Application Note

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Sontek Argonaut

Introduction:
This application note details the usage of a Sutron 8210 with the Sontek Argonaut Acoustic Doppler Current Meter (Firmware Version 3.0) using the Internal Com port of the 8210.

Required Equipment:

1 - 8210 with Version 4.3 software or higher
1 - Sontek Argonaut - SL (Firmware Version 3.0)
1 - Argonaut com and power cable
1 - Argonaut.BAS Tiny basic program
1 - PC or laptop with a serial port
1 - standard serial cable

Communicating with the Argonaut:
The Argonaut cable has a female 9-pin connector for communication. Communication with the Argonaut is very simple. Connect the serial cable of the Argonaut with your PC Serial port (Com1 or Com2). You can use TS8210.exe to communicate with the Argonaut. Enter '+++' to enter command mode.

The argonaut should be configured and set in Data Acquisition mode or Deployment mode before connecting to the 8210. Following is a set-up to connect the Argonaut in Data Acquisition mode before connecting it to the internal serial port of the 8210. For more detailed sensor setup and commands refer to section 2 of the Sontek Argonaut Operating Manual. The Argonaut can be used in Auto mode or Polled mode. Here it is used as Polled mode. Following parameters should be set in the Argonaut to operate it in "POLLED" mode.

1) AutoSleep ***OFF***
2) OutMode ***Polled***
3) OutFormat ***ASCII***
4) DataFormat ***Long***
5) AI ***60*** (Averaging Interval 60 seconds)
6) SI 9***00*** (Sampling Interval 900 seconds)

Now make sure that the time, date are current and all other related parameters are set according to your requirements.

5) SaveSetup
6) start (Puts the argonaut in Data Acquisition Mode)

To verify that the Argonaut is in the Data Acquisition mode Type "o" on the screen and one should see the entire data string (In this case Short Data Format) on your screen. Refer to Argonaut ASCII Data Output -Short Data Format on page 30 section 2 of the Operations Manual.

Once the Argonaut is in the Data Acquisition disconnect the Argonaut serial cable from the PC/laptop and connect it with a 9-pin M/M Gender Changer and then connect it to the Internal COM port of the 8210.

8210 Setup:
The 8210 must be setup properly for the tiny basic program to read and decode the data so that the 8210 can store it in the log. Sensor names which start with a "#" are sensors which have been renamed in the Enable Sensors menu of the 8200.

System Setup:
Download the 8210 Setup File Sontek.Set.

Tiny Basic Program:
Upload the Tiny Basic Program Sontek.Bas to the 8210.

The basic program must be loaded into the 8210 before data collection can begin. The first operation is to check / set the BasicSize in the EEROM setup menu. This value must be set at 2 KB or greater.

Once this has been set, the basic program must be Uploaded into the 8210. To upload the program, select the Upload / Download option from the 8210 main menu. Now select the Transfer Basic Program option and begin your upload from the communications software. Please refer to the 8210 Operations Manual for further details.

Note : The program is written to use the Sontek Argonaut in 'Polled' mode.

Tiny basic Program

```
10 'READ SONTEK - INTERNAL COMPORT
20 'MODIFIED BY ASHISH RAVAL 3-16-1998
30 'VERSION 1.0
40 'AUTOSLEEP - OFF, OUTMODE - POLLED
50 'UNIT IN DATA ACQUISITION MODE
60 'SONTEK - Averaging Interval 1 Minute - Sample Interval 15 Minutes
70 'Tiny Basic runtime every 15 minutes
80 #year=99 : #month=99 : #date=99 : #hour=99 : #minute=99
90 #second=99 : #vel1=99 : #vel2=99 : #vel3=99 : #stddev1=99
100 #stddev2=99 : #stddev3=99 : #ss1=99 : #ss2=99 : #ss3=99
110 #Mhead=99 : #Mpitch=99 : #Mroll=99 : #Mtemp=99 : #Mpress=99
120 #STDpress=99 : #Pings=99 : #Pwrlvl=99 : #startSV=99 : #EndSV=99
130 OPEN "COM:" : IF Err THEN GOTO 500
140 Control 1, 2: Control 11, 9600
150 Control 5 'clear the serial buffer
160 SETTIMEOUT 5
170 Print "O"
180 #year=input(0)
190 #month=input(0)
200 #date=input(0)
210 #hour=input(0)
220 #minute=input(0)
230 #second=input(0)
240 #vel1=input(0)
250 #vel2=input(0)
260 #vel3=input(0)
270 #stddev1=input(0)
280 #stddev2=input(0)
290 #stddev3=input(0)
300 #ss1=input(0)
310 #ss2=input(0)
320 #ss3=input(0)
330 #Mhead=input(0)
340 #Mpitch=input(0)
350 #Mroll=input(0)
360 #Mtemp=input(0)
```

```
370 #Mpress=input(0)
380 #STDpress=input(0)
390 #Pings=input(0)
400 #Pwrlvl=input(0)
410 #startSV=input(0)
420 #EndSV=input(0)
430 Control 2
440 Close
450 IF #YEAR<>1998 THEN #ERROR=#ERROR+1 : GOTO 130
460 print #year,#month,#date,#hour,#minute,#second,#vel1,#vel2,#vel3,#stddev1,#stddev2,
#stddev3,#ss1,#ss2,#ss3,#Mhead,#Mpitch,#Mroll,#Mtemp,#Mpress,#STDpress,#Pings,#Pwrlvl,
#startSV,#EndSV
470 #result=0
480 if #vel1<0 then goto 600
490 #result=sqr((#vel1*#vel1)+(#vel2*#vel2))
500 Stop

600 #result=-sqr((#vel1*#vel1)+(#vel2*#vel2))
610 Stop

65100 #error=0 : stop
```