Examples of class change inputs

Technical Data Sheet

Introduction

A common requirement is for the fire panel to turn on some sounders or relays under control of an external non-latching input and automatically "reset" when this signal is removed. The following gives two common examples for "Class change" situations

Example 1

- The class change alarm signal is initiated from a clean-contact external input.
- The panel display is to indicate that a class change signal is present
- Sounder circuit "A" is to pulse whenever the class change signal is present.

Example 2

- The class change alarm signal is initiated from a clean-contact external input.
- The panel display does not change when the input is activated.
- Sounder circuit "A" is to pulse whenever the class change signal is present.

Example 3

- The class change alarm signal is initiated from a clean-contact external programmable timer input that closes the contact for 1-minute.
- The panel display does not change when the input is activated.
- Sounder circuit "A" is to pulse for 10-seconds whenever the class change signal input is activated and then automatically turn off.

Wiring the External Input

The external input can be wired to either:

a) One of the 8 programmable panel inputs. An 8-way input terminal board with built in filters is available for the MX4200 & MX4400 panels – part no MXP-014 or
b) A switch input on any of the loops. For example, an Apollo 'switch monitor' unit, or a Hochiki SIO unit.

The choice is simply dependant upon the required speed of response (e.g. panel inputs are faster than loop inputs) and convenience of wiring. The time it takes for the panel to recognize the status change on the input is shown in the table below. Take care to ensure that the type of input and the time response meet the operational requirements.

Input Type	Time to Activate (Typical)	Time to De-activate (Typical)
Panel Switch Input	< 1 second	< 1 second
Apollo Switch Monitor	8 to 16 seconds	8 to 16 seconds
Apollo Switch Monitor Plus	2 seconds	8 to 16 seconds
Hochiki Input Monitor	3 seconds	3 seconds

The examples below shows a panel input being used for the class change input. Simple zonal programming is used in these examples, but programming by individual Input Events can also be used if required.

There are many alternative forms of "Class Change" application. Please contact Technical Support if your application has differing requirements to these examples.

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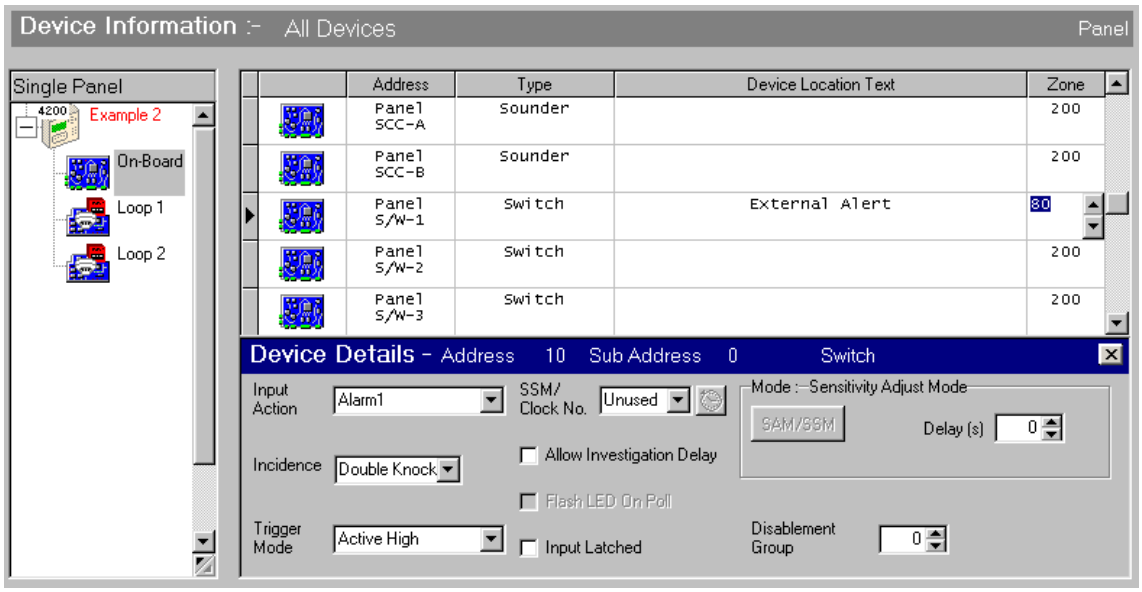
Example 1 – Define the Class Change Input

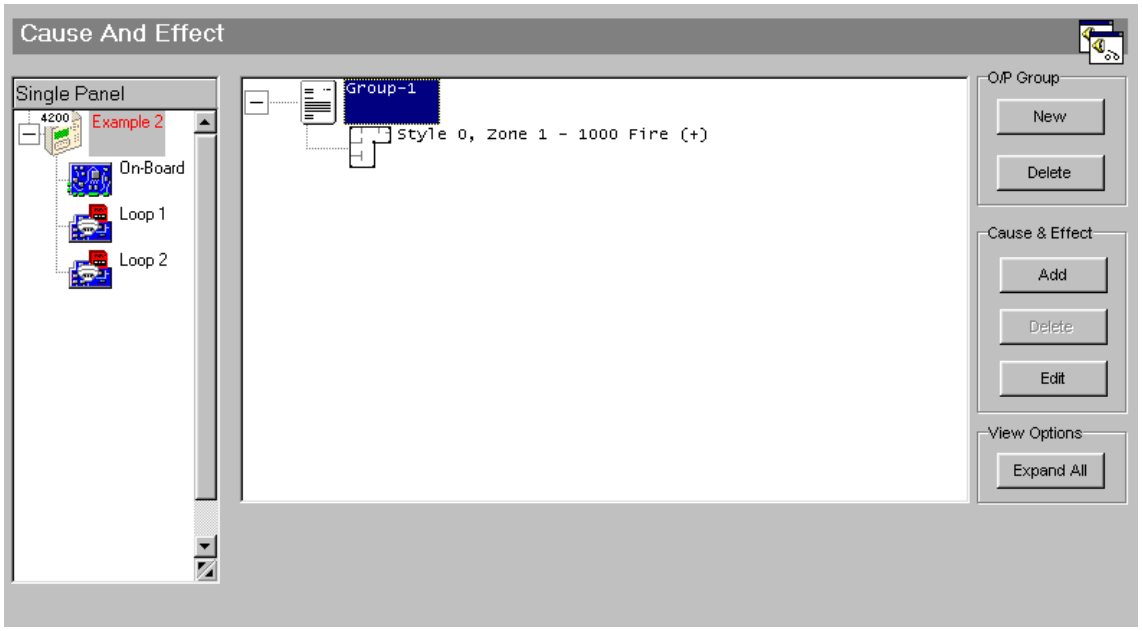


In this example:

- The “Action” of the input has been changed from the standard fire input to an “alarm” input.
- Unlike standard fire inputs, the “Input latched” box is NOT ticked, allowing the panel to automatically reset once the signal is removed.
- “External Alert” has been entered as the device text (Use any text that is appropriate for your application). This will be displayed on the panel whenever the class change input is activated.
- The input has been assigned to a unique zone (in this example 80, but any number that does not conflict with a fire zone can be used – text can also be assigned to this zone as required).

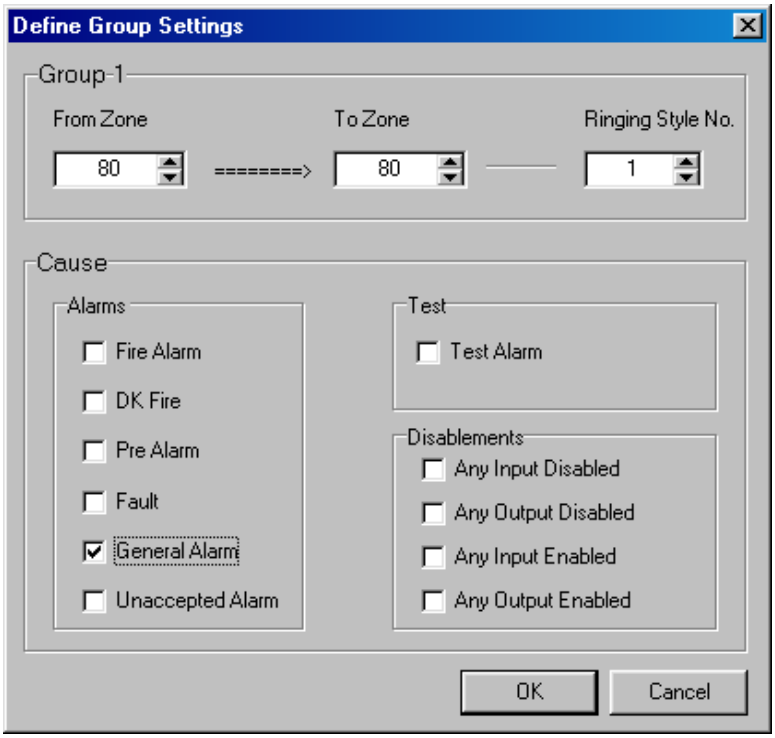
Example 1 - Programming the Outputs

The default for the outputs in group-1 (i.e. sounder circuit A) is shown below.



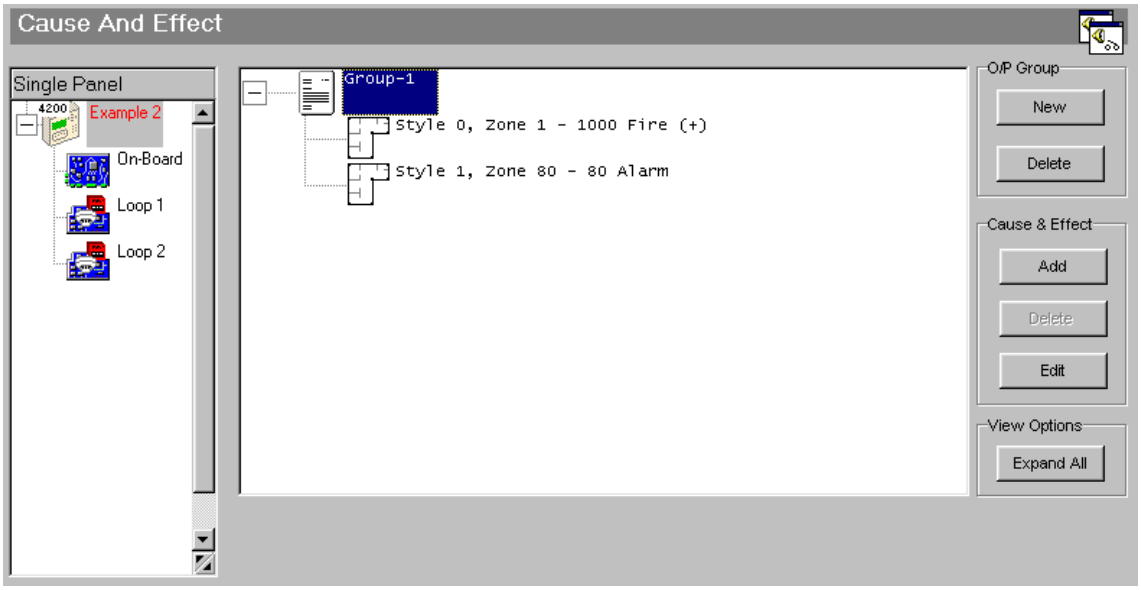
To this we must now add the additional requirement for this group of outputs to turn on for the class change alarm (In the above example, this is an alarm from zone 80).

To add the alarm condition, select the “Add” option and define the additional group settings as shown below: -



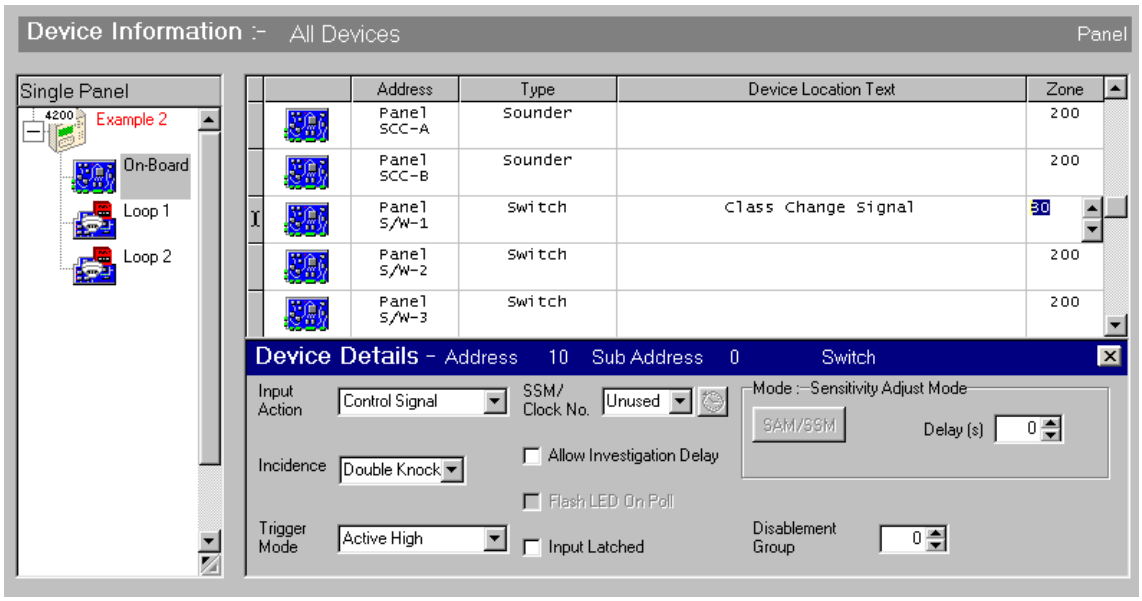
Note that the zone range has been defined just for zone 80, and the “General Alarm” has been selected as the “Cause”. In this example the ringing style has been set to 1, but any other ringing style can be used as appropriate. Select “OK”.

The total Cause and Effects List for group 1 will then show as:



Example 2 – Define the Class Change Input

This is an example where the “Class change” does not represent an alarm condition and does not want to be shown on the display.

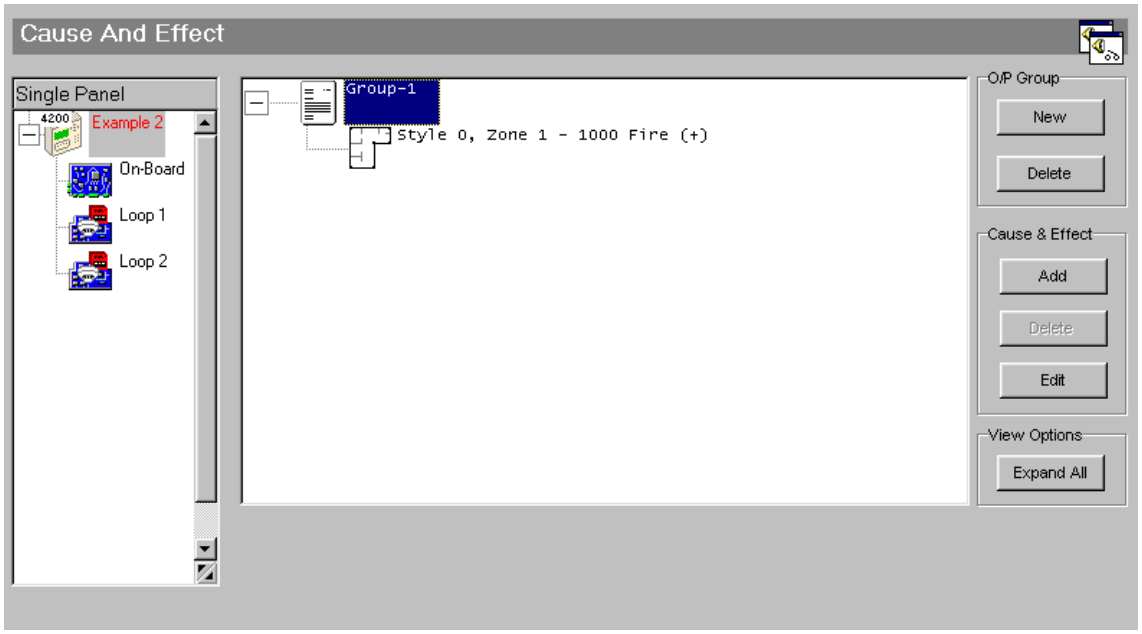


In this example:

- The “Action” of the input has been changed from the standard fire input to a “Control Signal” input.
- Unlike standard fire inputs, the “Input latched” box is NOT ticked, allowing the panel to automatically reset once the signal is removed.
- “Class Change Signal” has been entered as the device text (This will only be displayed at the panel if inputs are manually selected).
- The input has been assigned to a unique zone. In this example 80, but any number that does not conflict with a fire zone can be used – text can also be assigned to this zone as required.

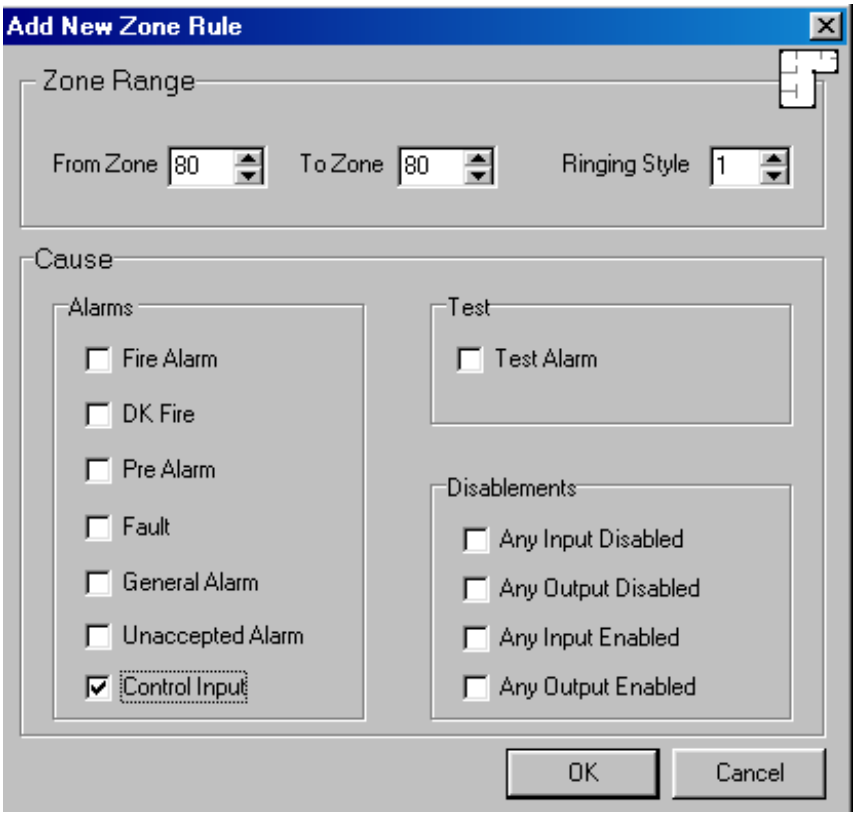
Example 2 – Programming the Outputs

The default for the outputs in group-1 (i.e. sounder circuit A) is to turn on for any fire.



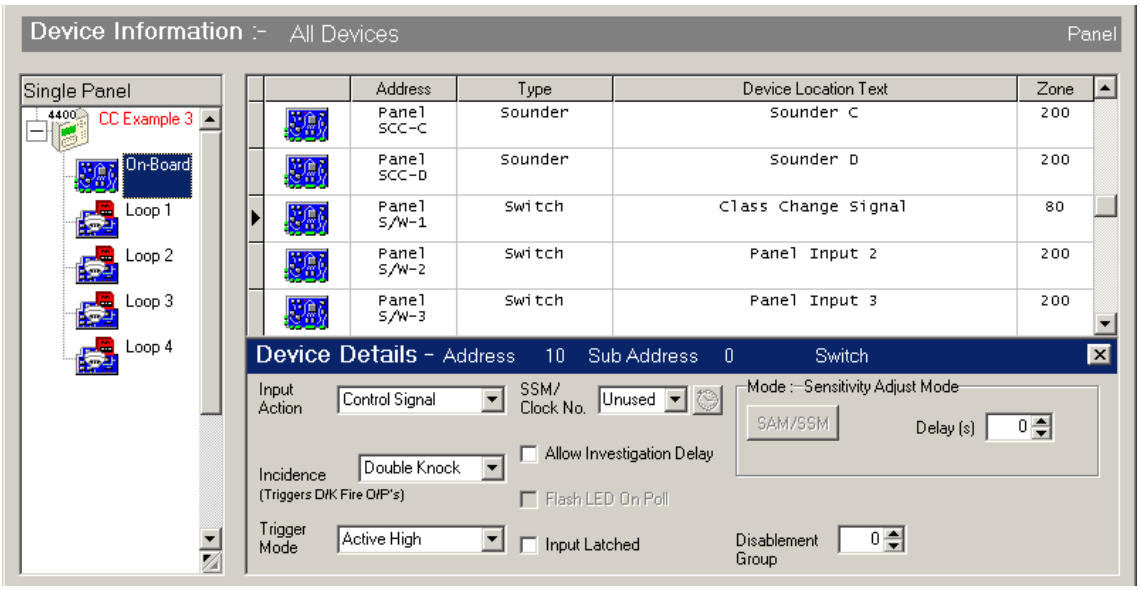
To this we must now add the additional requirement for this group of outputs to turn on for the class change signal (In this example, this is a “Control Signal” from zone 80).

To add the control condition, with the group highlighted, select the “Add” option and define the additional group settings as shown below: -



Example 3 – Define the Class Change Input

This is an example where the “Class change” does not represent an alarm condition and does not want to be shown on the display.

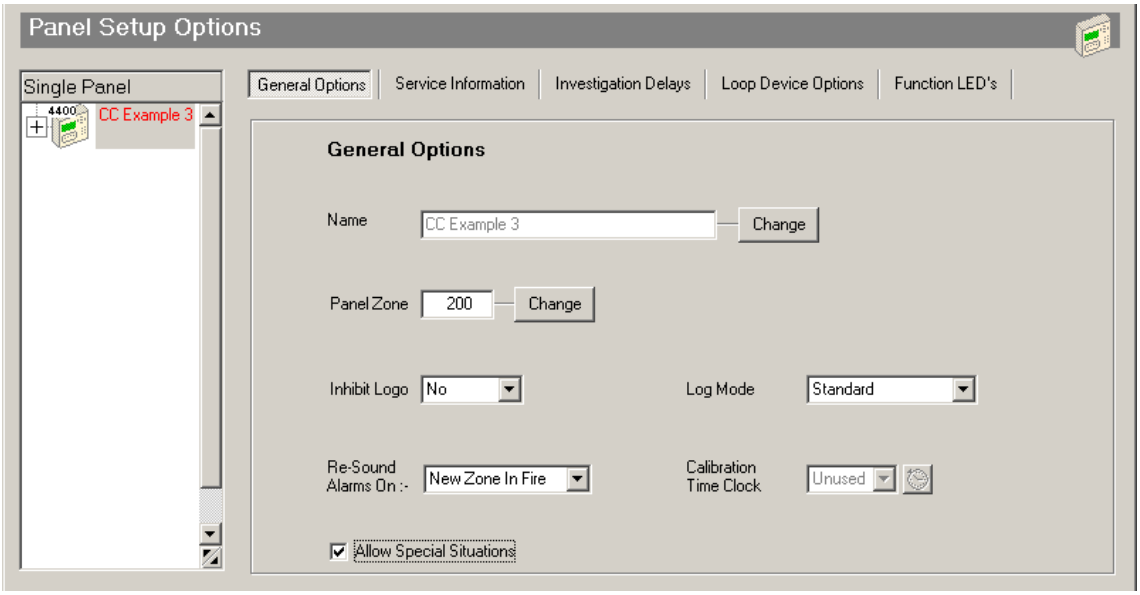


In this example:

- The “Action” of the input has been changed from the standard fire input to a “Control Signal” input.
- Unlike standard fire inputs, the “Input latched” box is NOT ticked, allowing the panel to automatically reset once the signal is removed.
- “Class Change Signal” has been entered as the device text (This will only be displayed at the panel if inputs are manually selected).
- The input has been assigned to a unique zone. In this example 80, but any number that does not conflict with a fire zone can be used – text can also be assigned to this zone as required.

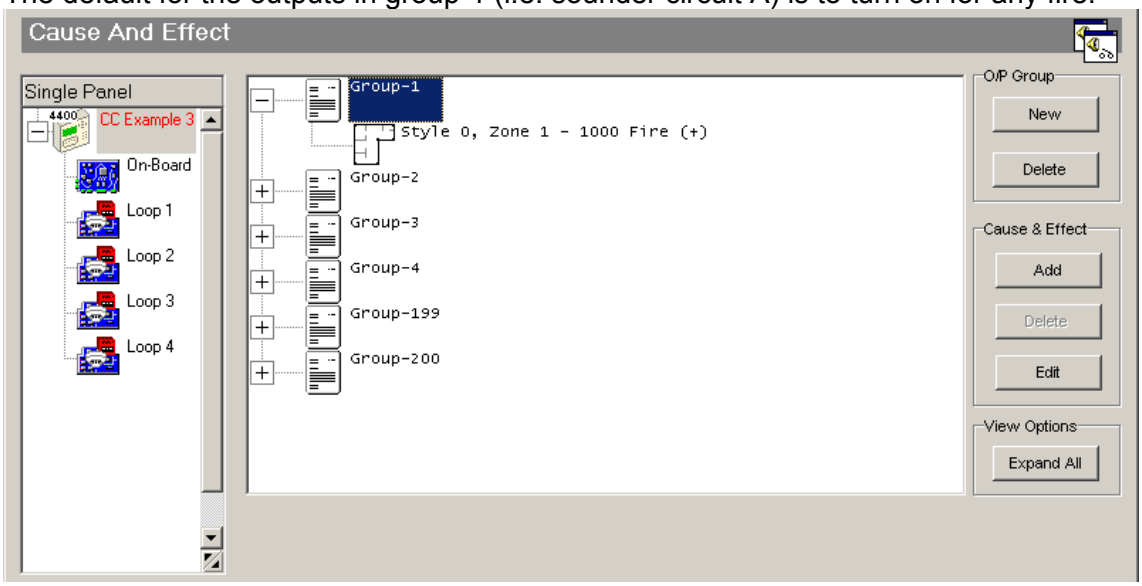
Example 3 – Specify Special Situations

To allow special ringing styles, where it is possible to program a time delay then off operation, it is necessary to select the 'Allow Special Situations' option.



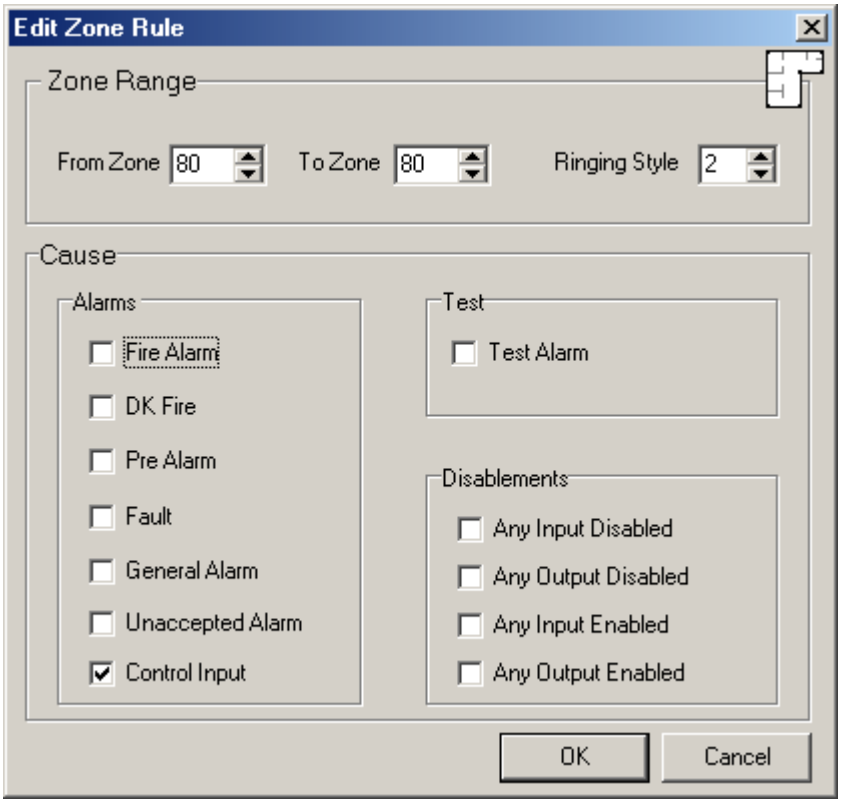
Example 3 – Programming the Outputs

The default for the outputs in group-1 (i.e. sounder circuit A) is to turn on for any fire.



To this we must now add the additional requirement for this group of outputs to turn on for the class change signal (In this example, this is a “Control Signal” from zone 80 and a special ringing style).

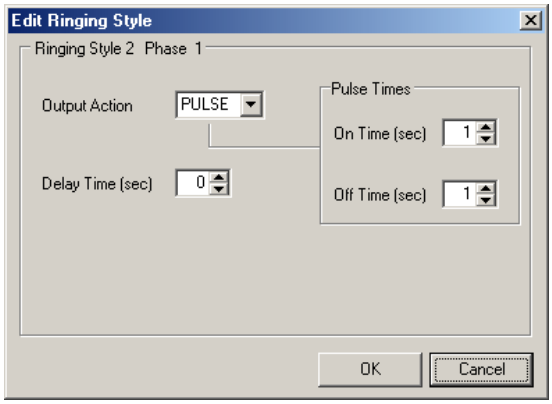
To add the control condition, with the group highlighted, select the “Add” option and define the additional group settings as shown below: -

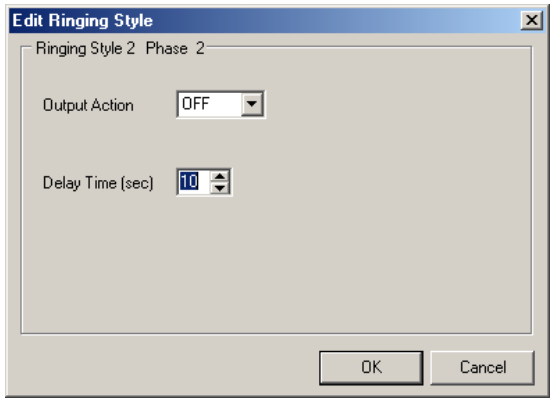


Here, ringing style number 2 has been selected but any ringing style number can be chosen that is not used elsewhere.

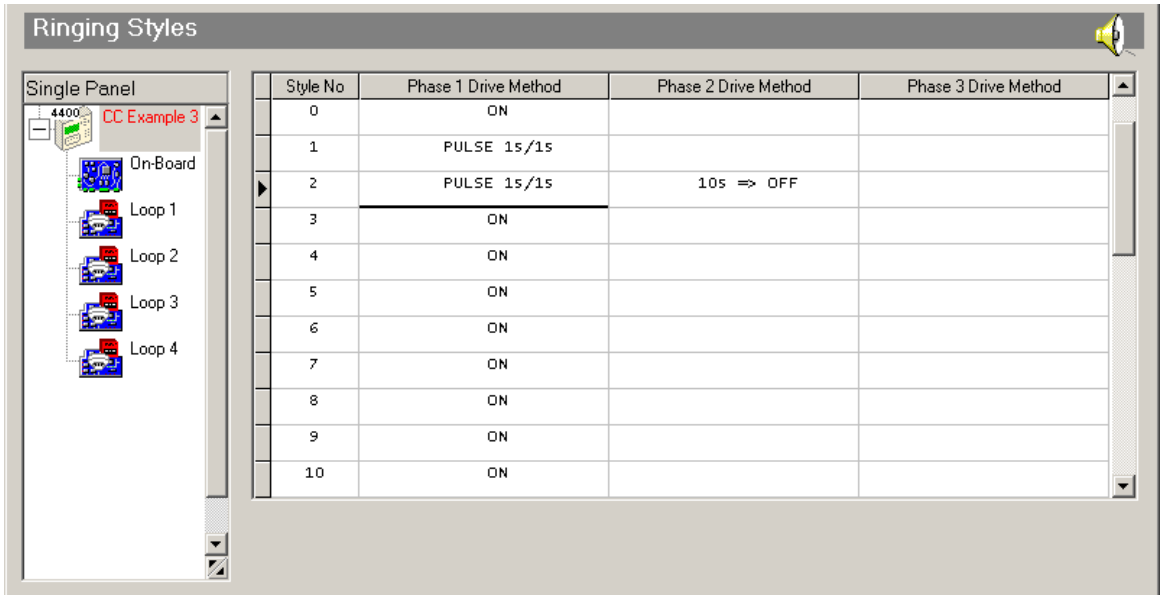
Example 3 – Configure the Ringing Style

Select Ringing Style Number 2 and then configure the operation for Phases 1 and 2 as shown in the examples below:





Configure the first phase to pulse immediately and then configure the second phase to turn OFF after a delay of 10-seconds. The result is shown in the summary screen below:



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