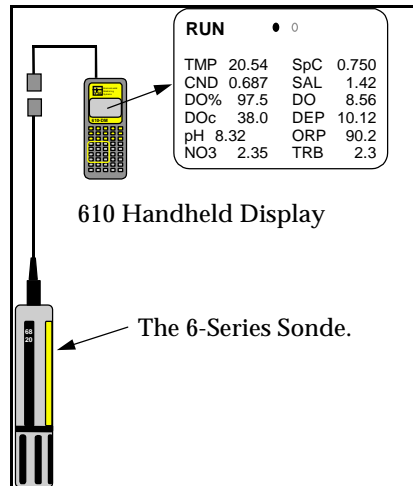# FIELD OPERATION GUIDE
YSI 610 DISPLAY/LOGGER

CONNECTING TO A SONDE

Since YSI 6-Series sondes do not have displays or controls, users must communicate to them with a PC or terminal and emulation device. The figure below is a diagram of the YSI 610 connected to any 6-series sonde.

RUN	● ○

TMP	20.54	SpC	0.750
CND	0.687	SAL	1.42
DO%	97.5	DO	8.56
DOc	38.0	DEP	10.12
pH	8.32	ORP	90.2
NO3	2.35	TRB	2.3

610 Handheld Display

The 6-Series Sonde.

Two slide plug cable adapters are available for the communications plug. One is for communication with a PC and terminates in a 9-pin miniature sub-D connector. When communicating with a PC, be sure to use a null modem cable. The other adapter is for use with a sonde and terminates in an 8 pin, military style connector. Plug the MS-8 end of the cable into the sonde and the other end into the YSI 610.

Power Jack Module

MS-8 Pigtail

DB-9 Pigtail

Null Modem Cable

AC Adaptor for 120 VAC
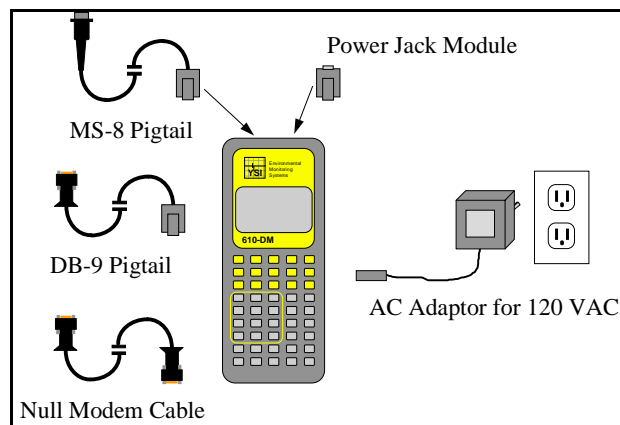
SAMPLING APPLICATIONS

Sampling applications refer to readings that are taken while the user is present and controlling the collection of data. In sampling applications the total data collection time is relatively brief, from a few minutes to perhaps a few hours.

The YSI 610 has several storage options for sampling applications. Because the interpretation and use of the Site List depends on which feature you use, we recommend that you choose one method that best suits your needs, learn that method and ignore the others. Storage options are:

STASH - Data are not intended to be uploaded to a PC. Data are stored in 26 slots, each referred to by letter (A-Z). Weather data scan be stored in the same way. From Run mode, press S then choose a letter (slot). To store Weather, Press W. To recall, press R.

ADD - For storing single sets of readings to an uploadable file. Only available on the 610-DM. From the Run mode, press "A". You may store as many readings as you like by pressing the A key repeatedly.

CAPTURE - For storing several consecutive readings to an uploadable file. Only available on the 610-DM. Capture stores readings to a file as quickly as they come from the sonde. From Run Mode press the C key to start Capture. Stop it by pressing C, Esc or Power.

MARK - For storing readings from many sites in a single, uploadable file. Only available on the 610-DM.

- The 610 stores all Marked data in a special file named "marked". The 610 stores a site number with each set of readings, not a site name.

- Only one weather entry is possible for the entire marked file. You cannot enter different Weather data for each site or for different days.

- Before using the Mark feature, you must define pairs of site names and site numbers in the Site List.

- All sets of readings in the marked file must have the same parameters.

- To store marked data in a different file, rename the current Marked file using 610 File System. The renamed file still contains a Mark Number for each set of readings. Additional marked data will be stored in a new file named "marked".
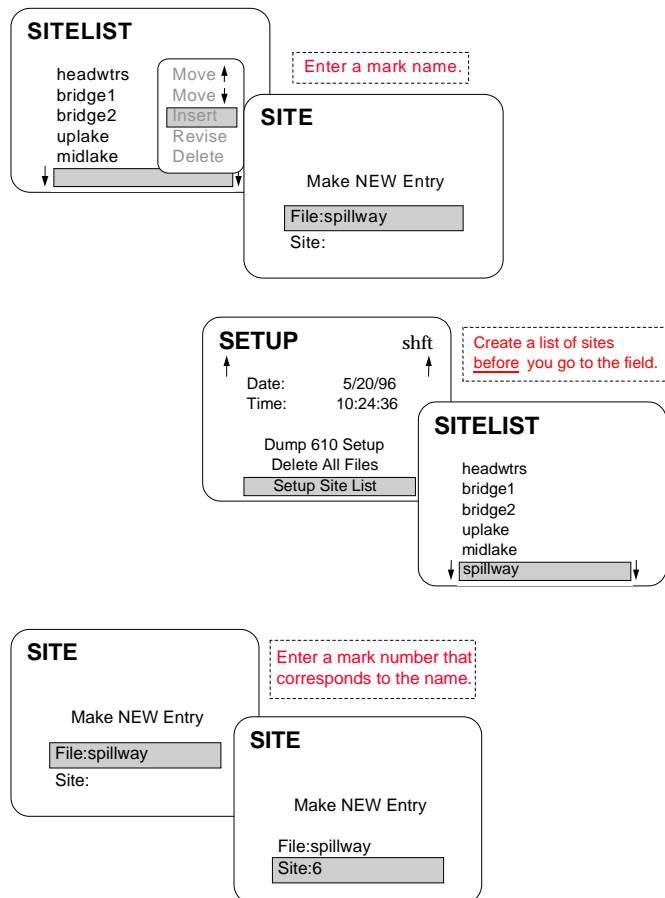
USING THE SITE LIST WITH THE MARKED FILE

The Site List is accessed through the Setup 610 menu. When using the Mark feature, there is only one filename, "marked". All readings that are stored using the "m" prompt during Run mode are stored to filename "marked".

You can not type in the word "marked" to create this file. You may rename "marked" file to a filename of your choice using submenu FILES.

In the Site List use the File item to hold the Mark Name, and the Site item to hold the Mark Number.
From Main menu choose Setup 610, then Setup Site List.

When in the field taking readings, from Run mode, you would press the "m" key, and a list would appear. Choose the site name to begin the process of collecting the readings.

Remember that when you review data from the "marked" file, lines of data from the site "spillway" will be labeled as "sample 6". Each of the sites will have corresponding numbers. When you set up the sites, write down the numbers for later reference.

SITELIST

headwtrs
bridge1
bridge2
uplake
midlake

Move ↑
Move ↓
Insert
Revise
Delete

Enter a mark name.

SITE

Make NEW Entry

File:spillway
Site:

SETUP   shft

Date: 5/20/96
Time: 10:24:36

Dump 610 Setup
Delete All Files
Setup Site List

Create a list of sites before you go to the field.

SITELIST

headwtrs
bridge1
bridge2
uplake
midlake
spillway

SITE

Make NEW Entry

File:spillway
Site:

Enter a mark number that corresponds to the name.

SITE

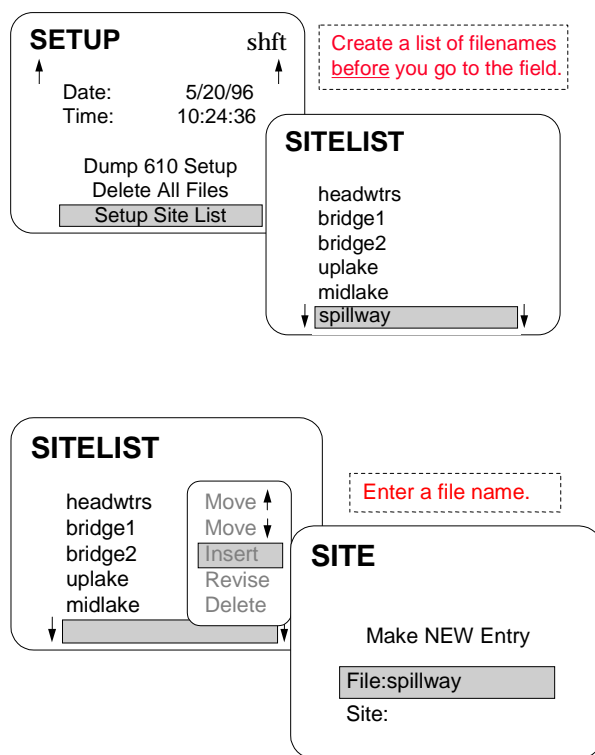Make NEW Entry

File:spillway
Site:6

3

USING THE SITE LIST FOR CAPTURE, ADD AND LOG FILES

From Main menu scroll to Setup 610, press Enter, then scroll to Setup Site List. To modify an existing site, press Enter, then choose from the pop-up menu. To enter a new site, choose Insert.

You may further describe your site by highlighting "Site:". This is not recommended if you don't intend to use the Mark feature.

There are different kinds of files for each of the three types of storage: Add, Capture and Log. The file type is fixed after the first set of readings is stored to the file.

```
SETUP                    shft        ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
↑                          ↑         │ Create a list of filenames │
    Date:         5/20/96           │ before you go to the field. │
    Time:        10:24:36           └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
                                 SITELIST
       Dump 610 Setup
       Delete All Files              headwtrs
       Setup Site List               bridge1
                                     bridge2
                                     uplake
                                     midlake
                                ↓  spillway              ↓
```

```
SITELIST

                        Move ↑         ┌ ─ ─ ─ ─ ─ ─ ─ ─ ┐
    headwtrs            Move ↓         │ Enter a file name. │
    bridge1            Insert          └ ─ ─ ─ ─ ─ ─ ─ ─ ┘
    bridge2            Revise    SITE
    uplake             Delete
    midlake
↓                ↓                         Make NEW Entry

                                          File:spillway
                                          Site:
```

LOGGING WITH THE 610-DM

The 610-DM can log sample data to its internal memory from any 6-Series sonde. Logging produces a file in the standard YSI file format capable of being uploaded to a PC and processed by PC6000 or EcoWatch for Windows.

When logging with the 610-DM, the 6000, 6920 and 600XLM sondes go to low power mode between logged samples. Other sondes do not. This has important consequences related to DO warm-up time. For logging sondes like the 6000, 6920 and 600XLM the DO warm-up should be set between 40 and 60 seconds (and a multiple

of 4 sec). On all other sondes, the DO warm-up should be set to 120 seconds. Be sure to recalibrate DO anytime you change the DO warm-up.

To begin logging select the Logging menu from the Main menu of the 610-DM. Choose Setup Header and set a file name and interval. Then choose 610 Logging. Stop logging by pressing Esc or Power.

SETTING UP THE 6000 FOR UNATTENDED LOGGING

From the 610 Main Menu choose Deploy, then unattended mode. Be sure that warm-up is set to 40-60 seconds, Specify a site and an interval. Unlike files and sites in the 610, in the 6000, the Site name and the File name are one in the same. Choose Stop Logging from the Deploy Menu to stop logging.

SETTING UP THE 6920 AND 600XLM FOR UNATTENDED LOGGING

Like the 6000, the 6920 and 600XLM are capable of logging readings to a file independent of any other device. To set up either of these sondes for logging, select Deploy Sonde from the Main menu.

The 610 communicates with the sonde's main menu. Choose Run and then choose Unattended Sample. You need only enter a filename, a logging interval and then choose the last item on the menu, Start logging. Unlike files and sites in the 610, in the 6000, the Site name and the File name are one in the same. Finally, the sonde asks for confirmation before actually starting the logging run. Logging will begin at the next even multiple of your logging interval.

UPLOADING LOGGED FILES FROM A 6000 TO A 610-DM

Uploading a file from a sonde does not change the file in the sonde in any way. Only formatting flashdisk will delete files. To upload the data in a file, you need not stop logging. If you get a "Busy" message, try again in a minute.

If you get a "No Sonde" message that persists for more than a 15 seconds, check the cabling, batteries or power, and baud rate.

From the Main menu go to the Communications menu and select Kermit 610 < Sonde. When you see the directory displayed, select the desired file and press Enter. If only one file exists inside the 6000, the upload will begin immediately.

During the upload, you will see several status counters on the 610 screen. But if the counters do not advance, press Esc to abort the upload, and try again. When the upload is done, you will see "Successful" on the 610 screen.

UPLOADING LOGGED FILES FROM A 6920 OR 600XLM TO A 610-DM

As mentioned in the previous section, you need not stop logging to upload file data. However, if the sonde is busy taking a reading, you may need to wait a minute before beginning the transfer of data.

From the Main menu go to the Communications menu and select Kermit 610 < Sonde. You will see the sonde's File menu. From that menu choose Upload. Select the file you want and then select Proceed. You will be asked what file format you want - PC6000 format is best for most applications. You will see several status counters on the 610 screen. But if the counters do not advance, press Esc to abort the upload, and try again.

When the upload is done, you will see "Successful" on the 610 screen.

TRANSFERRING FILES FROM THE 610-DM TO A PC

Run the EcoWatch or PC6000 program on the PC. Select the Sonde icon from EcoWatch's toolbar, or select Sonde from the PC6000 top menu bar, and press Enter. A message will indicate "No Sonde" is connected. Press Enter on the PC again to obtain a blank screen.

Connect the null modem cable to the appropriate PC comm port. Connect the other end of the null modem cable to the 610 DB-9 pigtail PC adapter.

From the 610 Main menu select Communications, then select Kermit 610 > PC. Select the file you wish to send, or select Send All Files (at the bottom of the list).

During the upload, you will see several status counters on the 610 and PC screens. But if the counters do not advance, press Esc at both the PC and the 610 to abort the upload, and try again.

Upload 610 Data Files to Lab Computer

Null Modem Cable

DB-9

6099 DB-9 Adapter

DB-9

610-DM

You will need...
❑ 610-DM
❑ 6099 DB-9 Adapter
❑ Null Modem Cable
❑ DB-9 to DB-25 Adapter <u>may</u> be needed at Com Port

610-D Menu

MAIN

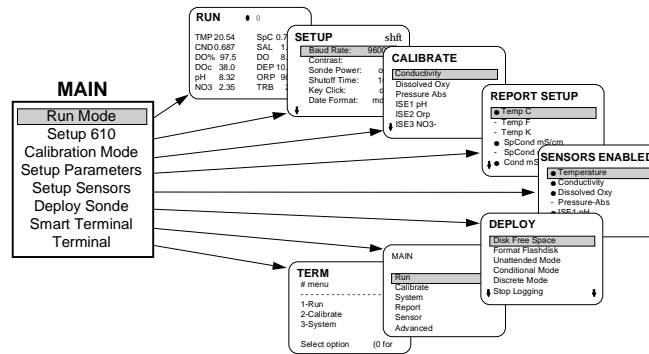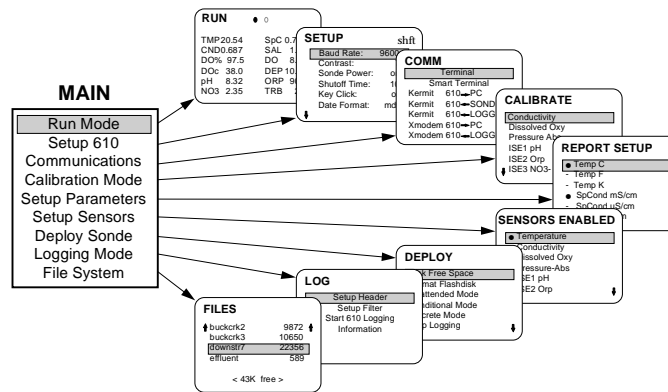| |
|---|
| Run Mode |
| Setup 610 |
| Calibration Mode |
| Setup Parameters |
| Setup Sensors |
| Deploy Sonde |
| Smart Terminal |
| Terminal |

RUN   ♦ 0

TMP 20.54   SpC 0.7
CND0.687   SAL 1
DO% 97.5   DO   8
DOc 38.0   DEP 10
pH   8.32   ORP 9
NO3 2.35   TRB

SETUP   shft

Baud Rate: 9600
Contrast:
Sonde Power: o
Shutoff Time: 1
Key Click: o
Date Format: m

CALIBRATE

Conductivity
Dissolved Oxy
Pressure Abs
ISE1 pH
ISE2 Orp
ISE3 NO3-

REPORT SETUP

● Temp C
- Temp F
- Temp K
● SpCond mS/cm
- SpCond
● Cond m

SENSORS ENABLED

● Temperature
● Conductivity
● Dissolved Oxy
- Pressure-Abs
ISE1 pH

DEPLOY

Disk Free Space
Format Flashdisk
Unattended Mode
Conditional Mode
Discrete Mode
Stop Logging

TERM   # menu

1-Run
2-Calibrate
3-System

Select option   (0 for

MAIN

Run
Calibrate
System
Report
Sensor
Advanced

610-DM Menu

MAIN

Run Mode
Setup 610
Communications
Calibration Mode
Setup Parameters
Setup Sensors
Deploy Sonde
Logging Mode
File System

RUN   ♦ 0

TMP20.54   SpC 0.7
CND0.687   SAL 1
DO% 97.5   DO   8
DOc 38.0   DEP 10
pH   8.32   ORP 9
NO3 2.35   TRB

SETUP   shft

Baud Rate: 9600
Contrast:
Sonde Power: o
Shutoff Time: 1
Key Click: o
Date Format: m

COMM

Terminal
Smart Terminal
Kermit   610→PC
Kermit   610→SOND
Kermit   610→LOGG
Xmodem 610→PC
Xmodem 610→LOGG

CALIBRATE

Conductivity
Dissolved Oxy
Pressure Ab
ISE1 pH
ISE2 Orp
ISE3 NO3-

REPORT SETUP

● Temp C
- Temp F
- Temp K
● SpCond mS/cm
- SpCond µS/cm

SENSORS ENABLED

● Temperature
Conductivity
Dissolved Oxy
Pressure-Abs
ISE1 pH
ISE2 Orp

DEPLOY

k Free Space
mat Flashdisk
ttended Mode
nditional Mode
crete Mode
p Logging

LOG

Setup Header
Setup Filter
Start 610 Logging
Information

FILES

♦ buckcrk2   9872 ♦
buckcrk3   10650
downstr7   22356
effluent   589

< 43K free >

7

YSI Incorporated
1725 Brannum Lane
Yellow Springs, Ohio 45387 USA
(800) 897 4151   (937) 767 7241
Fax: (937) 767 9353
http://www.ysi.com
e-mail: info@ysi.com

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