

# Instructions to set up AGFA mammography keypad

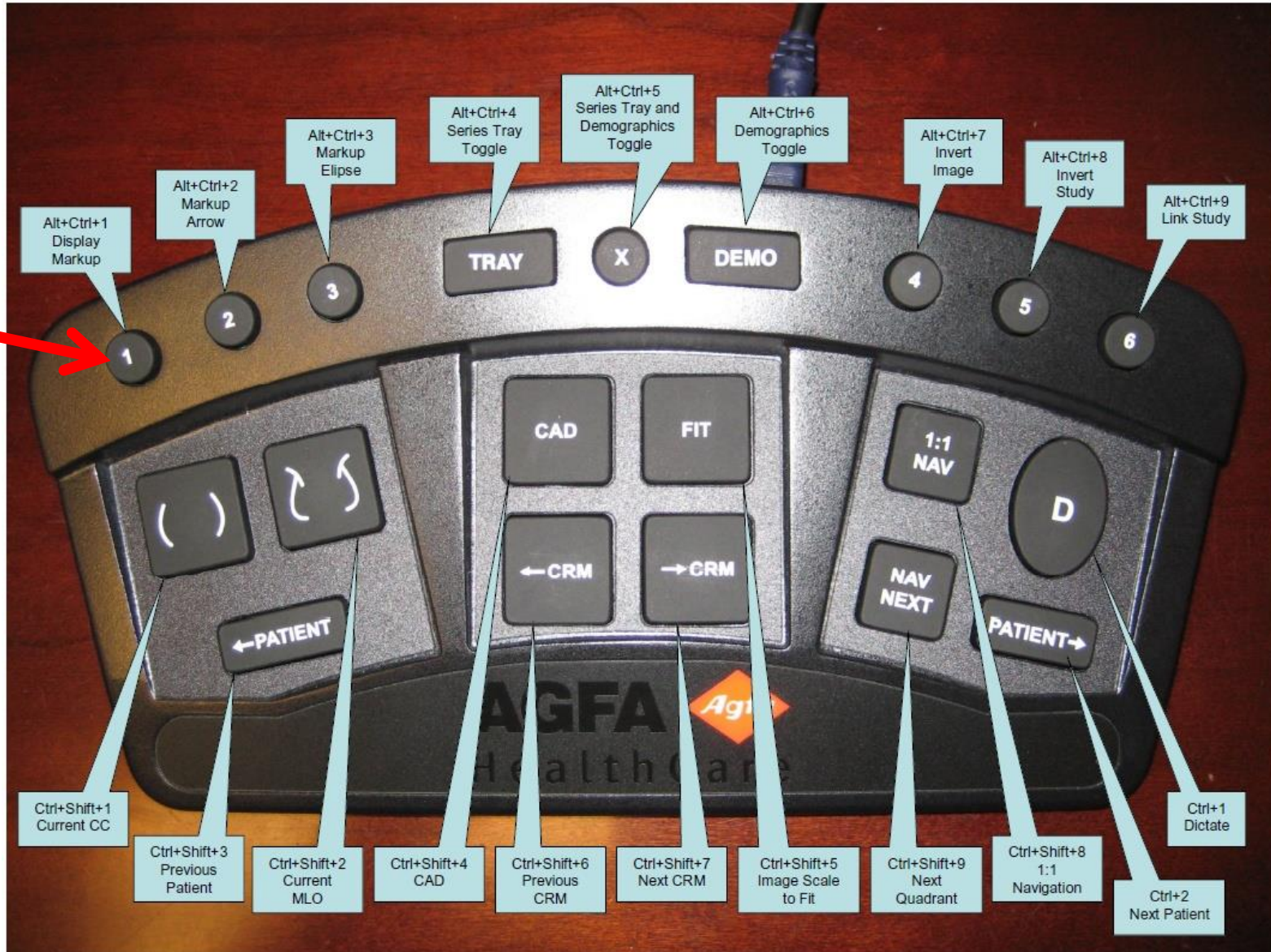
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# How does it work

- Mammography keypad is a user friendly keyboard specially designed for reviewing/comparing mammography studies
- It has 20 keys. When you press any key on this keypad, a predefined combination of key strokes are send to computer just like you pressed a combination of key strokes on a conventional keyboard.

# Here are the key strokes that are generated by this keypad

Pressing this key on keypad is similar to pressing Alt+CTRL+1 on a conventional keyboard



- Previous slide showed you the codes that are send to computer once you press a specific key on the keypad
- Now it is time to define an action on the Impax software to happen when a specific combination of key strokes arrive at computer (i.e. when you press a key)

# Here is a list of actions for different key strokes.

Key	Action	Description
Backspace	Undo	
Ctrl + Backspace	Redo	
Space	Set Operating Mode	Mode="Zoom"
Left	Next Comparative Review M...	
Up	Navigate Series	Direction="Previous", Page="No"
Right	Previous Comparative Revie...	
Down	Navigate Series	Direction="Next", Page="No"
Delete	Study Reset	
1	Adjust Window Level	Window Width="400", Window Center="20"
Ctrl + 1	Set Operating Mode	Mode="Zoom 1:1 Pixel"
Ctrl + Shift + 1	Apply Comparative Review ...	Review Mode=""
<b>Alt + Ctrl + 1</b>	<b>Set State</b>	<b>Identifier="Display Markup Toggle", State="All"</b>
2	Adjust Window Level	Window Width="400", Window Center="500"
Ctrl + 2	Navigate Patients	Direction="Next"
Ctrl + Shift + 2	Apply Comparative Review ...	Review Mode=""
Alt + Ctrl + 2	Set Operating Mode	Mode="Markup Line Arrow"
3	Adjust Window Level	Window Width="250", Window Center="70"
Ctrl + Shift + 3	Navigate Patients	Direction="Previous"
Alt + Ctrl + 3	Set Operating Mode	Mode="Markup Ellipse"
4	Adjust Window Level	Window Width="2000", Window Center="500"
Ctrl + Shift + 4	Mammography CAD SR Tog...	
Alt + Ctrl + 4	Set State	Identifier="Display Remaining Series", State="Toggle"
5	Adjust Window Level	Window Width="550", Window Center="150"
Ctrl + Shift + 5	Set Operating Mode	Mode="Zoom 1:1 Pixel"
Alt + Ctrl + 5	Wizards	Wizard Name="MG Series Tray and Demographics"
6	Adjust Window Level	Window Width="700", Window Center="100"
Ctrl + Shift + 6	Previous Comparative Revie...	
Alt + Ctrl + 6	Set State	Identifier="Demographics Toggle", State="Toggle"
Ctrl + Shift + 7	Next Comparative Review M...	
Alt + Ctrl + 7	Invert	Invert="Toggle"
Ctrl + Shift + 8	Set Operating Mode	Mode="Zoom 1:1 Pixel"
Alt + Ctrl + 8	Wizards	Wizard Name="myinverting"

We will use this particular combination of key strokes as an example in this tutorial

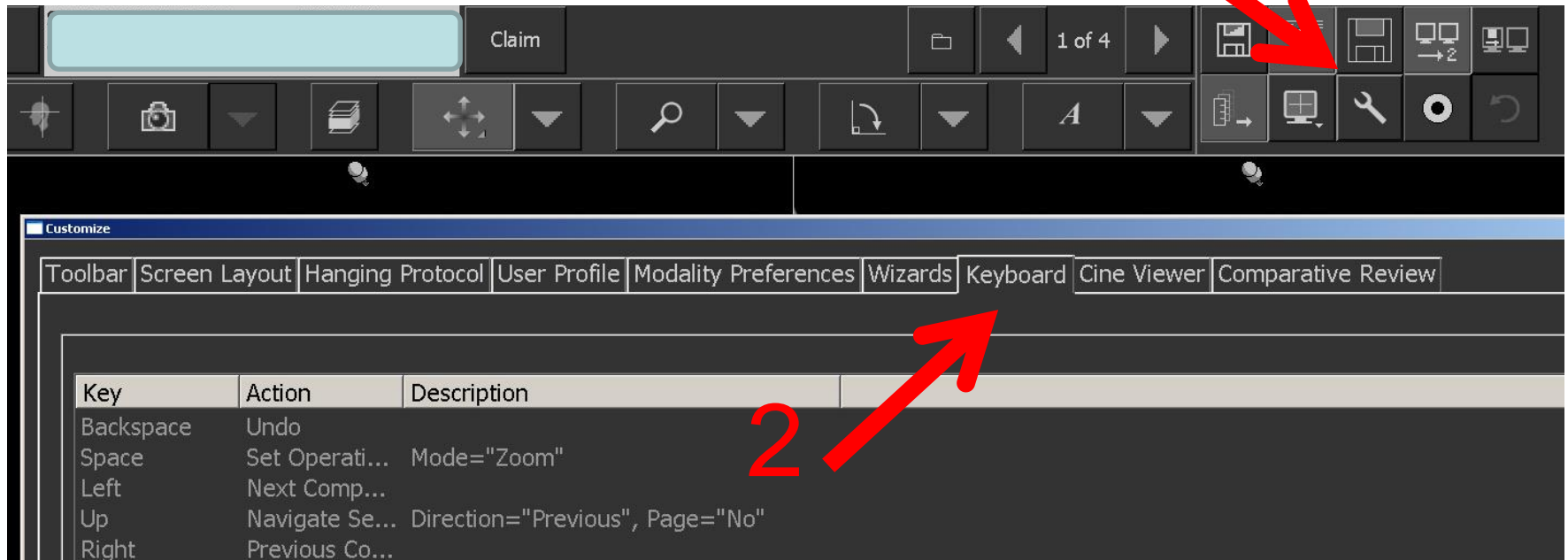
Note that the mammo keypad uses only 20 of these key strokes; mostly the combination of Alt+CTRL+ number or CTRL+Shift+number

- We have to manually define the action for each of these 20 keys on the mammo keypad.
- Here we will just show screen capture images to define the first key. You will need to use the previous slide that depicts all other assigned actions and define each action for the specified combination of key strokes .

For instance, here I show you how to define the first key. According to the key map, this key will submit the combination of Alt+Ctrl+1 to the computer once it is pressed.



To define the action, open a mammography study and select the wrench icon



Customize

Toolbar | Screen Layout | Hanging Protocol | User Profile | Modality Preferences | Wizards

Keyboard | Cine Viewer | Comparative Review

Key	Action	Description
Esc	Window Level Reset	
Home	Study Reset	
Left	Previous Comparative Review Mode	
Up	Navigate Studies	Screen="2", Direction="Next"
Right	Next Comparative Review Mode	
Down	Navigate Studies	Screen="2", Direction="Previous"
Ctrl + 1	Dictate	
Ctrl + Shift + 1	Apply Comparative Review Mode	Review Mode=""
Alt + Ctrl + 1	Set State	Identifier="Display Markup Toggle", State="All"
Ctrl + 2	Navigate Patients	Direction="Next"
Ctrl + Shift + 2	Apply Comparative Review Mode	Review Mode=""
Alt + Ctrl + 2	Set Operating Mode	Mode="Markup Line Arrow"
Ctrl + Shift + 3	Navigate Patients	Direction="Previous"
Alt + 3	Set Operating Mode	Mode="Zoom"
Alt + Ctrl + 3	Set Operating Mode	Mode="Markup Ellipse"
Ctrl + Shift + 4	Mammography CAD SR Toggle	
Alt + 4	Next Comparative Review Mode	
Alt + Ctrl + 4	Set State	Identifier="Display Remaining Series", State="Toggle"
Ctrl + Shift + 5	Image Scale to Fit	
Alt + 5	Previous Comparative Review Mode	
Alt + Ctrl + 5	Wizards	Wizard Name="MG Series Tray and Demographics"
Ctrl + Shift + 6	Previous Comparative Review Mode	
Alt + 6	Wizards	Wizard Name="MG Series Tray and Demographics"
Alt + Ctrl + 6	Set State	Identifier="Demographics Toggle", State="Toggle"
Ctrl + Shift + 7	Next Comparative Review Mode	
Alt + 7	Mammography CAD SR Toggle	
Alt + Ctrl + 7	Invert	Invert="Toggle"
Ctrl + Shift + 8	1:1 Navigator	
Alt + 8	Magnify/Pan Reset	
Alt + Ctrl + 8	Wizards	Wizard Name="MG Invert Study"
Ctrl + Shift + 9	1:1 Navigator Next	
Alt + Ctrl + 9	Wizards	Wizard Name="MG Link"
C	Mammography CAD SR Toggle	
D	Set State	Identifier="Display Remaining Series", State="Toggle"
E	Extended Monitor Display	Width="Screen", Height="Screen", Format="Default"
I	Wizards	Wizard Name="ExportDCMImage"
L	Wizards	Wizard Name="MG Link"
S	Wizards	Wizard Name="ExportDCMstudy"
X	Wizards	Wizard Name="X"
Num +	Navigate Patients	Direction="Next"
Num -	Navigate Patients	Direction="Previous"

Edit Remove **New**

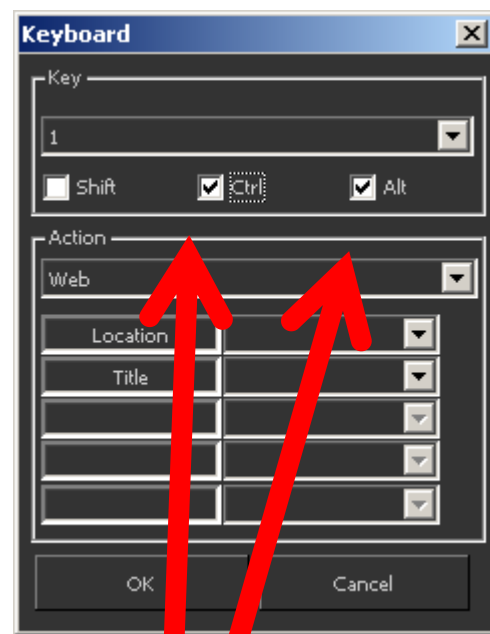
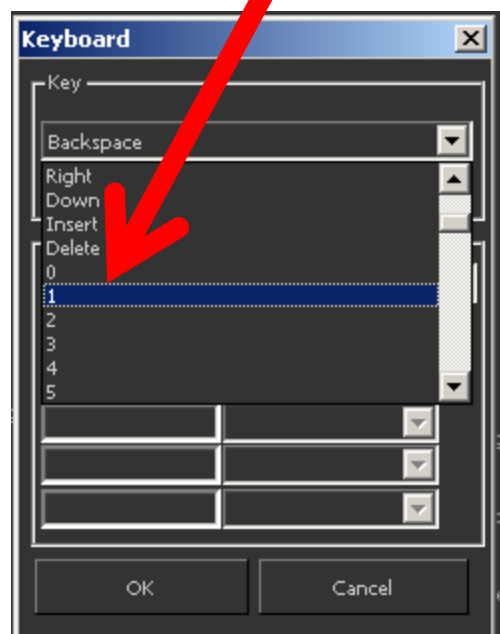
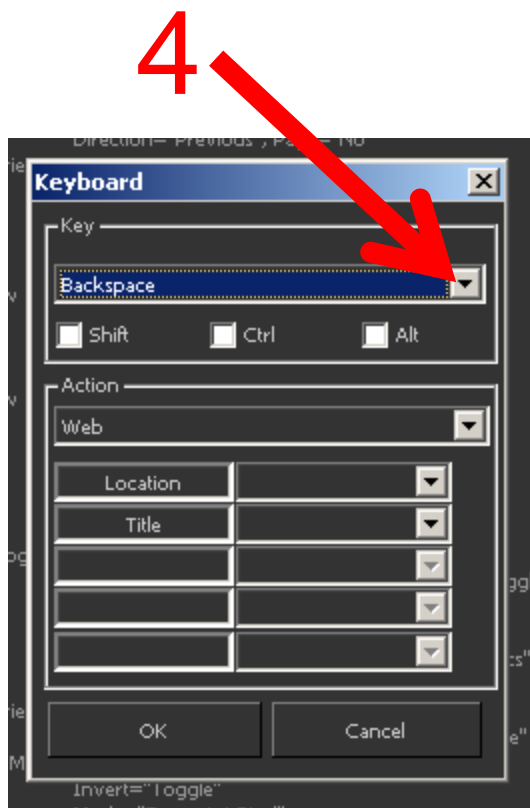
OK Cancel Apply

Click on New on the bottom of the window to define a new action.



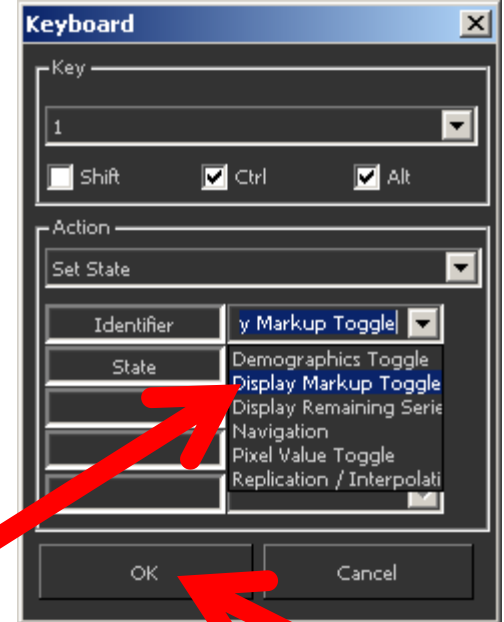
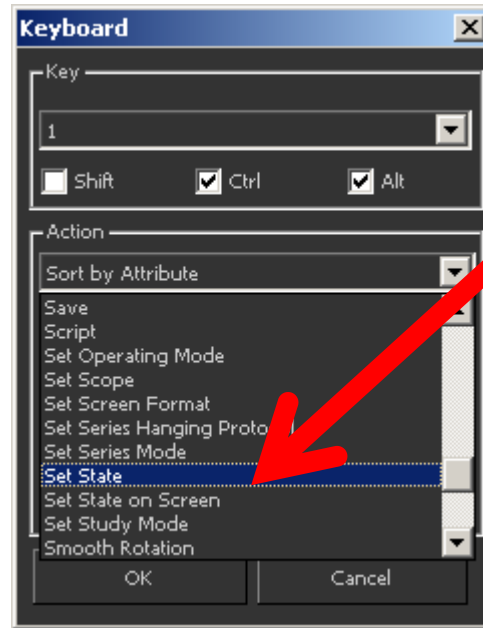
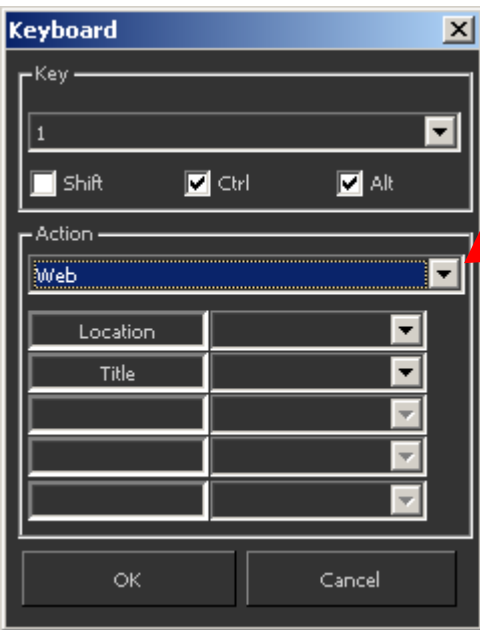
Here you can select which key combination you want to define; in our case, we want ALT+CTRL+1

5 select 1 from the drop down list



check CTRL and Alt as well . Remember that in this example we want to define an action for when Alt+CTRL+1 pressed or the “1” key is pressed on the mammo keypad.

Now you can define the type of action. In this example, click here to see a list of possible actions and select “Set State” from the drop down list



Select “Display Markup Toggle” from the identifier list and then “All” from state list (see slide 5 for other key strokes)

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You just defined one of the mammography keypads . All you need to do is to go back to slide 3 to see what are the codes for other keys on the mammo keypad and then look at slide 5 to see what action and what parameters (see description column on slide 5) and then define them one by one in your profile as described.

Do not forget that you need also to define your hanging protocols in your profile if you have not done so. To do that, you can follow instructions online at

<http://radres.ucsd.edu/documents/Mammo/hangingprotocol.pdf>

## Note:

1- You may not find some of the Wizards on your profile; these are the ones that will be added to the next version of the Impax. You do not need to define those wizards and currently no function is assigned to them on our PACS. i.e. you can ignore those keys.

2- If you have question, contact me at [meghtedari@ucsd.edu](mailto:meghtedari@ucsd.edu)