

# Communication Packages: Manual Method



Diver USB Reading Unit



**Connect your PC, Laptop, or Pocket-PC to a Diver with the Reading Unit to:**

- Download data
- Program settings
- Start/Stop the Diver

Handheld connection



PC connection



## Communicate with any Diver

The USB Reading Unit can be used for programming, reading settings or data of the Diver. The conductivity sensor of the CTD-Diver can be calibrated using the USB Reading Unit. Connect the USB Reading Unit to the USB port of your PC, Laptop, or Pocket-PC (e.g. Archer). Simply insert the Diver into the base of the USB Reading Unit and you are ready to communicate with your Diver. The USB Reading Unit can be used in the field or the office and supports all Divers.

Note: Diver-Office/Diver-Pocket must be installed to be able to communicate with the Diver.

# DDC - Direct Diver Communication



Device connecting to  
(Handheld or PC)



Diver Mate or  
Diver USB InterfaceCable



Diver Cable with Diver

## Diver-Mate



Download data  
Program settings  
Start/Stop the Diver

## Handheld connection



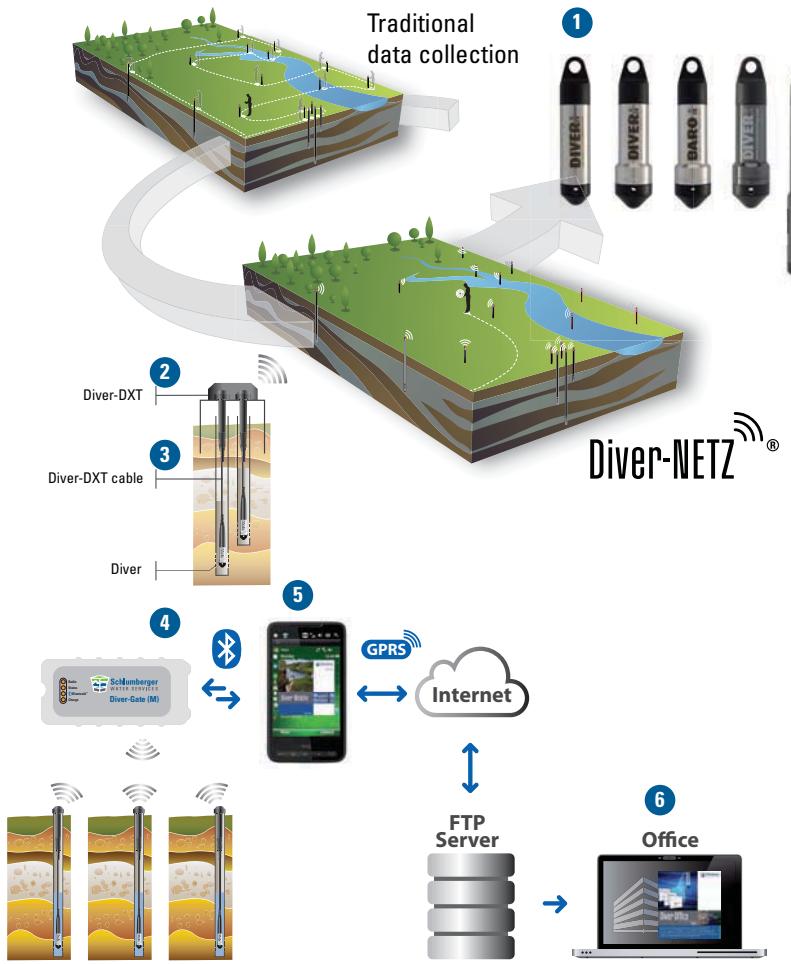
## PC connection



## Download Field Data

In the field, you can communicate between the Diver suspended on a DDC and your laptop or Pocket-PC (e.g. Archer) using the USB Interface Cable. Simply connect the Interface Cable to your laptop or Pocket-PC and attach the other end to the top of the DDC.

# Direct NETZ - Wireless



- Improved wireless communication over longer distances
- 360-degree homogenous radiation pattern
- Improved battery life of 5 years (depending on usages)
- Automatic barometric compensation
- Customizable cable lengths
- Water resistant housing



## Components of the system

**1. Diver-Suite:** Achieve precise measurements of groundwater levels, temperature, and conductivity with Diver dataloggers. The Mini-Diver®, Cera-Diver®, Micro-Diver®, CTD-Diver®, and Baro-Diver® are industry recognized, offering reliability and accuracy.

**2. Diver-DXT®:** The Diver-DXT makes the wireless communication possible. The water resistant housing contains a barometer for the logging of local barometric pressure. The Diver-DXT housing can be mounted on top of a 1 inch diameter well.

**3. DXT cable:** The DXT cable is mounted into the Diver-DXT housing using a heavy duty, water tight connector that allows you to adjust the cable length as needed.

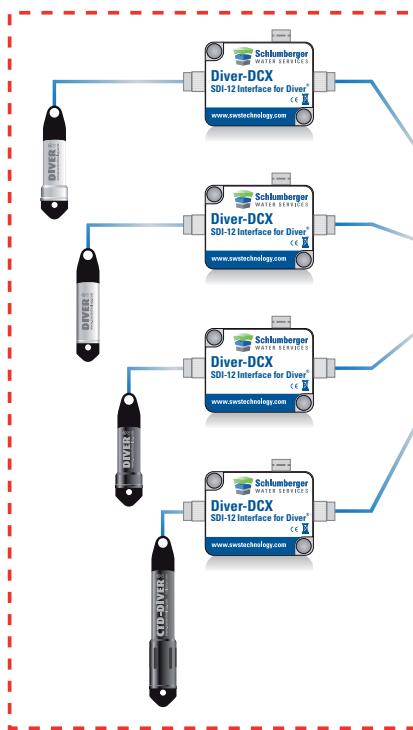
**4. Diver-Gate(M):** The portable Diver-Gate(M) provides the communication between the Diver-DXT and the smart phone device via a blue tooth connection.

**5. Diver-Mobile:** Diver-Mobile is a user-friendly smart phone application that allows you to remotely connect to deployed Divers, collect Diver data and transfer data to the office via cellular network.

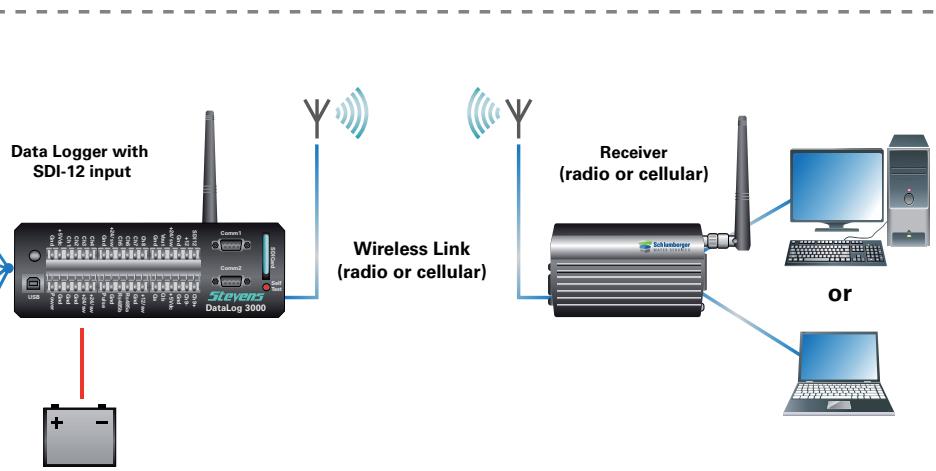
**6. Diver-Office® and Diver-Office Premium:** Easy-to-use desktop software for managing, analyzing and qualifying collected Diver data.

# DCX - Telemetry Communication

## SWS Interface



## SDI-12 Compatible Telemetry System



## Diver-DCX



- The SDI-12 interface for Divers
- Real-time Diver data
- Connect Divers to telemetry or SCADA systems
- Built-in barometric compensation
- Small size

## Diver-DCX Setup



**DCX Connections:**

- PC
- FTP
- WIFI
- Bluetooth
- GPRS
- Satelite

## Connect to Divers through Telemetry

The Diver Direct Communication eXchanger (Diver-DCX) is specifically engineered to integrate Divers into any SDI-12 compatible telemetry system. The Diver-DCX enables real-time digital transmission of water level and water quality data. The SDI-12 standard was developed to interface dataloggers with smart sensors for environmental data acquisition, and is used globally for applications in water resource management, industry, mining, and research.

# Additional Accessories

## Diver Copper Shield (DCS)



### BIO Fouling

#### What is Bio fouling?

Bio fouling or biological fouling is the undesirable accumulation of microorganisms, plants, algae, or animals on wetted structures. This is especially prominent in surface water monitoring in warm environments. Bio-fouling causes an algal growth on the electrodes of the CTD-Diver. This may affect the Conductivity Readings and increases the need for maintenance. Removing the biological materials from the electrodes can be damaging over a prolonged period of time and increase time spent in the field.

#### The Solution

There are many methods that can be used to prevent and remove the bioaccumulations. However, these methods can be expensive and detrimental to the environment. There is a lesser known natural solution that is a good match for the CTD-Diver and is effective at reducing the development of microorganisms. Schlumberger Water Services has developed a copper coil shield that will significantly reduce the growth of algae on the electrodes. Thus reducing the need for maintenance and decreasing the time spent on site.

### Examples

#### Examples of applications where the combination of Copper Shield and CTD would work:

- Surface Water (Freshwater or Saltwater)
- Tidal Fluctuations
- Salt Flats/Estuaries
- Septic or wastewater applications
- Landfills
- Seawater (Mooring) installations
- Aquaculture facilities
- Aquariums
- Some groundwater wells.

# Additional Accessories

## Heavy Duty Cable



### HD DDC

The Heavy Duty Diver Data Cable (HD DDC) is designed to work in many of the tough Environments standard cables won't. DDC HD has excellent resistance to Caustic and Acid concentrations that may be found in many downhole monitoring situations. This ruggedized cable works with all Diver types in our suite of dataloggers and doesn't require any special connectors (works the same as our standard offering).

Applications – Mine Sites, Landfill operations, Industrial, Remediation projects.