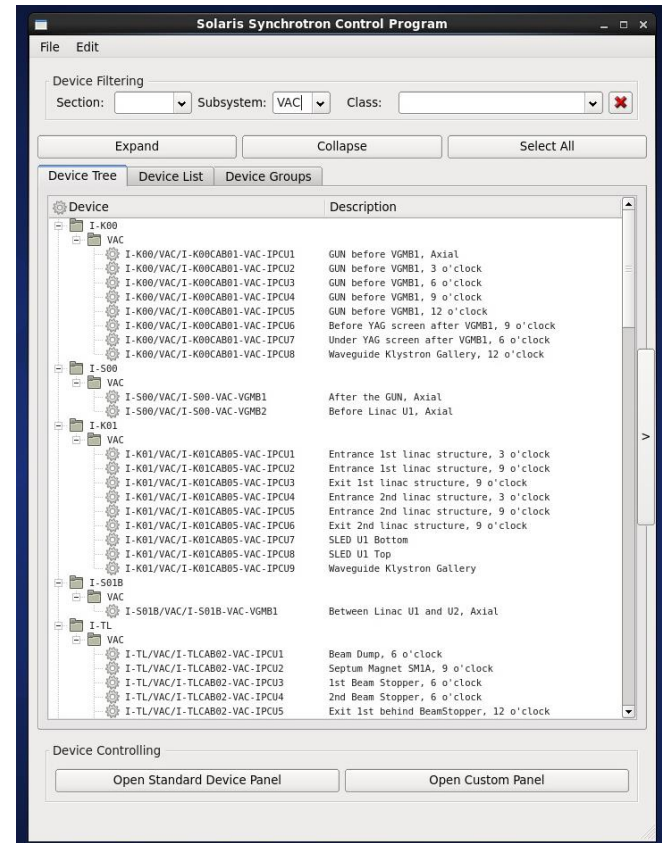


A Structured Approach to Control System  
GUI Design for the Solaris Light Source

# Solaris Synchrotron Control Program

# Challenges

- ❑ Machine control and state overview program
- ❑ Single entry point
- ❑ Broad set of controls GUIs required
- ❑ Multiple instances foreseen
- ❑ Adjust according to user feedback
  
- ❑ Existing tools not sufficient
- ❑ Limited budget



- ❑ Achieve predictable and consistent behavior of the control room software
- ❑ Provide required set of functionality and features for operation
- ❑ Transparent and convenient use
- ❑ Configuration driven
  - One source of information
  - Evade hardcoding
  - Dynamic GUI generation – generic panels
- ❑ **Extensibility**
  - Dedicated templates
  - Support for external applications
- ❑ Provide easy deployment and maintenance through scripting

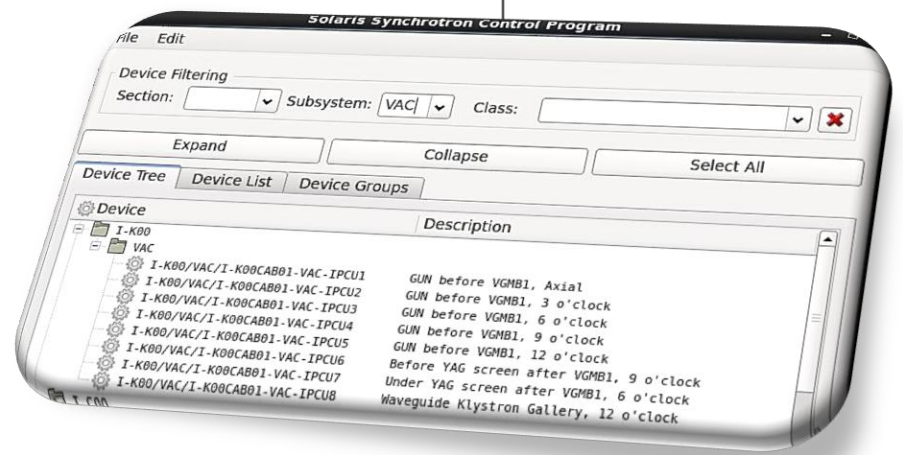
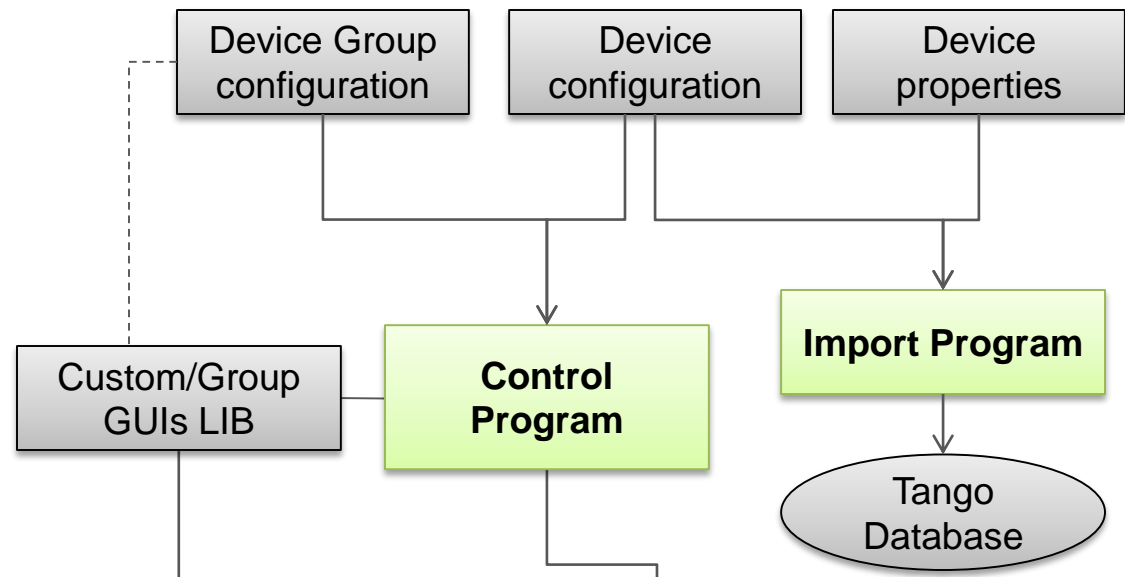


**Deliverables**

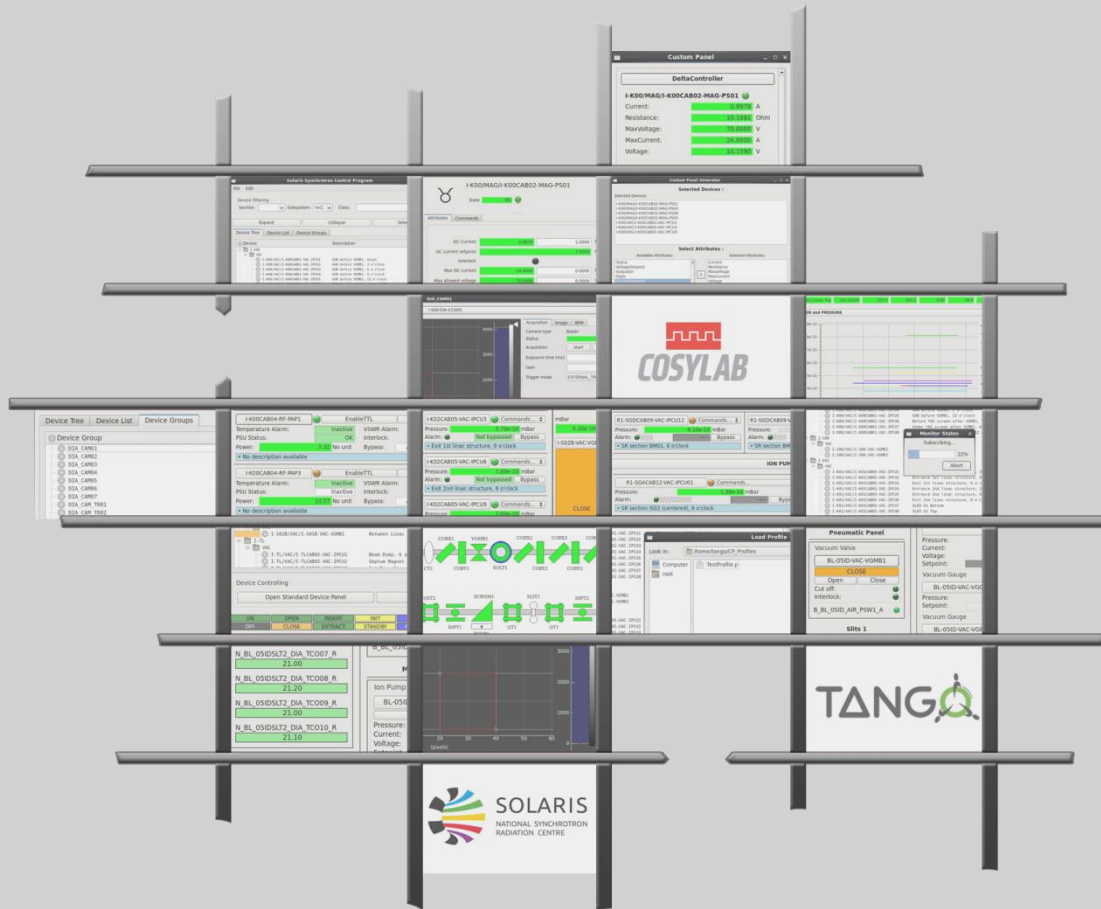
- Import Program
- Control Program
- GUI runner
  - Instance manager
  - Update manager

**Solaris**

- Synchrotron Control System
- Uarpes Control System
- Peem Control System



# 5 Control Program



Your **TRUSTED** Control System Partner

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

### ■ Custom generated panels

- User input, dynamic generation

### ■ Device Groups

- Panels aggregating multiple devices
- Easy operation using dedicated screens
- Transparent overview of subsystems

### ■ Profile Management

### ■ Device State Monitoring

- Full or selective

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

# Device View

Solaris Synchrotron Control Program

File Edit

Device Filtering  
 Section:  Subsystem:  Class:

Expand Collapse Select All

Device Tree Device List Device Groups

Device	Description
+ I-K00	
+ I-S00	
+ I-K01	
+ I-S01A	
+ I-S01B	
+ I-S03A	
+ I-TL	
+ I-S03B	
+ I-TR	
+ R1-SGD	
+ R1-015	
+ R1-01	
+ R1-C134	
+ R1-02	
+ R1-03	
+ R1-04	
+ R1-05	
+ R1-06	
+ R1-07	
+ R1-08	
+ R1-09	
+ R1-10	
+ R1-11	
+ R1-12	
+ R1-SGA	
+ R1-SGB	
+ R1-SGC	
+ R1-035	
+ I-K02	
+ I-K03	
+ I-S02B	
+ I-TR1	
+ I-PLC	
+ R1-PLC	
+ I-S02A	

Device Controlling  
 Open Standard Device Panel Open Custom Panel

Solaris Synchrotron Control Program

File Edit

Device Filtering  
 Section:  Subsystem:  Class:

Expand Collapse Select All

Device Tree Device List Device Groups

Device	Description
+ I-K00/HOT/I-K00CAB02-HOT-PS09	
+ I-S00/DIA/I-S00-DIA-CT1	
+ I-S00/MAG/I-S00-MAG-COBX1	
+ I-S00/MAG/I-S00-MAG-CRCOX1	
+ I-K01/MAG/I-K01CAB06-MAG-PS01	
+ I-S00/MAG/I-S00-MAG-COBY1	
+ I-S00/MAG/I-S00-MAG-CRCOY1	
+ I-K01/MAG/I-K01CAB06-MAG-PS08	
+ I-S00/VAC/I-S00-VAC-VGMB1	
+ I-S00/MAG/I-S00-MAG-SOLT1	
+ I-S00/MAG/I-S00-MAG-CRSOL1	
+ I-K00/MAG/I-K00CAB02-MAG-PS01	
+ I-S00/MAG/I-S00-MAG-COBX2	
+ I-S00/MAG/I-S00-MAG-CRCOX2	
+ I-K01/MAG/I-K01CAB06-MAG-PS02	
+ I-S00/MAG/I-S00-MAG-COBY2	
+ I-S00/MAG/I-S00-MAG-CRCOY2	
+ I-K01/MAG/I-K01CAB06-MAG-PS09	
+ I-S00/MAG/I-S00-MAG-COBX3	
+ I-S00/MAG/I-S00-MAG-CRCOX3	
+ I-K01/MAG/I-K01CAB06-MAG-PS03	
+ I-S00/MAG/I-S00-MAG-COBY3	
+ I-S00/MAG/I-S00-MAG-CRCOY3	
+ I-K01/MAG/I-K01CAB06-MAG-PS10	
+ I-S00/MAG/I-S00-MAG-COBX4	
+ I-S00/MAG/I-S00-MAG-CRCOX4	
+ I-K01/MAG/I-K01CAB06-MAG-PS04	
+ I-S00/MAG/I-S00-MAG-COBY4	
+ I-S00/MAG/I-S00-MAG-CRCOY4	
+ I-K01/MAG/I-K01CAB06-MAG-PS11	
+ I-S00/MAG/I-S00-MAG-COBX5	
+ I-S00/MAG/I-S00-MAG-CRCOX5	
+ I-K01/MAG/I-K01CAB06-MAG-PS05	
+ I-S00/MAG/I-S00-MAG-COBY5	
+ I-S00/MAG/I-S00-MAG-CRCOY5	

After the GUN, Axial

Device Controlling  
 Open Standard Device Panel Open Custom Panel



# Device View

Solaris Synchrotron Control Program

File Edit

Device Filtering  
 Section:  Subsystem:  Class:

Expand Collapse Select All

Device Tree Device List Device Groups

Device	Description
I-K00	
H0T	
I-K00/H0T/I-K00CAB02-HOT-PS09	
MAG	
I-K00/MAG/I-K00CAB02-MAG-PS01	
I-K00/MAG/I-K00CAB02-MAG-PS02	
I-K00/MAG/I-K00CAB02-MAG-PS03	
I-K00/MAG/I-K00CAB02-MAG-PS04	
I-K00/MAG/I-K00CAB02-MAG-PS08	
I-K00/MAG/I-K00CAB02-MAG-PS07	
I-K00/MAG/I-K00CAB02-MAG-PS05	
I-K00/MAG/I-K00CAB02-MAG-PS06	
VAC	
I-K00/VAC/I-K00CAB01-VAC-IPCU1	GUN before VGMB1, Axial
I-K00/VAC/I-K00CAB01-VAC-IPCU2	GUN before VGMB1, 3 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU3	GUN before VGMB1, 6 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU4	GUN before VGMB1, 9 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU5	GUN before VGMB1, 12 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU6	Before YAG screen after VGMB1, 9 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU7	Under YAG screen after VGMB1, 6 o'clock
I-K00/VAC/I-K00CAB01-VAC-IPCU8	Waveguide Klystron Gallery, 12 o'clock
RF	
I-K00/RF/I-K00CAB04-RF-PAP1	
I-K00/RF/I-K00CAB04-RF-PAP2	
I-K00/RF/I-K00CAB04-RF-PAP3	
I-K00/RF/I-K00CAB04-RF-PAP4	
I-K00/RF/I-K00CAB04-RF-LLRF1	
I-K00/RF/I-K00-RF-MOD1	
I-K00/RF/I-K00-RF-MODCON1	
CTL	
I-K00/CTL/I-K00CAB03-RF-SIG1	
I-K00/CTL/I-K00CAB04-RF-SIG2	
I-K00/CTL/I-K00CAB04-RF-SIG3	
I-K00/CTL/I-K00CAB04-CTL-EVR1	
I-K00/CTL/I-K00CAB04-CTL-EVR2	

Device Controlling  
 Open Standard Device Panel Open Custom Panel

Solaris Synchrotron Control Program

File Edit

Device Filtering  
 Section:  Subsystem:  Class:

Expand Collapse Select All

Device Tree Device List Device Groups

Device	Description
I-K00/HOT/I-K00CAB02-HOT-PS09	
I-S00/DIA/I-S00-DIA-CT1	
I-S00/MAG/I-S00-MAG-COBX1	
I-S00/MAG/I-S00-MAG-CRCOX1	
I-K01/MAG/I-K01CAB06-MAG-PS01	
I-S00/MAG/I-S00-MAG-COBY1	
I-S00/MAG/I-S00-MAG-CRCOY1	
I-K01/MAG/I-K01CAB06-MAG-PS08	
I-S00/VAC/I-S00-VAC-VGMB1	After the GUN, Axial
I-S00/MAG/I-S00-MAG-SOLT1	
I-S00/MAG/I-S00-MAG-CRSOL1	
I-K00/MAG/I-K00CAB02-MAG-PS01	
I-S00/MAG/I-S00-MAG-COBX2	
I-S00/MAG/I-S00-MAG-CRCOX2	
I-K01/MAG/I-K01CAB06-MAG-PS02	
I-S00/MAG/I-S00-MAG-COBY2	
I-S00/MAG/I-S00-MAG-CRCOY2	
I-K01/MAG/I-K01CAB06-MAG-PS09	
I-S00/MAG/I-S00-MAG-COBX3	
I-S00/MAG/I-S00-MAG-CRCOX3	
I-K01/MAG/I-K01CAB06-MAG-PS03	
I-S00/MAG/I-S00-MAG-COBY3	
I-S00/MAG/I-S00-MAG-CRCOY3	
I-K01/MAG/I-K01CAB06-MAG-PS10	
I-S00/MAG/I-S00-MAG-COBX4	
I-S00/MAG/I-S00-MAG-CRCOX4	
I-K01/MAG/I-K01CAB06-MAG-PS04	
I-S00/MAG/I-S00-MAG-COBY4	
I-S00/MAG/I-S00-MAG-CRCOY4	
I-K01/MAG/I-K01CAB06-MAG-PS11	
I-S00/MAG/I-S00-MAG-COBX5	
I-S00/MAG/I-S00-MAG-CRCOX5	
I-K01/MAG/I-K01CAB06-MAG-PS05	
I-S00/MAG/I-S00-MAG-COBY5	
I-S00/MAG/I-S00-MAG-CRCOY5	

Device Controlling  
 Open Standard Device Panel Open Custom Panel

# Default Device Panel

Solaris Synchrotron Control Program

File Edit

Device Filtering  
Section:  Subsystem:  Class:

Expand Collapse


Device Tree Device List Device Groups

Device Descript

- I-K00
  - HOT
    - I-K00/HOT/I-K00CAB02-HOT-PS09
  - MAG
    - I-K00/MAG/I-K00CAB02-MAG-PS01**
    - I-K00/MAG/I-K00CAB02-MAG-PS02
    - I-K00/MAG/I-K00CAB02-MAG-PS03
    - I-K00/MAG/I-K00CAB02-MAG-PS04
    - I-K00/MAG/I-K00CAB02-MAG-PS08
    - I-K00/MAG/I-K00CAB02-MAG-PS07
    - I-K00/MAG/I-K00CAB02-MAG-PS05
    - I-K00/MAG/I-K00CAB02-MAG-PS06
  - VAC
    - I-K00/VAC/I-K00CAB01-VAC-IPCU1 GUN befo
    - I-K00/VAC/I-K00CAB01-VAC-IPCU2 GUN befo
    - I-K00/VAC/I-K00CAB01-VAC-IPCU3 GUN befo
    - I-K00/VAC/I-K00CAB01-VAC-IPCU4 GUN befo
    - I-K00/VAC/I-K00CAB01-VAC-IPCU5 GUN befo
    - I-K00/VAC/I-K00CAB01-VAC-IPCU6 Before YA
    - I-K00/VAC/I-K00CAB01-VAC-IPCU7 Under YA
    - I-K00/VAC/I-K00CAB01-VAC-IPCU8 Waveguid
  - RF
    - I-K00/RF/I-K00CAB04-RF-PAP1
    - I-K00/RF/I-K00CAB04-RF-PAP2
    - I-K00/RF/I-K00CAB04-RF-PAP3
    - I-K00/RF/I-K00CAB04-RF-PAP4
    - I-K00/RF/I-K00CAB04-RF-LLRF1
    - I-K00/RF/I-K00-RF-MOD1
    - I-K00/RF/I-K00-RF-MODCON1
  - CTL
    - I-K00/CTL/I-K00CAB03-RF-SIG1
    - I-K00/CTL/I-K00CAB04-RF-SIG2
    - I-K00/CTL/I-K00CAB04-RF-SIG3
    - I-K00/CTL/I-K00CAB04-CTL-EVR1
    - I-K00/CTL/I-K00CAB04-CTL-EVR2

Device Controlling  
Open Standard Device Panel Open Custom Panel

I-K00/MAG/I-K00CAB02-MAG-PS01

I-K00/MAG/I-K00CAB02-MAG-PS01 

State **ON**

Attributes Commands

DC Current	<input type="text" value="1.9975"/>	<input type="text" value="2.0000"/>	A
DC current setpoint	<input type="text" value="2.0000"/>		
Interlock	<input type="checkbox"/>		
Max DC current	<input type="text" value="24.0000"/>	<input type="text" value="0.0000"/>	A
Max allowed voltage	<input type="text" value="70.0000"/>	<input type="text" value="0.0000"/>	V
Output status	<input checked="" type="checkbox"/>		
Resistance	<input type="text" value="10.5130"/>		
Voltage	<input type="text" value="21.0021"/>	<input type="text" value="0.0000"/>	V
Voltage setpoint	<input type="text" value="70.0000"/>		

Power supply is ON and output DC current is at desired range.

# Specialized Device Panel

Solaris Synchrotron Control Program

File Edit

Device Filtering  
Section:  Subsystem:

Expand Coll

Device Tree Device List Device Groups

Device

- I-K00
  - HOT
  - MAG
  - VAC
  - RF
  - CTL
    - I-K00/CTL/I-K00CAB03-RF-SIG1
    - I-K00/CTL/I-K00CAB04-RF-SIG2
    - I-K00/CTL/I-K00CAB04-RF-SIG3
    - I-K00/CTL/I-K00CAB04-CTL-EVR1**
    - I-K00/CTL/I-K00CAB04-CTL-EVR2
  - DIA
    - I-K00/DIA/I-K00CAB03-DIA-OSC1
    - I-K00/DIA/I-K00CAB03-DIA-OSC2
  - WAT
    - I-K00/WAT/I-K00-WAT-CHIL1
- I-S00
  - DIA
    - I-S00/DIA/I-S00-DIA-CT1
    - I-S00/DIA/I-S00-DIA-SCRN1
    - I-S00/DIA/I-S00-DIA-CAM1
    - I-S00/DIA/I-S00-DIA-CCAM1
    - I-S00/DIA/I-S00-DIA-CT2
    - I-S00/DIA/I-S00-DIA-SCRNM1
    - I-S00/DIA/I-S00-DIA-CAM2
    - I-S00/DIA/I-S00-DIA-CCAM2
    - I-S00/DIA/I-S00-DIA-FCUP1
    - I-S00/DIA/I-S00-DIA-CT3
    - I-S00/DIA/I-S00-DIA-SCRNM2
    - I-S00/DIA/I-S00-DIA-CAM3
    - I-S00/DIA/I-S00-DIA-CCAM3
    - I-S00/DIA/I-S00-DIA-FCUP2
  - MAG
    - I-S00/MAG/I-S00-MAG-COBX1
    - I-S00/MAG/I-S00-MAG-CRCOX1

Device Controlling  
Open Standard Device Panel Open Custom Panel

MRF Event Receiver

I-K00/CTL/I-K00CAB04-CTL-EVR1

Device State: **ON** Violations Violation number: **0**

Disable Enable Clear Violations

Reset Init

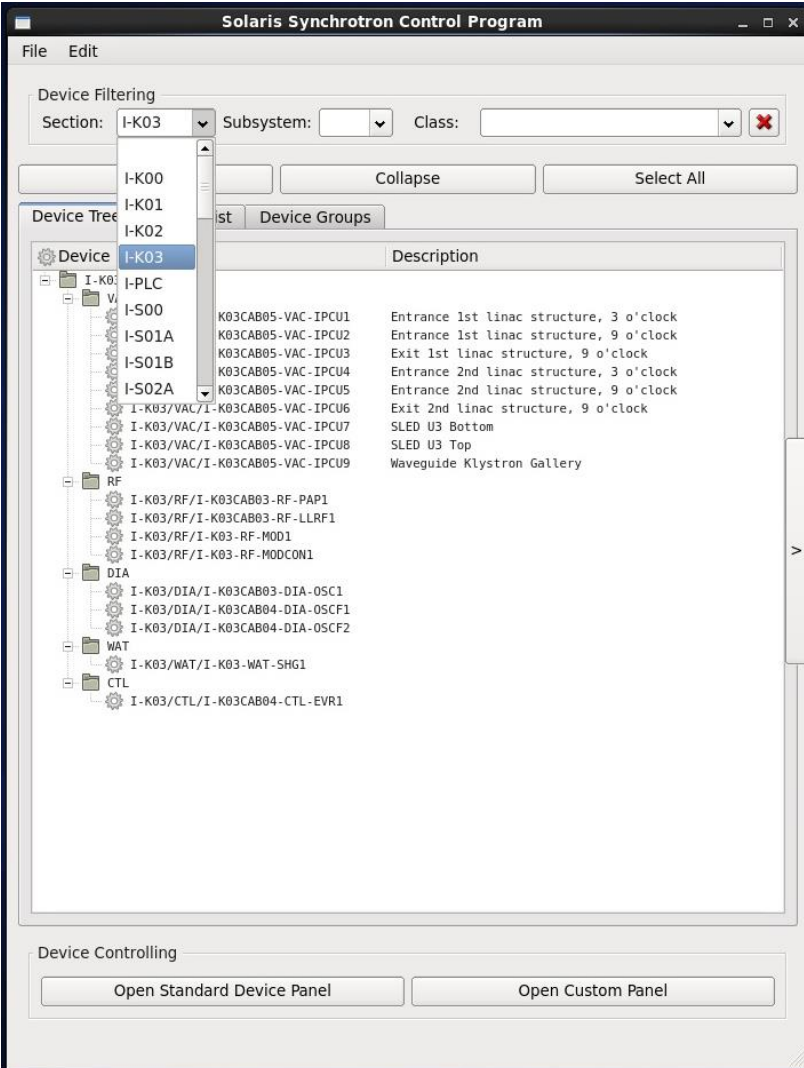
Status: **EVR enabled**

Operator mode Pulse generators Expert mode RAM 0 Expert mode RAM 1

Apply  Auto save on apply  Auto apply delay c Load from DB Save to DB Load from file Save to file

#	Delay (ns)	In cycles	Width (ns)	In cycles	Properties	Output Device name
00	9200	919 Actual (ns) 9196.36	1100	110 Actual (ns) 1100.76	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	0 W5318-LLRF_pulse_0
01	4000	400 Actual (ns) 4002.77	30000	2998 Actual (ns) 30000.76	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	1 W5319-Drive_amp_0
02	6000	600 Actual (ns) 6004.15	50000	4997 Actual (ns) 50004.60	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	2 W5320-Modulator_0
03	360	36 Actual (ns) 360.25	50000	4997 Actual (ns) 50004.60	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	3 W5501-YAG_0
04	360	36 Actual (ns) 360.25	50000	4997 Actual (ns) 50004.60	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	4 W5503-YAG_1
#	Delay (ns)	In cycles	Width (ns)	In cycles	Properties	Output Device name
...	36	36	50000	4997	<input type="checkbox"/> Inv. polarity <input checked="" type="checkbox"/> Enable	

# Device Filtering



**Solaris Synchrotron Control Program**

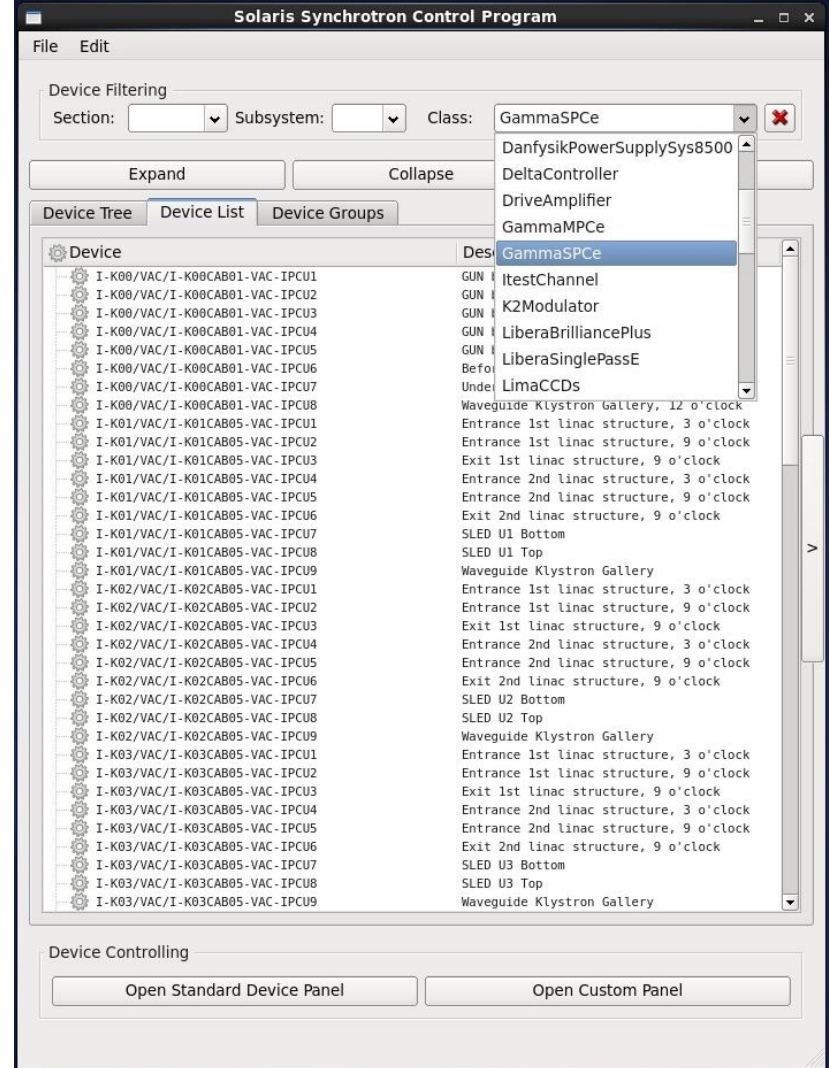
File Edit

Device Filtering  
 Section: I-K03 Subsystem: Class: Collapse Select All

Device Tree

Device	Description
I-K03	
I-PLC	
I-S00	K03CAB05-VAC-IPCU1 Entrance 1st linac structure, 3 o'clock
I-S01A	K03CAB05-VAC-IPCU2 Entrance 1st linac structure, 9 o'clock
I-S01B	K03CAB05-VAC-IPCU3 Exit 1st linac structure, 9 o'clock
I-S02A	K03CAB05-VAC-IPCU4 Entrance 2nd linac structure, 3 o'clock
	K03CAB05-VAC-IPCU5 Entrance 2nd linac structure, 9 o'clock
	K03CAB05-VAC-IPCU6 Exit 2nd linac structure, 9 o'clock
	K03CAB05-VAC-IPCU7 SLED U3 Bottom
	K03CAB05-VAC-IPCU8 SLED U3 Top
	K03CAB05-VAC-IPCU9 Waveguide Klystron Gallery
I-K03/VAC/I-K03CAB05-VAC-IPCU1	
I-K03/VAC/I-K03CAB05-VAC-IPCU2	
I-K03/VAC/I-K03CAB05-VAC-IPCU3	
I-K03/VAC/I-K03CAB05-VAC-IPCU4	
I-K03/VAC/I-K03CAB05-VAC-IPCU5	
I-K03/VAC/I-K03CAB05-VAC-IPCU6	
I-K03/VAC/I-K03CAB05-VAC-IPCU7	
I-K03/VAC/I-K03CAB05-VAC-IPCU8	
I-K03/VAC/I-K03CAB05-VAC-IPCU9	
I-K03/RF/I-K03CAB03-RF-PAP1	
I-K03/RF/I-K03CAB03-RF-LLRF1	
I-K03/RF/I-K03-RF-MOD1	
I-K03/RF/I-K03-RF-MODCON1	
I-K03/DIA/I-K03CAB03-DIA-05C1	
I-K03/DIA/I-K03CAB04-DIA-05CF1	
I-K03/DIA/I-K03CAB04-DIA-05CF2	
I-K03/WAT/I-K03-WAT-SHG1	
I-K03/CTL/I-K03CAB04-CTL-EVR1	

Device Controlling  
 Open Standard Device Panel Open Custom Panel



**Solaris Synchrotron Control Program**

File Edit

Device Filtering  
 Section: Subsystem: Class: GammaSPCe Collapse Select All

Expand Collapse

Device Tree Device List Device Groups

Device	Description
I-K00/VAC/I-K00CAB01-VAC-IPCU1	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU2	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU3	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU4	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU5	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU6	GUN I
I-K00/VAC/I-K00CAB01-VAC-IPCU7	Undel
I-K00/VAC/I-K00CAB01-VAC-IPCU8	Waveguide Klystron Gallery, 12 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU1	Entrance 1st linac structure, 3 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU2	Entrance 1st linac structure, 9 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU3	Exit 1st linac structure, 9 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU4	Entrance 2nd linac structure, 3 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU5	Entrance 2nd linac structure, 9 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU6	Exit 2nd linac structure, 9 o'clock
I-K01/VAC/I-K01CAB05-VAC-IPCU7	SLED U1 Bottom
I-K01/VAC/I-K01CAB05-VAC-IPCU8	SLED U1 Top
I-K01/VAC/I-K01CAB05-VAC-IPCU9	Waveguide Klystron Gallery
I-K02/VAC/I-K02CAB05-VAC-IPCU1	Entrance 1st linac structure, 3 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU2	Entrance 1st linac structure, 9 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU3	Exit 1st linac structure, 9 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU4	Entrance 2nd linac structure, 3 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU5	Entrance 2nd linac structure, 9 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU6	Exit 2nd linac structure, 9 o'clock
I-K02/VAC/I-K02CAB05-VAC-IPCU7	SLED U2 Bottom
I-K02/VAC/I-K02CAB05-VAC-IPCU8	SLED U2 Top
I-K02/VAC/I-K02CAB05-VAC-IPCU9	Waveguide Klystron Gallery
I-K03/VAC/I-K03CAB05-VAC-IPCU1	Entrance 1st linac structure, 3 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU2	Entrance 1st linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU3	Exit 1st linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU4	Entrance 2nd linac structure, 3 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU5	Entrance 2nd linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU6	Exit 2nd linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU7	SLED U3 Bottom
I-K03/VAC/I-K03CAB05-VAC-IPCU8	SLED U3 Top
I-K03/VAC/I-K03CAB05-VAC-IPCU9	Waveguide Klystron Gallery

Device Controlling  
 Open Standard Device Panel Open Custom Panel

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

## □ Features

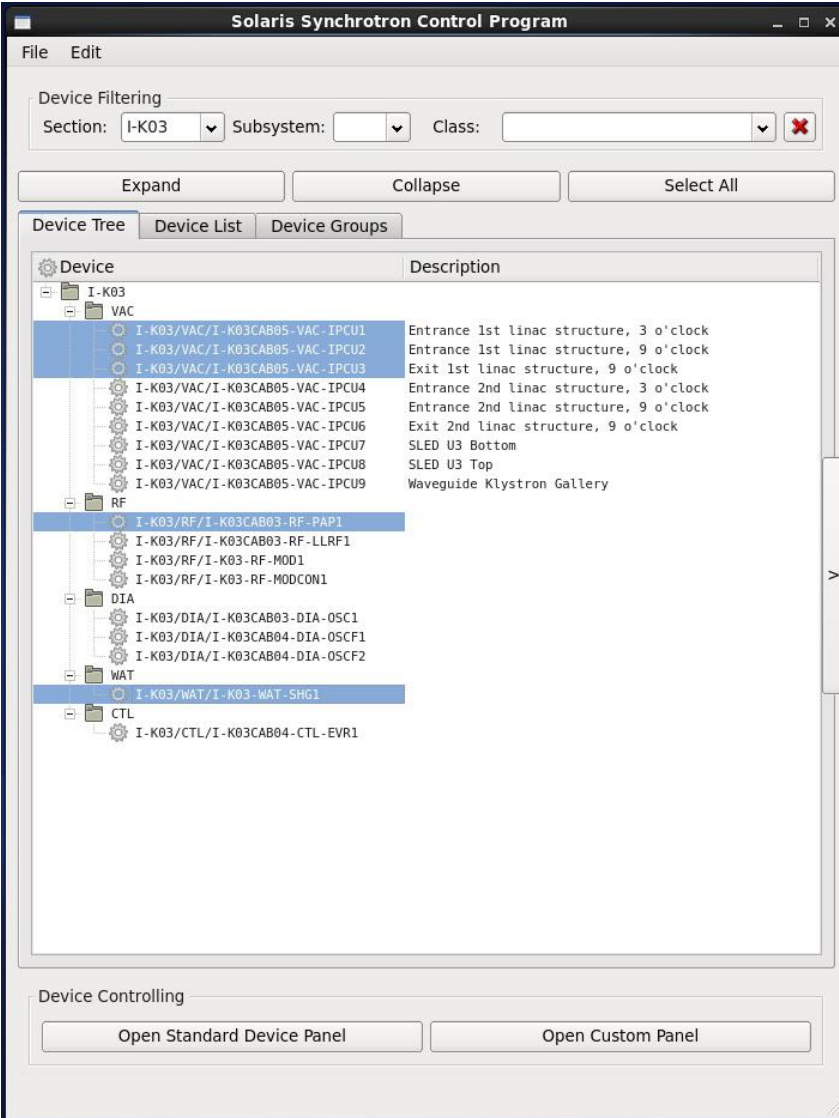
### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

### ■ Custom generated panels

- User input, dynamic generation

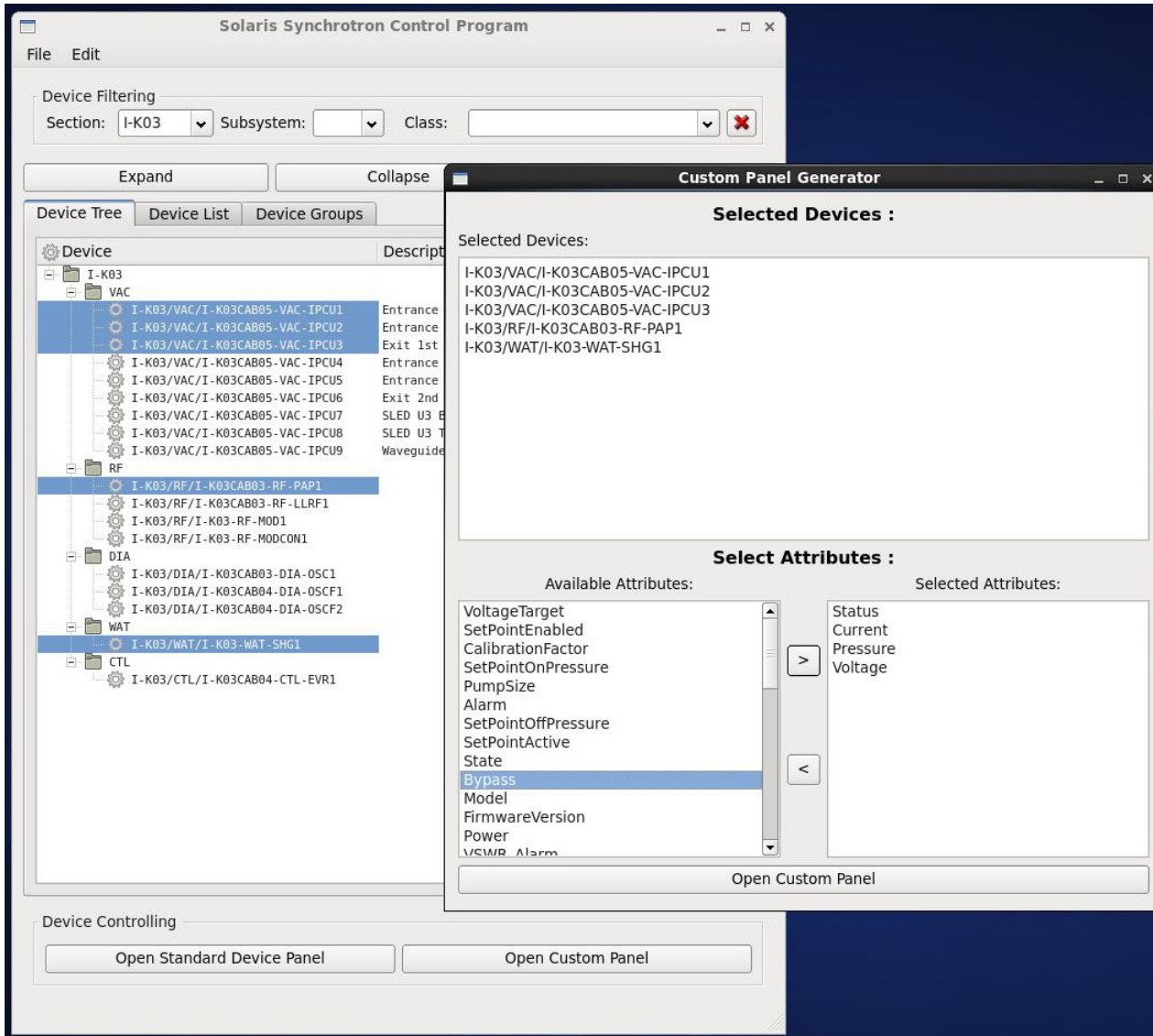
# Custom Panel



The screenshot displays the Solaris Synchrotron Control Program interface. At the top, there is a menu bar with 'File' and 'Edit'. Below it is a 'Device Filtering' section with three dropdown menus: 'Section:' (set to 'I-K03'), 'Subsystem:', and 'Class:'. There are also 'Expand', 'Collapse', and 'Select All' buttons. The main area is divided into 'Device Tree', 'Device List', and 'Device Groups' tabs. The 'Device Tree' tab is active, showing a hierarchical tree of devices under the 'I-K03' section. The tree is expanded to show sub-sections: VAC, RF, DIA, WAT, and CTL. Each sub-section contains several individual device entries, each with a gear icon and a description. For example, under VAC, there are nine entries (I-K03/VAC/I-K03CAB05-VAC-IPCU1 to I-K03/VAC/I-K03CAB05-VAC-IPCU9) with descriptions like 'Entrance 1st linac structure, 3 o'clock'. Under RF, there are four entries (I-K03/RF/I-K03CAB03-RF-PAP1 to I-K03/RF/I-K03-RF-MODCON1). Under DIA, there are three entries (I-K03/DIA/I-K03CAB03-DIA-OSC1 to I-K03/DIA/I-K03CAB04-DIA-OSCF2). Under WAT, there is one entry (I-K03/WAT/I-K03-WAT-SHG1). Under CTL, there is one entry (I-K03/CTL/I-K03CAB04-CTL-EVR1). At the bottom, there is a 'Device Controlling' section with two buttons: 'Open Standard Device Panel' and 'Open Custom Panel'.

Device	Description
I-K03/VAC/I-K03CAB05-VAC-IPCU1	Entrance 1st linac structure, 3 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU2	Entrance 1st linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU3	Exit 1st linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU4	Entrance 2nd linac structure, 3 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU5	Entrance 2nd linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU6	Exit 2nd linac structure, 9 o'clock
I-K03/VAC/I-K03CAB05-VAC-IPCU7	SLED U3 Bottom
I-K03/VAC/I-K03CAB05-VAC-IPCU8	SLED U3 Top
I-K03/VAC/I-K03CAB05-VAC-IPCU9	Waveguide Klystron Gallery
I-K03/RF/I-K03CAB03-RF-PAP1	
I-K03/RF/I-K03CAB03-RF-LLRF1	
I-K03/RF/I-K03-RF-MOD1	
I-K03/RF/I-K03-RF-MODCON1	
I-K03/DIA/I-K03CAB03-DIA-OSC1	
I-K03/DIA/I-K03CAB04-DIA-OSCF1	
I-K03/DIA/I-K03CAB04-DIA-OSCF2	
I-K03/WAT/I-K03-WAT-SHG1	
I-K03/CTL/I-K03CAB04-CTL-EVR1	

# Custom Panel



The screenshot displays the Solaris Synchrotron Control Program interface. The main window shows a device tree on the left and a central area for device filtering and expansion. A 'Custom Panel Generator' dialog is open, showing a list of selected devices and attributes.

**Solaris Synchrotron Control Program**

File Edit

Device Filtering  
 Section: I-K03 Subsystem: Class:

Expand Collapse

Device Tree Device List Device Groups

Device Descript

I-K03  
 VAC  
 I-K03/VAC/I-K03CAB05-VAC-IPC1 Entrance  
 I-K03/VAC/I-K03CAB05-VAC-IPC2 Entrance  
 I-K03/VAC/I-K03CAB05-VAC-IPC3 Exit 1st  
 I-K03/VAC/I-K03CAB05-VAC-IPC4 Entrance  
 I-K03/VAC/I-K03CAB05-VAC-IPC5 Entrance  
 I-K03/VAC/I-K03CAB05-VAC-IPC6 Exit 2nd  
 I-K03/VAC/I-K03CAB05-VAC-IPC7 SLED U3 B  
 I-K03/VAC/I-K03CAB05-VAC-IPC8 SLED U3 T  
 I-K03/VAC/I-K03CAB05-VAC-IPC9 Waveguide  
 RF  
 I-K03/RF/I-K03CAB03-RF-PAP1  
 I-K03/RF/I-K03CAB03-RF-LLRF1  
 I-K03/RF/I-K03-RF-MOD1  
 I-K03/RF/I-K03-RF-MODCON1  
 DIA  
 I-K03/DIA/I-K03CAB03-DIA-OSC1  
 I-K03/DIA/I-K03CAB04-DIA-OSCF1  
 I-K03/DIA/I-K03CAB04-DIA-OSCF2  
 WAT  
 I-K03/WAT/I-K03-WAT-SHG1  
 CTL  
 I-K03/CTL/I-K03CAB04-CTL-EVR1

**Custom Panel Generator**

**Selected Devices :**

Selected Devices:  
 I-K03/VAC/I-K03CAB05-VAC-IPC1  
 I-K03/VAC/I-K03CAB05-VAC-IPC2  
 I-K03/VAC/I-K03CAB05-VAC-IPC3  
 I-K03/RF/I-K03CAB03-RF-PAP1  
 I-K03/WAT/I-K03-WAT-SHG1

**Select Attributes :**

Available Attributes: Selected Attributes:

VoltageTarget  
 SetPointEnabled  
 CalibrationFactor  
 SetPointOnPressure  
 PumpSize  
 Alarm  
 SetPointOffPressure  
 SetPointActive  
 State  
 Bypass  
 Model  
 FirmwareVersion  
 Power  
 VSWR\_Alarm

Status  
 Current  
 Pressure  
 Voltage

Open Custom Panel

Device Controlling  
 Open Standard Device Panel Open Custom Panel



# Custom Panel

Solaris Synchrotron Control Program

File Edit

Device Filtering  
 Section: I-K03 Subsystem: Class:

Expand Collapse


Device Tree Device List Device Groups

Device	Description
I-K03	
VAC	
I-K03/VAC/I-K03CAB05-VAC-IPC1	Entrance 1st linac structure,
I-K03/VAC/I-K03CAB05-VAC-IPC2	Entrance 1st linac structure,
I-K03/VAC/I-K03CAB05-VAC-IPC3	Exit 1st linac structure, 9 d
I-K03/VAC/I-K03CAB05-VAC-IPC4	Entrance 2nd linac structure,
I-K03/VAC/I-K03CAB05-VAC-IPC5	Entrance 2nd linac structure,
I-K03/VAC/I-K03CAB05-VAC-IPC6	Exit 2nd linac structure, 9 d
I-K03/VAC/I-K03CAB05-VAC-IPC7	SLED U3 Bottom
I-K03/VAC/I-K03CAB05-VAC-IPC8	SLED U3 Top
I-K03/VAC/I-K03CAB05-VAC-IPC9	Waveguide Klystron Gallery
RF	
I-K03/RF/I-K03CAB03-RF-PAP1	
I-K03/RF/I-K03CAB03-RF-LLRF1	
I-K03/RF/I-K03-RF-MOD1	
I-K03/RF/I-K03-RF-MODCON1	
DIA	
I-K03/DIA/I-K03CAB03-DIA-OSC1	
I-K03/DIA/I-K03CAB04-DIA-OSCF1	
I-K03/DIA/I-K03CAB04-DIA-OSCF2	
WAT	
I-K03/WAT/I-K03-WAT-SHG1	
CTL	
I-K03/CTL/I-K03CAB04-CTL-EVR1	

Device Controlling  
 Open Standard Device Panel Open Custom Panel

**Custom Panel**


**DriveAmplifier**

**I-K03/RF/I-K03CAB03-RF-PAP1** 

Status: **Device is in ALARM** No unit

---

**SHG**


**I-K03/WAT/I-K03-WAT-SHG1** 

Status: **Everything is OK** No unit

Pressure: **1.51** No unit

---

**GammaSPCe**

**I-K03/VAC/I-K03CAB05-VAC-IPC1** 


Status: **...** No unit

Current: **6.10e-07** A

Pressure: **7.10e-10** mBar

Voltage: **7000.00** V

---

**I-K03/VAC/I-K03CAB05-VAC-IPC2** 


Status: **...** No unit

Current: **6.32e-07** A

Pressure: **7.39e-10** mBar

Voltage: **7000.00** V

---

**I-K03/VAC/I-K03CAB05-VAC-IPC3** 

Status: **...** No unit

Current: **1.50e-07** A

Pressure: **1.70e-10** mBar

Voltage: **7000.00** V

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

### ■ Custom generated panels

- User input, dynamic generation

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

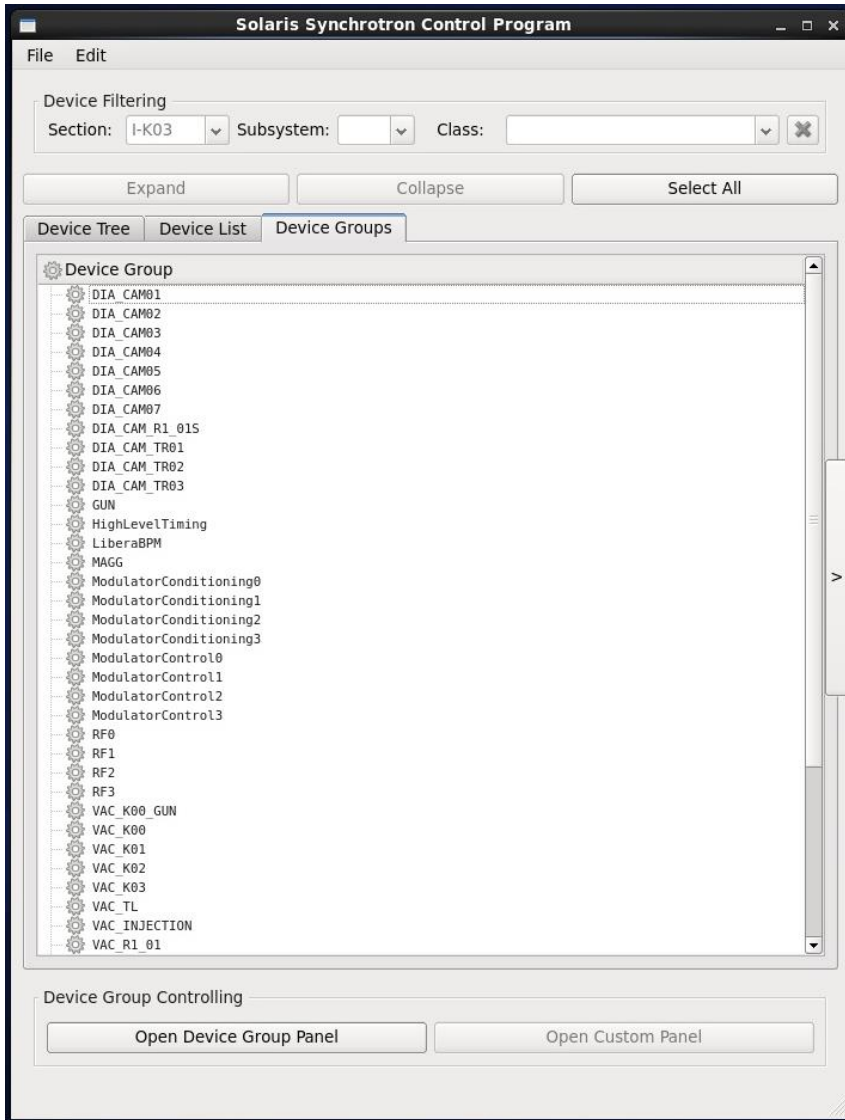
### ■ Custom generated panels

- User input, dynamic generation

### ■ Device Groups

- Panels aggregating multiple devices
- Easy operation using dedicated screens
- Transparent overview of subsystems

# Device Group Panels



# Device Group Panels



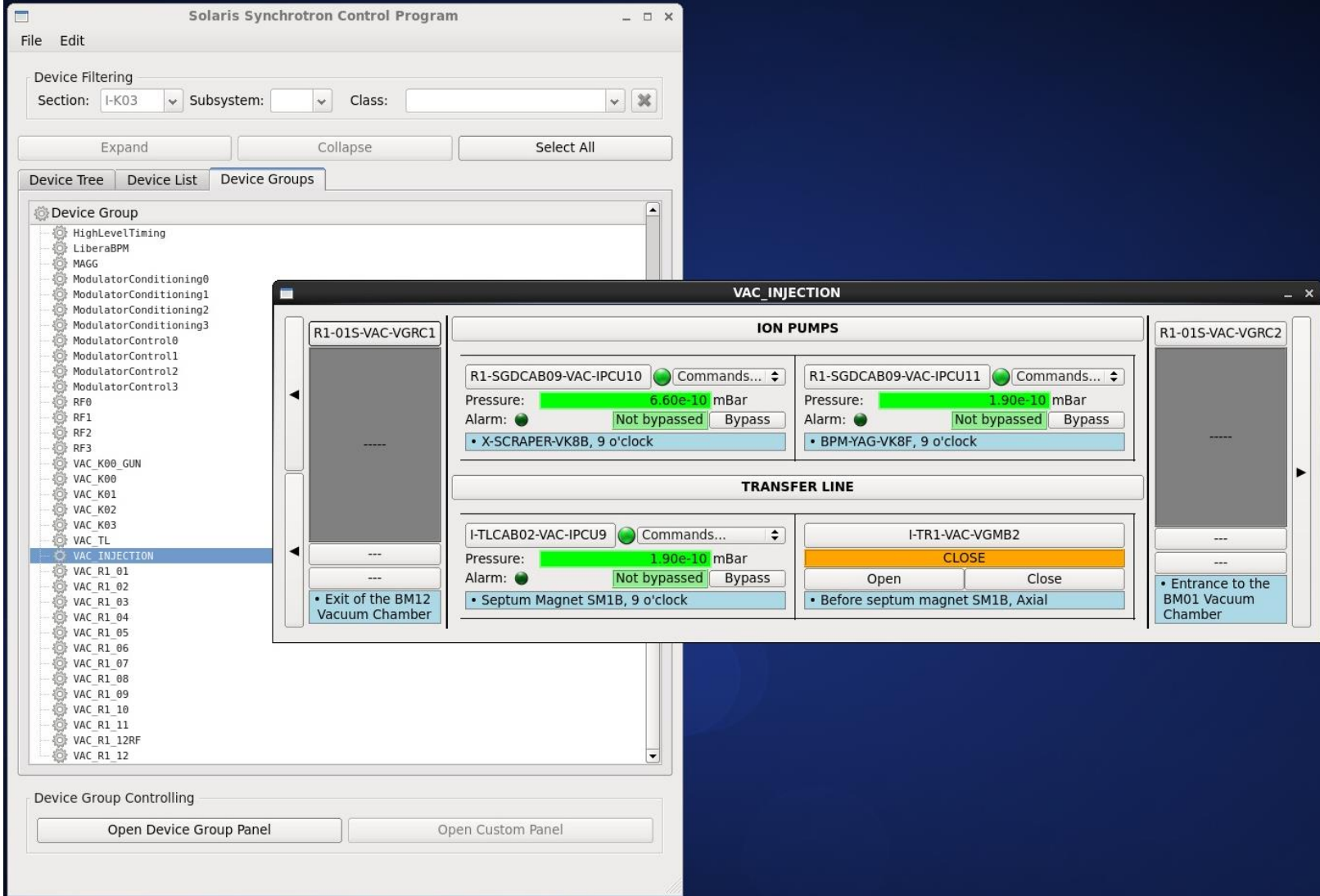
The screenshot displays the Solaris Synchrotron Control Program interface, specifically the VAC\_R1\_04 device group panel. The panel is organized into several functional sections:

- BEAMLINE 7.5 DEG:** Contains two vacuum chamber units. The left unit, R1-SGBCAB07-VAC-IPCU1, shows a pressure of 1.10e-10 mBar and an alarm status. The right unit, R1-04FEBM-VAC-VGMB1, shows an alarm status. Both have "Bypass" buttons and associated alarm indicators.
- ION PUMPS ACHROMAT CHAMBER:** Contains three vacuum chamber units. R1-SGBCAB08-VAC-IPCU03 has a pressure of 1.10e-10 mBar. R1-SGBCAB08-VAC-IPCU04 has a pressure of 6.50e-11 mBar. R1-SGBCAB08-VAC-IPCU05 has a pressure of 8.60e-11 mBar. All three have "Bypass" buttons and alarm indicators.
- ION PUMPS STRAIGHT SECTION:** Contains two vacuum chamber units. R1-SGBCAB08-VAC-IPCU06 has a pressure of 5.90e-11 mBar. R1-SGBCAB08-VAC-IPCU07 has a pressure of 5.80e-11 mBar. Both have "Bypass" buttons and alarm indicators.
- TSP PUMP:** Contains one unit, R1-SGBCAB08-VAC-TSPCU1, with fields for Current, Voltage, Fire timeout, and Fire runtime, along with a "Bypass" button and alarm indicator.
- TEMPERATURE:** A section header at the bottom of the main panel.

On the left side, a vertical list of device icons is visible, with "R1-04S-VAC-VGRC1" selected. On the right side, another vertical list shows "R1-04-VAC-VGMB1" and "R1-05S-VAC-VGRC1".

At the bottom of the interface, there are two buttons: "Open Device Group Panel" and "Open Custom Panel".

# Device Group Panels



The screenshot displays the Solaris Synchrotron Control Program interface. The main window shows a "Device Group" panel for "VAC\_INJECTION". The "Device Tree" on the left lists various components, with "VAC\_INJECTION" selected. The "Device Group Controlling" section at the bottom has buttons for "Open Device Group Panel" and "Open Custom Panel".

The "VAC\_INJECTION" panel is divided into two main sections: "ION PUMPS" and "TRANSFER LINE".

**ION PUMPS**

Device ID	Status	Commands	Pressure	Alarm	Alarm Message
R1-SGDCAB09-VAC-IPCU10	On	Commands...	6.60e-10 mBar	Not bypassed	X-SCRAPER-VK8B, 9 o'clock
R1-SGDCAB09-VAC-IPCU11	On	Commands...	1.90e-10 mBar	Not bypassed	BPM-YAG-VK8F, 9 o'clock

**TRANSFER LINE**

Device ID	Status	Commands	Pressure	Alarm	Alarm Message
I-TLCAB02-VAC-IPCU9	On	Commands...	1.90e-10 mBar	Not bypassed	Septum Magnet SM1B, 9 o'clock
I-TR1-VAC-VGMB2	Close	Open / Close	-	-	Before septum magnet SM1B, Axial

The panel also includes two side panels for "R1-01S-VAC-VGRC1" and "R1-01S-VAC-VGRC2", each with a "CLOSE" button and an "Entrance to the BM01 Vacuum Chamber" label.

# Device Group Panels



**Solaris Synergy**

File Edit

Device Filtering  
Section: I-K03 Subsystem

Expand

Device Tree Device List Device

**Device Group**

- HighLevelTiming
- LiberaBPM
- MAGG
- ModulatorConditioning0
- ModulatorConditioning1
- ModulatorConditioning2
- ModulatorConditioning3
- ModulatorControl0
- ModulatorControl1
- ModulatorControl2
- ModulatorControl3
- RFO**
- RF1
- RF2
- RF3
- VAC\_K00\_GUN
- VAC\_K00
- VAC\_K01
- VAC\_K02
- VAC\_K03
- VAC\_TL
- VAC\_INJECTION
- VAC\_R1\_01
- VAC\_R1\_02
- VAC\_R1\_03
- VAC\_R1\_04
- VAC\_R1\_05
- VAC\_R1\_06
- VAC\_R1\_07
- VAC\_R1\_08
- VAC\_R1\_09
- VAC\_R1\_10
- VAC\_R1\_11
- VAC\_R1\_12RF
- VAC\_R1\_12

Device Group Controlling  
Open Device Group Panel

**RFO**

**AMPLIFIERS**

<b>I-K00CAB04-RF-PAP1</b> <input type="radio"/> EnableTTL <input type="radio"/> DisableTTL Temperature Alarm: <input type="checkbox"/> Inactive VSWR Alarm: <input type="checkbox"/> Inactive PSU Status: <input type="checkbox"/> Inactive Interlock: <input type="checkbox"/> Inactive Power: <input type="text" value="0.02"/> No unit Bypass: <input type="checkbox"/> Active <input checked="" type="checkbox"/> Bypass • No description available	<b>I-K00CAB04-RF-PAP2</b> <input type="radio"/> EnableTTL <input type="radio"/> DisableTTL Temperature Alarm: <input type="checkbox"/> Inactive VSWR Alarm: <input type="checkbox"/> Inactive PSU Status: <input type="checkbox"/> Inactive Interlock: <input type="checkbox"/> Inactive Power: <input type="text" value="10.56"/> No unit Bypass: <input type="checkbox"/> Active <input checked="" type="checkbox"/> Bypass • No description available
<b>I-K00CAB04-RF-PAP3</b> <input type="radio"/> EnableTTL <input type="radio"/> DisableTTL Temperature Alarm: <input type="checkbox"/> Inactive VSWR Alarm: <input type="checkbox"/> Inactive PSU Status: <input type="checkbox"/> Inactive Interlock: <input type="checkbox"/> Inactive Power: <input type="text" value="10.57"/> No unit Bypass: <input type="checkbox"/> Active <input checked="" type="checkbox"/> Bypass • No description available	<b>I-K00CAB04-RF-PAP4</b> <input type="radio"/> EnableTTL <input type="radio"/> DisableTTL Temperature Alarm: <input type="checkbox"/> Inactive VSWR Alarm: <input type="checkbox"/> Inactive PSU Status: <input type="checkbox"/> Inactive Interlock: <input type="checkbox"/> Inactive Power: <input type="text" value="10.57"/> No unit Bypass: <input type="checkbox"/> Active <input checked="" type="checkbox"/> Bypass • No description available

**PHASE SHIFTERS**

**I-K00CAB04-RF-LLRF1**  Commands...  
Voltage:  V  Degrees:  °   
• No description available

**MODULATORS**

**I-K00-RF-MOD1**  Commands...  
HV PS DC Voltage:  V Setpoint:  V  
Pulse voltage:  KV Pulse current:  A  
Pulse frequency:  Hz. Average output:  KW  
• No description available

**SIGNAL GENERATORS**

<b>I-K00CAB03-RF-SIG1</b> <input type="radio"/> Commands... Phase: <input type="text" value="0.00"/> No unit <input type="text" value="0.00"/> Frequency: <input type="text" value="2998500000.00"/> Hz <input type="text" value="100.00"/> Amplitude: <input type="text" value="12.70"/> dBm <input type="text" value="12.70"/> RF Output: <input type="checkbox"/> Active <input type="checkbox"/> RF Output State • No description available	<b>I-K00CAB04-RF-SIG2</b> <input type="radio"/> Commands... Phase: ----- No unit None Frequency: ----- Hz None Amplitude: ----- dBm None RF Output: ----- <input type="checkbox"/> RF Output State • No description available	<b>I-K00CAB04-RF-SIG3</b> <input type="radio"/> Commands... Phase: ----- No unit None Frequency: ----- Hz None Amplitude: ----- dBm None RF Output: ----- <input type="checkbox"/> RF Output State • No description available
--	--	--

# Device Group Panels



Solaris Synchrotron Control Program

File Edit

Device Filtering  
Section: I-K03 Subsystem

Expand

Device Tree Device List Device

Device Group

- HighLevelTiming
- LiberaBPM
- MAGG
- ModulatorConditioning0
- ModulatorConditioning1
- ModulatorConditioning2
- ModulatorConditioning3
- ModulatorControl0
- ModulatorControl1
- ModulatorControl2
- ModulatorControl3
- RF0**
- RF1
- RF2
- RF3
- VAC\_K00\_GUN
- VAC\_K00
- VAC\_K01
- VAC\_K02
- VAC\_K03
- VAC\_TL
- VAC\_INJECTION
- VAC\_R1\_01
- VAC\_R1\_02
- VAC\_R1\_03
- VAC\_R1\_04
- VAC\_R1\_05
- VAC\_R1\_06
- VAC\_R1\_07
- VAC\_R1\_08
- VAC\_R1\_09
- VAC\_R1\_10
- VAC\_R1\_11
- VAC\_R1\_12RF
- VAC\_R1\_12

Device Group Controlling

Open Device Group Panel Open Custom Panel

**RF0**

**AMPLIFIERS**

<p>I-K00CAB04-RF-PAP1 <span style="float: right;">EnableTTL DisableTTL</span></p> <p>Temperature Alarm: <span style="color: green;">Inactive</span> VSWR Alarm: <span style="color: green;">Inactive</span></p> <p>PSU Status: <span style="color: green;">Inactive</span> Interlock: <span style="color: green;">Inactive</span></p> <p>Power: <span style="background-color: green; color: black;">0.03</span> No unit Bypass: Active <input checked="" type="checkbox"/> Bypass</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>	<p>I-K00CAB04-RF-PAP2 <span style="float: right;">EnableTTL DisableTTL</span></p> <p>Temperature Alarm: <span style="color: green;">Inactive</span> VSWR Alarm: <span style="color: green;">Inactive</span></p> <p>PSU Status: <span style="color: green;">Inactive</span> Interlock: <span style="color: green;">Inactive</span></p> <p>Power: <span style="background-color: green; color: black;">10.56</span> No unit Bypass: Active <input checked="" type="checkbox"/> Bypass</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>
<p>I-K00CAB04-RF-PAP3 <span style="float: right;">EnableTTL DisableTTL</span></p> <p>Temperature Alarm: <span style="color: green;">Inactive</span> VSWR Alarm: <span style="color: green;">Inactive</span></p> <p>PSU Status: <span style="color: green;">Inactive</span> Interlock: <span style="color: green;">Inactive</span></p> <p>Power: <span style="background-color: green; color: black;">10.57</span> No unit Bypass: Active <input checked="" type="checkbox"/> Bypass</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>	<p>I-K00CAB04-RF-PAP4 <span style="float: right;">EnableTTL DisableTTL</span></p> <p>Temperature Alarm: <span style="color: green;">Inactive</span> VSWR Alarm: <span style="color: green;">Inactive</span></p> <p>PSU Status: <span style="color: green;">Inactive</span> Interlock: <span style="color: green;">Inactive</span></p> <p>Power: <span style="background-color: green; color: black;">10.57</span> No unit Bypass: Active <input checked="" type="checkbox"/> Bypass</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>

**▼ PHASE SHIFTERS ▼**

**▼ MODULATORS ▼**

**SIGNAL GENERATORS**

<p>I-K00CAB03-RF-SIG1 <span style="float: right;">Commands...</span></p> <p>Phase: <span style="background-color: green; color: black;">0.00</span> No unit <span style="border: 1px solid black; padding: 2px;">0.00</span></p> <p>Frequency: <span style="background-color: green; color: black;">2998500000.00</span> Hz <span style="border: 1px solid black; padding: 2px;">100.00</span></p> <p>Amplitude: <span style="background-color: green; color: black;">12.70</span> dBm <span style="border: 1px solid black; padding: 2px;">12.70</span></p> <p>RF Output: <span style="color: green;">Active</span> <input type="checkbox"/> RF Output State</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>	<p>I-K00CAB04-RF-SIG2 <span style="float: right;">Commands...</span></p> <p>Phase: <span style="background-color: #cccccc;">----</span> No unit <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>Frequency: <span style="background-color: #cccccc;">----</span> Hz <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>Amplitude: <span style="background-color: #cccccc;">----</span> dBm <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>RF Output: <span style="background-color: #cccccc;">----</span> <input type="checkbox"/> RF Output State</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>	<p>I-K00CAB04-RF-SIG3 <span style="float: right;">Commands...</span></p> <p>Phase: <span style="background-color: #cccccc;">----</span> No unit <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>Frequency: <span style="background-color: #cccccc;">----</span> Hz <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>Amplitude: <span style="background-color: #cccccc;">----</span> dBm <span style="border: 1px solid black; padding: 2px;">None</span></p> <p>RF Output: <span style="background-color: #cccccc;">----</span> <input type="checkbox"/> RF Output State</p> <p><span style="background-color: lightblue; color: black;">• No description available</span></p>
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# Device Group Panels



The screenshot displays the Solaris Synchrotron Control Program interface. At the top, there is a 'Device Filtering' section with dropdown menus for 'Section' (set to I-K03), 'Subsystem', and 'Class'. Below this is a 'Device Tree' showing a hierarchical list of devices, with 'DIA\_CAM03' selected. The main window, titled 'DIA\_CAM03', contains a camera control panel for 'I-S00-DIA-CCAM3'. This panel features a 'Yag Screen' control with a 'Yag Screen' dropdown set to 'I-S00-DIA-SCRNM2'. It includes numerical input fields for 'Enum Position' (value: -1), 'Step Position' (value: -5500), 'Physical Position' (value: -27.50), and 'Screen Status' (value: 0, End of movement). A 'Commands...' dropdown is also present. To the right of the Yag Screen control is a vertical slider. The camera control panel also includes tabs for 'Acquisition', 'Image', and 'BPM', and various parameters such as 'Camera type' (Basler), 'Status' (Ready), 'Acquisition' (Start/Stop buttons), 'Exposure time (ms)' (100.00), 'Gain' (None), and 'Trigger mode' (EXTERNAL\_TRIGGER).

# Device Group Panels



The screenshot displays the COSYLAB control interface. On the left is a 'Device Tree' showing a hierarchy of components including 'GUN', 'HighLevel', 'Modulator', 'RF0-3', 'VAC', and 'VAC\_INJECT'. The main window is titled 'GUN' and shows a schematic diagram of the assembly with components like COBX1-6, VGMB1-2, SOLT1-2, APT1, CT1-3, QST1-4, DIPT1-2, SCRNM1-2, and FCUP1-2. Below the diagram are three detailed device panels:

- I-K00CTL/I-K00CAB03-RF-SIG1**: State ON. Attributes include Power Level (12.70 dBm), Freq (2998500000.00 Hz), Phase (0.00), and RF Output State (ON).
- I-K00WAT/I-K00WAT-CHIL1**: State MOVING. Attributes include Auto restart (checked), Use external probe (checked), External temperature (320.00 C), Firmware Version (095441.2), and High temperature limit (98.00 C). It also shows PWM heat duty cycle > 0, Compressor On, and Pump On.
- I-S00CTL/I-S00CTL-STPMT1**: State ON. Attributes include Acceleration time (4.00 s), EncoderPosition (-2500 steps), MotorStatus (0: End of movement), PhysicalPosition (-12.50 mm), StepPosition (-2500 steps), and Velocity (80 steps/s). A status message at the bottom reads 'The motor is ready to move.'

## □ Features

### ■ Device Overview

- Taurus panels, specialized panels
- Organized access, various filtering options
- Browsing in respect to facility structure

### ■ Custom generated panels

- User input, dynamic generation

### ■ Device Groups

- Panels aggregating multiple devices
- Easy operation using dedicated screens
- Transparent overview of subsystems

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### ■ Device State Monitoring

- Full or selective

# Device State Monitoring



The screenshot shows the Solaris Synchrotron Control Program interface. A 'Warning' dialog box is displayed in the center, with the text: "This operation might take several minutes to complete. Are you sure you want to proceed?". The dialog has 'No' and 'Yes' buttons. The background interface includes a 'Monitor States' window at the top, a 'Device Filtering' section with dropdowns for Section, Subsystem, and Class, and a 'Device Tree' view showing a hierarchical list of devices with their descriptions. At the bottom, there are buttons for 'Open Standard Device Panel' and 'Open Custom Panel'.

The screenshot shows the Solaris Synchrotron Control Program interface. A 'Monitor States' dialog box is displayed in the center, with the text: "Subscribing..." and a progress bar showing 6%. The dialog has an 'Abort' button. The background interface is similar to the first screenshot, showing the 'Monitor States' window, 'Device Filtering' section, and 'Device Tree' view. At the bottom, there are buttons for 'Open Standard Device Panel' and 'Open Custom Panel', and a row of status buttons: ON, OPEN, INSERT, INIT, MOVING, ALARM, DISABLE, OFF, CLOSE, EXTRACT, STANDBY, RUNNING, FAULT, UNKNOWN.

# Device State Monitoring

**Solaris Synchrotron Control Program**

File Edit

Device Filtering  
 Section: I-TL Subsystem: Class:

Expand Collapse Select All

Device Tree Device List Device Groups

Device	Description
I-TL	
MAG	
I-TL/MAG/I-TLCAB03-MAG-PS01	
I-TL/MAG/I-TLCAB03-MAG-PS02	
I-TL/MAG/I-TLCAB03-MAG-PS03	
I-TL/MAG/I-TLCAB03-MAG-PS04	
I-TL/MAG/I-TLCAB03-MAG-PS05	
I-TL/MAG/I-TLCAB03-MAG-PS13	
I-TL/MAG/I-TLCAB03-MAG-PS14	
I-TL/MAG/I-TLCAB03-MAG-PS06	
I-TL/MAG/I-TLCAB03-MAG-PS07	
I-TL/MAG/I-TL-MAG-QF1	Monitor State
I-TL/MAG/I-TLCAB03-MAG-PS15	
I-TL/MAG/I-TL-MAG-QF2	
I-TL/MAG/I-TLCAB03-MAG-PS17	
I-TL/MAG/I-TL-MAG-QF3	
I-TL/MAG/I-TLCAB03-MAG-PS18	
I-TL/MAG/I-TL-MAG-QF4	
I-TL/MAG/I-TLCAB03-MAG-PS08	
I-TL/MAG/I-TL-MAG-QF5	
I-TL/MAG/I-TLCAB03-MAG-PS09	
I-TL/MAG/I-TLCAB03-MAG-PS10	
I-TL/MAG/I-TL-MAG-QF6	
I-TL/MAG/I-TLCAB03-MAG-PS11	
I-TL/MAG/I-TLCAB03-MAG-PS12	
VAC	
I-TL/VAC/I-TLCAB02-VAC-IPC1	Beam Dump, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC2	Septum Magnet SM1A, 9 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC3	1st Beam Stopper, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC4	2nd Beam Stopper, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC5	Exit 1st behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC6	Exit 2nd behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC7	Exit 3rd behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC8	Exit DIF magnet, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC9	Septum Magnet SM1B, 9 o'clock

Device Controlling

**Solaris Synchrotron Control Program**

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 Section: I-TL Subsystem: Class:

Expand Collapse Select All

Device Tree Device List Device Groups

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I-TL/MAG/I-TLCAB03-MAG-PS02	
I-TL/MAG/I-TLCAB03-MAG-PS03	
I-TL/MAG/I-TLCAB03-MAG-PS04	
I-TL/MAG/I-TLCAB03-MAG-PS05	
I-TL/MAG/I-TLCAB03-MAG-PS13	
I-TL/MAG/I-TLCAB03-MAG-PS14	
I-TL/MAG/I-TLCAB03-MAG-PS06	
I-TL/MAG/I-TLCAB03-MAG-PS07	
I-TL/MAG/I-TL-MAG-QF1	
I-TL/MAG/I-TLCAB03-MAG-PS15	
I-TL/MAG/I-TL-MAG-QF2	
I-TL/MAG/I-TLCAB03-MAG-PS17	
I-TL/MAG/I-TL-MAG-QF3	
I-TL/MAG/I-TLCAB03-MAG-PS18	
I-TL/MAG/I-TL-MAG-QF4	
I-TL/MAG/I-TLCAB03-MAG-PS08	
I-TL/MAG/I-TL-MAG-QF5	
I-TL/MAG/I-TLCAB03-MAG-PS09	
I-TL/MAG/I-TLCAB03-MAG-PS10	
I-TL/MAG/I-TL-MAG-QF6	
I-TL/MAG/I-TLCAB03-MAG-PS11	
I-TL/MAG/I-TLCAB03-MAG-PS12	
VAC	
I-TL/VAC/I-TLCAB02-VAC-IPC1	Beam Dump, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC2	Septum Magnet SM1A, 9 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC3	1st Beam Stopper, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC4	2nd Beam Stopper, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC5	Exit 1st behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC6	Exit 2nd behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC7	Exit 3rd behind BeamStopper, 12 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC8	Exit DIF magnet, 6 o'clock
I-TL/VAC/I-TLCAB02-VAC-IPC9	Septum Magnet SM1B, 9 o'clock

Device Controlling

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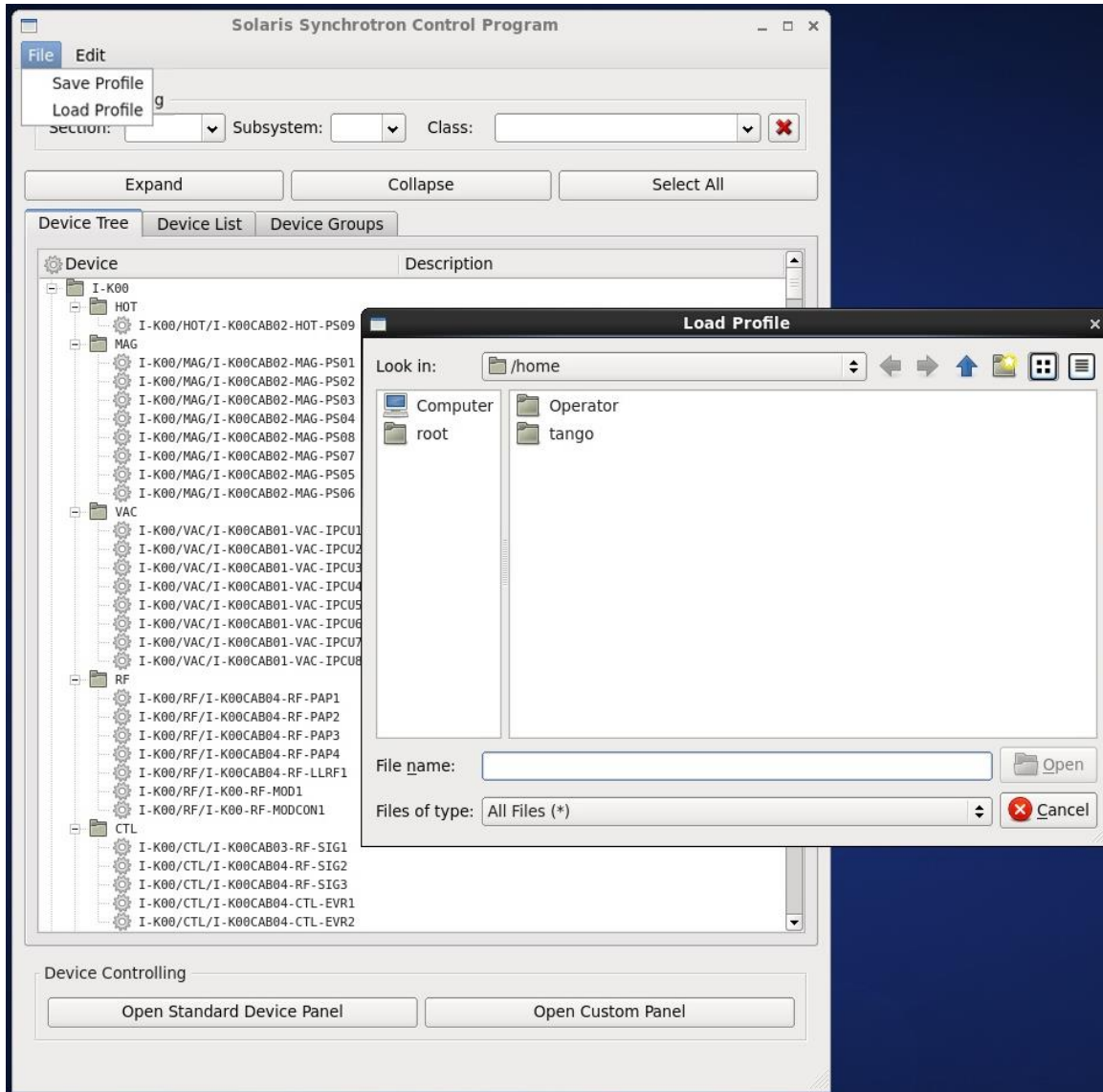
### ■ Device State Monitoring

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### ■ Profile Management



# Profile Management



## ❑ Benefits

- Single entry point for control room operations
- Transparent usability
- Controlled content

## ❑ Reusability

- Configuration files
- Optional extensions library

## ❑ Maintenance

- Updates / transitions
- Scripted deployment of updates

## ❑ Extensibility

- Dedicated templates
- Support for external applications

# Future development

- Operator/expert mode
- Archiving support
- State monitoring on subsystem level
- Automatic synoptic generation
- ...



**THANK YOU!**

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Your **TRUSTED** Control System Partner

