-001	PLATE WALL MTG (4419A1)	
025	1	EA	70MF8	208-7081-001	208-7081-001	BLOCK PIVOT (4419A1)	
030	1	EA	70MF8	208-7082-001	208-7082-001	BLOCK PIVOT MTG (4419A1)	
038	0	EA	05972	120-004-092	42540	SEALANT THRD MTL/PLAS 20ML BOT	
040	1	EA	81349	126-001-534	MS171534	PIN SPRING .125 DIA X 1-IN LG	
043	2	EA	01226	126-7001-111	SSFRS375	PLNGR LEVER TYPE SS LKG 3/8-16	
050	1	EA	0C5B8	132-7004-203	62016-104	TILTER ASSY W/VESA PLATE KIT	
060	4	EA	81349	127-105-098	MS24693-C98	SCR 100 FH 1/4-20 X 1.00 SS	
063	4	EA	96906	127-101-064	MS51958-64	SCR PAN HD 10-32X 5\8	
066	1	EA	96906	127-5005-0114	MS16996-14	SCREW SOCKET HD 10-32 X 1.00	
069	5	EA	96906	128-200-808	MS15795-808	WASHER FLAT RD NO.10	
072	5	EA	96906	128-202-138	MS35338-138	WASHER LK SPLIT NO.10	
075	1	EA	0KVE6	128-7005-3401	95649A256	WSHR FLT UHMW 3/4 SCR .06 THK	

Drawings associated with this parts list: AD354-7068-501

Printed on: 02/12/15 11:54:50 AM *Hard Copy is for Reference Only* Sheet: 1 of 1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REVISION
ZONE LTR DESCRIPTION DATE APPROVED
0 INITIAL 6/14/12 EP
1 NOTE 3: 5.5 LBS (AS TESTED) WAS TBD, NOTE 4: UPDATED MOUNTING HARDWARE IAW NAVY INPUT, ADDED NOTE 5 FLW 10/31/13 – EP
– RELEASED (SAME AS REV 1, PL REV 1)
50 REF
40 REF
25 REF
SECTION T-T
4X 2B 63 72 69
T
+30°
-30°
.188
6.25
-40°
+40°
AYDIN MODEL 4419A1
P/N 356-7067-501
SUPPLIED SEPARATELY
AYDIN DISPLAYS
FRONT VIEW
50 43 2X 25
40 75 30 20
2X 2.10
2X 1.05
2X 1.050
2X .95
4 6X Ø.290 THRU
60 38 2A 4X
8.50 7.50 3X
3X .50
2.232
4.00 6.088
REAR VIEW
69 72 66 2A
NOTES:
1. ALL DIMENSIONS ARE NOMINAL AND FOR REFERENCE ONLY UNLESS OTHERWISE SPECIFIED.
2 REQUIRED LOCKING TORQUE:
A. 18-20 IN-LB
B. 32-34 IN-LB
3. WEIGHT = 5.5 LBS (AS TESTED) (WALL MOUNT KIT ONLY).
4 RECOMMENDED MOUNTING HARDWARE:
6X #1/4-20 UNC-2A X 1.00 LG (MIN) PAN HEAD (MS51957-83).
6X #1/4 FLAT WASHER (MS15795-810).
6X #1/4 SELF-LOCKING NUTS P/N M25027/1-4C IAW MIL-N-25027 AS PER SECTION 075B OF NAVSEA S9AA0-AB-GOS-010 REV 03.
5. SHOCK QUALIFICATION NOTE: REFERENCE NSWCCD CODE 669 MEMO, SERIAL 669/132, DATED OCT 7, 2013. ANY CHANGES TO THIS DRAWING OR LOWER TIER DRAWING REQUIRES NAVY REVIEW AND APPROVAL TO MAINTAIN SHOCK QUALIFICATION.
CAD DATA MANAGEMENT
354-7068-501 ASM
354-7068-501 DRW
354-7068-501_REV_- PDF
SEE SEPARATE PARTS LIST PL 354-7068-501
DRAWN F. WADLINGER 27-FEB-12
CHECKED
DRAFTING
ENGINEER E. PELLICCIOTTI
APPROVED #1
APPROVED QA
FILENAME 354-7068-501
AYDIN DISPLAYS INC
TITLE: VESA WALL MOUNTING KIT MODEL 4419A1
SIZE D CAGE NUMBER 1NSE4 DRAWING NUMBER 354-7068-501 REV –
SCALE: 0.500 SHT 1 OF 1 SHTS
AYDIN WORKMANSHIP STANDARDS ARE AN INTEGRAL PART OF THIS DRAWING (ZBS-8037)
NEXT ASSY USED ON
APPLICATION
PRO-E GENERATED