Installation Instructions for Alpine and Alpine XL Projection Screens

Caution

1. Read Instructions through completely before proceeding; keep them for future reference. Follow these instructions carefully.
2. Before removing your screen from its packaging, check for damage and make sure all parts are included.
3. Allow enough access to remove front cover should fabric become damaged and further service is required.
4. Screen should be installed level.
5. Nothing should fasten to the screen dowel or viewing surface.
6. Operating switch/switches are packed separately in screen carton. DO NOT DISCARD PACKING MATERIAL WITHOUT REMOVING THE SWITCH!
7. Screen operated on 110-120V, 60Hz. 1.1 amp current draw.

PLEASE NOTE:
Screen has been thoroughly inspected and tested at the factory and found to be operating properly prior to shipment.

Hanging the Screen:

When locating viewing surface and checking clearance for screen operation, remember surface is centered in the length of the case. Regardless of mounting method used, the following points apply:

1. Mounting brackets are packed separately in carton. Engage each bracket with top of housing as shown below and tighten set screws. A bracket should be within 18" of each end of screen case. Brackets can be removed and case mounted with lag screws through top of case (holes drilled on site.)
2. Screen should be positively and securely supported so that vibration or even abusive pulling on viewing surface will not weaken installation.
3. Installer must insure that fasteners used are of adequate strength and suitable for the mounting surface chosen. Supporting hardware (chains, cables, ⅜" rods, etc.) must be essentially vertical.
4. Entire bottom of case must be readily accessible after installation is complete.
5. Front, back and top of case must be straight-not forced to warp or bow.
6. If case is painted on location, removal of roller/fabric assembly is recommended prior to painting. If not removed, slot on bottom of case should be shielded to protect viewing surface from paint splatters or overspray.
7. Do not seal unit in ceiling until electrical connections have been made and screen has been operated successfully.
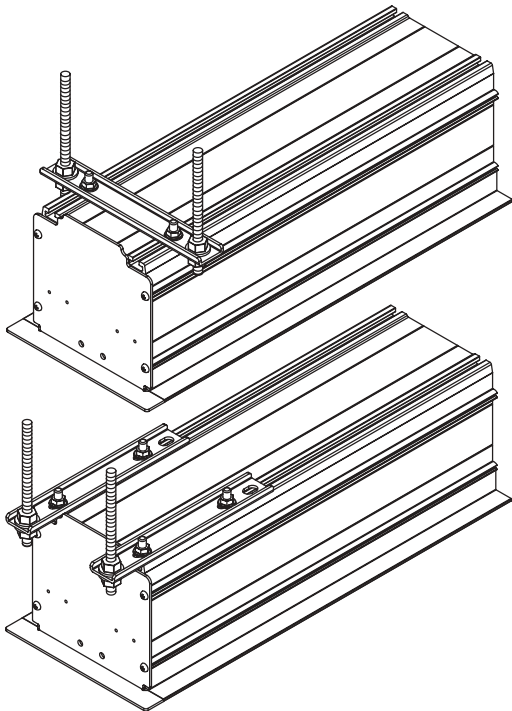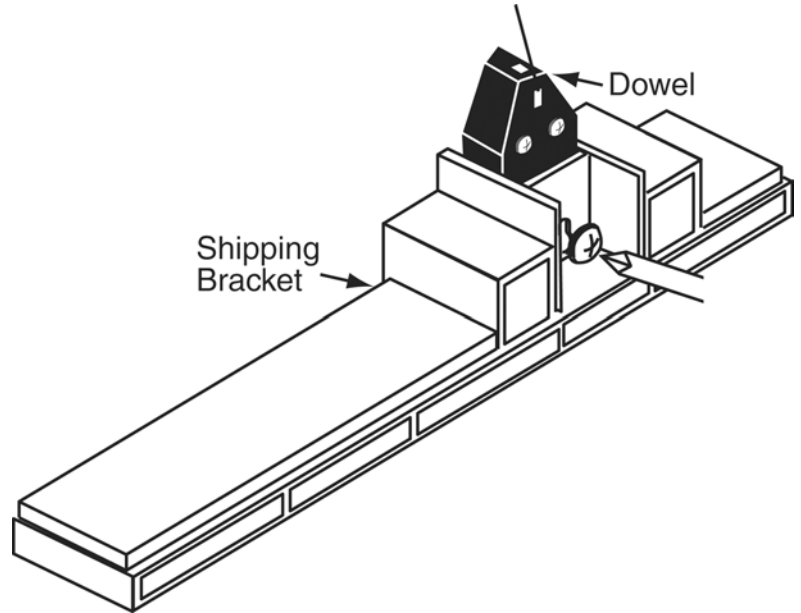
Hanging the Screen Continued:

**Remove shipping brackets
before operating screen.**

←**Typical Installation**

← **Alternate Installation (additional brackets required.)**

**Suitable for use in environmental air space in
accordance with Section 300-22(c) of the National
Electrical Code, and Sections 2-128, 12-010(3) and
12-100 of the Canadian Electrical Code, Part 1, CSA
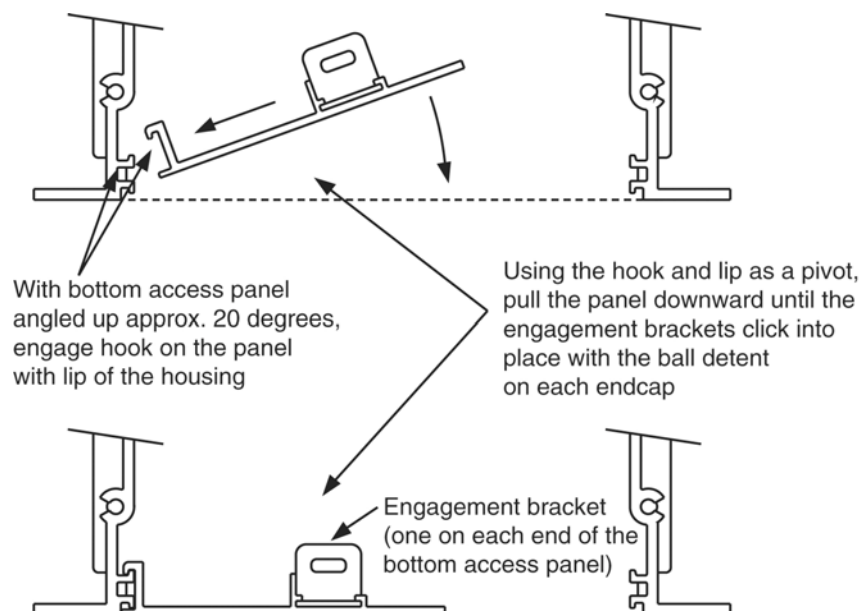C22.1.**

Electrical Connections:

Screen operated on 110-120V, 60 Hz. Current. The junction box is located just above the bottom access panel at the left end of the screen (standard, right end may be specified.) Remove the bottom access panel for access to the junction box cover. (See Bottom Access Panel Removal instructions below.) Remove four (4) hex head screws that secure the cover to the junction box to expose the red, black, and white pigtail leads and the green ground wire per the wiring diagram on page 11. If optional low voltage control or video interface control is specified and factory installed, please refer to the diagram on page 12. The screen is shipped with internal wiring complete and control switch (es) fully boxed. Wire to connect to switch (es) and switch (es) to power supply should be furnished by installer. Connections should be made in accordance with attached wiring diagram, and wiring should comply with national and local electrical codes.

All Operating Switches should be in the "off" position before power is connected.

Bottom Access Panel Installation/Removal:

Bottom Access Panel hooks over the lower inside edge of the screen housing and then is pivoted downward until the engagement brackets on each end of the bottom panel click into place with the ball detents on each end cap. Make sure bottom access panel by pushing up at each corner of panel adjacent to slot in bottom of housing.

With bottom access panel angled up approx. 20 degrees, engage hook on the panel with lip of the housing

Using the hook and lip as a pivot, pull the panel downward until the engagement brackets click into place with the ball detent on each endcap

Engagement bracket (one on each end of the bottom access panel)

With Bottom Access Panel angled up approximately at 20° it can be lifted off of the lip of the housing and then lowered out of the housing completely.

Bottom Flange of housing.

Bottom Access Panel pushup
Points for panel removal.
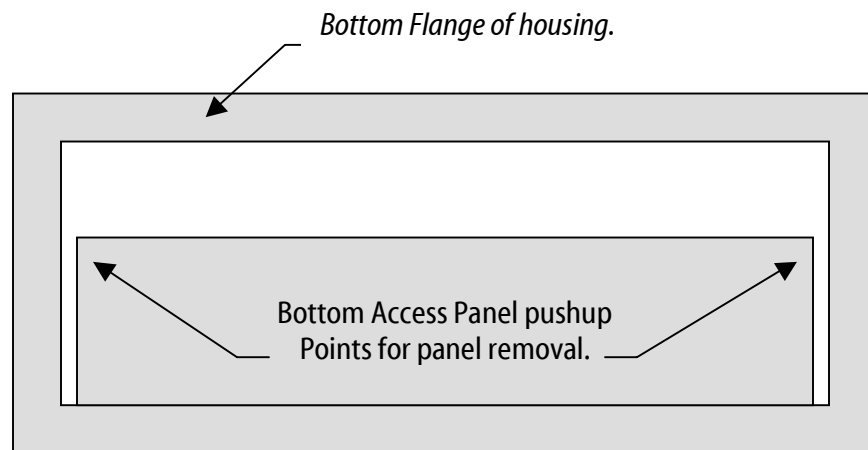
Case as seen from below

Motorized Roller / Fabric Installation:

1. The bottom access panel must be removed first. The motor end mounting bracket has a metal bracket with a snap ring for accepting motor head. Back out the four set screws in the bracket until they are flush with the top side of bracket.
2. To engage the motor end bracket flange above the two channels in the top of the screen housing, rotate the bracket approximately 45° counterclockwise to allow the top surface of the motor bracket to rest flat against the top inside of the housing. Rotating the bracket clockwise until it is engaged with the channels, slide it along the length of the housing against the electrical junction box.
3. Engage idler end bracket (rectangular mounting pad) in the same manner as the motor end bracket and slide it towards the opposite end of the screen housing. Do not tighten set screws on this bracket until the roller/fabric assembly is installed, and centered in the case.
4. Locate the black washer and retaining clip attached to the instruction sheet.
5. Note: This step requires two (2) people to perform safely: Raise the roller/fabric assembly up into the screen housing and engage the head of the motor completely into the motor mounting bracket, making sure the snap ring engages with the motor and that the limit switch adjusting knobs are visible from the bottom of the screen housing.
6. While supporting the idler end of the roller, slide the idler end mounting bracket toward the roller. Insert the roller pin into the nylon bushing on the idler end of the mounting bracket. The roller idler pin needs to go through the idler bracket far enough to allow the washer and retaining clip to be reinstalled on the pin. Failure to replace the washer and retaining clip could result in separation of the roller from the brackets.

Motorized Roller / Fabric Installation:
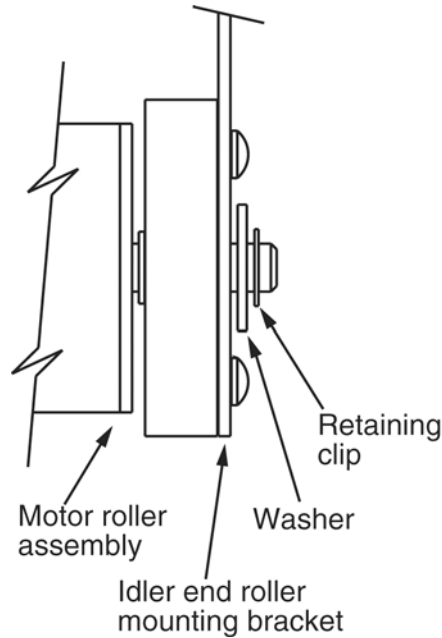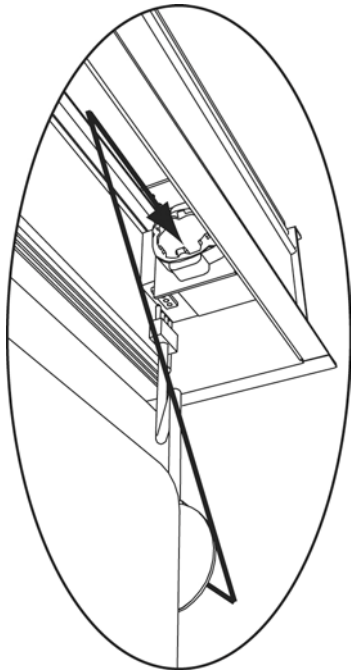
The roller/fabric assembly and roller brackets may need to be slid left or right in the mounting channel of case to center fabric within the screen case.

Securely tighten the set screws on roller mounting brackets.

Connect the electrical plug from the motor to the mating socket on the junction box.

Reinstall the bottom access panel as previously described.

Motorized Roller / Fabric Removal:

Reverse the instructions above "Motorized Roller / Fabric Installation" for removal of the unit.

Operation:

When screen is first operated, be cautious! Cycle the unit down and up several times to confirm satisfactory operation.

110-120V Single Station Control: 3-position UP-OFF-DOWN switch permits operation to be stopped at any point. Factory adjusted limit switches automatically stop screen when fully down or fully up.

110-120V Multiple Station Control: Switches are similar in appearance to 110-120V Single Station Control. Screen stops when switch is released and may be restarted in either direction. Factory adjusted limit switches stop screen automatically when fully up or fully down.

24V Control: Three-button UP-STOP-DOWN switches stop at any point desired, operate in any sequence. Factory adjusted limit switches automatically stop screen when fully up or fully down. Installer should incorporate an all-pole disconnect in the fixed wiring.

110-120V & 12V Video Interface Control: For the Alpine Only. Allows screen to be controlled by trigger signal-when the signal comes on, the screen descends automatically. Two versions: Model VIC115 integrates screen operation with a video projector lift or a video projector or tuner with a 110-120V switched outlet. Model VIC12 interfaces with a 12V switched outlet. Both available with an override switch (VIC-OS) permitting independent operation. VIC-OS not available with factory installed VIC115 & VIC12.

Key Operated Switching: Two kinds of key-operated switches are optionally available with this unit. 1. The key operated power supply switch controls power to the screen and switches. When it is "off" the switches will not operate screen. Key may be removed from the switch in either "on" or "off" position. 2. A three-position key switch permits the screen to be operated directly by key. In this case, the screen's operator must always have the key.

RS232/Ethernet: Serial communication and network communication optionally available with wall switches, RF or IR Remote.

Limit Adjustments:

Tools needed: Flashlight, small flathead screwdriver/Allen wrench (4mm or 5/32") Screen settings have been factory set as ordered and should not normally require further adjustment. However, if you find it necessary to adjust for more or less viewing area, proceed as follows:

CAUTION!

Always be prepared to shut screen off manually when new adjustment is being tested. Screen may be severely damaged if viewing surface is allowed to run too far up or too far down. When running up, the dowel should never wrap over the roller. When running to the down limit, a minimum of 1¼" wraps of fabric must remain on the roller. The motor limits are normally located on the audience left of the screen roller. Please note, if the screen is "Right Hand Motor" or "Waterfall", the WHITE/DOWN and YELLOW/UP limit screws are reversed.
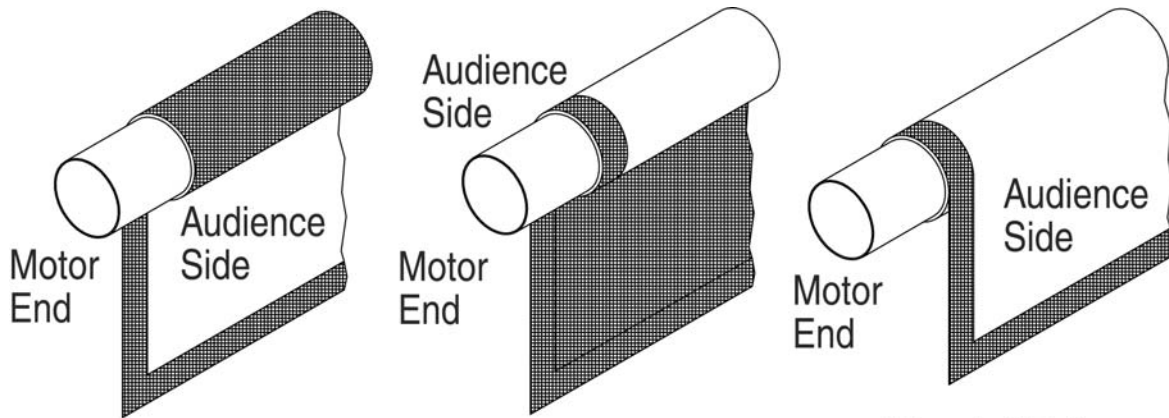
Standard/Reverse Roll
Left hand motor
White Socket—Down
Yellow Socket—Up
Right hand motor
White Socket—Up
Yellow Socket—Down

Waterfall Roll
Left hand motor
White Socket—Up
Yellow Socket—Down
Right hand motor
White Socket—Down
Yellow Socket—Up

"Down" Limit Adjustment:

To Reduce Screen Drop:
1. Raise Screen Surface about 1' above desired setting and turn off.
2. Turn the WHITE/DOWN limit screw clockwise (three screw turns=½ roller revolution.)
3. Test by running screen down and repeat steps 1 and 2 until desired position is reached.

To Increase Screen Drop:
1. Run Screen to the down limit.
2. With the down switch on, turn the WHITE/DOWN limit screw counterclockwise (three screw turns=½ roller revolution) to increase drop.
3. Test by running screen up about 1' and back down to new down limit.
4. Repeat steps 2 and 3 until desired position is reached.

Caution: At least 1¼" wraps of fabric must remain on the roller when the screen is at the down limit!

"Up" Limit Adjustment:

Screen is Running Too Far Up:
1. Lower screen surface about 1' below desired setting and turn off.
2. Turn the YELLOW/UP limit screw clockwise (three screw turns=½ roller revolution)
3. Test by running screen up.
4. Repeat steps 1 through 3 until desired position is reached.

Screen Needs to Run Up More:
1. Run screen down about 1' and turn off.
2. With the up switch on, turn the YELLOW/UP limit screw counterclockwise (three screw turns=½ roller revolution.)
3. Repeat steps 1 and 2 until desired position is reached.

Caution: Do NOT allow the dowel to wrap up over the roller when the screen is running up! This could damage the screen!
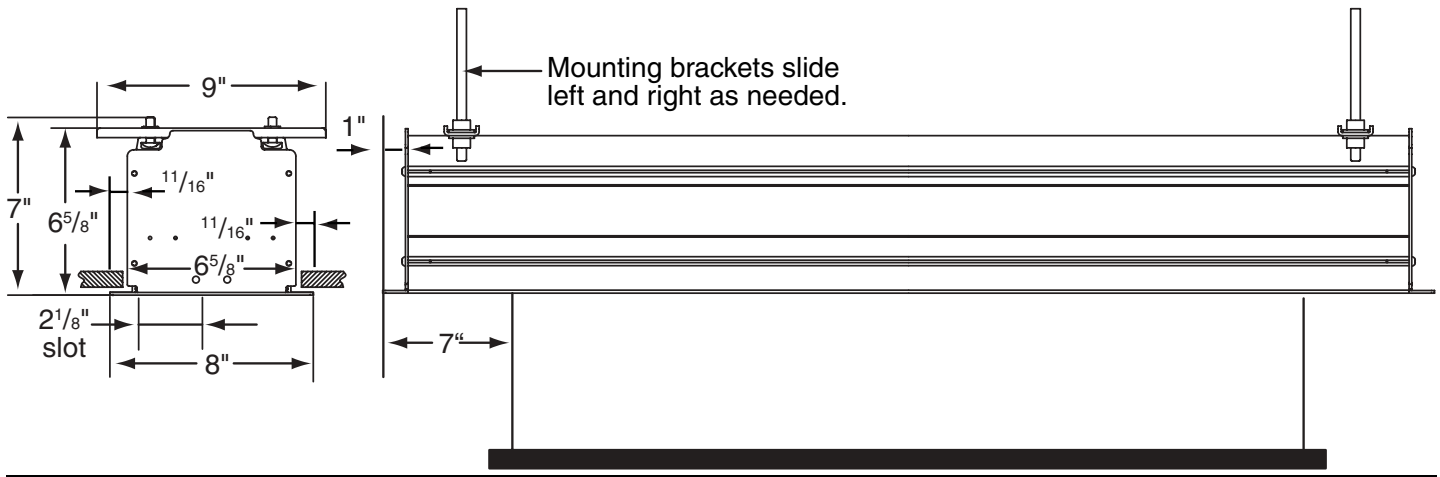
Case Dimensions:

With typical installation, brackets may be angled to meet installation requirements. Mounting hardware is supplied by others.

Mounting Bracket Dimensions:
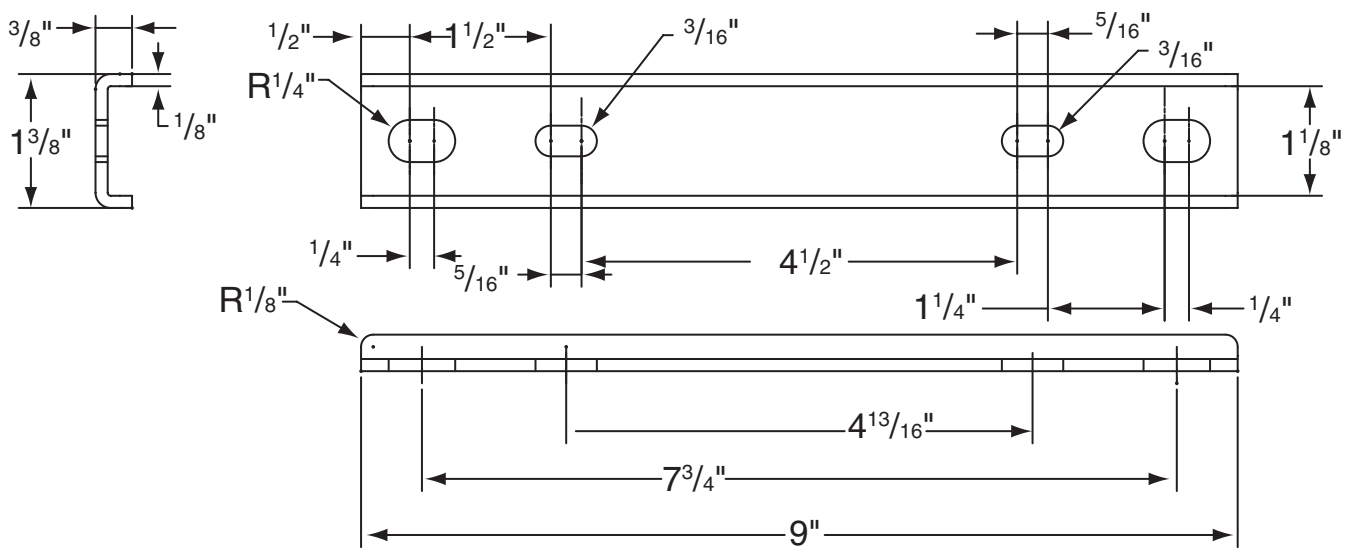
Limit Adjustments for Alpine XL:

1. Connect the ILT switch to the motor via the terminal blocks, or via the modular port using four conductor modular cable. When using modular cable, the cable connectors MUST NOT be crimped in reverse, as with standard telephone cable.
2. Set the slide switch to the lower position. Press and hold the DOWN button on the switch to move the viewing surface to desired lower limit. If the screen moves the opposite direction, release the DOWN button and depress the STOP button. This will reverse the operation of the UP and DOWN switches.
3. Set the slide switch to the higher position. Move the viewing surface to the desired upper limit by pressing and holding the UP button on the switch.
4. Return the slide switch to the center position to return to normal operation.
5. To set the viewing surface to an alternate format position, move the viewing surface to the desired position and press the STOP button. Press and hold the STOP button for at least 3 seconds to record the position.

Back View

POSITION	FUNCTION
DOWN	Set LOWER limit
UP	Set UPPER limit
CENTER	Normal Operation
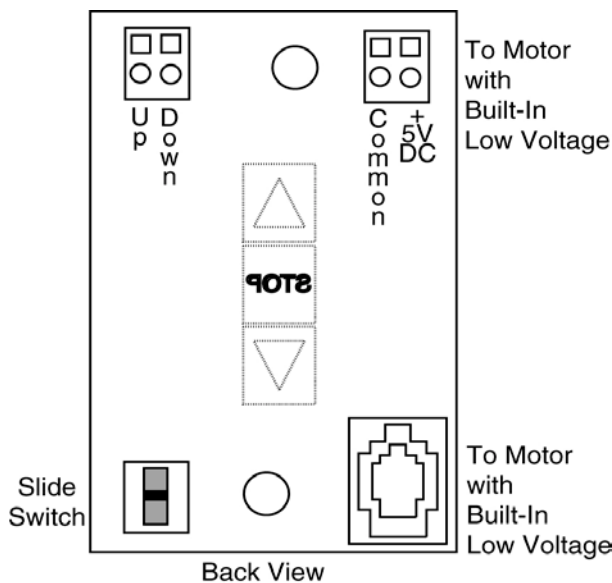
Please Note:

Pressing and releasing the UP button on the switch will move the screen to its upper limit. Pressing and releasing the DOWN button will move the screen to its lower limit. While the motor is in motion, pressing the STOP button for less than 2 seconds will stop the viewing surface at its present position. Once the motor is stopped, pressing the STOP button will move the viewing surface to its alternate format position. Pressing and holding the STOP button, when the motor is at rest or in motion, for at least three seconds will record a new alternate format position.

Wiring Diagrams: BEI Alpine w/ 110-120V Motor

Single Station Control

Internal Screen Wiring
White (Common)
Black (Down)
Red (Up)
Green (Ground)

Dashed wiring
by electrician

Control
switch

Single gang box by others
Min. 4" x 2$\frac{1}{8}$" x 1$\frac{7}{8}$" deep

Red

Blue

Black

Location of key
operated on-off
switch if furnished

To 110-120V Line

Multiple Station Control

Internal Screen Wiring
White (Common)
Black (Down)
Red (Up)
Green (Ground)

Cap off with wire
nut and tape

Red   Blue

Black

Dashed wiring
by electrician

Red   Blue

Black

Red   Blue

Black

Single gang box by oth
Min. 4" x 2$\frac{1}{8}$" x 1$\frac{7}{8}$" o
3 shown. More or less
feasible.

Location of key
operated on-off
switch if furnished

To 110-120V Line

*These wiring diagrams are for screens with motor on audience left (standard) and fabric unrolling from the back of the roller (standard).

Wiring Diagrams-BEI Alpine XL w/ Built-In Low Voltage Control:

Single Low Voltage Control Multiple Low Voltage Controls

Internal Screen Wiring
White (Neutral)
Black
Green (Ground)

Dashed wiring
by electrician

Data Cable

Wall Switch,
RF or IR
Receiver,
or integrated
control system

To 110-120V Line

Internal Screen Wiring
White (Neutral)
Black
Green (Ground)

Dashed wiring
by electrician

Data
Cables

Wall Switches,
RF or IR
Receivers,
or integrated
control systems

To 110-120V Line

These wiring diagrams are for the screens with motor on the audience left (standard) and fabric unrolling from the back of the roller (standard).
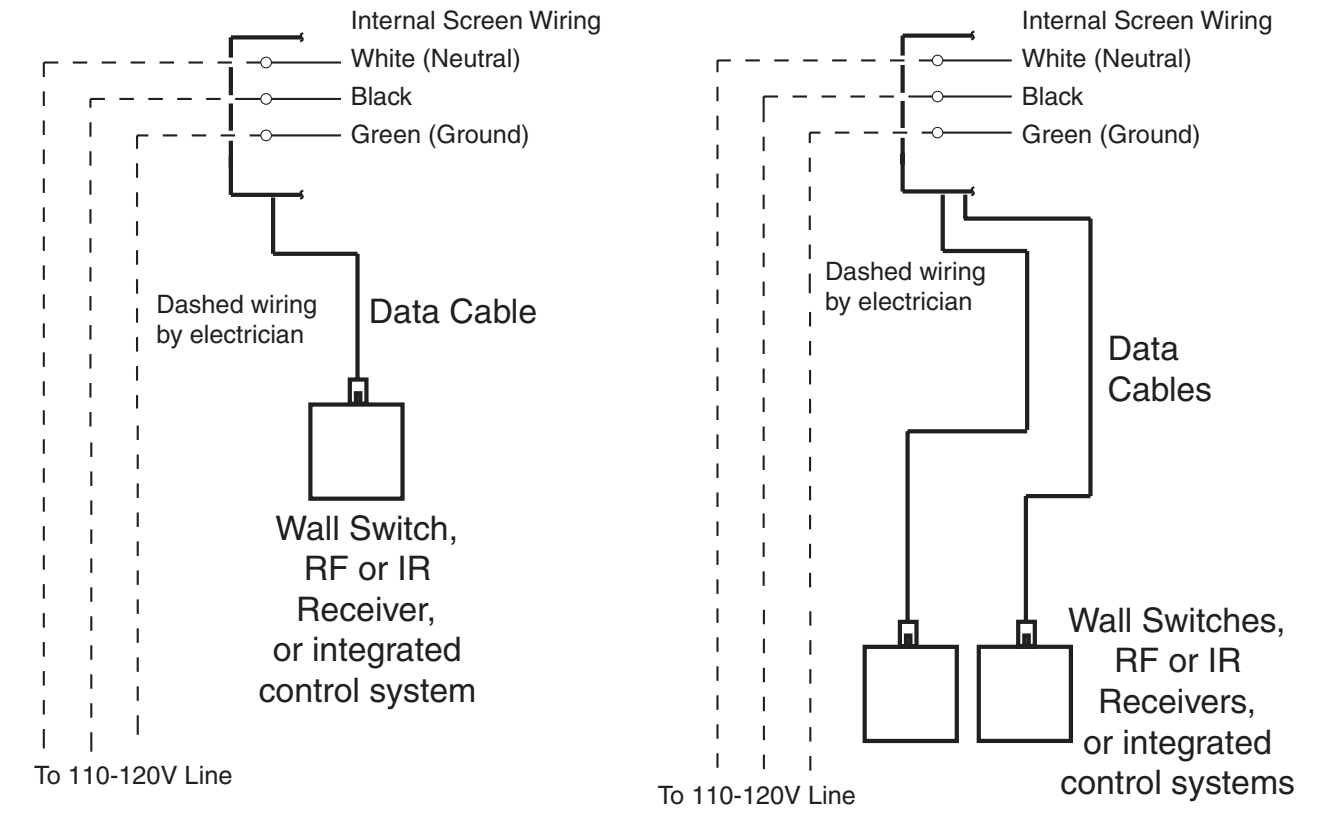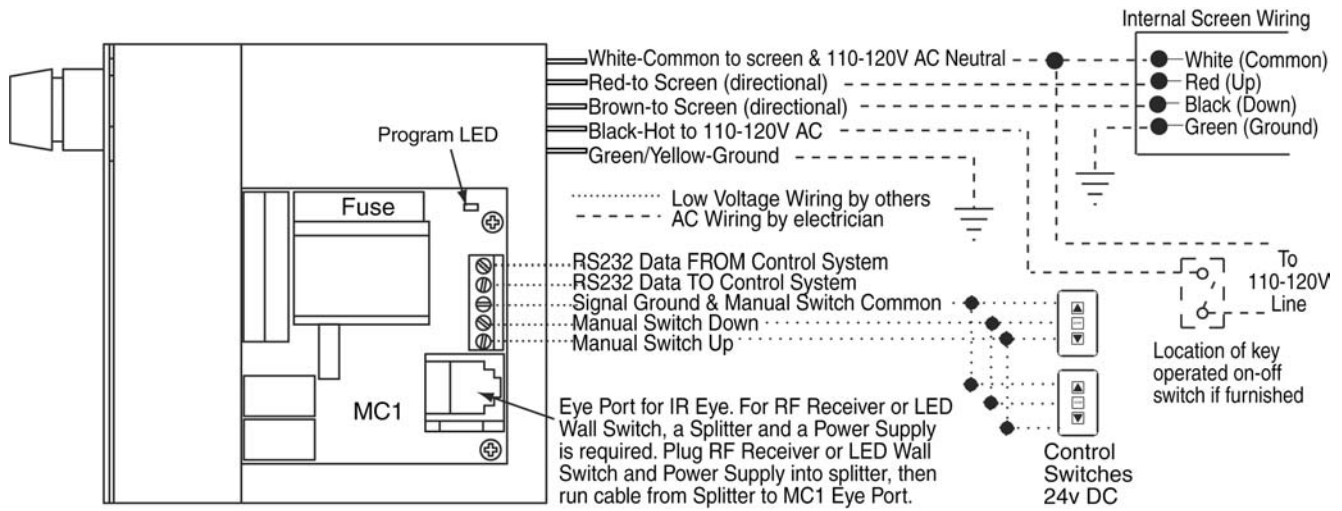
Internal Screen Wiring

White-Common to screen & 110-120V AC Neutral —— White (Common)
Red-to Screen (directional) —— Red (Up)
Brown-to Screen (directional) —— Black (Down)
Black-Hot to 110-120V AC —— Green (Ground)
Green/Yellow-Ground

Program LED

Fuse

.... Low Voltage Wiring by others
– – – – AC Wiring by electrician

RS232 Data FROM Control System
RS232 Data TO Control System
Signal Ground & Manual Switch Common
Manual Switch Down
Manual Switch Up

MC1

Eye Port for IR Eye. For RF Receiver or LED
Wall Switch, a Splitter and a Power Supply
is required. Plug RF Receiver or LED Wall
Switch and Power Supply into splitter, then
run cable from Splitter to MC1 Eye Port.

To
110-120V
Line

Location of key
operated on-off
switch if furnished

Control
Switches
24v DC

Two-way Serial Communication (RS232) For Alpine*

12 Volt Relay

Ring Terminal on ground wire
riveted to J-Box with Star Washer

14 13
9
5
1

Brown (-)   Orange (+)   Green   Black   White

HSG. Cap   HSG. Plug

Green
Red
Black
White

Green   Ground
Red   #2 Up
Black   #1 Down
White   Common

110-120 VAC
Screen Motor

Jacketed Motor Cable

●—▪ Wire soldered to terminal
▫▫▫▫ Wire connected with Quick Disconnect

Built-In VIC-12 for Alpine*
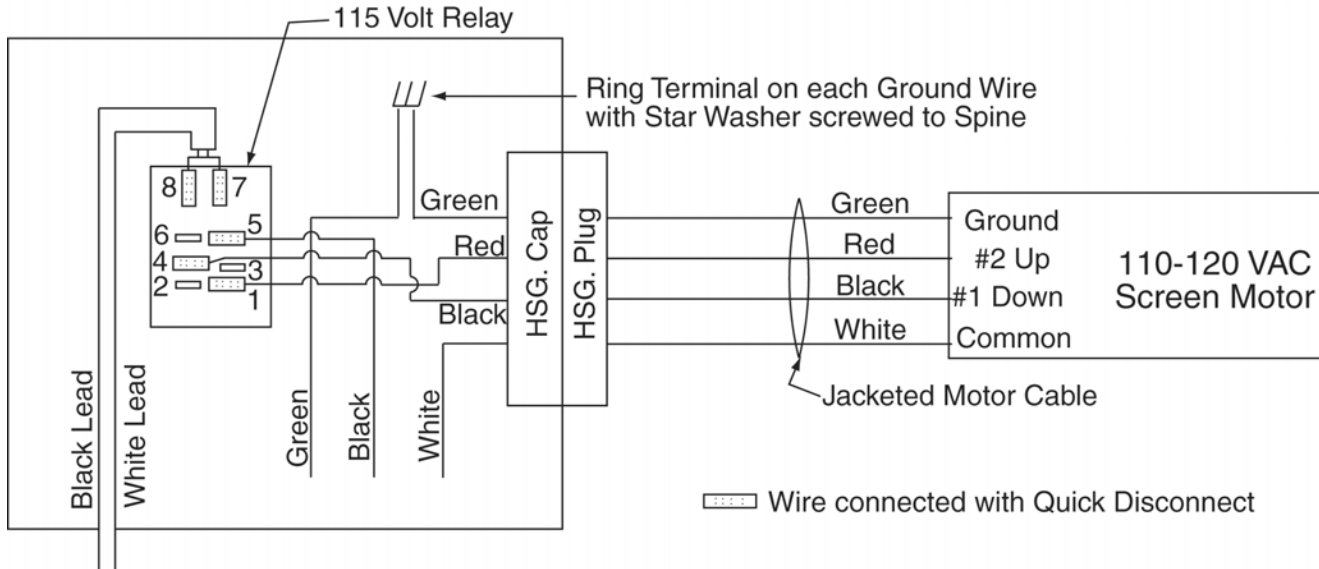
Built-In VIC-115 for Alpine*

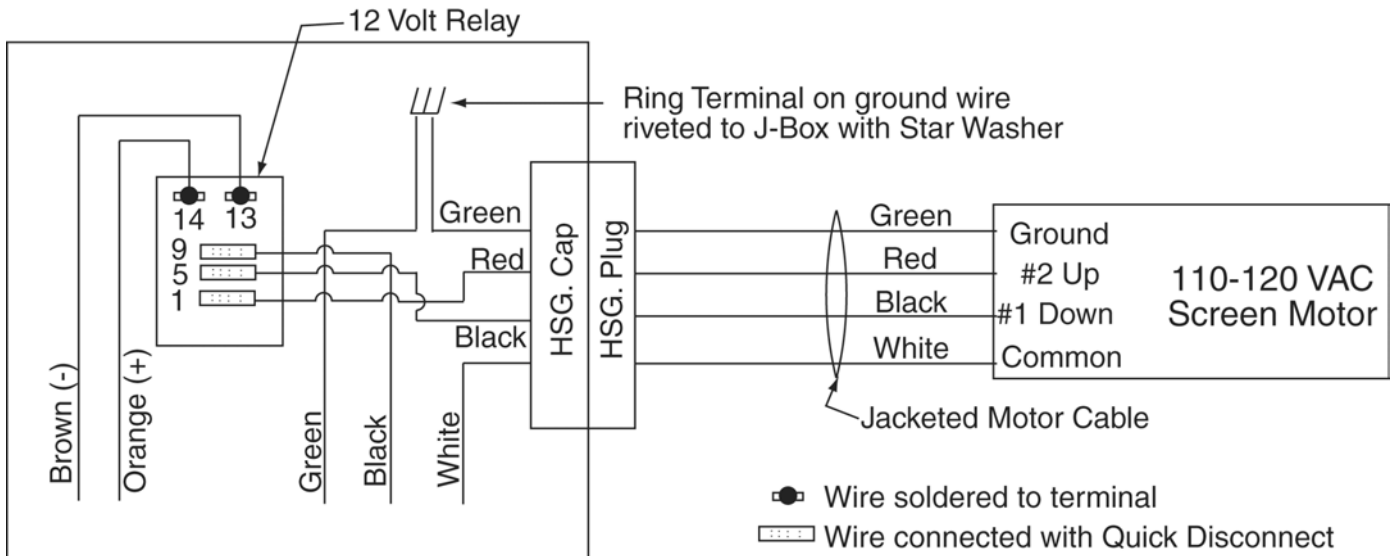***These wiring diagrams are for the screens with motor on the audience left (standard) and fabric unrolling from the back of the roller (standard).***