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Subject: **Hands-on exercise 800xA SV 5.01 – Mr Engineer – Key Mappings for Alarm Management**

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1 Introduction

This document is **not a manual**. The objective is to give a quick guide on how to have keyboard shortcuts (Hot Key Mappings) handle normal mouse driven items, such as Alarm Acknowledge. It is a step-by-step instruction for easy understanding. For full documentation on how to configure keyboard mappings, please read related documentation for System 800xA.

If you have any comments or suggestions, please contact me via E-mail ingo.patzer@sg.abb.com or by phone +65 6773 8139

2 Revision History

- Version 0.1 – Draft

3 Goal

The goal is to have a keyboard act as an Alarm Acknowledge or Silence key, similar to older HMI's.

4 Related Documentation

3BSE030322R5011

Operator Workplace Configuration, 800xA SV 5.0/1

5 Preparation

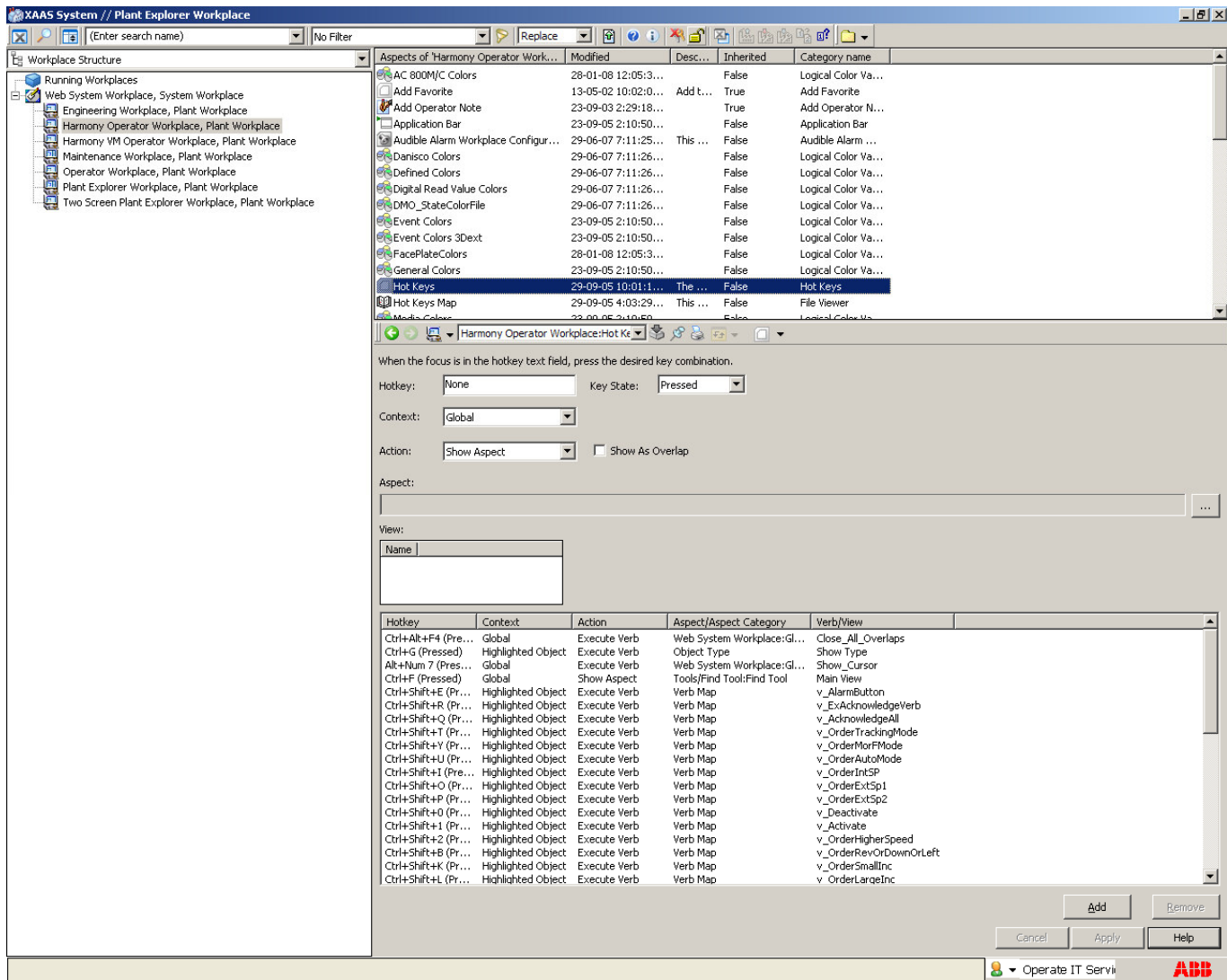
Standard 800xA install.

6 Introduction

Hot keys are setup as part of the Workplace. If you navigate to the Workplace structure and open a workplace (see below), you will see a standard Hot Key aspect.



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Hot keys can be assigned to just about any key combination. The key combinations shown here are for illustrative purposes. Actual key's to use on a running system should be discussed with the end users.

7 Getting Started

After creating your own Workplace, copy a default Hot Key mappings Aspect from the existing Operator Workplace, or you could just copy the Operator Workplace (recommended) and use this as your starting point

After creating the rest of the system, i.e. Control, Tags, Functional Structures, Alarm Lists etc, it is time to consider how the operator is going to interact with their environment, i.e. the Operator Workplace.

In order to have Hot Keys apply to certain views within the Workplace frame, it is important to consider the scope of the key. Will it just apply to a single object/aspect or will apply to all instances of the object/aspect. Will it be a single keystroke (e.g. G) or a combination (e.g. CTRL-G)? A general rule of thumb is: A single keystroke

should be for non critical applications, as they may be accidentally pressed. A combination keystroke should nearly always be used, where it can impact operations more dramatically (e.g. Pump Start)

In this workshop we will discuss just three hot key examples.

1. Have a key behave the same as the Alarm Silence toolbar
2. Have a key behave as per the Alarm Acknowledge for all faceplates
3. Have a key behave as the Alarm List “Acknowledge all visible alarms” key on an Alarm List

Other key board mappings are available, but these three will be discussed in detail.

In this workshop you will see examples for 800xA with Harmony; however the methodologies are the same no matter the system being used.

8 Assigning Verbs

In order to “capture” a function from within an Aspect a Verb Map must be assigned to the same structure as the function you want to call. In most cases you will find a Verb Map already assigned to the Workplaces and most Tag Types in the Object Type Structure. Essentially you can assign a Verb Map to just about any structure you like and you will “see” the functions you can map to a keystroke.

For each of the three examples, we will work through how to setup the Verb Map and Hot Keys in order to have a function assigned to a specific keystroke.

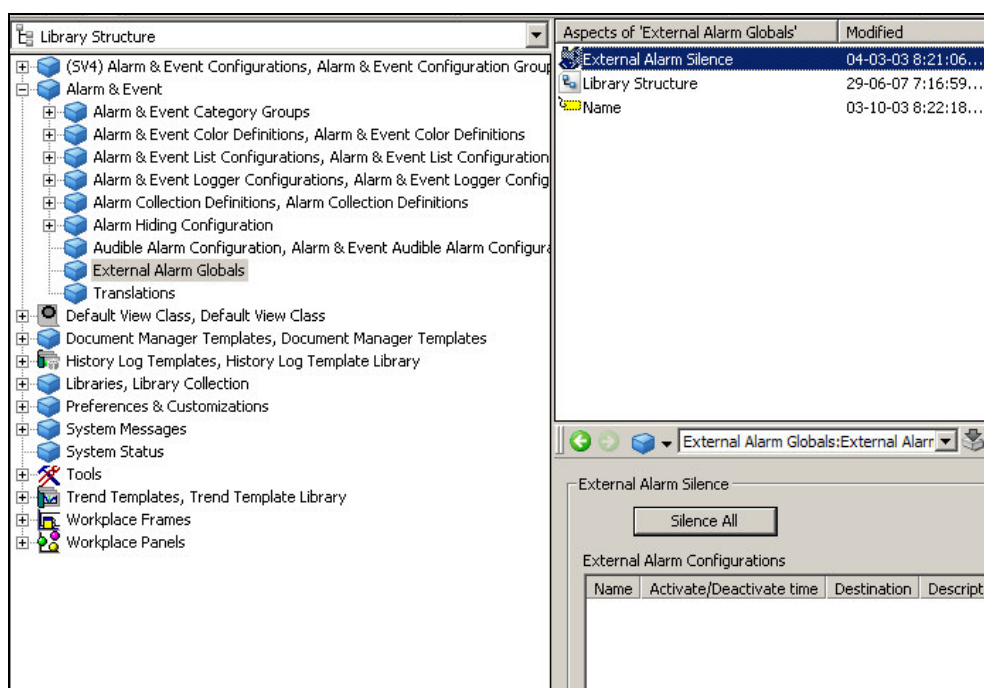


Figure 1 – External Alarms

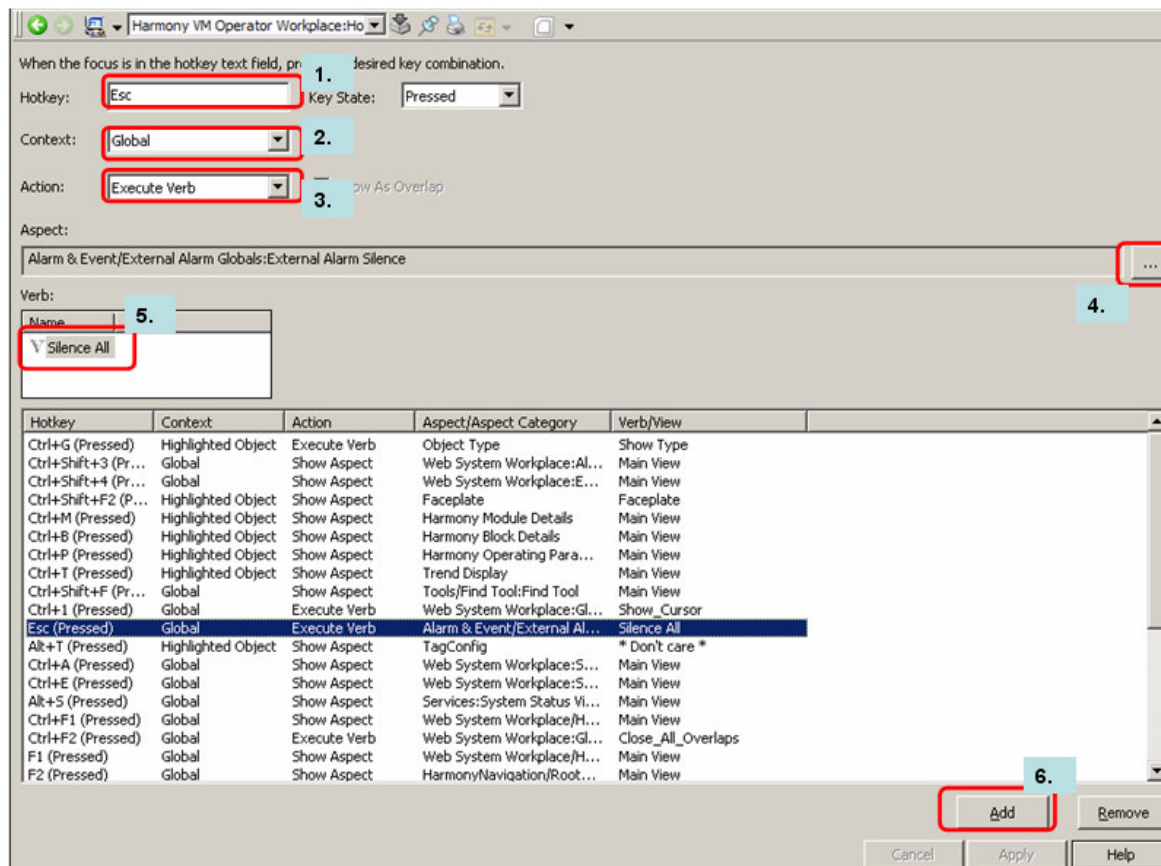


Figure 2 – Alarm Silence hot key

8.1 Alarm Silence Configuration

The Alarm Silence can be configured in other ways. In most cases, whether you have external alarm or not, the External Alarm Silence will silence all alarms currently sounding. Therefore we will assign a keystroke to help the operator to quickly quell the actual Alarm sound, whether it is the Workplace or an external alarm.

External Alarms are configured from the Library. See Figure 1. Notice in the example given that no external alarms have been set.

1. Now go back to the Workplace Structure and select your Hot Key aspect.
2. (See Figure 2). From the Hot Keys configuration windows select as shown.
3. The hotkey is a matter of pressing the key on the keyboard and this will insert into this field.
4. Then select whether it is a global context or aspect, in this case Global
5. The select Execute Verb.
6. In the Aspect box select the button shown at 4. and navigate to as shown in figure 3 and select External Alarm Silence, then OK.

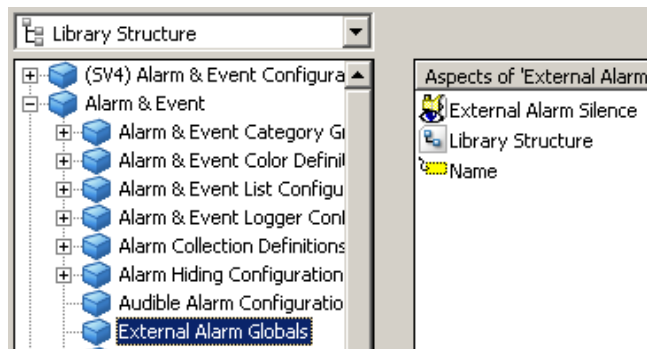


Figure 3 – External Alarm silence verb mapping

7. Once the Aspect has been selected choose the verb name (5.) and then Add (6.)

The workplace may need to be restarted for this to take effect, however this is mostly not required after the Hot Key Aspect has been assigned to the workplace.

The make changes to this hot key, just select the Hot Key map from the workplace and the hotkey you want to change, select Remove and then type a new key in the Key box (1.) and select Add once more.

8.2 Faceplate Alarm Acknowledgement

Faceplate alarm acknowledgement is configured in much the same way.

1. Select the Hot Key aspect from the Workplace structure
2. (See Figure 2). From the Hot Keys configuration windows select as shown.
3. The hotkey is a matter of pressing the key on the keyboard and this will insert into this field. In this example maybe a single key stroke can be use (eg CTRL-Z). See figure below)

When the focus is in the hotkey text field, press the desired key combination.

Hotkey: Key State:

Context:

Action: Show As Overlap

Object type:
HarmonyNavigation

Verb:
Name
v_AlarmList
v_AlarmButton
v_ExecAcknowledgeVerb

Hotkey	Context	Action	Aspect/Aspect Category	Verb/View
Ctrl+A (Pressed)	Global	Show Aspect	Web System Workplace:S...	Main View
Ctrl+E (Pressed)	Global	Show Aspect	Web System Workplace:S...	Main View
Alt+S (Pressed)	Global	Show Aspect	Services:System Status Vi...	Main View
Ctrl+F1 (Pressed)	Global	Show Aspect	Web System Workplace/H...	Main View
Ctrl+F2 (Pressed)	Global	Execute Verb	Web System Workplace:Gl...	Close_All_Overlaps
F1 (Pressed)	Global	Show Aspect	Web System Workplace/H...	Main View
F2 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F3 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F4 (Pressed)	Global	Show Aspect	Root/800xA HarmonyAOL...	Main View
F5 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F6 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F7 (Pressed)	Global	Show Aspect	Root/Harm-Demo:Harmon...	Main View
Z (Pressed)	Highlighted Object	Execute Verb	Alarm and Event List	0x8034
Ctrl+Z (Pressed)	Highlighted Object	Execute Verb	Verb Map	v_AlarmButton



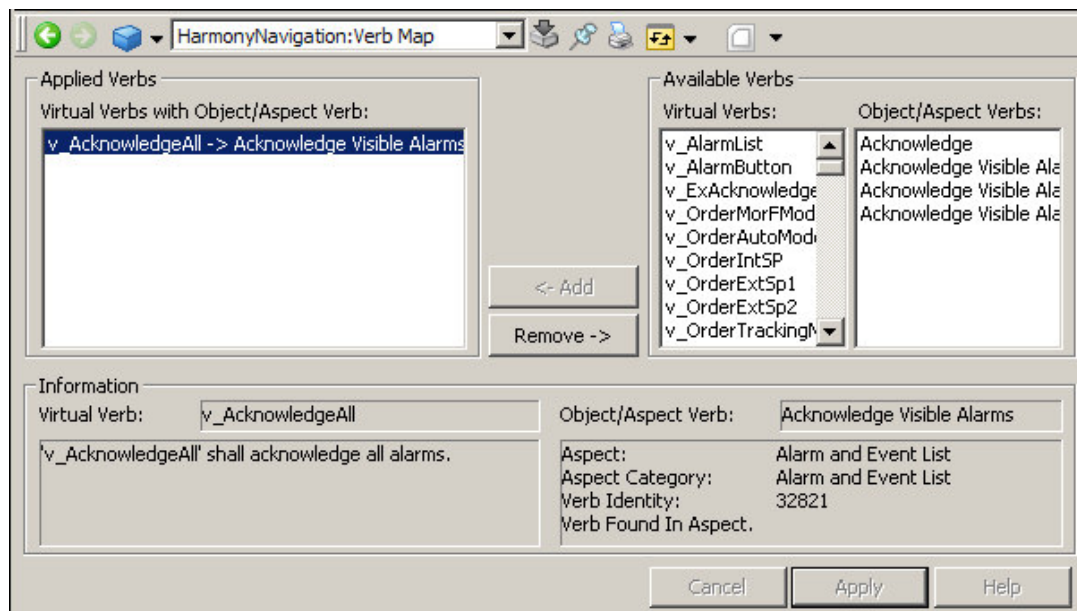
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4. For the Object type, navigate to the Object type structure and select any Control Object type. In general all faceplates have the same Verb map associations
5. Then select the verb itself as shown.
6. Select Add to add this section into the Hot Key mappings.
7. Once completed you should be able to open any faceplate (for any object) with an alarm and press the Z key on the keyboard to acknowledge the alarm for this tag only, when the faceplate is open.

8.3 Acknowledge all visible Alarm

This setup is a little more complicated as the Aspect we want to use (Alarm List) has no verbs mapped for us.

1. Find any Alarm list in your configuration
2. In the same structure create a Verb Map aspect



3. From the Verb map configuration window (see above), select v_AcknowledgeAll from the Virtual Verbs and Acknowledge Visible Alarms from the Object/Aspect Verbs window and press Add and Apply.
4. Step 3 maps a virtual pre-configured “soft” verb to the object available actions, which in this case is Acknowledge All Visible Alarms.
5. Now go back to the Hot Key aspect in your Workplace and setup a new key (lets use CTRL-SHIFT-Z) for the verb just setup



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When the focus is in the hotkey text field, press the desired key combination.

Hotkey: Key State:

Context:

Action: Show As Overlap

Aspect:

HarmonyNavigation:Verb Map

Verb:

Name

- V v_ExAcknowledgeVerb
- V v_AcknowledgeAll
- V v_OrderMorFMode

Hotkey	Context	Action	Aspect/Aspect Category	Verb/View
Ctrl+A (Pressed)	Global	Show Aspect	Web System Workplace:S...	Main View
Ctrl+E (Pressed)	Global	Show Aspect	Web System Workplace:S...	Main View
Alt+S (Pressed)	Global	Show Aspect	Services:System Status Vi...	Main View
Ctrl+F1 (Pressed)	Global	Show Aspect	Web System Workplace/H...	Main View
Ctrl+F2 (Pressed)	Global	Execute Verb	Web System Workplace:Gl...	Close_All_Overlaps
F1 (Pressed)	Global	Show Aspect	Web System Workplace/H...	Main View
F2 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F3 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F4 (Pressed)	Global	Show Aspect	Root/800xA HarmonyAOL...	Main View
F5 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F6 (Pressed)	Global	Show Aspect	HarmonyNavigation/Root...	Main View
F7 (Pressed)	Global	Show Aspect	Root/Harm-Demo:Harmon...	Main View
Z (Pressed)	Highlighted Object	Execute Verb	Alarm and Event List	0x8034
Ctrl+Z (Pressed)	Highlighted Object	Execute Verb	Verb Map	v_AlarmButton
Ctrl+X (Pressed)	Global	Execute Verb	HarmonyNavigation:Verb ...	v_AlarmButton
Ctrl+Shift+Z (Pr...	Global	Execute Verb	HarmonyNavigation:Verb ...	v_AcknowledgeAll
Shift+B (Pressed)	Global	Execute Verb	Web System Workplace:Gl...	NextTarget
Shift+N (Pressed)	Global	Execute Verb	Web System Workplace:Gl...	PreviousTarget

6. In this instance it is important to choose the Global context, as the “Highlighted Object” does not function.
7. In the Verb selection choose the “soft” verb setup in step 3 previously.
8. Select Add and Apply to have this key mapping available for the Operator.

Once this setup has been performed, when the Operator opens this Alarm List, he can use the CTRL-SHFT-Z key instead of the Acknowledge All Visible Alarms button



9 Conclusion

Essentially many actions can be performed from the keyboard, if this is needed by the customer. However sometime is required to configure and test these hot key mappings. In the Hot Key example shown here you will see many other mappings that have been used to enhance the operators “quick” access to numerous areas within the plant (Function keys) and also to bring up the default Trend for an Object (CTRL T) amongst others.