

Installation/Operating Instructions

Signature/Series E & V Electric Projection Screen by Draper

US Patent No.
5,341,241

⚠ Caution

- Read instructions through completely before proceeding. Follow instructions carefully. Installation contrary to instructions invalidates warranty.
 - Pick up screen case from **ends only**. Picking case up at other points **will damage case and may damage fabric**.
 - To insure a safe installation, the **entire weight** of the unit **MUST BE** supported by the end-plates.
 - Entire bottom of screen case should be unobstructed to permit proper operation of automatic trap door, and access to bottom panel for making electrical connections or servicing.
 - Screen should be installed level (using a carpenter's level).
 - Nothing should be fastened to screen dowel or viewing surface.
 - Operating switch(es) is packed separately in screen carton. Do not discard with packing material.
 - Screen operates on 110-120V, 60 Hz., 1.1 amp current draw for models using small case; 1.3 for models using large case (see page 2).
- NOTE:** Screen has been thoroughly inspected and tested at factory and found to be operating properly prior to shipment.

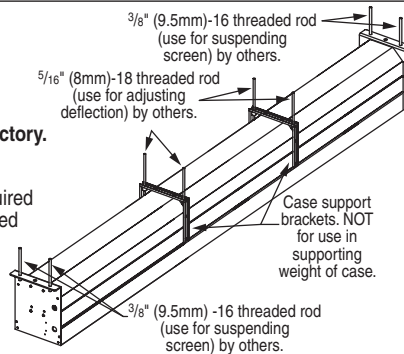
These instructions are meant as a guide only. They do not imply any responsibility on the part of Draper, Inc. for improper installation or faulty workmanship at the jobsite.

Hanging Screen

When locating viewing surface and checking clearance for screen's operation, remember surface is centered in case. Screen is normally recessed above ceiling and may be installed in a variety of ways. See typical installations detailed on back of this sheet. Regardless of mounting method used, the following points apply:

- Screen should be lifted into position **only by the end mounting brackets**. **Keep case level by lifting end plates simultaneously to prevent surface damage. Never attempt to lift screen along its length.**
- Screen should be positively and securely supported so that vibration or even abusive pulling on viewing surface will not weaken installation.
- Installer must insure that fasteners used are of adequate strength and suitable for the mounting surface chosen.
- Entire bottom of case must be readily accessible after installation is complete.
- Hinge that connects bottom panel and automatic trap door of screen must be permitted to operate freely. Front and back of case must be straight—not forced to warp or bow. Hinges must be free from mastic or paint buildup, and doors must be unobstructed by ceiling tiles.
- Do not use screen case to support adjacent sections of ceiling.
- If trim pieces must be attached to case, do not permit screws to protrude more than $\frac{1}{4}$ " through $\frac{1}{8}$ " wall of case. Do **not** attach trim pieces with nails.
- If case is painted, slots on bottom of case should be shielded to protect viewing surface from paint splatters or overspray.
- Do not seal unit in ceiling until electrical connections have been made and screen has been operated successfully.

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.



Brackets installed with rivets at factory.

Bracket spacing:

- Small Case Construction /E or /V
-Case length <95"-no brackets required
-Case length >95"-1 bracket centered
- Large Case Construction /E or /V
-2 brackets equally spaced

Electrical Connections

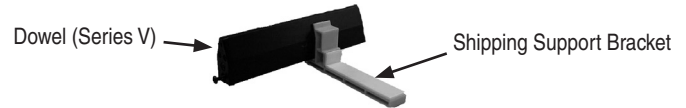
Screen operates on 110-120V, 60 Hz., 1.1 amp current draw for models using small case; 1.3 for models using large case (see page 2). Junction box is located just above the access plate at left end of screen. (See chart on back of this sheet.) Access plate is held closed with flathead screws and may be opened with a Phillips screwdriver. **Automatic trap door does not need to be opened to make field connections.** Removal of access plate exposes red, black and white pigtail leads and green internal ground wire per wiring diagram attached. Screen is shipped with internal wiring complete and control switch(es) fully boxed. Wire connecting screen to switch(es) and switch(es) to power supply should be furnished by installer.

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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 "Off" Before Power Is Connected.



Operation

Please Note: Screen limits are factory set for optimum performance of the screen. Any adjustment of these limits could void the warranty. Please check with Draper prior to resetting screen limits.

⚠ CAUTION—Important Instructions—Signature/Series V—The shipping support bracket must be removed from the dowel during initial operation before screen is operated in UP direction. After screen is installed, run viewing surface DOWN to access and remove bracket. Signature/Series E—The protective paper wrapping around the viewing surface must be removed before the screen is operated in down direction. Cycle viewing surface down and up several times to confirm satisfactory operation. If viewing surface or trap door do not operate properly, turn power off and free trap door and/or check electrical connections.

When screen is first operated, **be cautious!** If automatic trap door does not open immediately up into screen case when switch is flipped "down", return switch to "off" and free trap door and/or recheck electrical connections before proceeding. Cycle 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 down or fully up.

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 down or fully up. Wireless controls—whether infrared or radio frequency—interface with the low voltage control box (see wiring diagram on reverse).

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 a key.

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

Limit Adjustments

Please Note: Screen limits are factory set for optimum performance of the screen. A procedure is outlined below for minor tweaks, but any adjustment of these limits may negatively affect the flatness of the screen surface and could also void the warranty. Please check with Draper prior to resetting screen limits.

⚠ 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.

⚠ CAUTION: Be sure all switches are in "off" position before adjusting limit switches.

The motor limit screws are normally located on the audience left of screen roller.

"Down" Limit Adjustment

To Reduce Screen Drop

- Raise screen surface about 1' above desired setting and turn off.
- Turn the WHITE/DOWN limit screw clockwise (3 screw turns = $\frac{1}{2}$ roller revolution).
- Test by running screen down and repeat steps 1 and 2 until desired position is reached.

To Increase Screen Drop

- Run screen to the down limit.
- With the down switch on, turn the WHITE/DOWN limit screw counterclockwise (three turns of screw = $\frac{1}{2}$ roller revolution) to increase drop.
- Test by running screen up about 1' and back down to new down limit.
- Repeat steps 2 and 3 until desired position is reached.

"Up" Limit Adjustment

Screen is Running Too Far Up

- Lower screen surface about 1' below desired setting and turn off.
- Turn the YELLOW/UP limit screw clockwise (3 screw turns = $\frac{1}{2}$ roller revolution).
- Test by running screen up.
- Repeat steps 1 through 3 until desired position is reached.

Screen Needs to Run Up More

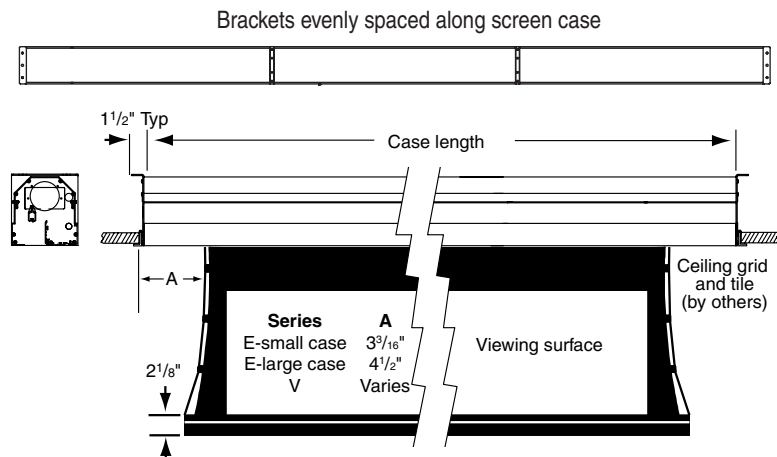
- Run screen down about 1' and turn off.
- With the up switch on, turn the YELLOW/UP limit screw counterclockwise (three turns of screw = $\frac{1}{2}$ roller revolution).
- Repeat steps 1 and 2 until desired position is reached.

⚠ CAUTION: Do NOT allow the dowel to wrap up over the roller when the screen is running up! This could damage the screen.

Please Note: Instructions for adjusting Draper's Tab-Tension System for Series V screens are on page 2.

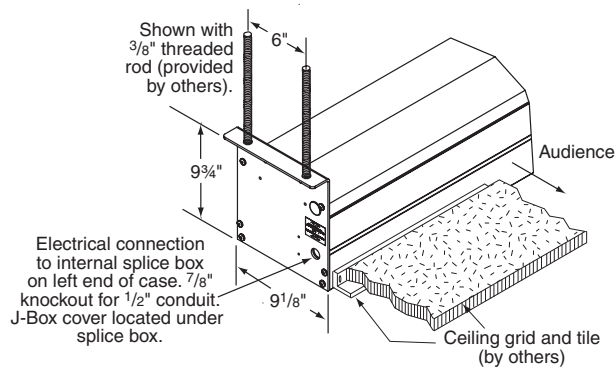
If you encounter any difficulties installing or servicing your Signature, call your dealer or Draper, Inc., Spiceland, Ind., (765) 987-7999 or fax (765) 987-7142.

Case Dimensions & Methods of Installation

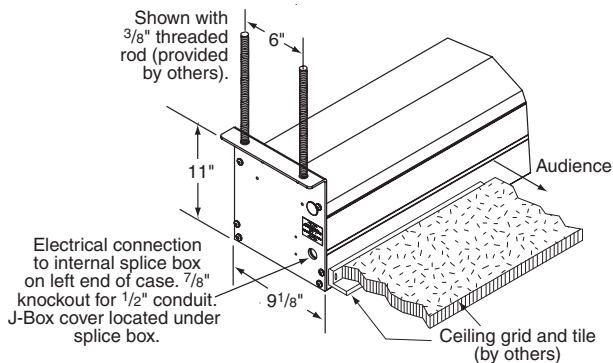


NOTE: Viewing surface shown is Series V with tab tensioning. Series E, without tab tensioning, is also available.

Small Signature Case



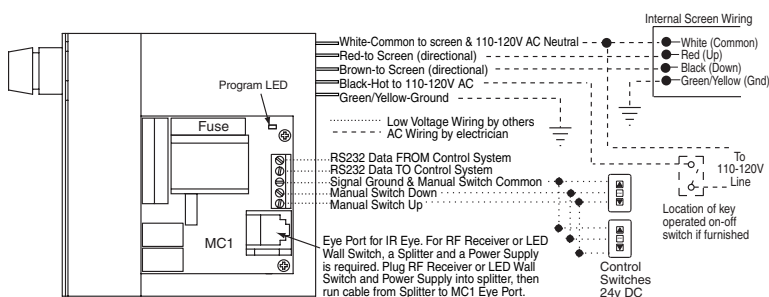
Large Signature Case



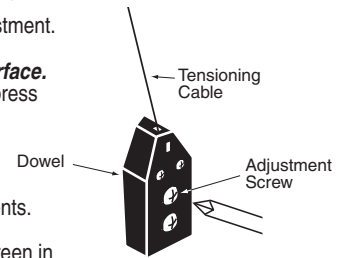
SCREEN SIZE	CASE SIZE
Total Drop <156\" or viewing width <144\"	Small
Total drop >156\" or viewing width >144\"	Large

Two-Way Serial Communication (RS232) with MC1

See separate Serial Communication-RS232 Instruction sheet for enabling RS232 with the MC1.

Tab-Tension Adjustment
Procedure for Signature/Series V

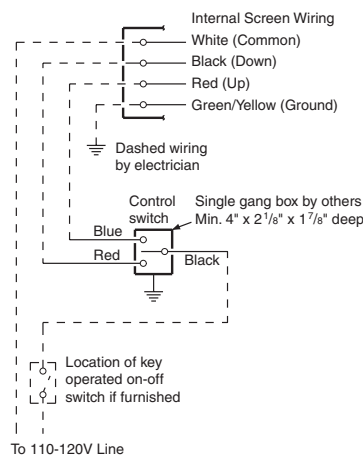
- ① Determine which side requires adjustment.
- ② Secure dowel with one hand.
- ⚠ **Caution: Do not touch or bend surface.**
- ③ Using Phillips-head screwdriver, depress spring-loaded adjustment screw (see drawing) and slowly turn clockwise to tighten tension, or counterclockwise to loosen tension. The screw adjusts in 1/4 turn increments. Adjust only **one increment** (1/4 turn).
- ④ If problem is not corrected, leave screen in position for 24 hours to allow surface material to stretch into position.
- ⑤ If problem still is not corrected, repeat steps 2 and 3.



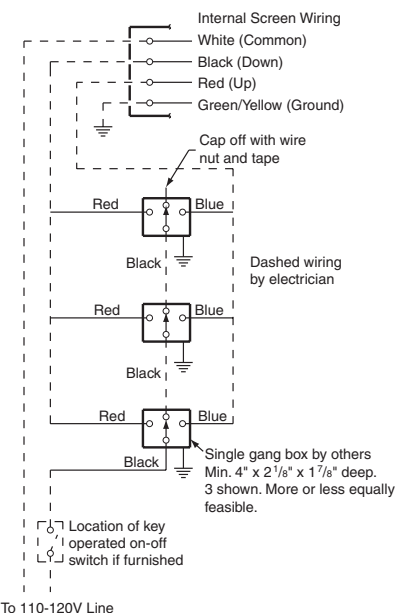
Wiring Diagrams

Please Note: Do not wire motors in parallel.

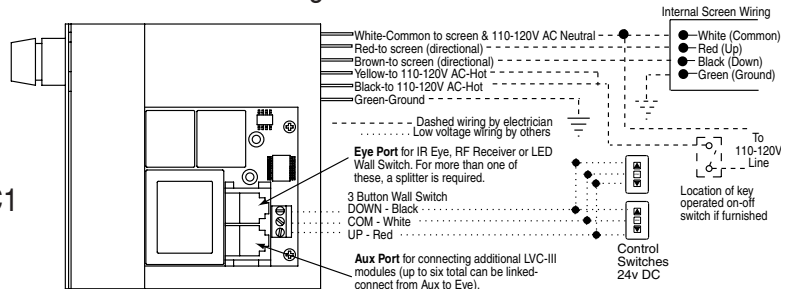
Single Station Control



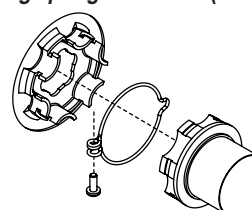
Multiple Station Control



Low Voltage & Wireless Control



Caution: Do not remove the roller assembly from the case unless necessary for repairs. If the roller assembly is removed, be sure motor is fully re-seated in the bracket, and re-secure it carefully with the motor retaining spring and screw (see diagram below).



Please note: Maximum torque for tightening screw is 5 lb-inches.