

Appendix (A):

Microcontroller code (Bascom-AVR language)

\$regfile = "m32def.dat"

\$crystal = 8000000

Baud = 19200

Config Porta = Input

Config Portb = Output

Config Portc = Output

Config Timer1 = Timer, Prescale = 1

Config Int0 = Low Level

Enable Timer1

Enable Interrupts

Enable Int0

On Int0 Int0_int

On Ovf1 Ccc

Dim A As Byte

Dim B As Byte

Dim X As Byte

Dim Y As Byte

Start Timer1

Mm:

GoTo Mm

End

Ccc:

Stop Timer1

A = Pina

Portb = Not A

Select Case A

Case 248:

B = 1

Print "Water Level 3"

Print "Pump Station Off"

Waitms 50

Case 254:

Print " Water Level 1"

Waitms 50

Case 252:

Print "Water Level 2"

Waitms 50

Case 255:

B = 0

Print "Water Level 0"

Print "Pump Station On"

Waitms 50

Case 247:

B = 2

Print " Light On"

Waitms 50

Case 246:

B = 2

Print " Light On"

Waitms 50

Case 244:

B = 2

Print " Light On"

Waitms 50

Case 240:

B = 2

Print " Light On"

Waitms 50

Case 231:

B = 2

Print " Light On"

Waitms 50

Case 230:

B = 2

Print " Light On"

Waitms 50

Case 228:

B = 2

Print " Light On"

Waitms 50

Case 224:

B = 2

Print " Light On"

Waitms 50

End Select

Portc = B

Start Timer1

Return

Int0_int:

Portc = 0

Portb = 3

Print " Light Off"

Return