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TGS-31 Evo+ Sounder Synchronisation Scheme

Guidance applicable to panel Firmware release Mx5000N-54-16 upwards

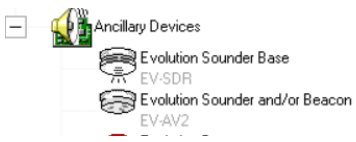
Overview

Improvements have been made to the sounder synchronisation method employed in the EVO+ (Advanced MXPro5) control panels with Evolution protocol. Under the previous scheme there was a limitation to the loading of sounders that could be switched simultaneously within a group. This has been subsequently improved with the release of an updated loop driver card PCB revision 6. The presence of this loop card can be discovered by checking in the View- panel-Software-Loop Cards, menu which should show ''Loop Card- Nittan 3.14 build 16'' or above in the display. An earlier revision of loop driver cannot support the improved synchronisation scheme described below.

Subsequently since the introduction of the updated loop driver card the control panel firmware has been improved (from release Mx5000N-54-16 and onwards) to more usefully employ the Groups for synchronisation of sounder and beacon devices. This also involves changes to the Dynamix tools configuration software (from V7.66 onwards). The main benefit of this change is to enable more flexible control of the Audio and visual elements within combined devices such as EV-AV2 sounder beacons within the same Group. It was necessary to use separate groups for the individual elements within a device, now the behaviour of a ringing style can be altered within the same group depending on the input rule and ringing style selection. This flexibility then provides more groups for synchronisation scenarios.

An attempt to upload a newer synchronisation configuration to a panel with firmware prior to V54-16 will be blocked by the Configuration tool. The newer version of configuration tool will still work with older panel firmware Mx5000N-54-13 and lower provided that ringing styles and EV-AV2 devices have not been changed to single point type operation as described below.

Changes to EV-AV devices



EV-SDR replaces reference to EV-ABS

EV-AV2 replaces reference to EV-AV

The Configuration tool for Mx5000N-54-16 and higher firmware the EV-AV2 is for the combined Evolution sounder / beacon devices. Previously this was represented as two distinct sub address points in the system. Under the change the sounder beacon has become a single point device and the control of the sounder and beacon elements is transferred to the ringing style operation.

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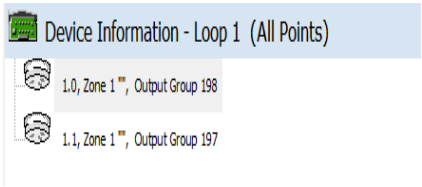
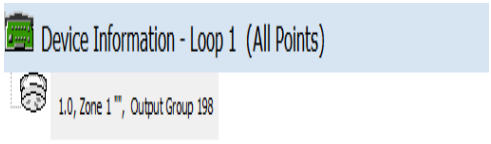
Previous versions



Mx5000N-54-16 and above

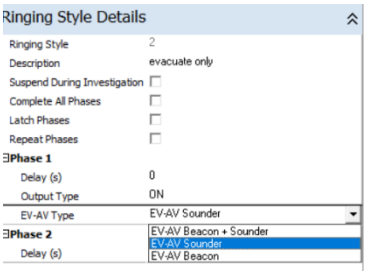


Setting up operation of sounder beacons using the ringing styles

When setting up a ringing style if EV-AV2 devices are to be included in the output groups 1-8 which are used for synchronisation it is necessary to state the intended use of the EV-AV2 device.

The default ringing style 0 for continuous operation includes both sounder and beacon functions. If it is required to operate the sounder or beacon independently then the ringing styles 2-40 may be edited in the Ringing style details under the phase operation.

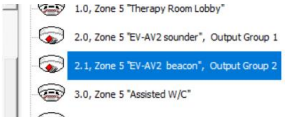
The output type section can be set ON for evacuate tone, PULSE for the alert tone or OFF for no operation. For the EV-AV2 sounder and/or beacon simply select the desired operation under the EV-AV Type selection.



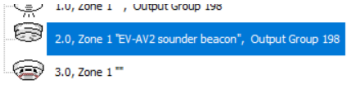
Any EV-AV2 type devices included within the group operation will follow the setting for the ringing style. Note it will not alter the operation of other types of sounder device driven by the same ringing style they will follow the evacuation or alert operation set. If Beacon only is selected, then other types will not respond. The ringing style can then be used in the cause and effects line as required.

Updating from an earlier version.

The Configuration software V7.66 and above can be used on older panels with earlier firmware and loop cards. Under the older firmware audio visual devices had 2 points or sub addresses



in the new Firmware



only 1 point is used

When updating an existing system, the already configured AV devices occupy 2 sub-addresses, these need to be changed to the EV-AV2 devices carrying 1 sub-address. Transfer the configuration to the PC configuration tool from the panel. An assistant tool can then be used to update each EV-AV (2) devices to one point. After this the

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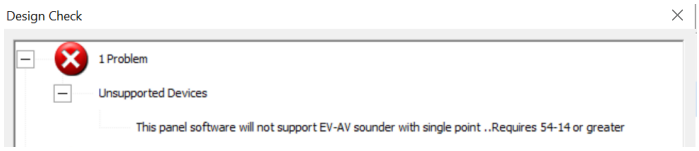
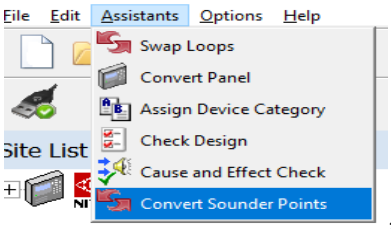
configuration can be transferred back to the control panel (after being updated to the latest panel software and loop driver).

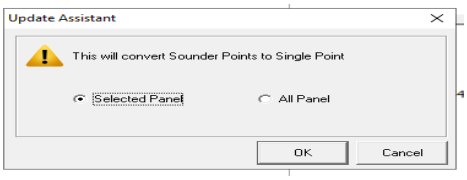
If any old style 2 point devices are still present when uploading to a panel with the new firmware an error message will be given and the upload will be blocked.



These can be manually deleted and replaced by single point devices or an assistant option is provided in the menu options.



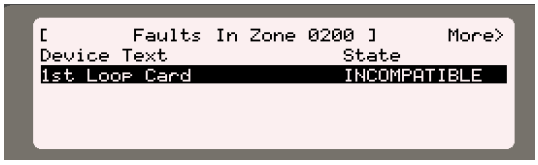
a selection is offered



The design can be checked in the offline design check for compatibility.

Loop card compatibility with panel software.

If an older loop card version exists within the panel and the control panel firmware has been updated to MX5000N-54-16 or above, the loop card will function as before. However if the groups used for synchronisation (groups 1-8) are utilised then a compatibility fault will arise. This is enunciated in the following way.



This fault can be resolved by either ceasing to use the synchronisation groups 1-8 in which case synchronisation of sounders is not possible, or by changing the loop card or reverting the panel firmware to a previous version. Note: - it is strongly advised to take a backup copy of the panel configuration prior to any firmware upgrade exercise.

Example scenarios

In order to help with understanding the impact of the changes some examples are given below of how to setup and use the configuration of EV-AV2 type devices.

In the following examples the ringing styles below are used (created as described earlier)

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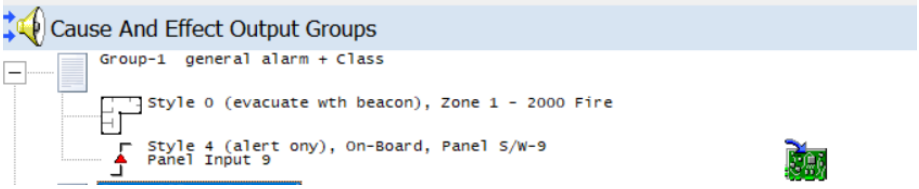
The EV-AV usage is set in the ringing styles details for each ringing style.

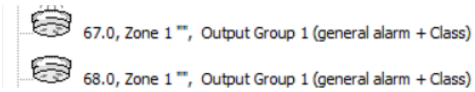
Example 1

Common alarm with synchronisation and class change.



A group was created to activate evacuate tone with beacons for a fire from any zone in the system from zone 1 to zone 2000. Input 9 on the panel was made a control signal which when active will cause the sounder tone to alert (Pulse) only with no beacon activation using ringing style 4. Use of group 1 ensures synchronisation of all sounders within the group.

In this example all sounders on all loops were assigned to group 1.



The devices are assigned to a group either in the Individual point details box or using the quick edit list.

Example 2

Zone of origin sounding, zones not in alarm beacons pulsing only as a pre alert.

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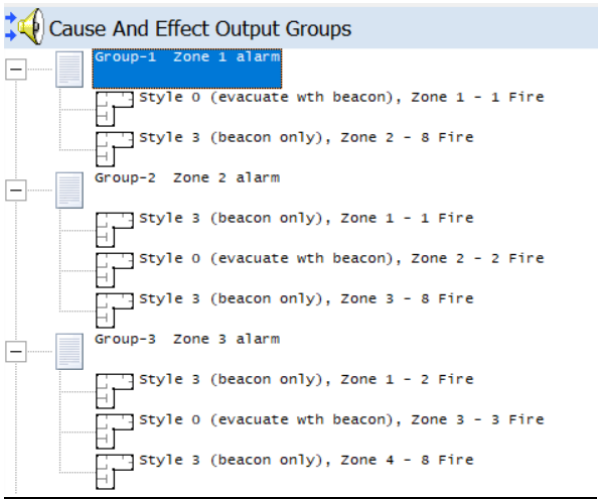
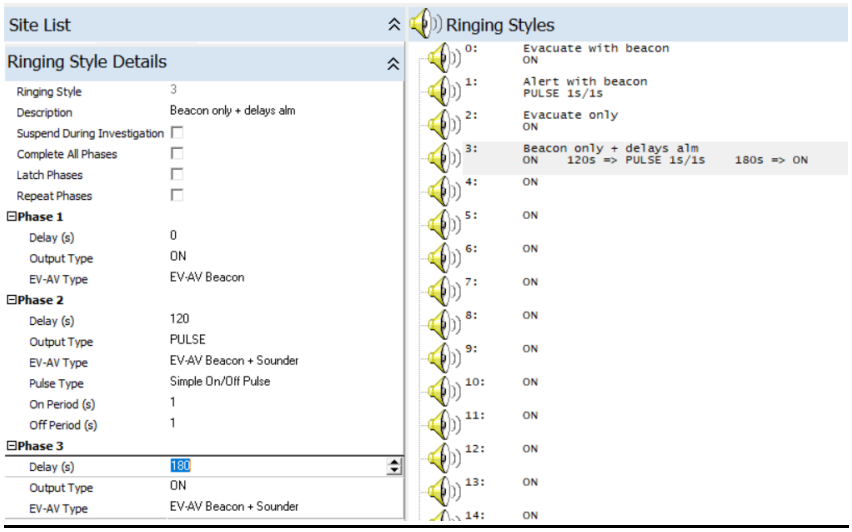


Groups were created where the local zone creates an alarm with beacon and other zones in alarm will cause the beacons only to flash. The groups are applied to the sounders in the corresponding zone. In this example all sounders are EV-AV2. Use of groups 1-8 ensures the devices within each zone are synchronised with each other.

Example 3

Zone of origin sounding, zones not in alarm beacons pulsing only with escalation to alert and evacuation after time delay.



In this example the same groups can be utilised as in example 2 but only the ringing style 3 need be altered.

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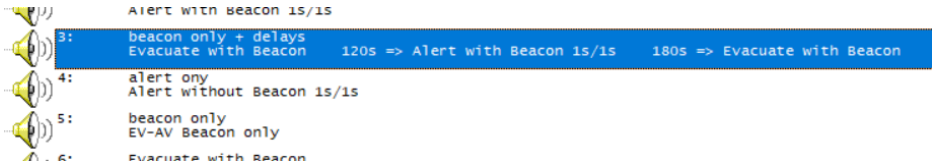
In the Zone group areas where the alarm did not originate the pulsing beacons will flash only for 2 minutes after which they will sound the alert (pulsing) tone and then after a further 3 minutes they will play the evacuation tone. Unless the panel is silenced during the time delays.

Example 4

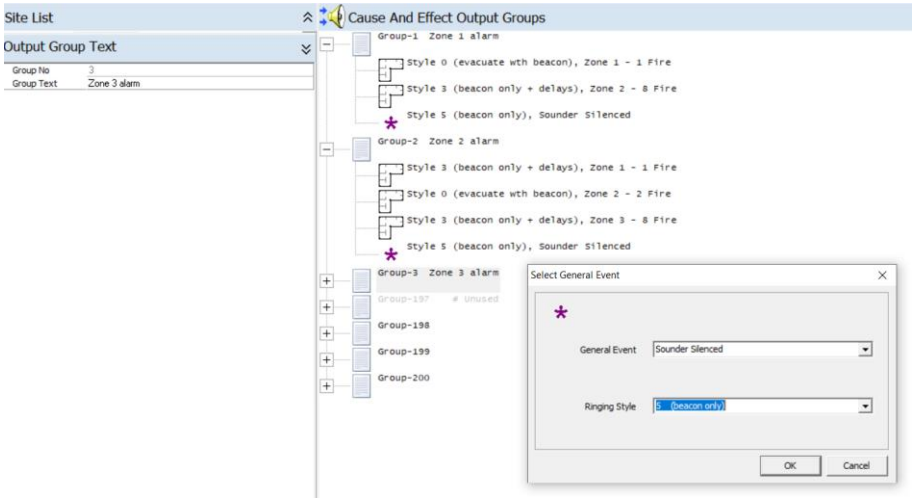
Maintaining the beacons pulsing when the alarms have been silenced.

In the above examples it might be a requirement that if the alarm is acknowledged by silencing that a state of alert via flashing beacons be maintained until the system can be safely reset.

In order to achieve this some conditions must be set. Firstly another ring style is setup for beacons only as ring style 3 had the time delays added.



Then add a general event to each group, of sounder silenced with a ringing style of beacon only.



In order for this operation to work correctly the priority of the alarm sequence must be adjusted. Firstly the output activation priority must be changed from automatic to manual in the Panel details General settings.

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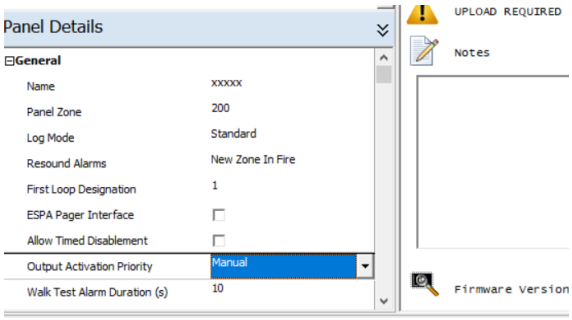
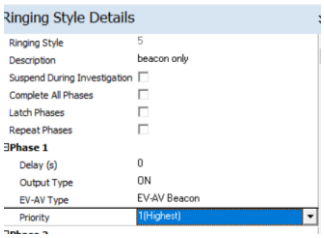
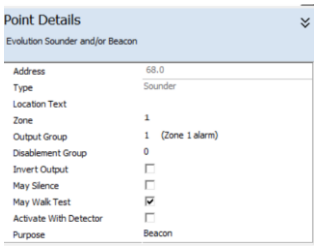


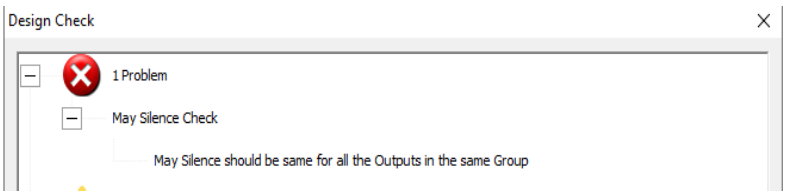
This will then allow the setting of priorities in the ringing styles. Ensure that the beacon only style 5 in this case has the highest priority.



Then in every sounder within a group where this operation is required (In this case all sounders in all groups). The may silence check box must be un-ticked.



Note: - if the May Silence check box is left ticked for any sounder within a group for this purpose then a design error message will be given and an upload will be blocked.



To rectify this issue check the setting against all sounders within the effected group.

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