SRL-90 Servoreeler
INSTALLATION and OPERATION

SERVOREELER SYSTEMS
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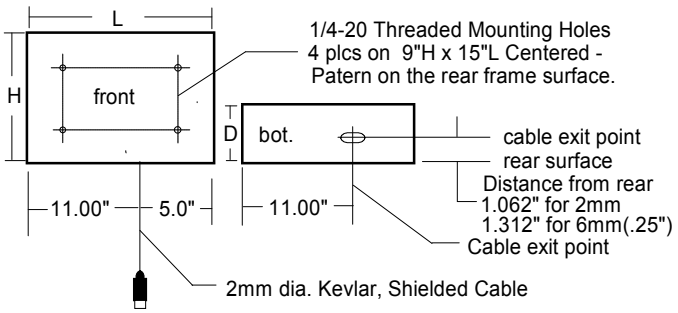

Housing Dimensions: H = 13.25" L = 16" D = 2.60"
CAUTION: Test mounting screws by hand before tightening, - threaded holes in aluminum frame are easily damaged.

RJ-45 Pin Out

1- Down Sense
2- Down Control
3- Common
4- + 24 VDC
5- + 24 VDC
6- Common
7- Up Control
8- Up Sense

MOUNTING: The SRL-90 is provided with (4) ¼-20 threaded holes on a 9" x 15" grid on its rear surface. Prior to installing try the machine screws by hand to assure a proper fit. Screw length should be selected so that no more than a nominal one inch extends into the rear plate. The SRL-90 weighs Twenty One pounds all of these mounting holes should be utilized to achieve a stable and safe mounting of the mechanism.

C A U T I O N Professional care and judgement must be exercised when mounting equipment overhead. Mounting screws must engage a permanent, solid structural member or a metal bracket that is in turn securely attached to such a structure. Should mounting against a wood beam or surface be required, screws of adequate size may be employed from the inside, through the threaded holes into a load bearing structure; loosen the four cover screws about two turns and slip the cover up from the body of the reeler. Note, when mounting against a wood surface, all four holes must be used. **NOTE: To avoid any distortion of the mechanism; Install extra washers as shims between the frame and mounting surface if required so that the center of the Servoreeler frame is elevated clear of any irregularities or high spots on the mounting surface. .**

Please note, the installer and the purchaser must assure that these devices do not pose a hazard to others, both during and after installation. Architectural or engineering guidance is highly recommended to help assure a safe installation that is consistent with the particular physical requirements of your project.

OPERATION: A linear regulated, 24 VDC source is required for system power. Common is connected to pins three (3) and six (6); positive (+24V) is connected to pins four (4) and five (5) of the RJ-45 connector. **Note:** The RJ-45 is organized in a symetrical configuration. A 180 degree error in the orientation when installing a connector will simply result in reverse operation, i.e.; Up will be Down etc. **C A U T I O N : Never apply any external voltage to the Up or Down Sense terminals Pins 1 and 8, this may cause circuit damage.** The sense outputs are utilized for remote speed adjustment, logic Hold and remote indication of operating mode. If Cat-3 or 5 is employed, test before using ! This large mechanism requires the use of shorter or larger guage control/power cables to limit the voltage drop during full-load operation. **Confirm that the voltage at the mechanism - during operation does not drop below 20Vdc under all operating conditions.**

TEST RUNNING: CAUTION ! The reeler is designed to operate in a vertical orientation, with the cable exit point facing down. In addition, a minimum payload weight of aproximately one to two (1-2) ounces is required for proper down feeding of the cable. Should the reeler be operated in a horizontal orientation, too lightly loaded or with its cable impeded from down feeding freely; an internal spill sensor will stop the reeler. This sensor interlock is designed to prevent internal cable accumulation and jamming. **Please note that this is a back-up system, conditions causing its intervention should be avoided.** Normally this condition is not encountered after permanent installation.

SETTING the OPERATING STOP POINT: The IR sensor that controls the length of cable deployment is mounted on a track and is easily adjusted by loosening a finger screw and positioning the sensor to obtain the desired stopping point. To access this adjustment; loosen the four cover screws about two turns and slip the cover up from the body of the reeler. To the middle left of the center of the storage reel, you will see a track with a small wire connected module. This sensor module may be positioned as follows: The Servoreeler is shipped from our factory set to maximum deployment; with this sensor close to the storage reel hub. To reset, loosen the locking thumbscrew just enough to enable the sensor to be moved; sliding towards the rim of the reel will decrease payout length. Slide and tighten the sensor module to re-locate the sensor to a new position. Retract past stop position - then activate the down mode to test the new stop point; repeat until desired length is achieved. **NOTE:** This Operational stop position may be bypassed. Re-activating the down mode permits the microphone to be lowered incrementally to a lower position or to a service level where the microphone can be reached. **Take Care that obstacles are not struck at full cable deployment!**

SPECIFICATIONS: 2mm Cable capacity: nominally 100' (30m) .25" (6mm) Diameter - Multi-conductor Cable capacity: 34 feet Payload: 2.2 Lbs. (1Kg) - Tested at 5 Lbs (2.27Kg) Mechanism weight: 21 Lbs. (9.5Kg) Operating voltage: 24Vdc @ 1 – 1.5A

Thank you for selecting our SRL-90 Servoreeler. Should you require any assistance or have any questions regarding its application or installation, please contact us: (800) 431-8900. srsytems@servoreelers.com

SRL-SERVOREELERS
INSTALLATION ADDENDUM – A
SRL-20; SRL-40; SRL-90

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Please note the following general Cautions:

1- Never apply any external voltage to Sense Outputs (pin numbers 1 and 8); this will damage the control circuit and compromise the warranty.

2- If user supplied, always employ a linear 24Vdc regulated power supply, allowing 700ma per Servoreeler.

3- Never apply a force that exceeds the normal payload weight on the Servoreeler cable. Absolutely never exceed a maximum of ten pounds of pull on the cable. Excessive loading of the cable will compress and distort the cable pack on the storage reel. Should this occur, fully deploy, then retract the cable with the normal payload to restore normal cable pack concentricity. An oval or eccentric cable pack will adversely affect the accuracy or operation of IR limit sensors.

Payload capacity: Servoreelers are conservatively rated at 2.2Lbs (1Kg) with a maximum of 4.4Lbs (2Kg) There is also a minimum combined payload weight of 1 – 2 ounces (28 – 56gms) that is required to assure reliable cable deployment. The XLR female connector that is usually employed is sufficient in itself to provide the required minimum ballast.
An internal accumulation of cable can occur if the Reeler is operated in the Down mode while on its back or if the cable is not free to down-feed or is too lightly loaded. A cable "Spill" sensor interlock system is employed to stop the down operation if an internal accumulation of cable is detected. This system will normally prevent a jam from developing. This safety mode is effective, but may not always be caused to trip; it is intended to be a back-up system. This interlock is provided to protect the Servoreeler primarily during testing and installation. Conditions causing its intervention generally do not occur after the Servoreeler is installed. Care is advised to avoid conditions that would rely on the activation of this interlock.

Clearing an Internal Cable Jam:

1- Cable jams are not common. However, if a jam is suspected then the four cover screws about two turns each and slip the cover up from the Servoreeler chassis. You will see the cable storage reel with the cable retained by a clear Plexiglas flange. **IMPORTANT CAUTION ! DO NOT LOOSEN THE FLANGE SCREWS OR ATTEMPT TO REMOVE THE CLEAR FLANGE. Removing this flange is rarely necessary. If removed, the resulting disruption of the microphone cable and its synchronization with an internal cable system will be very difficult for you to remedy.** Cable jams that occur due to an internal spill and a consequential accumulation of microphone cable can be cleared by following the procedures listed below.

NOTE: Take care not to alter the normal cable layer sequence when clearing a jam.

2- The cable is wound in one plane on the storage reel; layer upon preceding layer. There should be no discontinuities in these layers. Look for any irregularities at the last several outside layers of cable. If there are any trapped loops of cable or cable caught between some of the round spill bumpers, or the input roller guide, these need to be cleared. Usually such jams can be cleared by carefully working the loose winds until the cable is returned to a uniform even condition. When necessary, to clear a more serious tangle, press down on one of the white, round spill-bumpers to release spilled cable. It may also be helpful to activate the Servoreeler in the Up or Down-modes to help realign the cable. Any turns of stored cable that are removed from the storage reel must be counted and then must be replaced after the jam is cleared.

3- Do not over tighten the retaining- screw when re-installing the input guide roller or any other part that has been removed.

4- Carefully smooth-out any kinks in the cable. Serious kinks must be unwound and then straightened. Do not attempt to force kinks out by just pulling them straight, this will leave a permanent kink in the cable structure. Smoothing small bumps and bends can be done by gently pulling the cable by making a half turn across a screwdriver or other similar .25" (6mm) or larger round shaft.

5- After clearing a jam, it is wise to fully deploy the cable with its normal payload and then fully retract it. This will permit the cable to wind itself evenly on the storage reel. If the Servoreeler will not deploy or retract all of the cable, this is an indication that cable synchronization has been altered. Remedy by either adding or removing a turn of cable on the storage reel. If the storage reel stalls before taking-in all of the cable then add cable. If stall occurs before full payout of cable, remove cable from the storage reel. Do this by manually passing the cable past each white spill-bumper until a complete layer has been added or removed. After all of the loops and slack have been removed and proper operation has been observed then re-install the cover.

PLEASE DO NOT ATTEMPT ANY OTHER DISASSEMBLY OF THE SERVOREELER MECHANISM.

Should you require any further assistance, or have any questions regarding these instructions, please call us for support at: 800 431-8900 From outside of the US: 718 464-9400 fax: 464-9435 or srsystems@servoreelers.com

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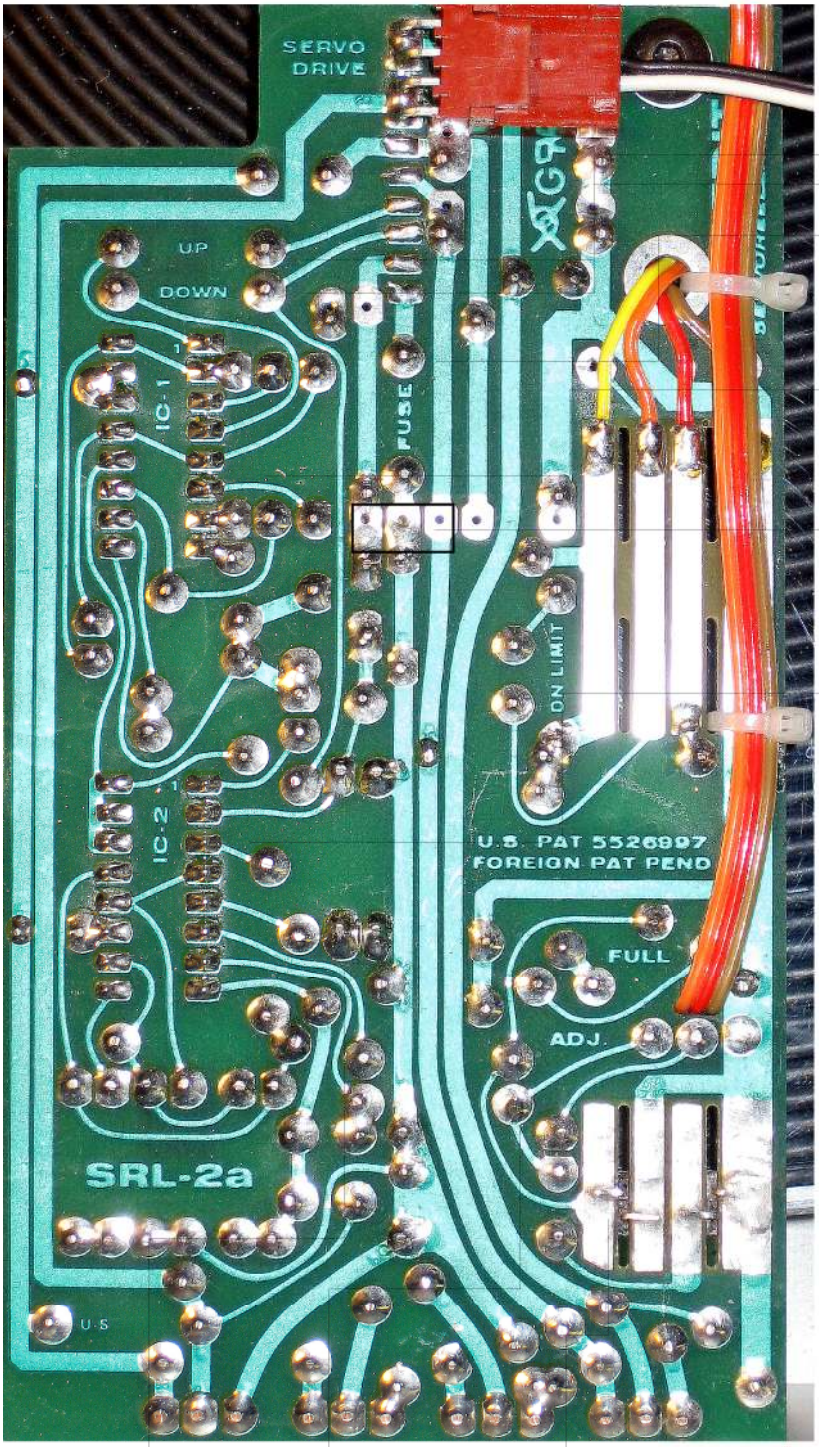
SRL-90

Test points & Voltages (measured from right side trace)



Input Signals when activated:

UP: >18v nominal
DOWN: >18v nominal
Main Power in: +24Vdc
Vcc = +21 to 24v

IC-1 DC Voltages at rest

PIN-out	PIN-input
16- 2.5	1- 0
15- 2.6	2- 2.5
14- 2.6	3- .30
13- 2.4	4- 0
12- .6	5- 2.4
11- .6	6- 2.1
10- .6	7- 2.1
9- vcc	8- Com.

Add 1uF In two holes shown

IC-2 DC Voltages at rest

PIN -output	PIN-input
16- .6	1- .3
15- .6	2- .9
14- .6	3- .05
13- 0	4- 2.1
12- 2.1	5- 1.53
11- .6	6- 1.5
10- .6	7- 2.6
9- vcc	8- Com.

UP activation		Down activation	
IC-1		IC-1	
16- .6	1- 4.7	16-	1- .3
15- 14v	2-.6	15-	2- .6
14- 14v	3- 3.5v	14-	3- .6
13-	4-	13- .6v	4- 4.4v
12-	5-	12- 14v	5- .6v
11-	6-	11- 12v	6- .6v
10- 12v	7- .6v	10-	7- 2.1v
9- vcc	8- com	9- vcc	8- com
IC-2		IC-2	
16-	1- 3.2v	16- 15v	1- 3.2v
15-	2- .6v	15- 15v	2- .6v
14-	3-	14- 15v	3- .6v
13-	4-	13- 9v	4- .6v
12-	5-	12- .6v	5- 4.3v
11- 14v	6- .29	11- 14v	6- .29
10- .6v	7- 1.7	10- .6v	7- 1.7
9- vcc	8- com	9- vcc	8- com

NOTES: (1) Spill Sensor and Empty Sensor outputs to IC-2 Pin 2 logic = low (< .80v) to High (>1.7v) to Stop Deploy mode.
(2) Adjustable Stop Sensor logic = High (6v) to low (.5v nom.) to IC-2 Pin 7
(3) Full Sensor output logic = Low (.5v nom.) to High (1.7v) to Stop retract mode. Signal to IC-2 Pin 6

Please call or email us for additional support if you have any questions. 718-464-9400
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