SBE 46 LCD Display Box Reference Sheet
(see SBE 46 User's Manual for complete details)

Modes

User-selectable modes include:

- **Programming mode** – While connected to a computer and running a terminal program, setup commands can be sent to the SBE 46. Setup parameters are stored in EEPROM, so the SBE 46 only has to be programmed once for a particular data format.

- **Testing mode** – While connected to a computer and running a terminal program, data input to the computer is displayed on the SBE 46.

- **Operating mode** - While connected to an instrument that is logging data, the SBE 46 displays the instrument's data.

Programming the SBE 46

1. Connect the PC cable connector to the SBE 46's 9-pin *PC/SBE 11* port and to your computer's serial port.

2. Connect the power supply to the SBE 46.

3. Place the J1 jumper on pins 2 and 3. This allows the SBE 46 to communicate with the computer.

4. Install a jumper on J3, connecting pins 1 and 2. This places the SBE 46 in programming mode.

5. On the computer, double click on SeaTerm.exe. Once the main screen appears, in the Configure menu select the **SBE 37** (the SBE 46 is not available in the list of instrument types). Select the following:
   - Serial Port: COM1 through COM10 are available
   - Baud Rate: 9600 (or 1200, 2400, or 4800, if applicable)
   - Data Bits: 8
   - Parity: No Parity
   - Mode: RS-232 (full duplex)

6. Turn on the power toggle switch on the SBE 46. The SBE 46 should display the result of the status (**DS**) command.

7. Send the desired commands to program the SBE 46.
   - Input commands in upper or lower case letters and register commands by pressing the Enter key.
   - If system does not return S> prompt after executing a command, press Enter key to get **S>** prompt.
   - SBE 46 sends ?CMD if invalid command is entered.

COMMAND	DESCRIPTION
DS	Display status.
BAUD=x	**x=** baud rate (1200, 2400, 4800, or 9600). Default 9600.
ENABLEALARM=x	**x= Y**: Sound alarm when data scan contains an *a* or *A* character. This allows SBE 46 to act as a remote depth display with alarm when used with SBE 11*plus* V2. **x= N** (default): Do not sound alarm when data scan contains an *a* or *A* character.
P1LABEL=str	**str** = data label 1. *
P2LABEL=str	**str** = data label 2. *
P3LABEL=str	**str** = data label 3. *
P4LABEL=str	**str** = data label 4. *

*Note: **str** can be any combination of characters with a maximum length of 10. Spaces can be entered at beginning of string to make data labels on each line of display line up.

Testing the SBE 46

1. Remove the jumper on J3. This takes the SBE 46 out of programming mode and into testing/operating mode.

2. On the computer, type entries shown below and hit the Enter key. View the responses on the SBE 46:

Computer Entry	SBE 46 Response (shown with defaults for labels)
`1.0`	`t=1.0` `V 1.1` (SBE 46 firmware version)
`1.0,2.0`	`t=1.0` `c=2.0`
`1.0,2.0,3.333`	`t=1.0` `c=2.0` `p=3.333`
`1.0,2.0,3.333,4.444`	`t=1.0` `c=2.0` `p=3.333` `s=4.444`
`1.0,12 Apr 2000,12:30:45`	`t=1.0` `c=12:30:45`

Setting Up the Instrument (SBE 11*plus* V2, 37-SM, 37-SMP, 37-SI, 37-SIP, 38, 39, 45, 48, or 50)

1. Set the instrument baud rate to the same rate as the SBE 46.

2. Set the instrument to wake up and start sampling when power is applied (applicable to the following instruments):
   - **SBE 37-SI or 37-SIP**: Set Interface PCB J1 jumper to Autopower position, and send **AUTORUN=Y** and **SINGLESAMPLE=N** commands.
   - **SBE 38 or 50**: Send **AUTORUN=Y** command.
   - **SBE 45**: Set PCB J1 jumper to Autopower position, and send **AUTORUN=Y** and **SINGLESAMPLE=N** commands.

3. Set the instrument to start sampling now or later (applicable to the **SBE 37-SM**, **37-SMP**, **39**, or **48**):
   - Send **STARTNOW** command, or
   - Send **STARTMMDDYY** and **STARTHHMMSS** commands to set delayed logging start date and time. Then send **STARTLATER** command.

Operating the SBE 46

1. Mount SBE 46 (optional): Remove the four, self-retaining, lid screws and lift the lid off the housing body. Using customer-supplied hardware, mount the SBE 46, using the four 4 mm ($^5/_{32}$ inch) mounting holes at the back of the housing body.

2. Set the SBE 46 jumpers:
   A. J1:
      - **SBE 37-SM, 37-SMP, 37-SI, 37-SIP, 38, 39, 45, 48, or 50**: Jumper pins 1 and 2.
      - **SBE 11*plus* V2**: Jumper pins 2 and 3.
   B. J2: Jumper in place only if SBE 46 is powered by internal battery.
   C. J3: Verify that jumper has been removed for operating mode.

3. Connect the instrument to the SBE 46:
   A. **SBE 37-SM, 37-SMP, 37-SI, 37-SIP, 38, 39, 45, 48, or 50**: Connect 4-pin bulkhead I/O connector on instrument to SBE 46 *SENSOR* I/O 4-pin connector.
   B. **SBE 11*plus* V2**: Connect 5-pin *Remote Out* connector on SBE 11*plus* V2 back panel to SBE 46 *PC/SBE 11* 9-pin connector.

4. Connect the power supply to the SBE 46.

5. Turn on the power switch on the SBE 46. As the instrument begins to sample and send data, the SBE 46 displays the data.