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## Visonic DL-125C Dialer Operation Notes MultiLogger Application Note #8

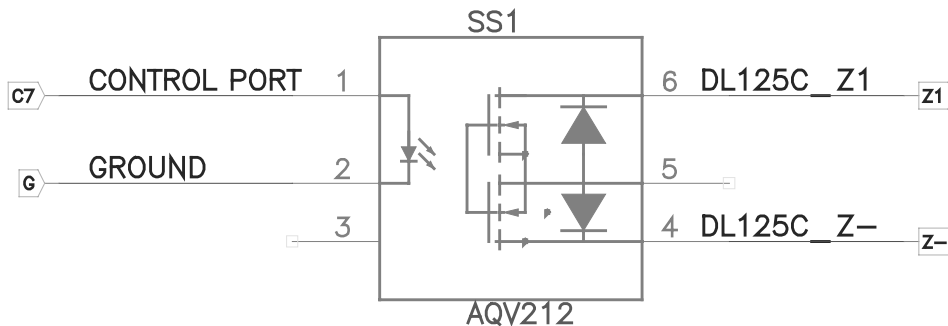
### Overview

The DL-125C is a two channel programmable speech dialer. Each channel can be reported to 4 different phone numbers, or both events can be reported to the same 4 telephones. The front-panel keypad facilitates programming of the calling numbers, configuration of the various operation parameters and testing of the alarm functionality. This Application Note provides interface information to use the DL-125C with the Campbell based datalogging systems, MultiLogger programming guidelines and select dialer operation details.

See the DL-125C Installation Instructions for additional information on the operation of the dialer.

### Interface Information

The DL-125C is designed to accept relay inputs, or switch closures, to trigger the alarm channels. An interface must be provided to convert the digital outputs of the control module to an acceptable relay type input. This is best accomplished using an optically isolated solid-state relay, an example is shown below. Contact Canary Systems or your system vendor to obtain this interface circuit.



The DL-125C draws approximately 10mA in its quiescent state, this should be considered as it relates to the operating time of the system while operating solely on battery power.

## MultiLogger Configuration

There are basically three steps to activating the use of the DL-125C.

First, each measurement channel must be configured with the appropriate Alarm Type in the channel configuration form, an example is shown below.

Channel Configuration Multiplexer #1

CHANNEL 1

Label: Mux\_1CH\_1  
Description: Mux\_1CH\_1  
Gage Type: Vibrating Wire  
Make: Generic  
Model: High Freq-12V

Units Conversion  
Units Type: Default  
Input Units: None  
Output Units: None

Conversion Method  
 Linear  Polynomial

Linear Coefficients  
Zero Reading: 0.0  
Gage Factor: 1.0000  
Offset: 0.0

Polynomial Coefficients  
Coefficient A: -.00914  
Coefficient B: -1.898  
Coefficient C: 20.12

Upper Channel (16CH Mode Only)  
Label: Mux\_1CH\_1Temp  
Device: Thermistor-C  
 Apply Temperature Correction  
Initial Temp: 0.00  
Temp Factor: 0.000

Check Alarms  
Type: Low and High  
Low Limit: 10.00  
High Limit: 20.00

Print Help Cancel Accept

Second, the Visonic **Alarm Action** on the Configuration form must be selected, as shown below.

MultiLogger - Edit Configuration

File Program Configure Function Help

Zero Update Collect Monitor Stop Clear Test Info Data

Configuration Data Collection Text Monitor Graphical Monitor Terminal

Project Path: C:\PROGRAM FILES\MULTILOGGER\  
Configuration File: CR10X2.cfg  
Download File: CR10X2.dld  
Datalogger Model: Campbell CR10X  
Datalogger ID: 100

Last Updated:   
Data Output: Always  
Alarm Action: Visonic-C7  
Storage Device: None

Interval Type  
 Single Interval: 300 (seconds)  
 Logarithmic Intervals (see table)  
 Special Read Times (see table)

Start and Stop Times  
 Use Start Time: Month Day Hour Minute  
1 1 12 0  
 Use Stop Time: 1 1 12 0

Read Times

Enable Read Time	Time
<input type="checkbox"/> Enable Read Time #1:	12:00
<input type="checkbox"/> Enable Read Time #2:	12:00
<input type="checkbox"/> Enable Read Time #3:	12:00
<input type="checkbox"/> Enable Read Time #4:	12:00
<input type="checkbox"/> Enable Read Time #5:	12:00
<input type="checkbox"/> Enable Read Time #6:	12:00
<input type="checkbox"/> Enable Read Time #7:	12:00
<input type="checkbox"/> Enable Read Time #8:	12:00

Logarithmic Intervals Table

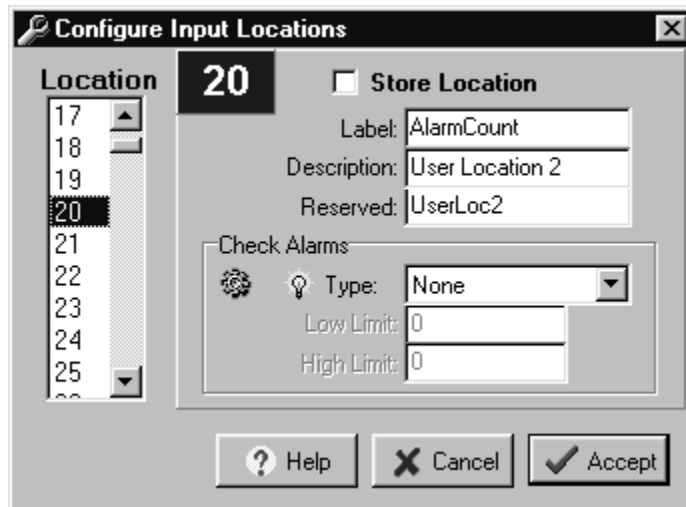
Log Interval	Length	Iterations
Log Interval #1:	30	20
Log Interval #2:	60	40
Log Interval #3:	120	25
Log Interval #4:	300	80
Log Interval #5:	600	50
Log Interval #6:	1200	25
Log Interval #7:	2400	10
Log Interval #8:	3600	0

Note: The Visonic-C1, Visonic-C2, Visonic-C7 and Visonic-C8 options are installed with version 2.0.11 or higher of MultiLogger. Contact Canary Systems or your software vendor to obtain assistance installing this option with an older version.

Following are the specific operation details of these Alarm Actions:

- A single channel of the dialer is used, the option Visonic-C7 uses control port 7 for activation, Visonic-C8 uses control port 8.
- The number of consecutive alarms can be specified, the default is 6. This prevents alarm activation due to a spurious reading. See the section Instruction File for directions to modify this value.
- The dialer will not re-activate until the system is called using MultiLogger and the alarm flag is reset. This is accomplished by clicking on flag 1 in the Text Monitor screen while the Monitor Mode is active.

Third, the input location used by the control module to track the consecutive alarms must be configured. This is done by selecting the menu option **Program | Input Locations**. Advance to location 20 and change the Label to AlarmCount, as shown below.



Press **Accept** to save the changes.

## **Instruction File**

The instruction file can be loaded into the editor by clicking the gear button located to the left of the drop down list.

A listing of the instruction file **visonic\_c7.ins** is shown below. Note the third parameter of the instruction P89, this specifies the number of consecutive alarms required before the dialer will be activated. The default is 6, this is based on the current Single Interval being used, for example if the Single Interval is set to 300, or 5 minutes, then the alarm must be active for 30 minutes before the dialer will be activated.

```
P86 Do ;Do Instruction
01:[57 ] Command Code Option (Set Port 7 Low);Set port 7 low (reset the
alarm)

P91 If Flag/Port ;Check flag 8
01:[18 ] Flag/Port Options (Do if Flag 8 is High);if high (alarm enabled)
02:[30 ] Command Code Option (Then Do) ;then do

P91 If Flag/Port ;
1:[21 ] Flag/Port Options (Do if Flag 1 is Low) ;
2:[30 ] Command Code Option (Then Do) ;

P32 Z=Z+1 ;
1:[AlarmCount ] Z Loc ;

P89 If (X<=>F) ;
1:[AlarmCount ] X Loc ;
2:[3 ] Comparison Code Option (>=) ;
3:[6 ] F ; set consecutive alarms here
4:[30 ] Command Code Option (Then Do) ;

P86 Do ;
1:[11 ] Command Code Option (Set Flag 1 High) ;

P86 Do ;
1:[47 ] Command Code Option (Set Port 7 High) ;

P22 Excitation with Delay ;
1:[1 ] Ex Channel ;
2:[0 ] Delay W/Ex (units = 0.01 sec) ;
3:[200 ] Delay After Ex (units = 0.01 sec) ;
4:[0 ] mV Excitation ;

P86 Do ;
1:[57 ] Command Code Option (Set Port 7 Low) ;

P30 Z=F ;
1:[0 ] F ;
2:[0 ] Exponent of 10 ;
3:[AlarmCount ] Z Loc ;

P95 End ;

P95 End ;

P94 Else ;

;Reset alarms if alarm is low - ensures consecutive alarms
P30 Z=F ;
1:[0 ] F ;
2:[0 ] Exponent of 10 ;
3:[AlarmCount ] Z Loc ;

P95 End ;
```

## Visonic Operation Notes

See the DL-125C Installation Instructions for complete information on installation and programming of the Visonic dialer. This section presents a brief overview of the commonly used programming techniques.

The DL-125C employs a non-volatile EEPROM, which stores programmed data and keeps it intact even during power failures. Programming is carried out from the keypad by entering the desired variables or by setting logic flags. Every variable is programmed into a specific location in the memory, and each location is identified by a LOCATION NUMBER. A set of default parameters is programmed at the factory and saved in the **EEPROM**, but you may change these at will. The programming format consists of the following successive entries: **[PROG] <LOC> [#] <VAL> [#]**

**[PROG]** and **[#]** are keys provided on the keypad. **[PROG]** starts the programming sequence and **[#]** confirms the preceding entry. **<LOC>** is the location number. A leading zero may be ignored, so Location 06 may be entered as a single digit – **<6>**. **<VAL>** is the value or code entered into the selected location. A telephone number location will "blank out" if you go through the programming process as in B above but skip the telephone number. The deleting format is therefore: **[PROG] <LOC> [#] [#]**

**Note:** The number already programmed into any location between 1 and 8 may be verified by using the following format: **[PROG] <LOC> [\*]**

This initiates a communication session with the particular telephone, and provides a chance to verify correctness of the programmed phone number.

The table below lists the available locations and default settings.

Location	Description	Limit	Programming Format	Default
1	1st telephone number associated with input Z-1	20 digits	[PR] [1] [#] [Num] [#]**	None
2	2nd telephone number associated with input Z-1	20 digits	[PR] [2] [#] [Num] [#]**	None
3	3rd telephone number associated with input Z-1	20 digits	[PR] [3] [#] [Num] [#]**	None
4	4th telephone number associated with input Z-1	20 digits	[PR] [4] [#] [Num] [#]**	None
5	1st telephone number associated with input Z-2	20 digits	[PR] [5] [#] [Num] [#]**	None
6	2nd telephone number associated with input Z-2	20 digits	[PR] [6] [#] [Num] [#]**	None
7	3rd telephone number associated with input Z-2	20 digits	[PR] [7] [#] [Num] [#]**	None
8	4th telephone number associated with input Z-2	20 digits	[PR] [8] [#] [Num] [#]**	None
9	Inaccessible to installers or users			
10	Inhibit or permit the listen-in function: <b>0 - inhibited; 1 - permitted</b>	0 or 1	[PR] [10] [#] [Code] [#]	1
11	Select Dialing method: <b>0 - DTMF; 1 - Pulse</b>	0 or 1	[PR] [11] [#] [Code] [#]	0
12	No. of dialing attempts for alarms at input Z-1	1 - 16	[PR] [12] [#] [Num] [#]	4
13	No. of dialing attempts for alarms at input Z-2	1 - 16	[PR] [13] [#] [Num] [#]	4
14	Delay (in seconds) between trigger and action (to permit the user to clear a false alarm)	1-255	[PR] [14] [#] [Sec] [#]	3
15	Order of transmission of message segments: <b>0 - alarm type segment first;</b> <b>1 - identification segment first</b>	0 or 1	[PR] [15] [#] [Code] [#]	1
16-19	Inaccessible to installers or users			
20	Number of recorded message repeats	1-255	[PR] [20] [#] [Num] [#]	4
21	Listen-in duration (in seconds)	1-255	[PR] [21] [#] [Sec] [#]	60
22	Z-1 input definition (Z-1 logic): <b>0 - N.O.; 1 - N.C.</b>	0 or 1	[PR] [22] [#] [Code] [#]	0
23	Z-2 input definition (Z-2 logic): <b>0 - N.O.; 1 - N.C.</b>	0 or 1	[PR] [23] [#] [Code] [#]	0
24	Selection of Backup or Non-backup reporting <b>method:</b> <b>0 - non-backup; 1 - backup</b>	0 or 1	[PR] [24] [#] [Code] [#]	0

### To record voice messages:

AL-1 Press **#**, then press **AL-1** and hold while reading the message aloud. Release AL-1 when finished.

AL-2 Press **#**, then press **AL-2** and hold while reading the message aloud. Release AL-2 when finished.

### **Visonic Call Sequence**

**Note:** In this section, location numbers identify "memory cells" that retain programmed parameters. Once triggered into action, the DL-125C introduces a programmed pre-dialing pause (see Location 14). Then it disconnects the local telephone set and engages the telephone line. The DIAL LED lights and the process continues as follows:

- A. The dialer starts dialing if uninterrupted tone is detected for 2 seconds (see C below). If 5 seconds elapse with no dial tone –the dialer disengages the line, waits 5 seconds and tries again. If another 5 seconds go by without dial tone, the dialing procedure starts anyway (see B below).
- B. The dialer checks whether a letter is programmed as a prefix to the first telephone number. Letter prefixes impose an additional delay before dialing. The dialer introduces the required delay (if any) and then starts dialing.
- C. The dialer dials the programmed number. During dialing, the LED either remains lighted (DTMF dialing) or flashes (pulse dialing), depending on the dialing method selected. After dialing, the dialer pauses for 5 seconds and transmits the message prepared for the called party associated with the input that had been triggered.
- D. The dialer now waits 3 seconds for the called party to acknowledge (the acknowledge signal is DTMF "1").
- E. Upon receiving the acknowledge signal, the dialer removes the presently contacted telephone from its task list for the current event. If the "listen in" function is permitted (see Location 10) it will continue as in Paragraphs F and G below. If not, the dialer will go "on hook" and proceed to dial the next number.

**Note:** Without an acknowledgement, the message will be repeated until the maximum number of message repeats is reached (see Location 20). The DL-125 will call the remaining numbers and will then repeatedly retry the number that didn't acknowledge, until the maximum number of dialing attempts is reached (see Locations 12 and 13).

- F. After acknowledgement, the dialer enables the "listen in" function for a preprogrammed period.
- G. At the end of the listen-in period, a short beep sounds. If the called party keys "1" within 10 seconds, a new listen-in period begins. Otherwise, the dialer will go "on hook". The listen-in period may be prolonged as many times as necessary or terminated at any time by keying "9" twice in succession.
- H. Upon conclusion of the communication session with the first telephone, the procedure in A through G above will be repeated for all remaining telephone numbers in the relevant