

DISPLAY_® DEVICES

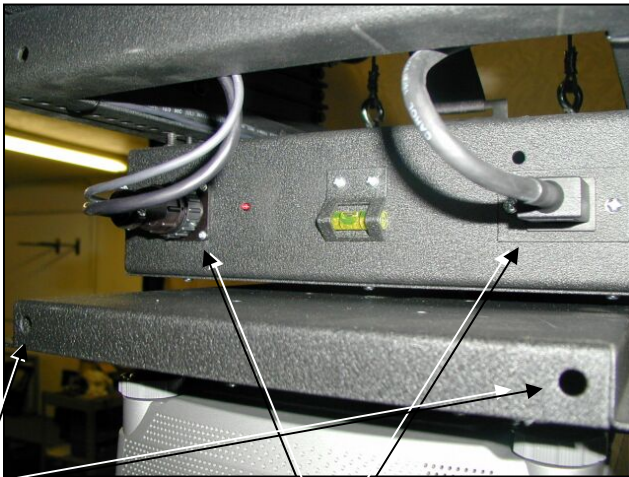
LIFT/EMRCM Interface

These instructions are supplemental to the DDI Lift Installation Manual. Please review that manual first to become familiar with the lift installation/operation before attempting to control the lift by a RS485 interface.

EMRCM is attached to the lift upon shipment from Display Devices Inc. EMRCM may be removed prior to lift installation – to reduce weight and size.

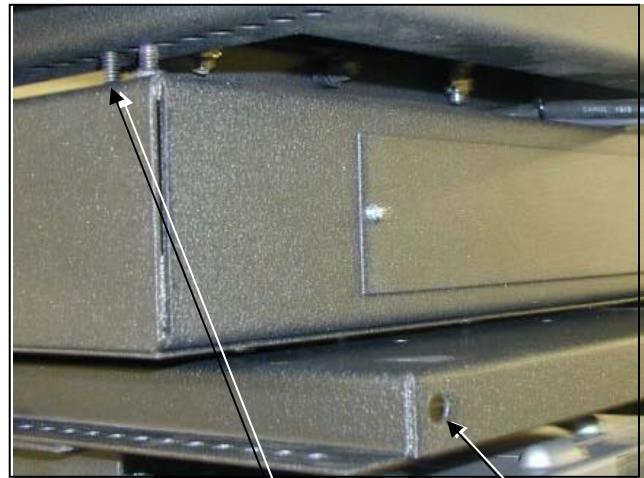
Removal

To remove EMRCM – disconnect power and control cables on the unit. Remove (4) ¼-20 bolts.



CTB Mount
Holes

Cables



Mounting Hardware
(4) ¼-20 at Corners

CTB Mount
Holes

After Lift Installation

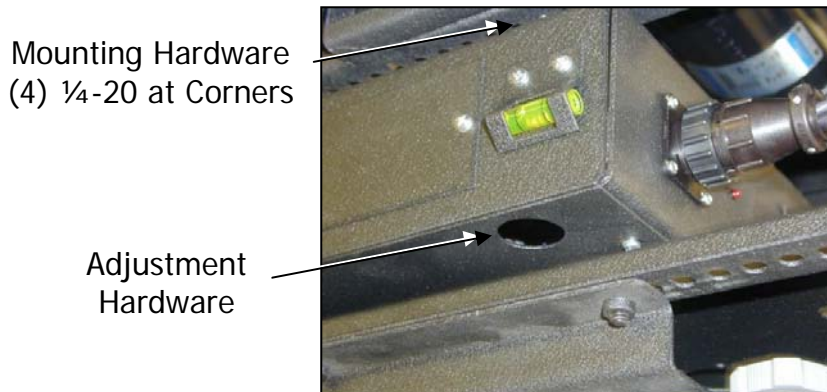
Reinstall EMRCM in the same orientation as when removed. Attach (4) ¼-20 bolts and reattach the control and power cables.

Power on can be verified at the rear of the unit through the access hole located just above the power cable.

Access panels are located on the front and left side of the unit. These are only access for field replacement of internal components (motor/potentiometer).

Install the CTB's for the optional closure prior (see Lift Installation Manual). Install the projector interface mount to the projector then install the interface mount to the bottom of the EMRCM. The bottom plate of the EMRCM has three sets of mounting holes for preferred mounting position.

Be sure the EMRCM and projector is level in the show position. Four holes are located in the bottom corner of the EMRCM with ¼-20 bolts inside. To lower, loosen the necessary corners, then tighten the mounting bolts until level.



Projector power and signal cables should lace down the lift scissors and then pass through the EMRCM's center hub to the projector. **Failure to follow this cable path can result in excessive cable loop than can collide with the enclosure when the lift is traveling up or down.**

Communication Protocol

Hardware:

- 9600 baud rate, no parity, on stop and start bits
- RS 485 connection
- Conversion to standard RS232 three wire hook up (transmit, receive, ground)

Software Commands:

- One letter transmit to lift
- One letter receive from the lift

Commands to Lift	Responses from the lift
A (65) Stop	R (82) Received Command/Ready
B (66) Down	T (84) Done Moving
C (67) Up	Z (90) Not Ready
D (68) Start Manual Mode	X (88) Error! Reset Needed
E (69) End Manual Mode	U (85) Invalid Command
F (70) Down to Preset 2 Level	J (74) Communication Error
G (71) Set Down Level	
H (72) Set Preset 2 Down Level	
I (73) Ready Query	
K (75) Preset 1 on Rotate	
M (77) Preset 2 on Rotate	
N (78) Set Rotate Preset 1	
O (79) Set Rotate Preset 2	
L (76) Rotate Left	
P (80) Rotate Right	
S (83) Stop Rotate	

Notes:

Set commands G, H, N, O and manual rotate L, P, S are only operational in the manual mode: D.

In automatic mode, commands K & M will lower lift to show position and then rotate to preset 1 or 2.

The Down and Up commands will run until the Stop command is issued when in the *Manual Mode*. There is considerable danger of running the lift until the bottom limit is reached.

Always be careful when using the lift in the manual mode. No checks are made when going up in manual mode. The projector may not be aligned to center of recessed opening possibly damaging the ceiling.

Always exit the Manual mode after use.

The response 'R' is issued after every valid command. Other responses occur periodically. The response 'T' is issued when the lift has stopped from the Up, Down or Down-to-Maintenance commands.

The EMRCM portion of the lift does not send a response signal.

The lift will automatically rotate back to the home position when given the Up command. When the lift is in the recessed position, it will not accept any rotate commands.

For further information please contact us at 303/412-0399 or email to sales@displaydevices.com