INSTALLATION INSTRUCTIONS
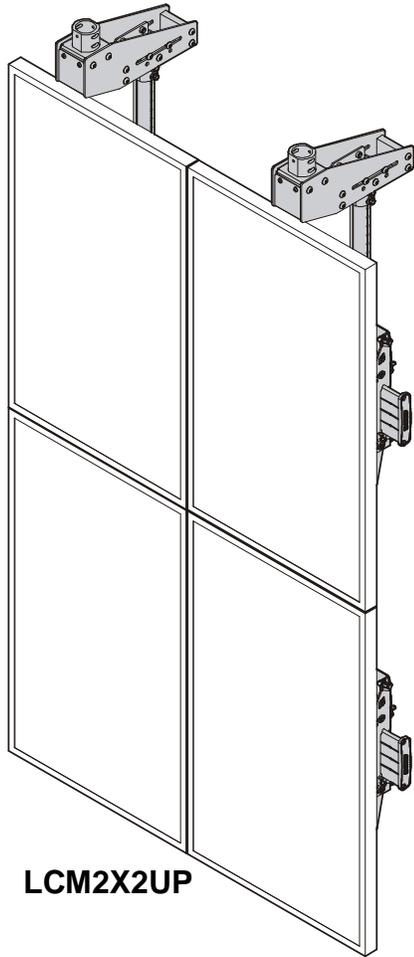
LCM2X2UP
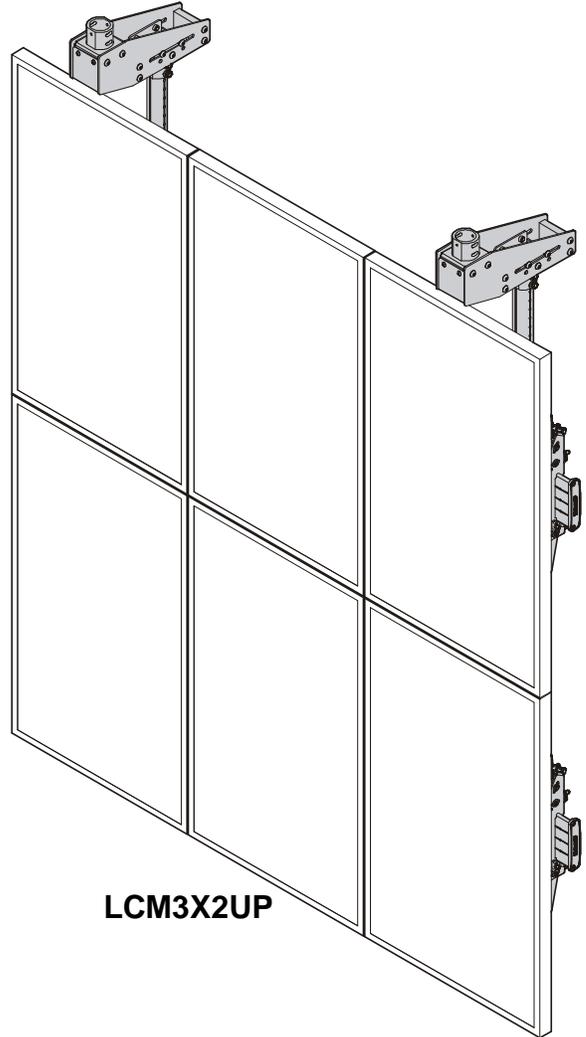
LCM3X2UP

Portrait Ceiling Mounted Video Walls

CHIEF®
Our Mounts. **Your Vision.**

LCM Portrait Video Wall Series

DISCLAIMER

Milestone AV Technologies and its affiliated corporations and subsidiaries (collectively "Milestone"), intend to make this manual accurate and complete. However, Milestone makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without notice or obligation of any kind. Milestone makes no representation of warranty, expressed or implied, regarding the information contained herein. Milestone assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

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⚠ IMPORTANT SAFETY INSTRUCTIONS

⚠ **WARNING:** A WARNING alerts you to the possibility of serious injury or death if you do not follow the instructions.

⚠ **CAUTION:** A CAUTION alerts you to the possibility of damage or destruction of equipment if you do not follow the corresponding instructions.
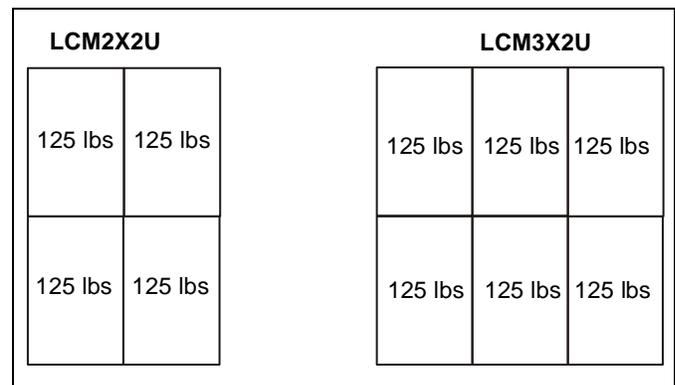
⚠ **WARNING:** Failure to read, thoroughly understand, and follow all instructions can result in serious personal injury, damage to equipment, or voiding of factory warranty! It is the installer's responsibility to make sure all components are properly assembled and installed using the instructions provided.

⚠ **WARNING:** Failure to provide adequate structural strength for this component can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the structure to which this component is attached can support five times the combined weight of all equipment. Reinforce the structure as required before installing the component.

⚠ **WARNING:** Use this mounting system only for its intended use as described in these instructions. Do not use attachments not recommended by the manufacturer.

⚠ **WARNING:** Exceeding the weight capacity can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the combined weight of all components located within the mounting system of the LCM Portrait Series model does not exceed maximum weights listed in table below.

MODEL	Max Weight Allowed for EACH Display	Max Weight Capacity of Mounting System
LCM2X2UP	125 lbs (56.7 kg)	500 lbs (226.8 kg)
LCM3X2UP	125 lbs (56.7 kg)	750 lbs (340.2 kg)

LCM2X2U		LCM3X2U		
125 lbs	125 lbs	125 lbs	125 lbs	125 lbs
125 lbs	125 lbs	125 lbs	125 lbs	125 lbs

⚠ **WARNING:** Never operate this mounting system if it is damaged. Return the mounting system to a service center for examination and repair.

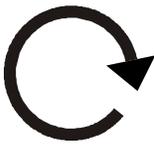⚠ **WARNING:** Do not use this product outdoors.

NOTE: The LCM Portrait Series ceiling mounted video walls are intended to be used with the UL Listed CPA Ceiling Plates (not included): CPA330, CPA365, CPA395.

The following UL Listed Chief ceiling plates WITHOUT swaged collars (not included) may also be used: CMA330, CMA345, CMA395.
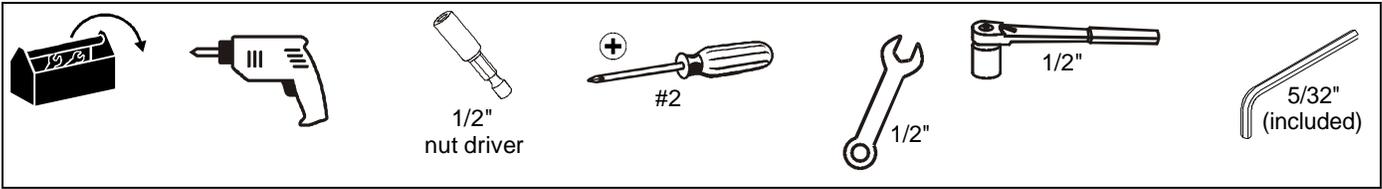
NOTE: The LCM Portrait Series ceiling mounted video walls are compatible with UL Listed Video Wall Extender accessories FCAX08, FCAX14 and FCAX20 (not included). Refer to the UL Listed accessories installation manuals for mounting instructions.
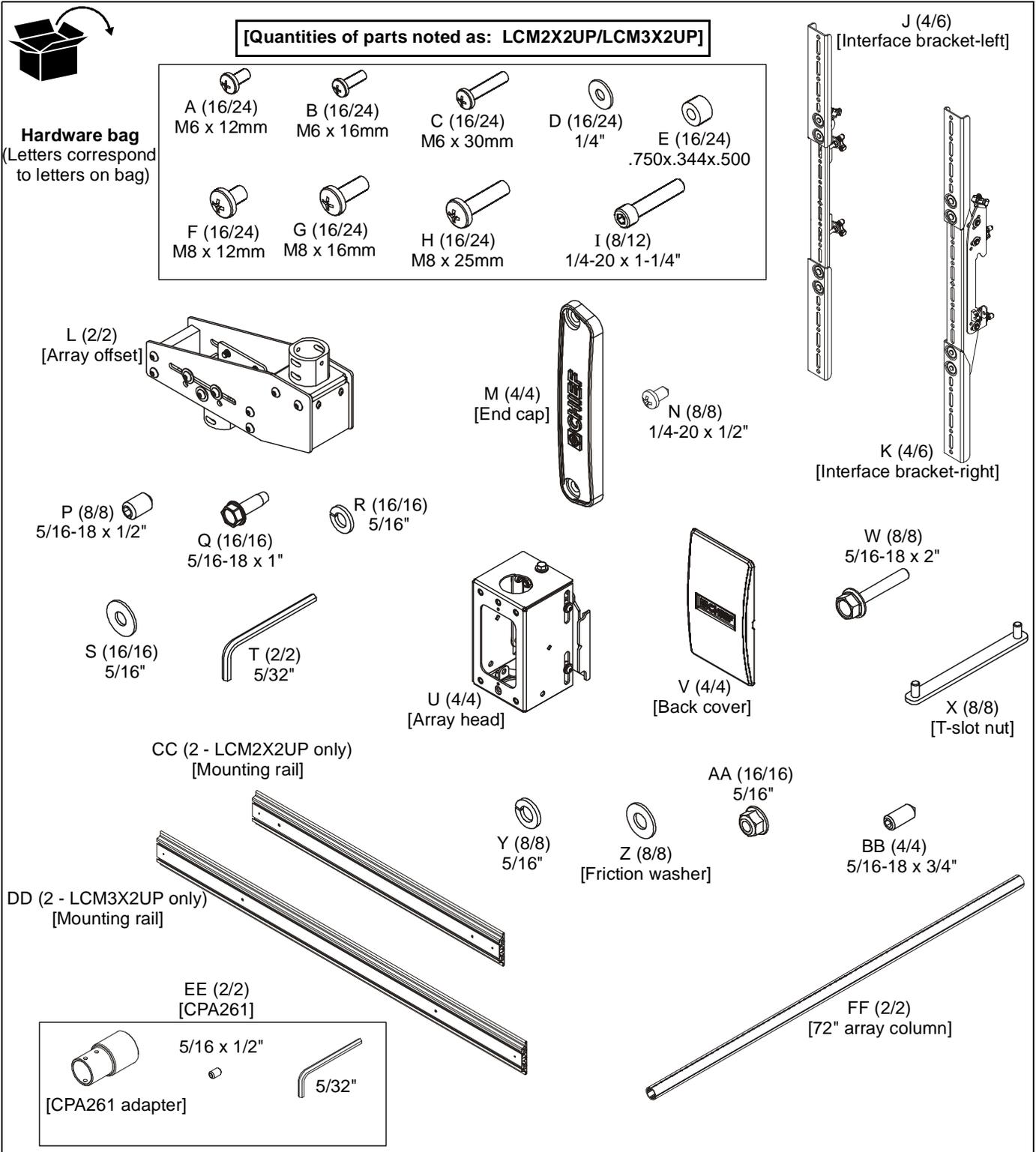
--SAVE THESE INSTRUCTIONS--

LEGEND

	Tighten Fastener			Pencil Mark
	Apretar elemento de fijación			Marcar con lápiz
	Befestigungsteil festziehen			Stiftmarkierung
	Apertar fixador			Marcar com lápis
	Serrare il fissaggio			Segno a matita
	Bevestiging vastdraaien			Potloodmerkteken
	Serrez les fixations			Marquage au crayon
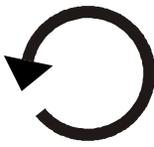
	Loosen Fastener			Drill Hole
	Aflojar elemento de fijación			Perforar
	Befestigungsteil lösen			Bohrloch
	Desapertar fixador			Fazer furo
	Allentare il fissaggio			Praticare un foro
	Bevestiging losdraaien			Gat boren
	Desserrez les fixations			Percez un trou

	Phillips Screwdriver			Adjust
	Destornillador Phillips			Ajustar
	Kreuzschlitzschraubendreher			Einstellen
	Chave de fendas Phillips			Ajustar
	Cacciavite a stella			Regolare
	Kruiskopschroevendraaier			Afstellen
	Tournevis à pointe cruciforme			Ajuster

	Open-Ended Wrench			Remove
	Llave de boca			Quitar
	Gabelschlüssel			Entfernen
	Chave de bocas			Remover
	Chiave a punte aperte			Rimuovere
	Steeksleutel			Verwijderen
	Clé à fourche			Retirez

	By Hand			Optional
	A mano			Opcional
	Von Hand			Optional
	Com a mão			Opcional
	A mano			Opzionale
	Met de hand			Optie
	À la main			En option

	Hex-Head Wrench			Security Wrench
	Llave de cabeza hexagonal			Llave de seguridad
	Sechskantschlüssel			Sicherheitsschlüssel
	Chave de cabeça sextavada			Chave de segurança
	Chiave esagonale			Chiave di sicurezza
	Zeskantsleutel			Veiligheidssleutel
	Clé à tête hexagonale			Clé de sécurité

TOOLS REQUIRED FOR INSTALLATION

1/2"
nut driver

#2

1/2"

1/2"

5/32"
(included)

PARTS

[Quantities of parts noted as: LCM2X2UP/LCM3X2UP]

Hardware bag
(Letters correspond
to letters on bag)

A (16/24)
M6 x 12mm

B (16/24)
M6 x 16mm

C (16/24)
M6 x 30mm

D (16/24)
1/4"

E (16/24)
.750x.344x.500

F (16/24)
M8 x 12mm

G (16/24)
M8 x 16mm

H (16/24)
M8 x 25mm

I (8/12)
1/4-20 x 1-1/4"

J (4/6)
[Interface bracket-left]

L (2/2)
[Array offset]

M (4/4)
[End cap]

N (8/8)
1/4-20 x 1/2"

K (4/6)
[Interface bracket-right]

P (8/8)
5/16-18 x 1/2"

Q (16/16)
5/16-18 x 1"

R (16/16)
5/16"

W (8/8)
5/16-18 x 2"

S (16/16)
5/16"

T (2/2)
5/32"

U (4/4)
[Array head]

V (4/4)
[Back cover]

X (8/8)
[T-slot nut]

CC (2 - LCM2X2UP only)
[Mounting rail]

AA (16/16)
5/16"

Y (8/8)
5/16"

Z (8/8)
[Friction washer]

BB (4/4)
5/16-18 x 3/4"

DD (2 - LCM3X2UP only)
[Mounting rail]

EE (2/2)
[CPA261]

5/16 x 1/2"

5/32"

[CPA261 adapter]

FF (2/2)
[72" array column]

4

INSTALLATION

IMPORTANT ! : Refer to **Dimensions** section at end of instructions to find specific LCM portrait video wall dimension requirements **BEFORE** proceeding with installation.

NOTE: The following procedure assumes that 2 UL Listed CPA or CMA ceiling plates (not included) and 2 extension columns (not included) have been properly installed following instructions provided with ceiling plates and extension columns.

- The ceiling plates and columns should be installed approximately spaced at center of outside screens. (See **Dimensions** drawings at end of instructions.)

IMPORTANT ! : The weight of the system should be evenly distributed across two ceiling plates.

Installing Array Offset

1. Measure depth of screens to be installed and compare to offset position information. (See Table 1)

Table 1: Offset Position for Screen Depth

ARRAY OFFSET	Forward Position	Center Position	Rear Position
Screen Depth	< 2.5" depth	2.5" to 4.5" depth	> 4.5" depth

NOTE: The array offset (L) ships in the centered position. If the screen depth is 2.5" to 4.5" leave the array offset as is, and proceed to **Attaching Array Offset to Installed Column** section.

2. Loosen and remove fastener and washer from center hole on each side of array offset (L). (See Figure 1)

3. Loosen two outside fasteners on each side of array offset (L).

4. Slide offset to appropriate position. (See Figure 1)

5. Tighten two outside fasteners on each side of offset.

6. Install and tighten fastener with washer (removed in Step 2) into appropriate hole on each side of offset. (See Figure 1)
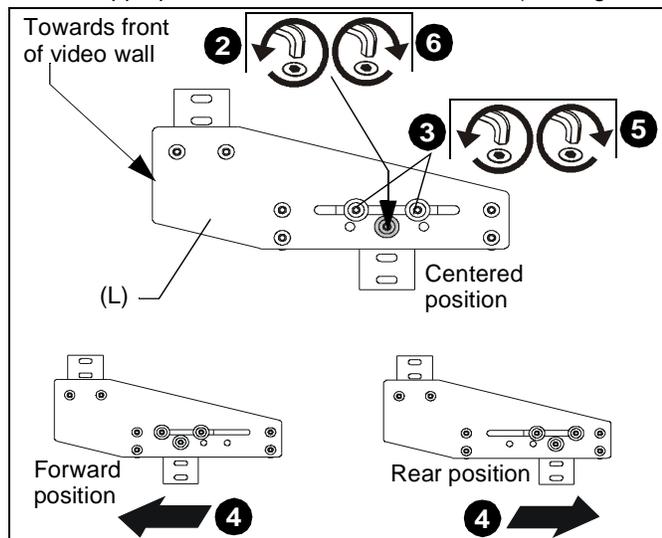

Figure 1

7. Repeat for remaining array offset (L).

Attaching Array Offset to Installed Column

NOTE: If the column attached to the ceiling plate is a 1-1/2" NPT column, the UL Listed CPA261 adapter accessory (EE) must first be installed following instructions included with the accessory. No adapter is necessary if attaching to a UL listed CPA extension column.

NOTE: Installation of hex head self-tapping screws will be easier when screws are carefully aligned with holes in extension column, and a drill and nut driver is used. If a drill will NOT be used, a small amount of pressure will be needed to get the self-tapping screws started.

1. Secure array offset (L) to extension column (not included) using four 5/16-18 x 1" hex head self-tapping screws (Q), four 5/16" split lock washers (R) and four 5/16" flat washers (S) through holes in extension column. (See Figure 2)

2. Install two 5/16" x 1/2" set screws (P) into threaded holes, tightening firmly against column. (See Figure 2)
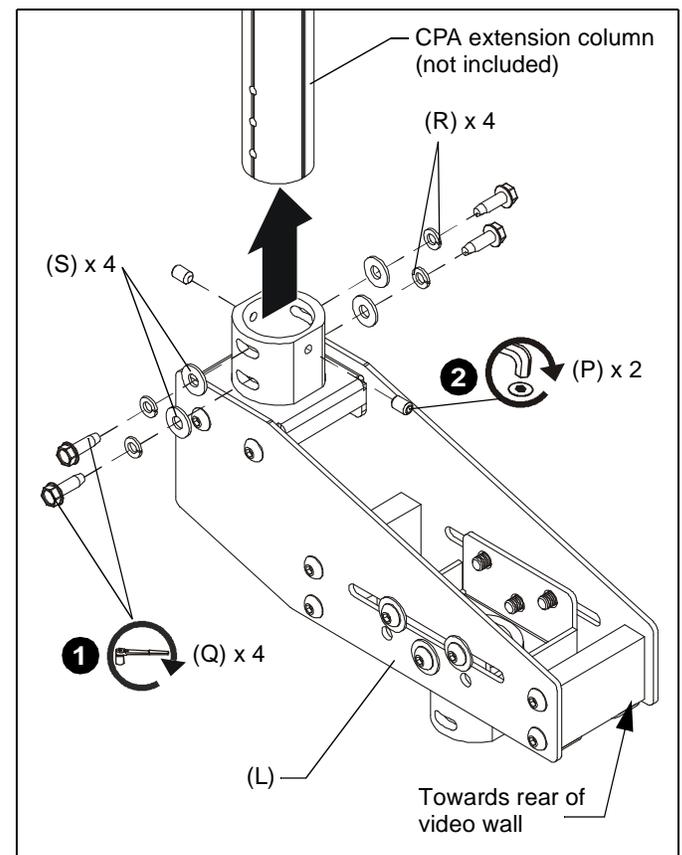

Figure 2

Installing Interface Brackets to Displays

1. Place displays face down on a soft, non-abrasive surface.

IMPORTANT ! : Screen width information is contained in the **Dimension** drawings at the end of these instructions.

⚠️ **CAUTION:** Using screws of improper diameter may damage your display! Proper screws will easily thread into display mounting holes.

2. Select screw *diameter* by examining hardware (A-C and F-H) (6mm or 8mm) and comparing with mounting holes on display. (See Figure 3)

3. Select spacers:

   • Spacers are **NOT** required if mounting holes are not recessed and interface brackets (J and K) can lay flat against display.

   • Spacers (E) **ARE** required if mounting holes are recessed, or if protrusions prevent interface brackets (J and K) from laying flat.

⚠️ **CAUTION:** Using screws of improper length may damage your display! Proper screws will have adequate thread engagement without contacting bottom of display mounting holes.

4. Select screw *length:* (See Figure 3)

   • By hand, insert SHORTEST length screw of selected diameter (A or F) through 1/4" washer (D), bracket (J or K), selected spacer (E, if required), into display mounting hole. Do NOT thread screw into hole at this time.

   • Proper screw length requires base of screw head to protrude above flat washer a *distance equal to or greater than the screw diameter.* If screw length is inadequate, select longer screw. Select *shortest* screw which will protrude the required distance.

5. Make sure diamond on interface brackets is even with center of display. (See Figure 3)

6. Use selected screws (A-C or F-H), washers (D) and spacers (E), if necessary, to connect interface brackets (J and K) to back of display. (See Figure 3)
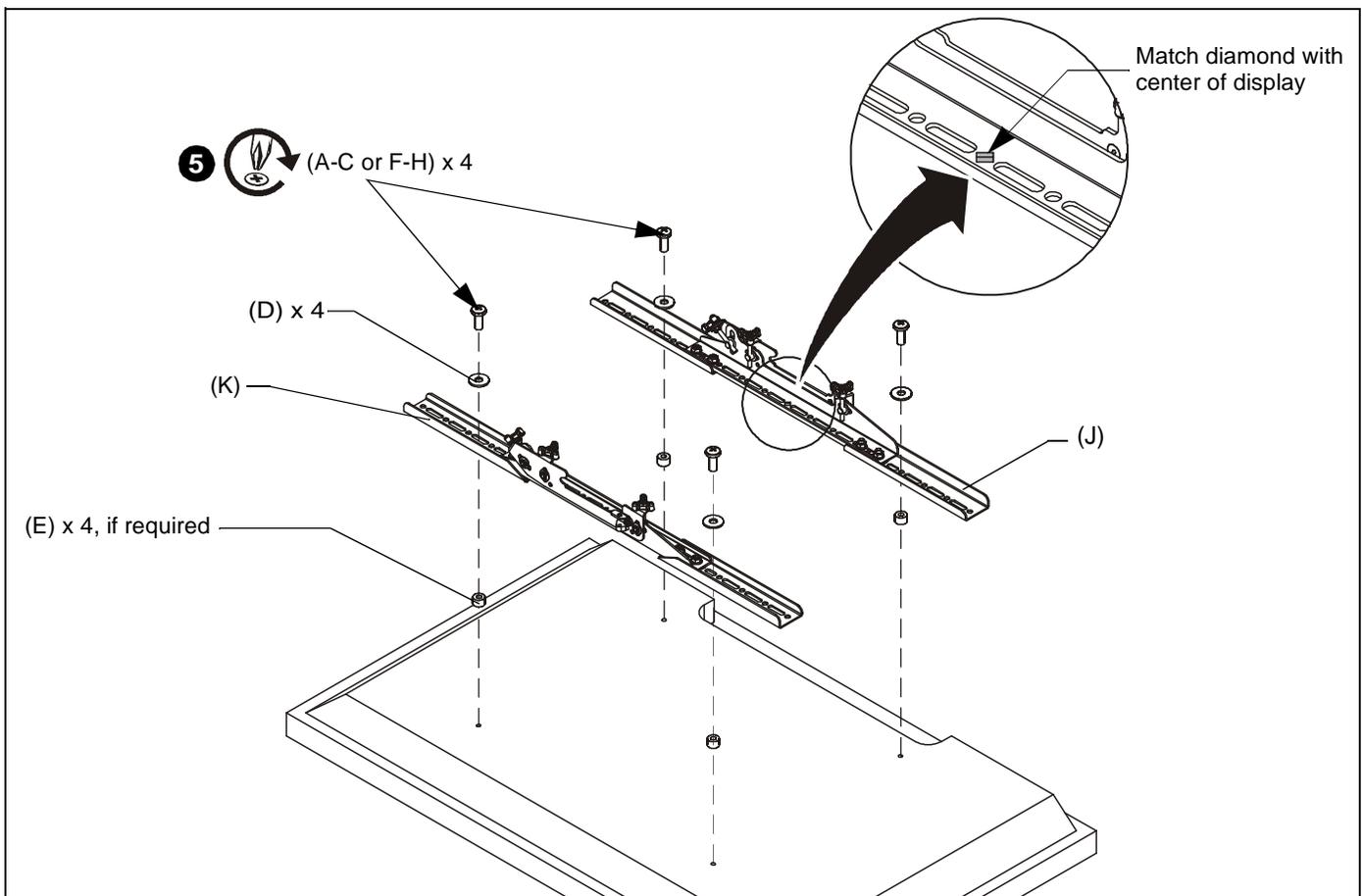

Figure 3

Adding Array Heads to Columns

2X2 / 3X2 Screen Arrangement

5.68
[144.4]
TO FRONT FACE
OF ALUMINUM EXTRUSION

78.61
[1996.7]

67.28
[1709.0]

74.5
[1892.2]
BOTTOM HEAD
AT LOWEST POSITION

APPROXIMATE
C/L OF
BOTTOM SCREEN

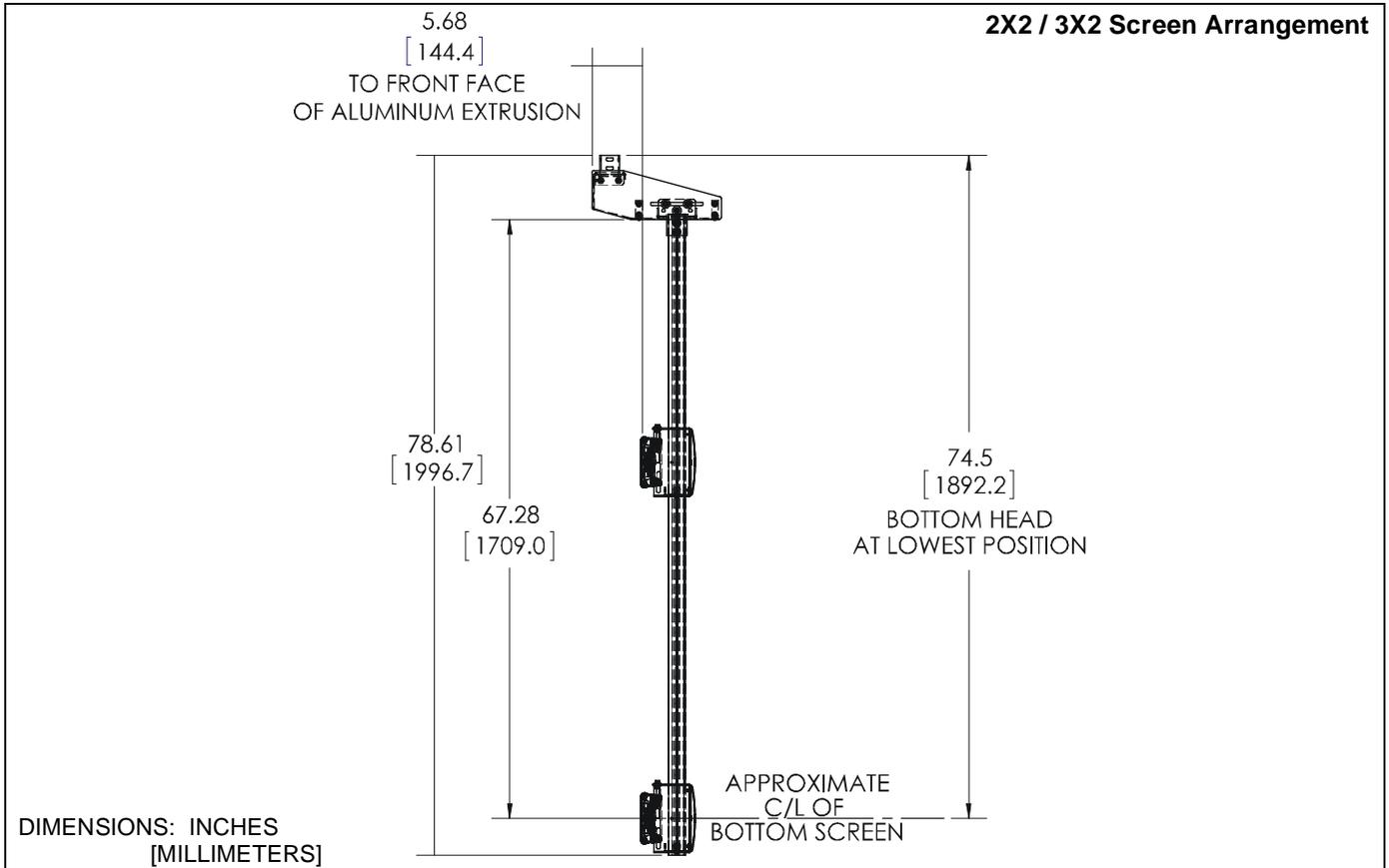DIMENSIONS: INCHES
[MILLIMETERS]

Figure 4

1. Lay columns (FF) on floor and carefully place display next to columns. (See Figure 4) and (See Figure 5)

2. Mark center of display (diamond on interface brackets) onto both columns. (See Figure 5)

3. Measure one screen height up on the columns from the first mark. (See Figure 4) and (See Figure 5)

NOTE: Be sure to make two marks on the column for the LCM2X2U and LCM3X2U.

4. Make a mark at upper spot on both columns. (See Figure 4)

5. Slide an array head (U) onto column up to the highest mark on the column.

IMPORTANT ! : Match the center marks on the array head with the mark on the column. (See Figure 6)
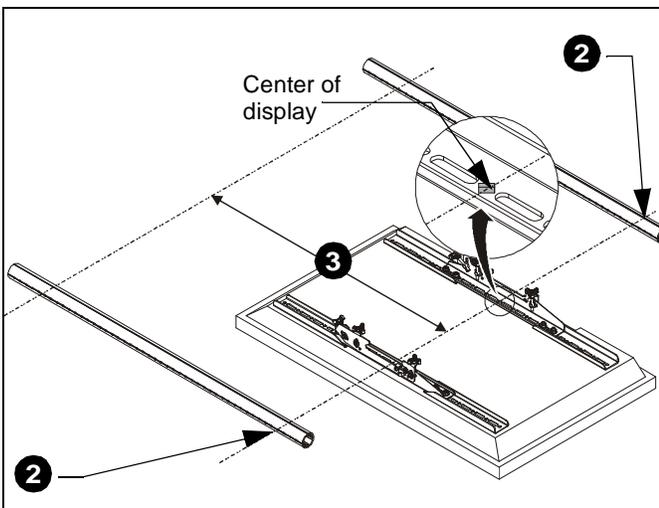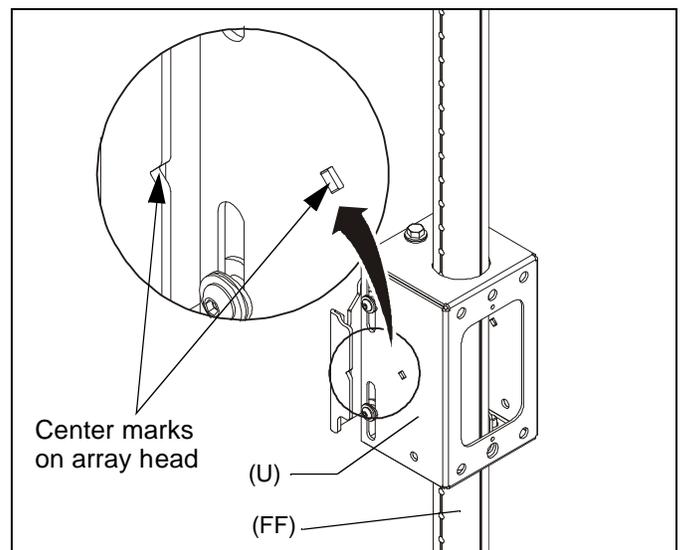

Figure 5

Figure 6

NOTE: Installation of hex head self-tapping screws will be easier when screws are carefully aligned with holes in extension column, and a drill and nut driver is used. If a drill will NOT be used, a small amount of pressure will be needed to get the self-tapping screws started.

6. Attach array head (U) to column using two 5/16" x 2" hex head self-tapping screws (W), two 5/16" split washers (Y), and two 5/16" friction washers (Z). (See Figure 7)
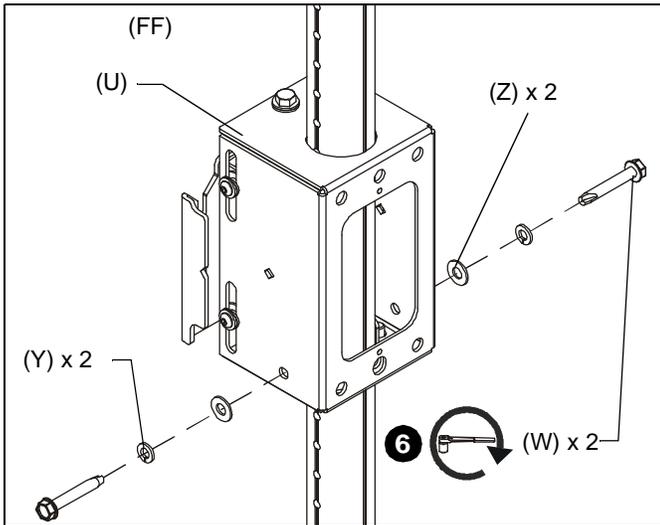

Figure 7

7. Fasten one 5/16-18 x 3/4" set screw (BB) into top center hole of array head. (See Figure 8)

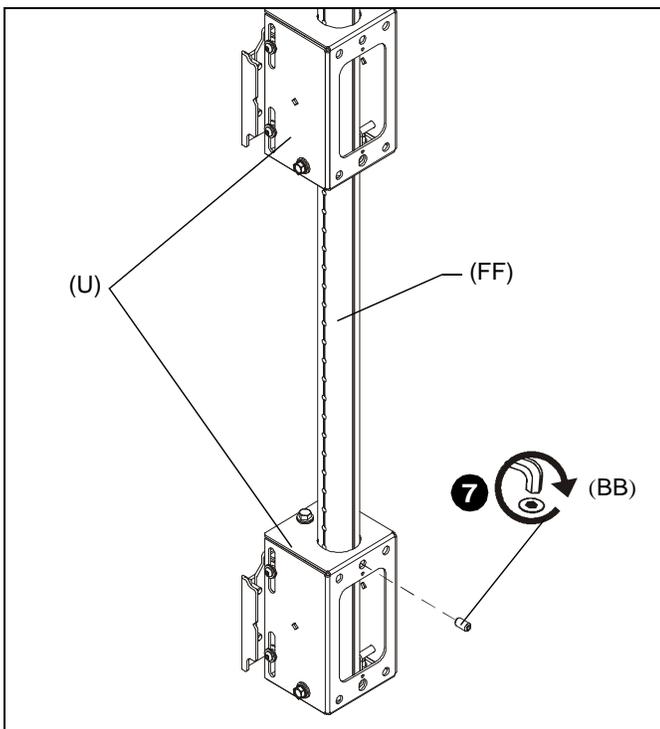8. Repeat for each remaining array head. (See Figure 8)

Figure 8

Attaching Column Assembly to Array Offset

1. Arrange column assembly so that the open side of the array head (U) is facing the back of the video wall. (See Figure 9)

2. Loosely fasten column assembly to array offset (L) using four 5/16" x 1" hex head self-tapping screws (Q), four 5/16" split washers (R), and four 5/16" washers (S). (See Figure 9)
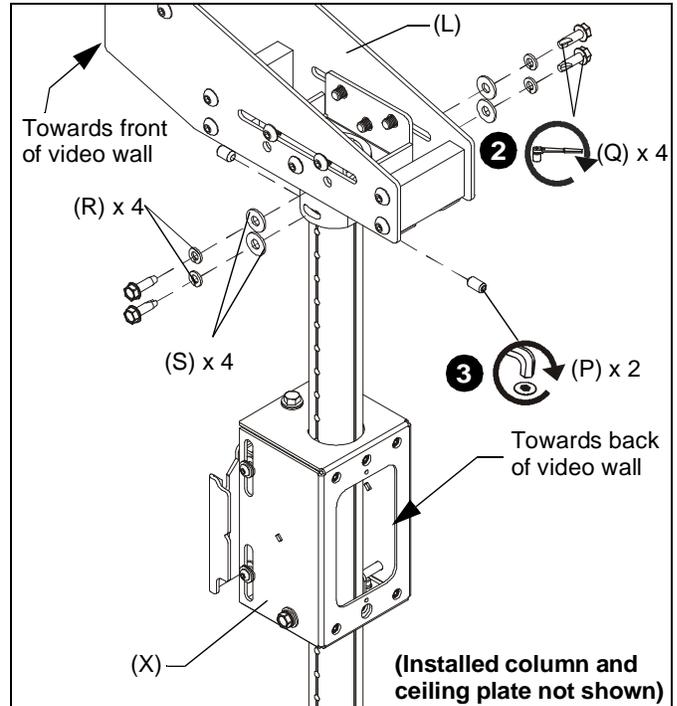

Figure 9

3. Add two 5/16-18 x 1/2" set screws (P) to lower end of array offset (N).

4. Repeat for remaining column assembly and array offset (L).

Adding Mounting Rails

1. Slide two T-slot nuts (X - one in top mounting rail slot and one in bottom) for each screen into end of mounting rail (CC or DD). (See Figure 10)
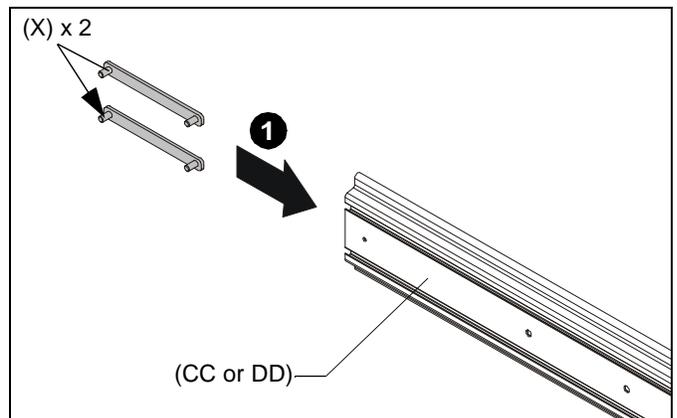

Figure 10

2. Partially fasten one 5/16" lock nut (AA) to each stud on **upper** T-slot nuts.

3. Slide top T-slot nuts (X) with attached lock nuts (AA) down into top openings on array head (U). (See Figure 11)

4. Slide studs on lower T-slot nuts (X) into lower slots on array head (U) while bringing mounting rail against array head (U).

5. Tighten array head to mounting rail by tightening lock nuts on upper T-slot nuts and adding two 5/16" lock nuts (AA) to lower T-slot nuts. (See Figure 11)
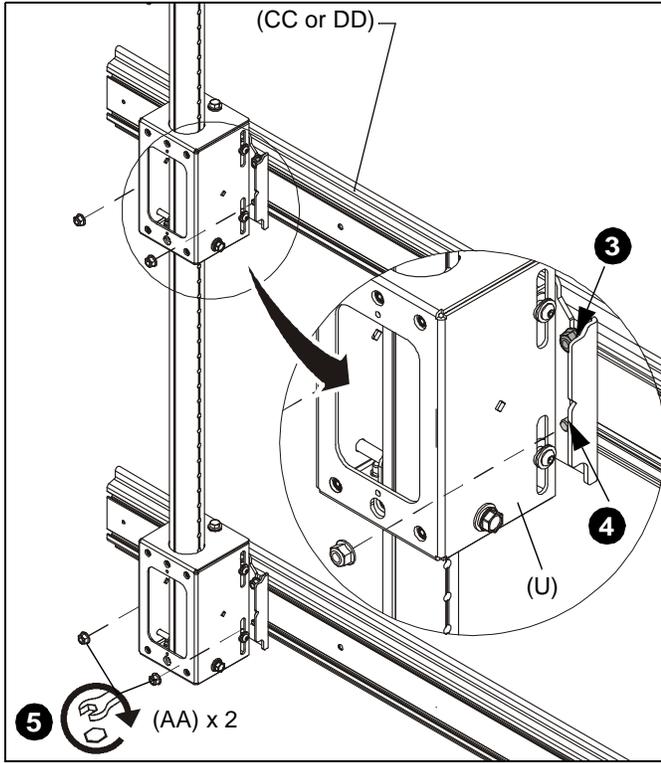

Figure 11

6. Repeat for remaining mounting rail and array heads (U).

7. Tighten bolts which were loosely fastened in array offset (L).

8. Add end cap (M) to end of mounting rail, and fasten in place using two 1/4-20 x 1/2" Phillips pan head screws (N). (See Figure 12)
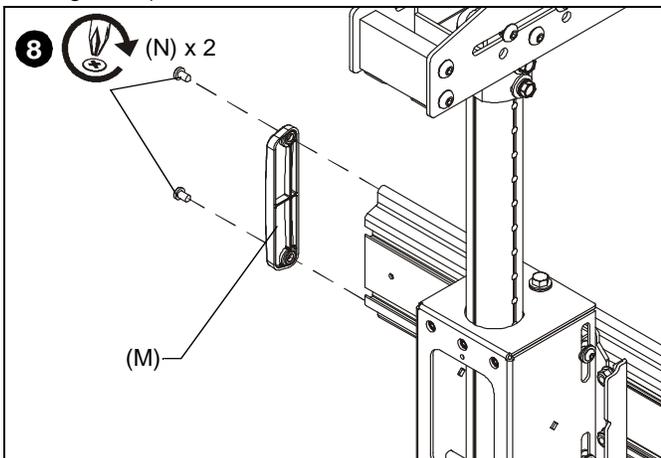

Figure 12

9. Repeat for each end of remaining mounting rail(s).

Adding Displays to Mounting Rails

⚠️ **WARNING:** Exceeding the weight capacity can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the combined weight of all components located within the mounting system of the LCM Portrait Series model does not exceed maximum weights listed in table below.

MODEL	Max Weight Allowed for <u>EACH</u> Display	Max Weight Capacity of Mounting System
LCM2X2UP	125 lbs (56.7 kg)	500 lbs (226.8 kg)
LCM3X2UP	125 lbs (56.7 kg)	750 lbs (340.2 kg)

⚠️ **WARNING:** Improper display installation can result in serious personal injury or damage to equipment! Install displays from the bottom to the top. Install all displays evenly in each row before proceeding to a higher row. Do NOT mount all of the displays on one side. On the LCM3X2, mount the center display in each row prior to installing the outside displays in that same row. (See Figure 13)
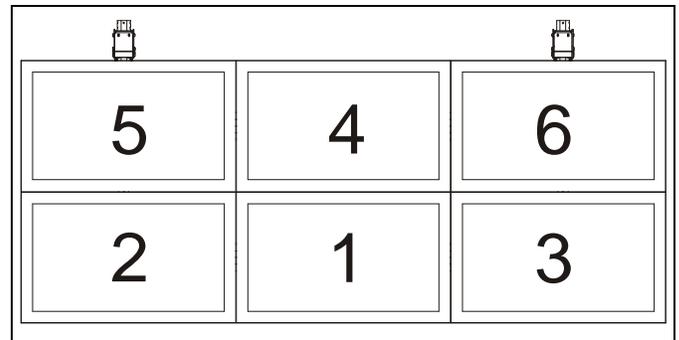

Figure 13

⚠ **CAUTION:** BEFORE adding displays to the mounting rails, ensure end caps are in place at BOTH ends of mounting rail!

1. If necessary, make height adjustments to the bottom rail by using adjustment points on the array heads (U). (See Figure 14)

2. While holding mounting rail, loosen button head screws on sides of array heads (U).

3. Level and move mounting rail up or down as necessary.

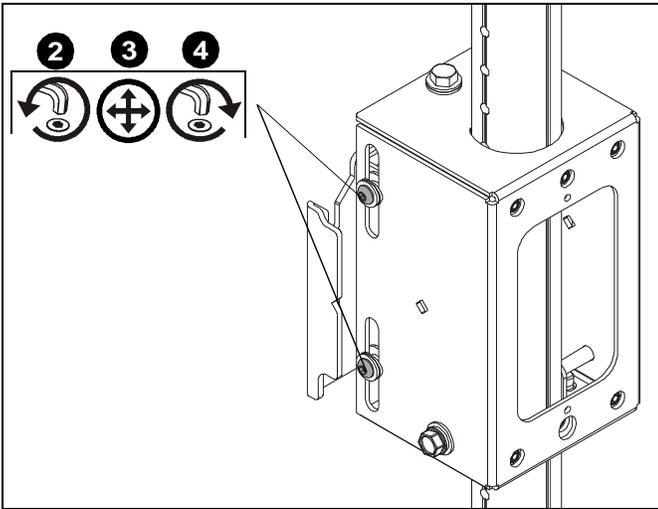4. Tighten button head screws on sides of array heads (U).

Figure 14

5. Open latch on attached interface brackets. (See Figure 15)
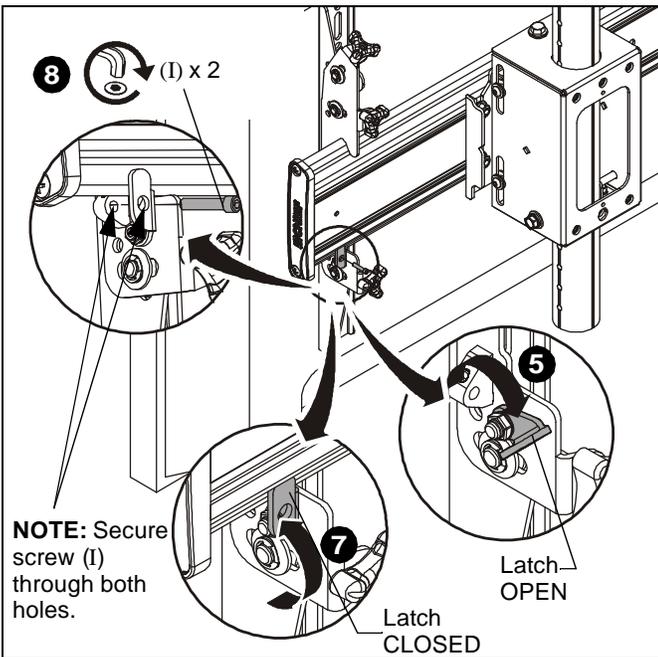

NOTE: Secure screw (I) through both holes.

Figure 15

6. Hang displays with attached interface brackets over mounting rail.

7. Raise latch on interface bracket and close into place against mounting rail. (See Figure 15)

8. Fasten latch into place using one 1/4-20 x 1-1/4" socket head screw (I). (See Figure 15)

NOTE: Socket head screws (I) must engage through both holes to be fully secured. (See Figure 15)

9. Repeat for each interface bracket on the mounting rail.

⚠ **CAUTION:** **ALWAYS** keep a small distance between screens when making adjustments! Damage to screens possible if placed too close together.

10. Move displays so that screens are flush and level with each other.

11. Use upper knob on back of interface brackets (J and K) to adjust the height of each display. (See Figure 16)

NOTE: Adjust both brackets in order to maintain a level mount.

12. Use middle and lower knobs on back of interface brackets (J and K) to make plumb adjustments to each display (See Figure 16)

(Display not shown for clarity)

Figure 16

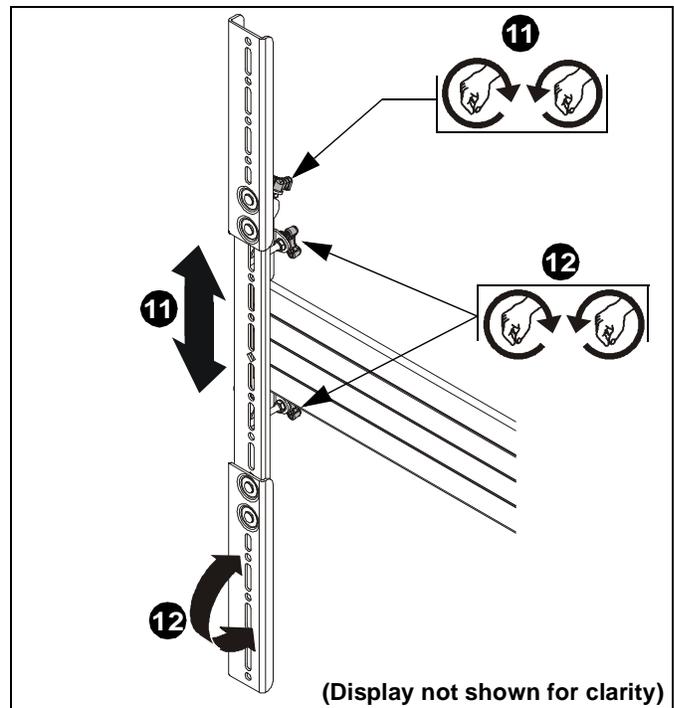13. If necessary, make height adjustments to the next higher mounting rail by using adjustment points on the array heads (U). (See Figure 14)

IMPORTANT ! : Use lowest row as a guide for the higher mounting rails. Adjust higher mounting rails so that bottom of screens NEARLY touch top of lower mounting rail screens.

14. Repeat Steps 2 - 13 to complete installation and alignment of screens.

Adding Back Cover

1. Add back cover (V) to array head (U) by inserting four corner tabs into four holes on back of array head. (See Figure 17)

2. Repeat Step 1 for each array head.

(Display not shown for clarity)

(V)

Figure 17

DIMENSIONS - LCM2X2UP

LCM2X2UP

4.23
[107.4]

7.53
[191.2]
OFFSET AT CENTER

14.50
[368.3]

2.00
[50.8]

IF USED WITH NPT COLUMNS,
CPA261, INCLUDED, WILL
NEED TO BE USED

1.16
[29.4]
2" TOTAL HEIGHT
ADJUST

5.375
[136.5]

46.84
[1189.8]

5.68
[144.4]
TO FRONT FACE
OF ALUMINUM EXTRUSION

78.61
[1996.7]

67.28
[1709.0]

74.5
[1892.2]
BOTTOM HEAD
AT LOWEST POSITION
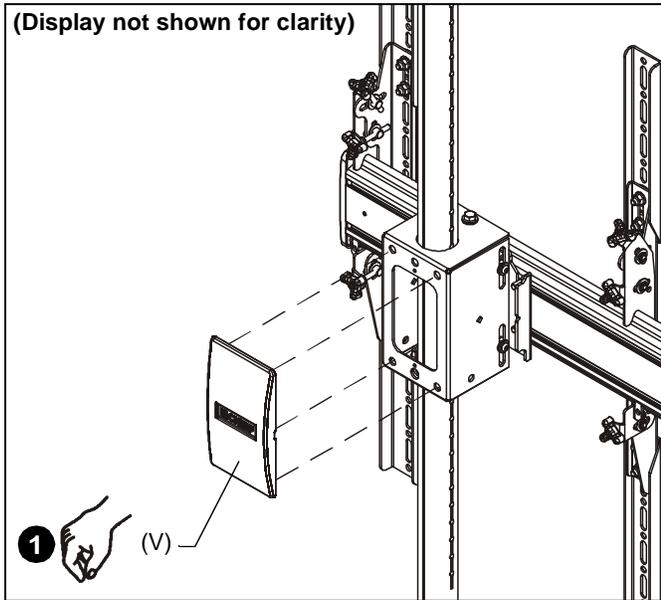
APPROXIMATE
C/L OF
BOTTOM SCREEN
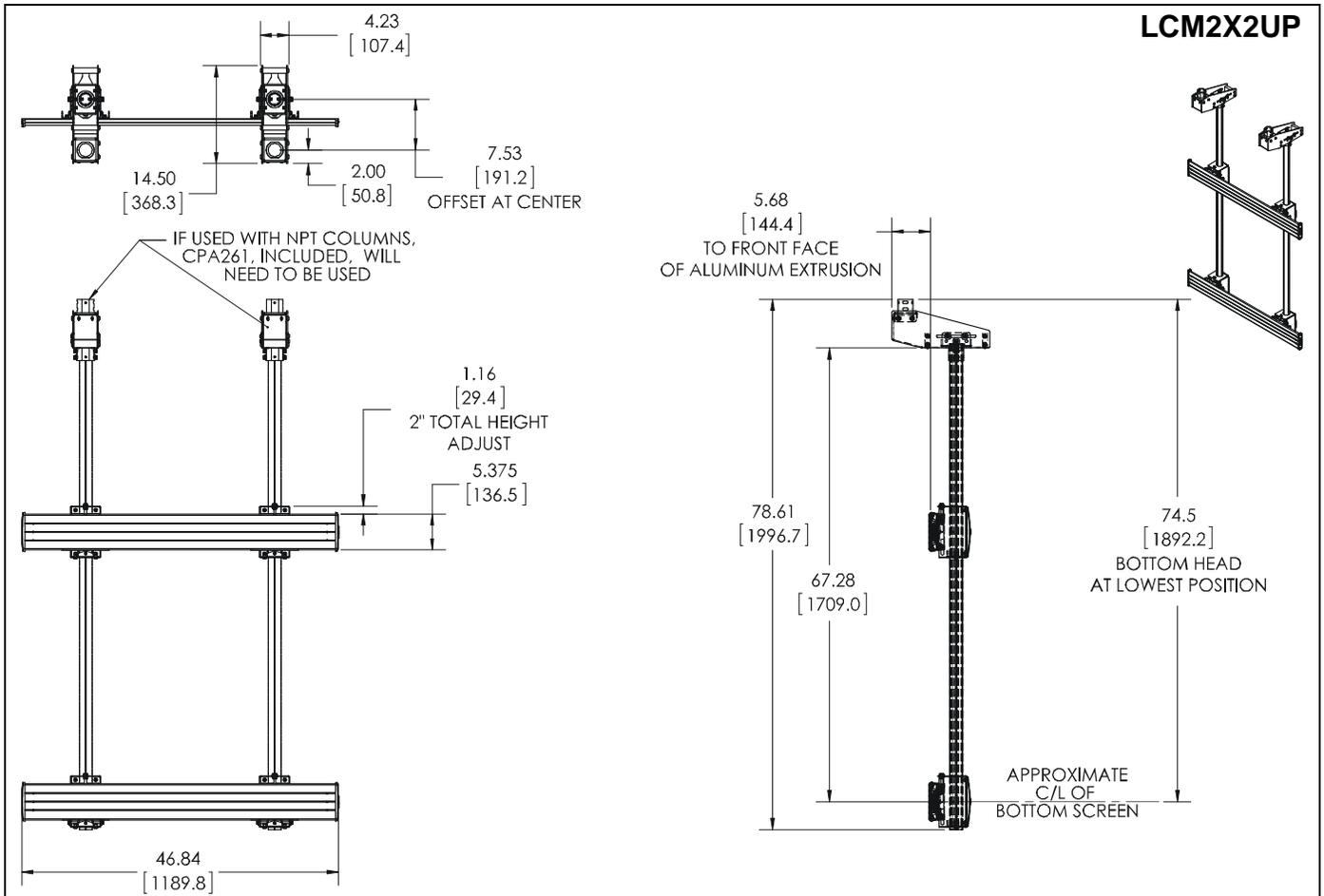
DIMENSIONS - LCM2X2UP (continued)

LCM2X2UP

3/4" HEIGHT ADJUST
IN INTERFACE

HOLES SPACED AT 1"
INCREMENTS ALONG LENGTH OF
COLUMN

4.10
[104.0]

31.50
[800.0]
MAX MOUNTING
PATTERN

32.42
[823.5]

3/4" FRONT TO
BACK ADJUST

CHIEF

0.34
[8.7]

DETAIL C
SCALE 1 : 3

DETAIL B
SCALE 1 : 4.5

CENTER OF GRAVITY OF
SCREENS SHOULD BE AS CLOSE
IN-LINE WITH THE UPPER
COLUMN AS POSSIBLE

COLUMNS SHOULD BE APPROXIMATELY
CENTERED ON OUTSIDE SCREENS
(AS SHOWN)

MAINTAIN SLIGHT GAP
BETWEEN SCREENS

SHOWN WITH SIMULATED 42" SCREENS

DIMENSIONS (continued) - LCM2X2UP

LCM2X2UP

26.67
[677.4]

MAX SCREEN HEIGHT
WITH 400 mm MOUNTING PATTERN

0.125
[3.2]

15.75
[400.0]

DIMENSIONS - LCM2X2UP and LCM3X2UP

LCM2X2UP / LCM3X2UP

A

14.50
[368.3]

0.44
[11.1]

1.00
[25.4]

7.53
[191.2]
C/L OF COLUMNS

7.17
[182.1]

9.05
[229.8]

1.00
[25.4]

1.50
[38.1]
FORWARD MOST
POSITION

1.50
[38.1]
REAR MOST
POSITION

DETAIL A
SCALE 1 : 2

OFFSET SHOULD BE PUT IN THE FORWARD MOST
POSITION FOR SCREENS LESS THAN 2.5" DEEP

OFFSET SHOULD BE PUT IN THE REAR MOST
POSITION FOR SCREENS GREATER THAN 4.5" DEEP

OFFSET SHOULD BE PUT IN THE CENTER
POSITION FOR SCREENS BETWEEN 2.5" AND 4.5" DEEP

DIMENSIONS - LCM3X2UP

LCM3X2UP

4.23 [107.4]

14.50 [368.3]

2.00 [50.8]

7.53 [191.2]
OFFSET AT CENTER

IF USED WITH NPT COLUMNS, CPA261, INCLUDED, WILL NEED TO BE USED

5.375 [136.5]

1.16 [29.4]
2" TOTAL HEIGHT ADJUST

68.84 [1748.6]

5.68 [144.4]
TO FRONT FACE OF ALUMINUM EXTRUSION

78.61 [1996.7]

67.28 [1709.0]

74.5 [1892.2]
BOTTOM HEAD AT LOWEST POSITION

APPROXIMATE C/L OF BOTTOM SCREEN

4.10 [104.0]

31.50 [800.0]
MAX MOUNTING PATTERN

32.42 [823.5]

0.34 [8.7]

DETAIL B
SCALE 1 : 4.5

3/4" HEIGHT ADJUST IN INTERFACE

HOLES SPACED AT 1" INCREMENTS ALONG LENGTH OF COLUMN

3/4" FRONT TO BACK ADJUST

CHIEF

DETAIL C
SCALE 1 : 3

DIMENSIONS (continued) - LCM3X2UP

LCM3X2UP

CENTER OF GRAVITY OF
SCREENS SHOULD BE AS CLOSE
IN-LINE WITH THE UPPER
COLUMN AS POSSIBLE

COLUMNS SHOULD BE APPROXIMATELY
CENTERED ON OUTSIDE SCREENS
(AS SHOWN)

MAINTAIN SLIGHT GAP
BETWEEN SCREENS

SHOWN WITH SIMULATED 42" SCREENS

24.27
[616.5]

0.125
[3.2]

MAX SCREEN HEIGHT
WITH 400 mm MOUNTING PATTERN

15.75
[400.0]

CHIEF®

Our Mounts. **Your Vision.**

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30% POST-CONSUMER CONTENT