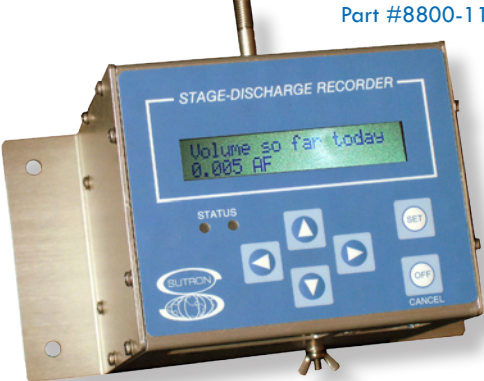


STAGE DISCHARGE RECORDER

QUICK START GUIDE

Part #8800-1170 Rev. 1.0  
May 2007



The Sutron SDR is set at the factory to record water levels in feet every 15 minutes. This guide shows you how to quickly begin recording water levels in your ditch or flume.

Advanced settings in the SDR allow it to automatically calculate discharge and record the daily total flow. Consult the Operations and Maintenance Manual for instructions on using the discharge calculation features.

The Operations and Maintenance Manual also explains how to recover your data and how to change the default measurements.

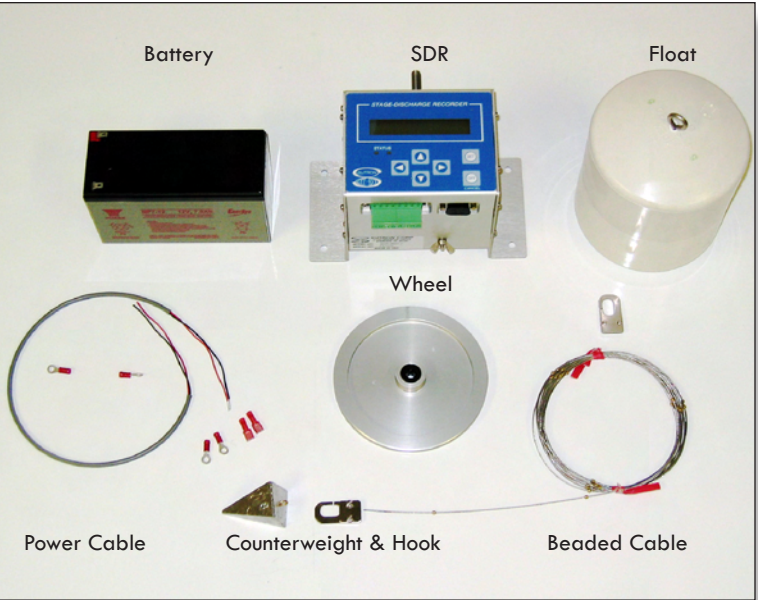


TYPICAL SDR STATION ENCLOSURE (HOUSING)



STAGE DISCHARGE RECORDER  
STEP 1

LOCATE ALL THE PARTS.

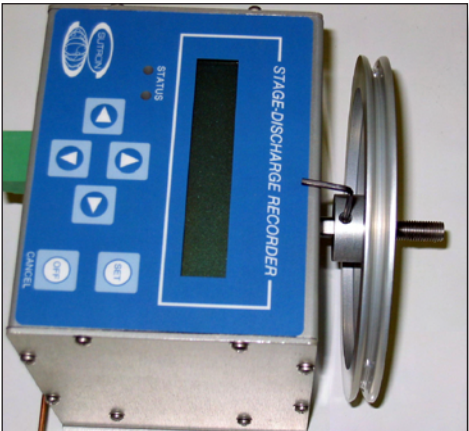


STAGE DISCHARGE RECORDER  
STEP 2



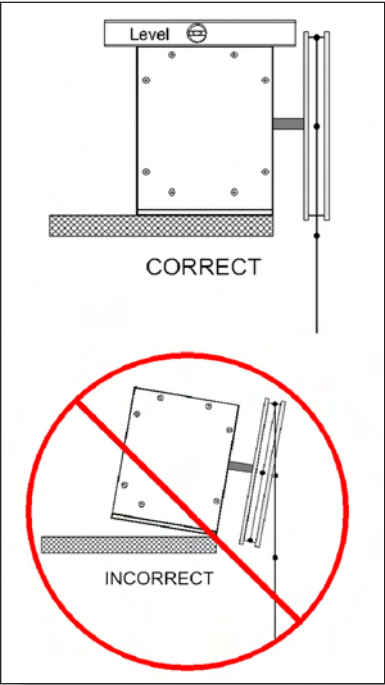
ATTACH THE  
WHEEL TO  
SDR.

ALIGN SET  
SCREW WITH  
FLAT AND  
TIGHTEN  
WITH 5/64  
INCH HEX  
KEY (NOT  
PROVIDED).



STAGE DISCHARGE RECORDER  
STEP 3

SET SDR ABOVE STILLING WELL AND LEVEL IT.



ATTACH SDR TO SUPPORT SHELF WITH WOOD SCREWS  
AFTER SHIMMING LEVEL.

STAGE DISCHARGE RECORDER  
STEP 4

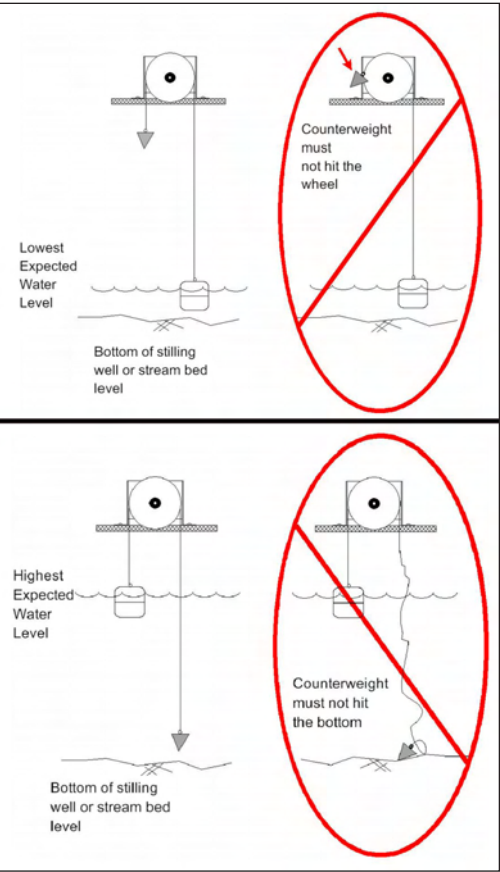
INSTALL BEADED CABLE, FLOAT, AND COUNTERWEIGHT.



LENGTH OF BEADED CABLE SHOULD EQUAL DISTANCE FROM  
SHAFT TO BOTTOM PLUS APPROXIMATELY TWO FEET.

Bend the hook to allow insertion into the ring on the float or  
counterweight. Straighten the hook after it is inserted in the  
ring.

STAGE DISCHARGE RECORDER  
STEP 4 continued



STAGE DISCHARGE RECORDER  
STEP 5

SELECT APPROPRIATE BATTERY.

EXPECTED SDR RUN TIME (MONTHS)	BATTERY TYPE	LIFE MEASURED AT (DEGREES F)
3 to 4	12V 7 Amp-hr gel cell (NP7-12)	68 to 85
7 to 11	12V 24 Amp-hr gel cell (NP24-12B)	68 to 104
15	Two (2) 6V Alkaline lantern batteries in series (Eveready 528 screw top or 529 spring top)	

NOTES: See the Operations and Maintenance Manual for  
more battery options.  
Run time will be reduced  
substantially at freezing  
and near-freezing  
temperatures.



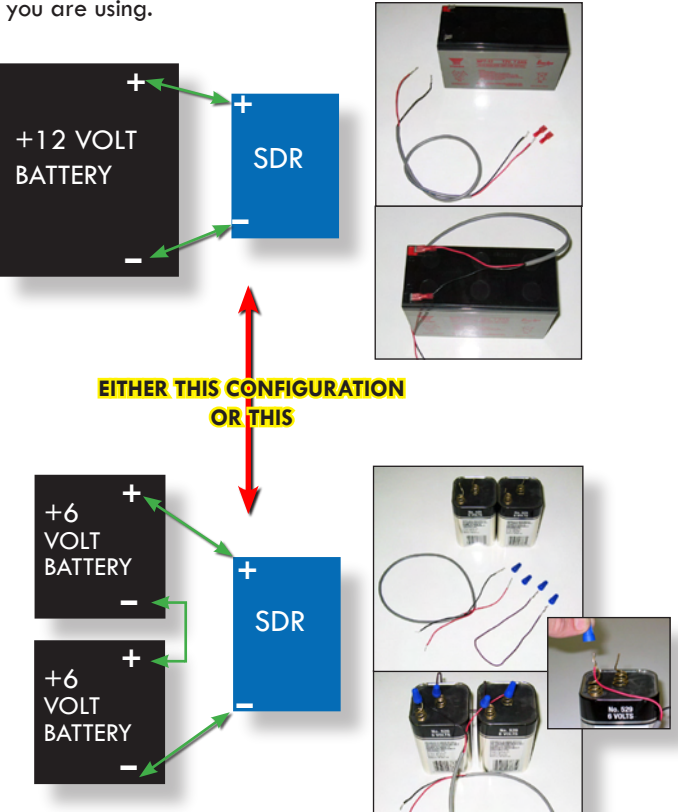
Batteries capable of powering the  
SDR are available at most Radio  
Shack stores and hardware stores.





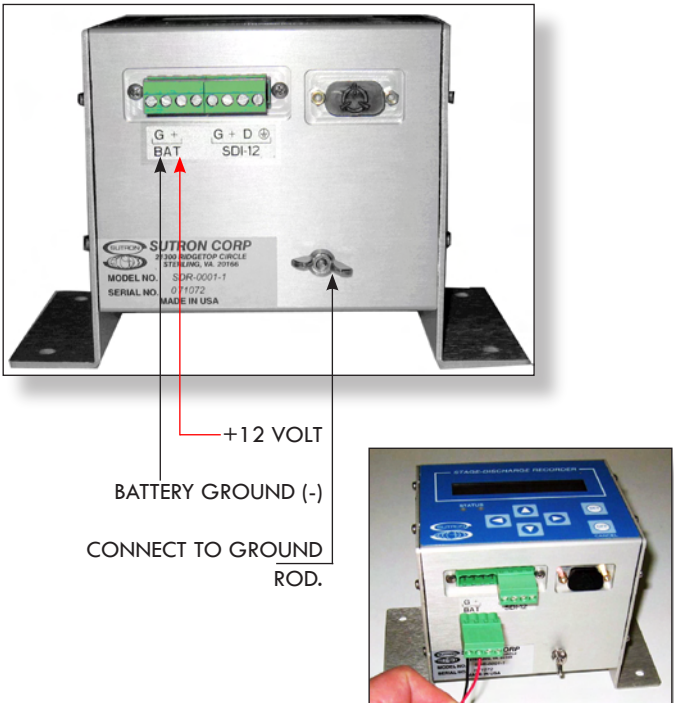
STAGE DISCHARGE RECORDER  
STEP 6

MAKE UP APPROPRIATE POWER CABLE.  
Select the connectors based on the type of battery or batteries you are using.



STAGE DISCHARGE RECORDER  
STEP 7

CONNECT POWER AND GROUND TO SDR.

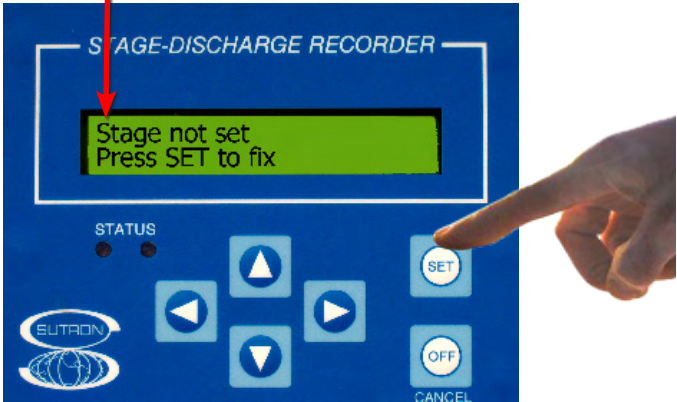


STAGE DISCHARGE RECORDER  
STEP 8

TEST ROTATION DIRECTION.

Values measured by the SDR must increase as the water level rises (float goes up). The SDR display will come on when you make the power connection. If the display has timed out, press any key to wake up the SDR. The display will say:

Stage not set  
Press SET to fix

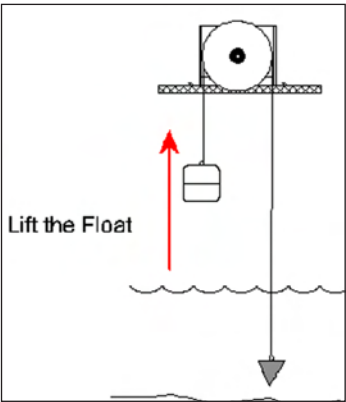


The SDR display will now read values:

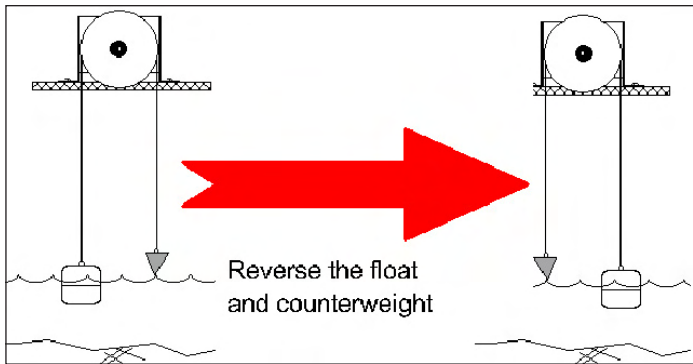
Stage 1.92 ft  
2007/03/22 12:40:16

STAGE DISCHARGE RECORDER  
STEP 8 continued

IF THE VALUES INCREASE,  
GO TO STEP 9.



OTHERWISE:

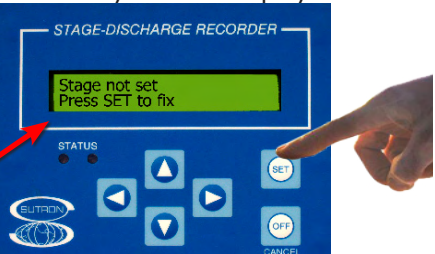


STAGE DISCHARGE RECORDER  
STEP 9

SET THE SDR READING TO MATCH THE STAFF GAGE READING  
Water level measurements are normally made so that the recorded values are the same as an observer would see when reading a staff gage in the stream or flume. Do the following to make the SDR read the same as your staff gage: (Red, underlined number represents the location of the cursor.)

1. Disconnect the power momentarily. The SDR display will come on when you reconnect it. The display will again say:

Stage not set  
Press SET to fix



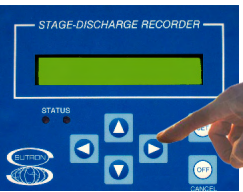
The SDR display will now read values:  
Stage 1.92 ft  
2007/03/22 12:40:16

2. Use the arrow keys to make the stage read the same as the staff gage.



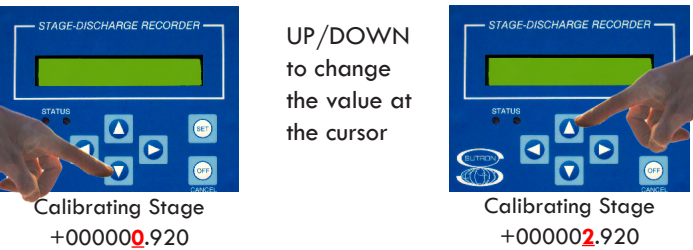
Calibrating Stage  
+000001.920

LEFT/RIGHT to  
move the cursor

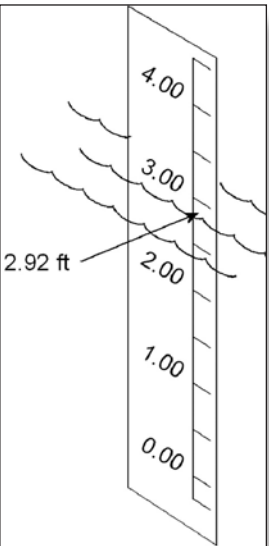
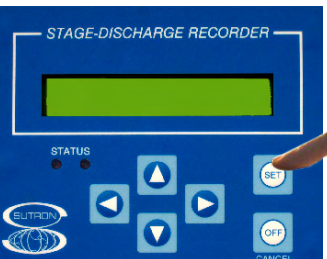


Calibrating Stage  
+000001.920

STAGE DISCHARGE RECORDER  
STEP 9 continued



Press SET when SDR reading  
matches the Staff Gage reading.



STAGE DISCHARGE RECORDER  
STEP 10

SET THE SDR CLOCK AND STATION NAME

Setting the clock and changing the station name are done using the keypad keys in ways very similar to setting the stage value. Carry out the following steps: (Red, underlined> letter represents the location of the cursor.)

With Stage displayed: Stage 1.92 ft  
2007/03/22 12:40:16

- Press UP once—SDR will say: Station SUTRON SDR  
2007/03/30 14:35:00
- Press SET. SDR will say: Set station name  
SUTRON SDR

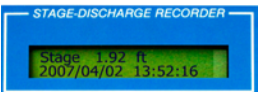
Use LEFT/RIGHT arrow keys to move the cursor and UP/DOWN arrow keys to set the name. Note that BLANK is between Z and 0 (zero). Use BLANKs to erase letters you don't want.

- Press SET when done. SDR will say: Set time  
2007/03/30 14:35:00

Use LEFT/RIGHT arrow keys to move the cursor and UP/DOWN arrow keys to set the digits. Set the time ahead of your clock.

- Press SET when the actual time matches the time you set in the SDR.

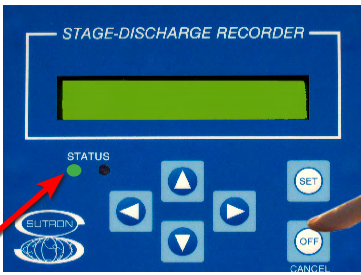
- Press DOWN once to return to the Stage display:  
Stage 1.92 ft  
2007/04/02 13:52:16



STAGE DISCHARGE RECORDER  
STEP 11

CHECK THE STATUS LIGHT

Turn the SDR OFF



The blinking green status light indicates that the SDR is recording data.

Consult the SDR Operations and Maintenance Manual for help with

- Turning on and setting up discharge calculations
- Changing measurement units
- Reversing the rotation without removing the float and beaded cable
- Recovering your data using a laptop computer or PDA
- Using a different wheel size

