



ADI-100  
Interrupter

Operator's Manual

## ADI - 100 Interrupter

### FEATURES

Clock Accuracy	100% during GPS lock
Clock Drift	30 $\mu$ sec per degree C during satellite obscurity
Interruption Cycle	.1 sec. To 3600 sec. (1 hr.)
24 Hour Timer	Sets time of day to interrupt
28 Day Calendar	Sets which days to interrupt
Interruption Devices	Solid State DC / AC
Interruption Capacity	2000W <b>140V</b> /100A Max
Battery Backed RAM	Maintains last schedule
Serial Port	Download schedule
Resynchronize	Never needed
Display	4 line x 20 column LCD
Keypad	16 Button
Power Consumption	Less than 1.8 Watts
Operation Temperature	0 F to 150 F
Power Supply	80V to 240V AC or 12V DC
Case	Pelican Enclosure
Color	Low Visibility Gray

## INSTALLATION:

**CAUTION:** Before installing this unit calculate the Wattage output of the rectifier by multiplying the output voltage with the current. If this value exceeds 2000W do not continue with the installation.

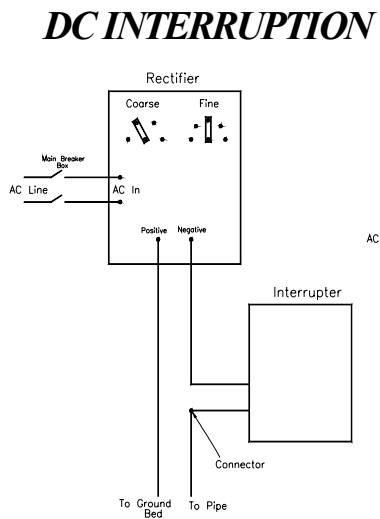
1. Turn rectifier off at the unit and at the pole disconnects.
2. For DC Interruption disconnect one of the rectifier output leads and connect the interrupter as shown in figure 1. The interrupter can be installed in either the positive (+) or negative (-) side of the output.

For Secondary AC Interruption disconnect either the coarse or fine tap setting and connect the interrupter as shown in figure 2.

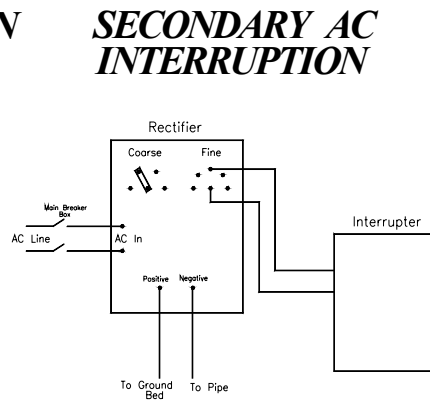
For Primary AC Interruption break the hot leg feeding the rectifier and connect the interrupter as shown in figure 3.

### NOTE:

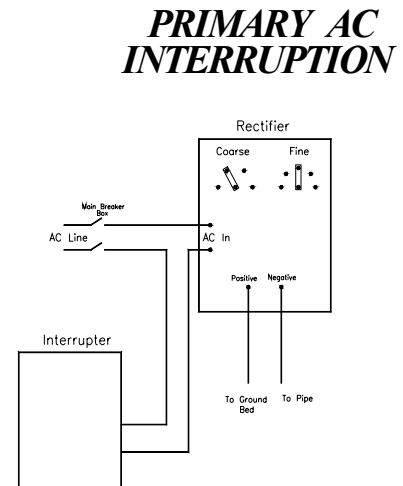
Interruption on a 3 phase rectifier can only be accomplished by interrupting the DC output.



***FIGURE 1***



***FIGURE 2***



***FIGURE 3***

3. Connect the AC power supply leads of the interrupter to the AC input of the rectifier (figure 3) or connect the DC input to a battery (figure 4). Use either AC or DC to power the unit. NEVER CONNECT BOTH AC AND DC INPUTS TO THE UNIT AT THE SAME TIME. THIS COULD CAUSE BATTERY FAILURE.
4. Turn main disconnect and interrupter on and set desired schedule (see System Setup). When setup is complete start interruption by pressing [4] at the main menu screen.
5. Turn rectifier on, and confirm proper interruption is occurring.

110VAC

220VAC

3 PHASE

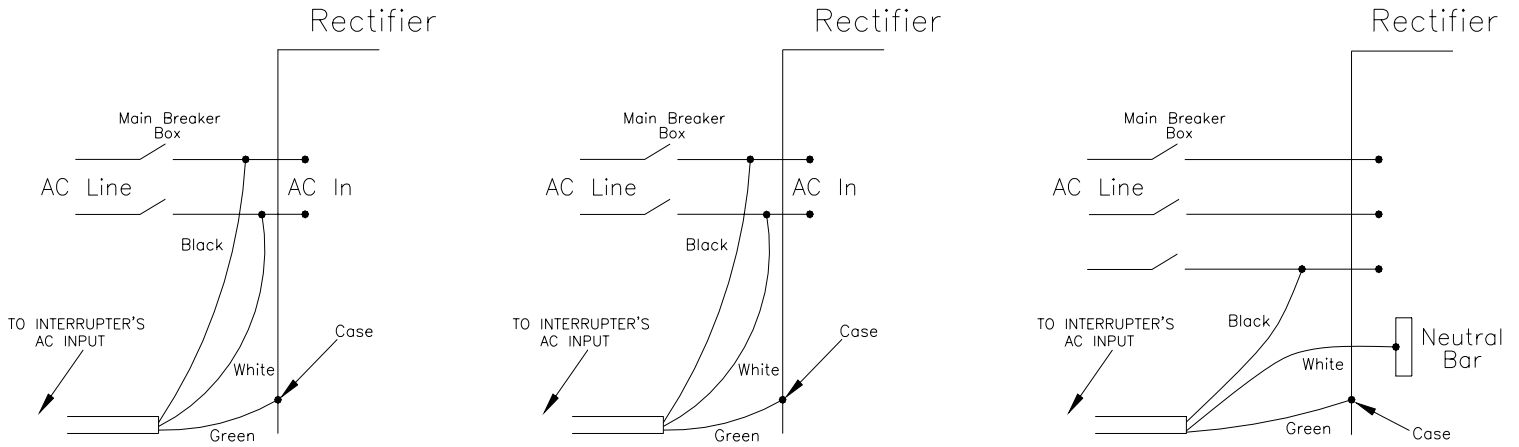


FIGURE 3

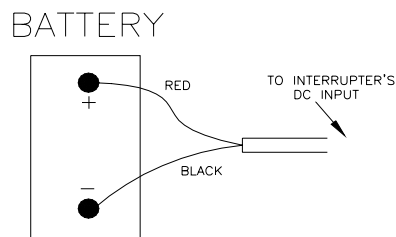


FIGURE 4

## ADI-100 SYSTEM SETUP

When you first turn the interrupter on, the Current On (green) light will be on. The unit begins to gather information from GPS satellites. This process may take several minutes the first time it is used or when the unit has been moved more than 500 miles between uses. Normally it takes less than two minutes for this process.

### NEW:

At power up, the interrupter will begin at the Main Menu. This allows the user to configure the unit while it obtains a GPS lock. The current date and time displayed throughout the setup screens are hidden until the unit acquires a GPS lock.

1 VIEW SCHEDULE	
2 CHANGE SCHEDULE	
3 LOAD SCHEDULE	
4 ON/OFF	5 OFF/ON

### VIEW SCHEDULE

Press [1] at the main menu to access this screen:

03/25/1999	16:10:30
START 07:00	
STOP 19:00	

It shows you the current date and time along with the current settings stored in the unit. See Schedule for explanations on the components within this option. Press [ESC] to return to the main menu.

### CHANGE SCHEDULE

Press [2] at the main menu to reach this screen:

16:10:30
TIME ZONE: CST
START: 07:00
STOP: 19:00

Press [←] or [→] to move to the data field you wish to change. Use [▲] and [▼] to increase or decrease the data field selected. The first option is the time zone, default is Central Standard Time (CST). All 24 worldwide time zones are available. Toggle to the zone that matches the time of your current location. Use this option to allow for daylight savings time. The START and STOP times are used to set the time interruption is to begin and end each day. Press [ENT] for the next screen.

## SET INTERRUPTION CYCLE

ON:	9 . 0
OFF:	3 . 0
CHECK DATE:	YES →

(Screen 1)

←
START DATE: 03/25/99
CALENDER: CHANGE

(Screen 2)

The ON and OFF data fields can be changed by toggling up and down or by entering a new time on the keypad. For a time of 120 sec. press [1] [2] [0] [ENT]. The interruption cycle can be set for whole seconds, tenths of a second, or a combination of both. To set or to add sub second interruption move to the field to the right of the ON time decimal and toggle up. The OFF time will change automatically. If date checking is required, toggle to the CHECK DATE field and press up or down. YES will be displayed with an arrow next to it. Toggle to the arrow and press up or down to reach Screen 2. Here the desired start date can be set. This date may be changed to start the unit at a future day such as installing the interrupters on Friday and the survey begins Monday. If check date is on the interrupter will automatically interrupt for the next 28 days starting on the start date. This setting can be changed in order to stop interruption on weekends or other days that surveying will not take place. To make these changes go to the CALENDER field and press [▲] or [▼]. The following screen will be displayed.

25	26	27	28	29	30	31
Y	Y	Y	Y	Y	Y	Y
01	02	03	04	05	06	07
Y	Y	Y	Y	Y	Y	Y

08	09	10	11	12	13	14
Y	Y	Y	Y	Y	Y	Y
15	16	17	18	19	20	21
Y	Y	Y	Y	Y	Y	Y

Scroll to the days you want the interrupter to be inactive and toggle up or down. The Y will change to an N. This screen allows you to see the first 14 days of the schedule. For the next 14 days scroll to the 14<sup>th</sup> day a press [▶] again. Press [ESC] to return to the CHECK DATE screen. Press [ESC] again to return to the main menu.

## LOAD SCHEDULE

When using a computer with the SESCO Download program, a schedule may be downloaded into the interrupter. This can be used to quickly setup multiple units with the same schedule. Connect the unit's communications port to an available 9 pin com. port on the computer. Press [3] at the main menu and execute download sequence on the computer. When complete press [ESC] to return to the main menu.

## **ON/OFF**

Press [4] at the main menu to start the interruption process in the SESCO format. The SCHEDULE light will come on and the interruption process will begin if the current date and time fall within the boundaries of the set schedule. For example if current date was 03/22/99 and the START DATE was set at 03/25/99, the schedule will not become active until 03/25/99. The CURRENT ON and CURRENT OFF lights will toggle to show that interruption is taking place. The display screen will blank in order to conserve power. Press a key at any time to stop the interruption process and return to the main menu.

## **OFF/ON**

Press [5] at the main menu to start the interruption process in an alternate format. This format is compatible with other brands of interrupters. For best results, set the interruption cycle so that the total cycle (ON TIME + OFF TIME) is evenly divisible into 3600 i.e. (9 ON + 3 OFF = 12)(3600 / 12 = 50). Do not use cycles that result in a decimal number i.e. (7 ON + 4 OFF = 11)(3600 / 11 = 327.27). The unit will operate as described above.

### **NOTE:**

This unit may not be compatible with all brands of interrupters. Be sure to verify that the elected schedule works properly with the other interrupters.

# SCHEDULE DOWNLOAD PROGRAM

## REQUIREMENTS

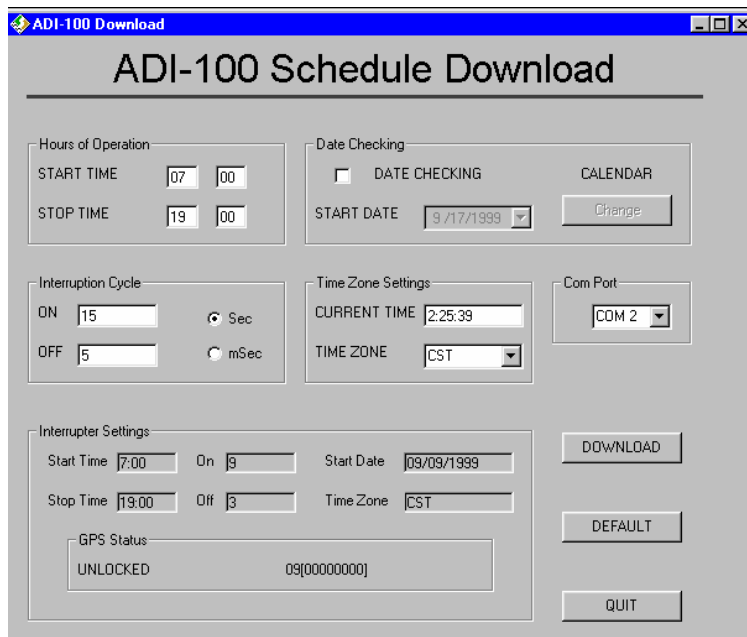
Microsoft Windows  
Available 9 pin RS-323 Communications port.  
DB9 Female to Female Cable (not supplied)

## INSTALLATION

1. Start windows 95/98.
2. Insert disk 1 into drive A:
3. Click on "START" and then Click "RUN".
4. Type A:\setup.exe and click "OK".
5. Follow the prompted instructions.

## USING SCHEDULE DOWNLOAD

To run the program click "START" - "Programs" - "SESCO" - "ADI-100 Schedule Download". Once the program is running connect an interrupter to the computer using an AT Null Modem Cable DB9F/F. From the interrupter's main menu press '3' to activate the serial communications. If the Schedule Download program doesn't recognize the connection, change the COM PORT setting to match the port being used by the computer. Once communication is established the UNIT NOT RESPONDING message will be replaced with the current setting stored in the interrupter.





## COMPONENTS

### Hours of Operation:

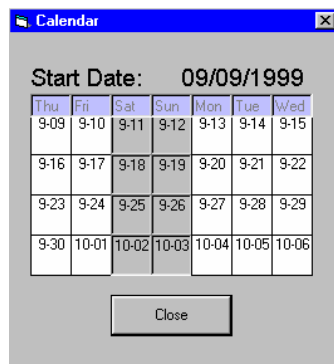
Sets the time of day (in 24 hour format) the interrupter will begin and end the interruption cycle.

### Interruption Cycle:

Sets the time duration of the On and Off states. The total cycle time can range anywhere from 1 sec up to 3600 sec (1hr).

### Date Checking:

Used to set a future start date in conjunction with a 28 day calendar. If Date Checking is off, the unit will interrupt every day until power is removed. To activate, click in the Date Checking box. Start Date can now be set to the day in which interruption is to begin. Click the Change button to modify the 28 day calendar. This can be used to stop the interruption process on days that surveying will not take place. To turn a day on or off simply click on the day you wish change. This example shows that interruption will take place every day except Saturdays and Sundays, starting with 9-9-1999. After the 28 days are up the unit will no longer interrupt.



### Time Zone:

Used to set the interrupter's time to that of your location. Change the Time Zone setting so that the Current Time matches your location's time. The interrupter does not allow for day light savings time, therefore, you must change the time zone to compensate for this.

### Com Port:

Sets the communications port the computer uses to communicate with the interrupter.

**Interrupter Settings:**

This box displays the current setting stored with in the interrupter. After downloading a schedule use this window to verify that the new interrupter settings are correct. The GPS status window shows the signal strength being received from 8 of the Global Positioning Satellites.

**Download:**

Click this button to send the new settings to the interrupter. Simply move the COM cable to additional interrupters and click Download to set multiple units to the same settings.

**Default:**

Click this button to change the settings to predefined default values.

**Quit:**

Saves the setting and exits the Schedule Download.

**Note:**

For questions contact our phone number located on the cover page.

# SESCO ADI-100

## Operation Guidelines

The lid must be latched closed to obtain water proof seal. GPS will still remain locked and unit will function properly.

The magnetic mount GPS antenna can be pulled out approximately 17 Feet if necessary to achieve lock in covered areas. To release the additional wire, remove the 4 panel screws and clip the wire ties securing the antenna cable. Carefully pull the wire through the panel, make sure not to put excessive strain on wire or dislodge connection from the board.

Be careful not to over tighten the interrupt cables. Doing so will cause damage to the case and make the plugs loose.

Make sure to observe polarity when powering the unit from an external DC supply.

Do not place the unit in an area that may be susceptible to standing water.

## Troubleshooting

<b>Problem</b>	<b>Solution</b>
Unit doesn't power up.	Check incoming power for polarity and adequate voltage. Check Fuse on top panel.
Unit fails to pass current.	Remove top panel and check 9V battery. Voltage must be 6V or more.
Unit fails to interrupt current.	Contact SESCO for instructions.
Additional Issues	Contact SESCO for instructions.