# Controlling a Newport Stage With a Missing or Damaged ESP Chip

#### Introduction

If a Newport SmartStage (one with the ESP chip installed) has a damaged ESP chip, then the XPS controller will no longer recognize the stage. This makes controlling the stage impossible. This document describes the process of getting the XPS to recognize this stage even without the ESP chip. As a result, normal operation of the stage will become possible.

## **Diagnosing the ESP Chip**

To determine the status of the ESP chip on a Newport stage, simply log-on to the XPS normally. Then select "System" and "Auto Configuration", as shown below.

System auto configuration				
UG NUMBER	DRIVER MODEL	STAGE MODEL	SINGLE AXIS GROUP	
1	XPS-DRV01	UNKNOWN	•	
2	XPS-DRV01	MTM250CC.1	<ul><li>✓</li></ul>	
3	XPS-DRV03	UNKNOWN	•	
4	XPS-DRV02	ILS200LM		
5	XPS-DRV01	SR50PP		
6	XPS-DRV01	VP-5ZA	<b>V</b>	
7	NONE	UNKNOWN	•	
8	NONE	UNKNOWN	•	
IE: a safe operation all troller reboot. JTION: herating new configu figuration files will b	groups have been killed to avoid tration files will delete your currence generated, the controller will re	unexpected motion during it configuration. Once boot. You need to close your in account the new configuration	Generate configuration files	

Notice in this example that the stages on plug numbers 1 & 3 are "unknown". This means that they are either missing the ESP chip or the chip has been damaged. Note that plugs 7 & 8 do not have a driver card installed, so we can ignore those axes.

#### Creating a New Stage Profile

For this example we are going to assume we have an old RV120HAHLT rotation stage with a damaged ESP chip installed on Plug 3. We want Plug 3 to reference the stage parameters for a standard RV120HAHLT. This data is found in the Stage Database. So what we need to do, essentially, is create a link. Select "Stage" and "Add from database", as shown below.



Find the desired Stage Family. In this example, we are selecting the RV stage family. Select it by double-clicking on it. A new window will appear just to the right, called "Stages in the selected family." Find the desired stage and double-click on it. On the next window, find the correct driver board and double-click . In this example, the XPS-DRV03 is the correct driver board.

Stage families		Stages in the selected f	amily	Drivers and configuration
IPA IPO IPX IPX IPX IPX IPX ISA ISA ISA IPX IPX IPA IPA IPA IPA	E	RV120CC-F   RV120CC-HL-F   RV120CC-HL-F   RV120CC-HL   RV120HAHL-F   RV120HAHL-F   RV120HAT-F   RV120HAT-F   RV120HAT-F   RV120HAT-F   RV120HAT-F   RV120HE-F   RV120PE-F   RV120PE-FEV6   RV120PE-FEV6	- H	XPS-DRV01 XPS-DRV03
Stages already in stages DUMMY_STAGE LS100PP@XPS-DRV01 JRS75BPP@XPS-DRV01 IRA25CC@XPS-DRV01 JRS50BPP	.ini	Stage name : RV120HAHLT Juse ESP compatibility for har Add new stage	dware detection	

Finally, a new area will appear below these windows allowing you to change the stage name and a check-box where you can disable the XPS controller from looking for the ESP chip on the stage. Your screen will look like what is shown below.

Stage name :	Old-RV120	]
Use ESP con	npatibility for hardware	detection

Add new stage

Think of a new Stage name and type it into the box. This new Stage Name will link the stage with the correct stage parameters in the database. Don't use the existing Stage Name. In this example we are choosing "Old-RV120". Note that the Stage Name cannot have any spaces in it. Uncheck the box for ESP compatibility and then click on "Add New Stage."



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You will notice that the new stage now appears under "Stages already in stages.ini" on this screen.

Stage families	
BGM	*
BGS	
FMS	E
GTS	
ILS	
IMS	
LTA MEA	
МТМ	
NPA	
NPO	*
Stages already in stages.in	i
DUMMY_STAGE	
ILS IUUPP@APS-DRV01	
TRA25CC@XPS-DRV01	
URS50BPP	
Old-RV120	

The stage "Old-RV120" will use the stage parameters for the RV120HAHLT, which the XPS will recognize.

### Final Step: Auto-Configuration

Now we must perform an Auto-Configuration. Select "System", then "Auto Configuration." You may get a message that cautions you that by continuing, all groups will no longer have access to the hardware. This is fine since we are going to do an Auto Configuration anyway. Select "Yes, I confirm."

System auto configuration					
<b>CAUTION :</b> The page you have requested will kill all groups to access to hardware. Do you want to continue ?					
Yes, I confirm					

The Auto Configuration screen will now be shown, similar to that shown below.

System auto configuration						
PLUG NUMBER	DRIVER MODEL	SINGLE AXIS GROUP				
1	XPS-DRV01	UNKNOWN	•			
2	XPS-DRV01	MTM250CC.1				
3	XPS-DRV03	UNKNOWN	Old-RV120			
4	XPS-DRV02	ILS200LM	<b>V</b>			
5	XPS-DRV01	SR50PP	<b>V</b>			
6	XPS-DRV01	VP-5ZA				
7	NONE	UNKNOWN	•			
8	NONE	UNKNOWN	<b>•</b>			
NOTE : For a safe operation controller reboot. CAUTION : Generating new con configuration files w browser, wait a few :	all groups have been killed to avoin figuration files will delete your curre ill be generated, the controller will a seconds to let the controller to take	Generate configuration files				
Newport. Spectra-Physics Solutions to: Make. Manual and Measure Light**						

In this example the "bad" stage is connected to Plug Number 3. Notice that the driver card is shown correctly as XPS-DRV03, but the Stage Model is still "Unknown." So we are going to tell the XPS to use the Stage Name "Old-RV120", which can be found by clicking on the arrow at the right. (Every stage that is currently in the stages.ini file will be available.)

Now click on "Generate Configuration Files" and the stage name will be added to the Stage Model column in Plug Number 3. The XPS will re-boot and you will be able to use the "bad" stage like a normal stage.

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