Hydro Sim

Intelligent Data Simulator

User's Manual

OTRONIX

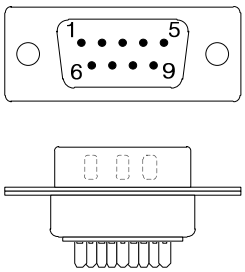
Manual Version #001, 10/26/12

● Specification

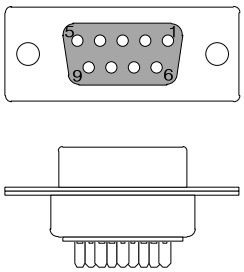
Power (external)		5 to 12 Volts
Power Consumption	Working	1.2mA
	Sleep	20uA
Dimension (W x L x H)		(60mm × 35mm × 15mm)
Weight		40g

HydroSim Connector

MALE
(D-SUB)



FEMALE
(D-SUB)



COM2 , COM3	
Pin	communication
2	RS-232(RX)
3	RS-232(TX)
4	RS-422(TX+) RS-485(TRX+)
5	GND
6	RS-422(RX+)
7	RS-422(TX-) RS-485(TRX-)
8	RS-422(RX-)
9	External Power In

COM1		
Pin	communication	
2	RS-232(TX)	
3	RS-232(RX)	RS-232 Power In
4	RS-232(DSR)	RS-232 Power In
5	GND	
7	RS-232(CTS)	RS-232 Power In
9	External Power In	

● System Setup & Operation

- Program Start

1. Connect PC serial port to COM1 or COM2 of HydroSim with 19200bps,8,N,1.
2. HydroSim uses 3,4,7pins of COM1 port as a power source.
3. Those pins should be connected in serial cables or USB-serial converters.
   Also you can supply external power through #5,9 pins of each port.
4. Default setup of Hydrosim is NMEA GPS mode.
   You will see below sentences from HydroSim on terminal software.

Example 1)

```
```<ENTER>
$GPGGA,000002,3730.0384,N,12930.0992,E,2,08,12.0,0.0,M,56.0,M,89.1,722*51
$GPRMC,000002,A,3730.0384,N,12930.0992,E,10.0,63.4,010112,,,D*77
$GPHDM,69.7,M*0D
$GPGGA,000003,3730.0396,N,12930.1023,E,2,08,12.0,0.0,M,56.0,M,89.1,722*51
$GPRMC,000003,A,3730.0396,N,12930.1023,E,10.0,63.4,010112,,,D*77
```<ENTER>
---------------------------
HydroSim_V32 Version    1.350
OTRONIX Co.,Ltd. 1999-2012
All Right Reserved.
---------------------------
HydroSim_V32 NMEA Output(GPS) MENU
1. GPGGA : 0 (NO)
2. GPRMC : 0 (NO)
3. GPZDA : 0 (NO)
4. GPVTG : 0 (NO)
5. PRDID : 0 (NO)
6. EGEVT : 0 (NO)
7. GPHDT : 1 (YES)
8. GPHDM : 0 (NO)
9. NMEA 3.0 : 0 (NO)
N. Navigation setup.
Z. Default setup.
S. System setup.
Q. Exit Setup menu.
X. Write & Restart System.
Y. Write & Reset System.
```

- Entering Setup mode

User Setting Mode

1. When the program is running, by typing " ``` " (three grave keys) and press "Enter" system setup mode will be activated.
2. To move specific sensor setup, type corresponding alphabet and press "Enter".

Example 2)

S>S<ENTER>

HydroSim_V32 Version 1.340

OTRONIX Co.,Ltd. 1999-2012

All Right Reserved.

HydroSim_V32 SBE19V2 MENU

S. System setup.

Q. Exit Setup menu.

X. Write & Restart System.

Y. Write & Reset System.

>S <ENTER>

HydroSim_V32 SYSTEM MENU (1.15 V)

E. Simulator Mode : 9 (NMEA Output(GPS))

1. COM1 : 232, 19200,N,1 (female)

2* COM2 : 232, 19200,N,1 (male)

3. COM3 : 232, 19200,N,1 (male)

4. Date Setting (YY-MO-DD): 12-01-01 (Sun)

5. Time Setting (HH:MM:SS): 00:01:13

F. Factory Default.

?. Help.

M. Return to Main menu.

- **System Setup Menu**

1. If you want to move help mode, type “?”.
2. The currently established Default Setting is No. 9 GPS.
3. Press “Enter” to return to upper mode
4. Press “Enter” key after type “E/11” to transfer the mode.

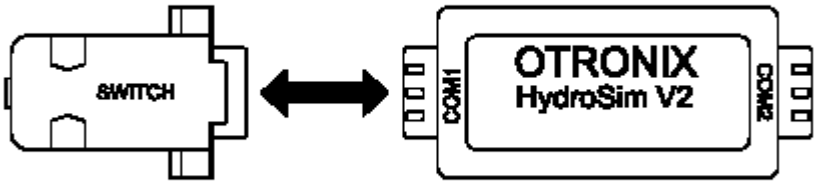
Example 3)

```
>?
 0 = Protocol Converter
 1 = Logger
 2 = WorkHorse
 3 = Channel Master
 4 = Ocean Surveyor
 5 = DVS
 6 = DVL
 7 = NMEA Output(VmDas)
 8 = NMEA_DBT
 9 = NMEA Output(GPS)
10 = NMEA Output(EMS)
11 = SBE19V2
12 = SBE19+
13 = SBE37IM
14 = SBE37SI
15 = SBE39
16 = SBE45 MicroCat
17 = SBE50
><ENTER>
HydroSim_V32 SYSTEM MENU (5.60 V)
E. Simulator Mode : 9 (NMEA Output(GPS))
1. COM1 : 232, 19200,N,1 (female)
2* COM2 : 232, 19200,N,1 (male)
3. COM3 : 232, 19200,N,1 (male)
4. Date Setting (YY-MO-DD): 12-01-01 (Sun)
5. Time Setting (HH:MM:SS): 00:58:18
F. Factory Default.
?. Help.
M. Return to Main menu.
>E/11<ENTER>
```

```
HydroSim_V32 SYSTEM MENU (7.13 V)
E. Simulator Mode : 11 (SBE19V2)
1. COM1 : 232, 19200,N,1 (female)
2* COM2 : 232, 19200,N,1 (male)
3. COM3 : 232, 19200,N,1 (male)
4. Date Setting (YY-MO-DD): 12-01-01 (Sun)
5. Time Setting (HH:MM:SS): 00:58:30
F. Factory Default.
?. Help.
M. Return to Main menu.
>M<ENTER>
HydroSim_V32 SBE19V2 MENU
S. System setup.
Q. Exit Setup menu.
X. Write & Restart System.
Y. Write & Reset System.
>X<ENTER>

SBE 19plus
S>
```

- **SBE19plus V2 Data Logging switch**



1. To start ‘Data logging’ in SBE19plus V2 mode, Use enclosed on/off switch.
2. Just connect the switch to COM1 port in SBE19plus V2 mode, Than HydroSimV2 will start ‘Data logging’.
3. To stop ‘Data logging’, disconnect the switch from HydroSimV2.
4. The on/off switch is only operates in SBE 19 plus V2 mode.
5. If Ignore switch setup is Yes, The switch will not operate.,

```
S>SBE 19plus
S>05000A0ADD0D08200967F3          ← Switch connected.
0500140ADD0D08201367F3
05001E0ADD0D08201D67F3
0500280ADD0D08202767F3
0500320ADD0D08203167F3
05003C0ADD0D08203B67F3            ← Switch disconnected
S>
```

● Firm ware Download

- Windows Program

Please visit following web site to download PIC programmer and Firmware for OTRONIX HydeoSimV2.

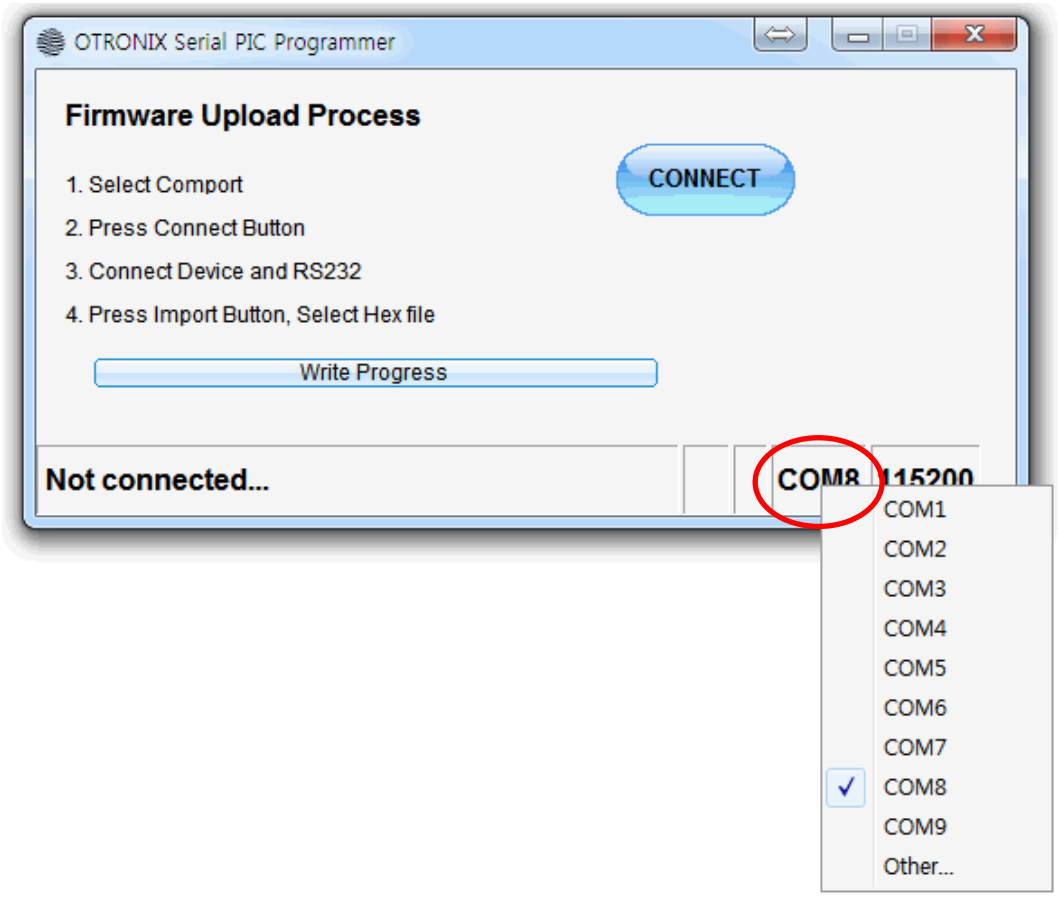
http://www.otronix.com/kr/productsline_05.html

● Firmware Upgrade

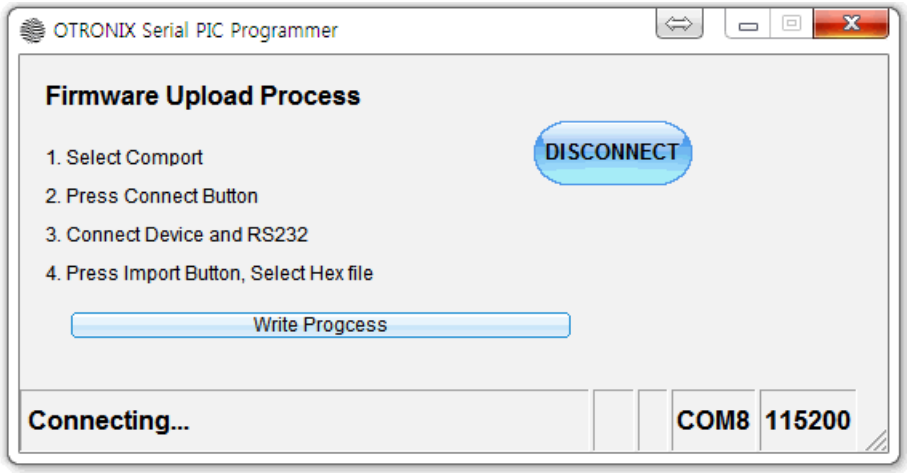
- Windows Program

1. After running the Windows program, click on the right button of the mouse and choose the serial prot.(Default : COM1)
2. Click on the right button of the mouse and set-up the Baudrate.

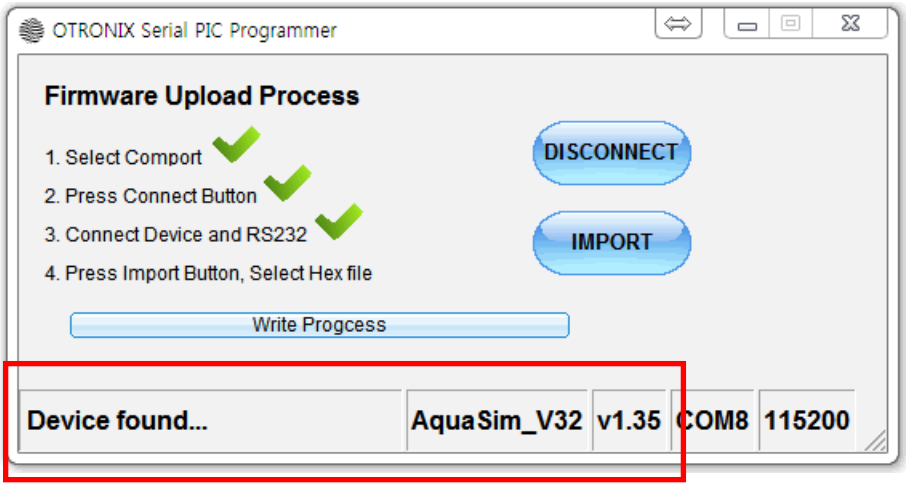
   (Default: 115200)



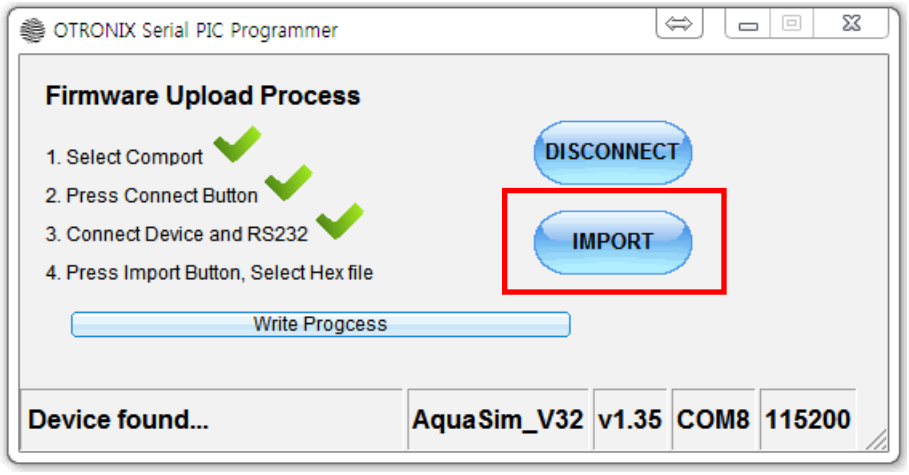
Click on the ‘connect’ button, and it will be in the connection stand-by mode.

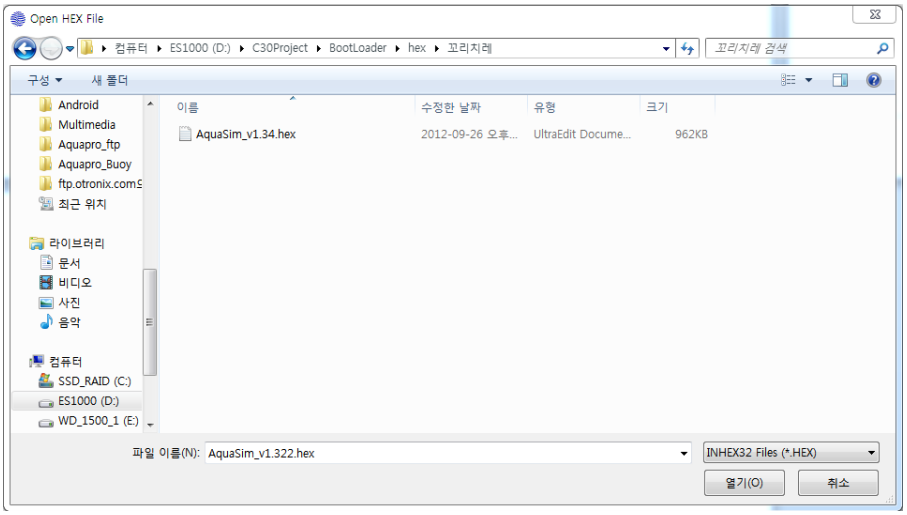


3. Connect Hydro Sim at the serial port. If it is connected successfully, the program recognize the Hydro Sim and ensure the name and its version.



4. Click on Import, import the firmware HEX file.



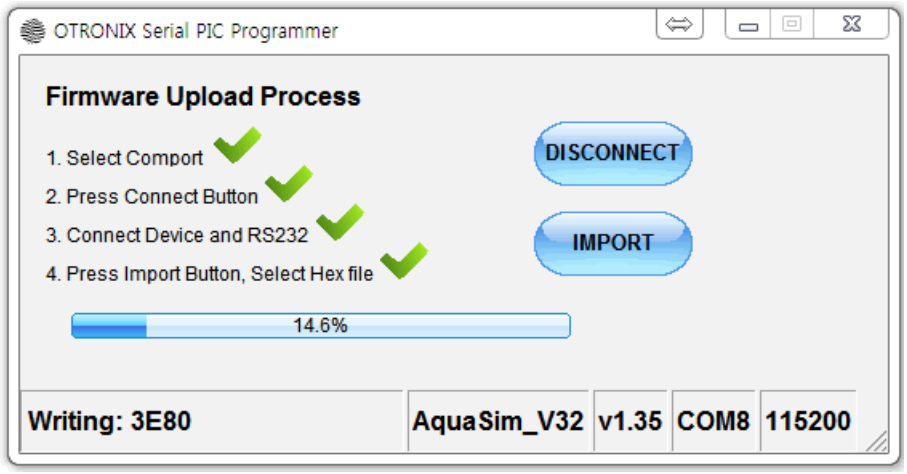


5. If Import is completed, it writes firmware HEX file automatically.

※Warning※

Do not disconnect COM port during Firmware Upload Process.

This action will give serious damage to HydroSimV2.



• How to Contact OTRONIX

If you have technical issue or questions involving a specific application or deployment with your instrument, Contact Otronix support team. support@otronix.com