Transport

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Section 1. Project description

No description found (add content in project description)

Section 2. Classes

This section describes the classes contained in the project.

2.1. Classes overview

This project contains 8 classes and 0 interface.

Table 1. Classes list

Classes	Interfaces
Sequence Experiment.lvclass	
Sequence Experiment UI.lvclass	
Sequence Experiment SM.lvclass	
Control Experiment.lvclass	
Control Experiment UI.lvclass	
Control Experiment SM.lvclass	
SweepControl.lvclass	
Transport.lvclass	

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Sequence Experiment" {
{field} -Configuration : Cluster
{static} {method} +Sequence Experiment.getAll()
{static} {method} -Sequence Experiment.Command Enum to String()
{static} {method} -Sequence Experiment.Configuration Window()
{static} {method} #Sequence Experiment.Client()
{static} {method} +Sequence Experiment.AppLauncher()
{method} +Open()
{method} +Close()
{method} #Configure Instrument()
{method} #Handle Command()
{method} #getAll()
{method} #Get SMO Name()
{method} #Get SMO Public API()
{method} #Get SMO Port()
{method} #Get SMO RC Type()
{method} #Process()
```

```
}
"Instrument" <|-- "Sequence Experiment"


class "Sequence Experiment UI" {
{field} -Instrument : LV Class
{static} {method} +Sequence Experiment UI.TestLauncher()
{method} #Process()

}
"Instrument UI" <|-- "Sequence Experiment UI"
"Sequence Experiment UI" *-- "Instrument"


class "Sequence Experiment SM" {
{static} {method} +Main()

}


class "Control Experiment" {
{field} -Configuration : Cluster
{static} {method} +Control Experiment.getAll()
{static} {method} -Control Experiment.Command Enum to String()
{static} {method} -Control Experiment.Configuration Window()
{static} {method} #Control Experiment.Client()
{static} {method} +Control Experiment.AppLauncher()
{method} +Open()
{method} +Close()
{method} #Configure Instrument()
{method} #Handle Command()
{method} #getAll()
{method} #Get SMO Name()
{method} #Get SMO Public API()
{method} #Get SMO Port()
{method} #Get SMO RC Type()
{method} #Process()

}
"Instrument" <|-- "Control Experiment"


class "Control Experiment UI" {
{field} -Instrument : LV Class
{static} {method} +Control Experiment UI.TestLauncher()
{method} #Process()

}
"Instrument UI" <|-- "Control Experiment UI"
"Control Experiment UI" *-- "Instrument"
```

```
class "Control Experiment SM" {
{field} -Experiment : Cluster
{field} +Wiring Configuration : Cluster
{field} +Instruments : Cluster
{field} +Comments : String
{field} -DAT Path : Path
{field} -dictionary : Datalog
{field} -AWS Credentials : Path
{field} -File Path : Path
{field} -Device Description : String
{static} {method} +Generate Comments()
{static} {method} +Comments.Add D()
{static} {method} +Comments.Add Wiring Description()
{static} {method} +Comments.Add Experiment Description()
{static} {method} +Comments.Add Sweep Description()
{static} {method} +Comments.Add Lockin Description()
{static} {method} +Comments.Create Lockin AO Description()
{static} {method} +Comments.Create Lockin REF Description()
{static} {method} +Comments.Create Lockin Sampling Description()
{static} {method} +D()
{static} {method} +Instrument Class Paths()
{static} {method} +Get Date Time ISO()
{static} {method} +Get Date Time For Filename()
{static} {method} +Find File()
{static} {method} +Load Instrument Classes()
{static} {method} +Multiply Gains()
{static} {method} +ElectrodesLabelsToPickeringChannels()
{static} {method} +Number to Letter()
{static} {method} +Letter to Number()
{static} {method} +DBL Variant or Array Variant to Array()
{static} {method} +D()
{static} {method} +Compare With Pr()
{static} {method} +Reset Counter()
{static} {method} +Open Experiment VI()
{static} {method} +Open Lockin()
{static} {method} +GetLocalComputerName()
{static} {method} +Initialize KH Array()
{static} {method} +Append Dictionary Element()
{static} {method} +Close Dictionary()
{static} {method} +Erase Comments()
{static} {method} +Get Channel Indices()
{static} {method} +Move Existing Config Files()
{static} {method} +Class XML FGV()
{static} {method} +Control Experiment FGV()
{static} {method} +Create Transport DAT File()
{static} {method} +Save Transport DAT File()
{static} {method} +Save Transport DAT File 2D()
{static} {method} +Save Transport ITX File()
{static} {method} +Save Transport TDMS File()
{static} {method} +Upload to S3()
```

4

```
{static} {method} +Save JSON File()
{static} {method} +Pickering 4 Wire PPMS DR Asynchronous()
{static} {method} +Pickering 4 Wire Asynchronous()
{static} {method} +PickeringReadConfig Asynchronous()
{static} {method} +PickeringWriteConfig Asynchronous()
{static} {method} +Asana Dictionary Get Value()
{static} {method} +Asana Dictionary Tasks Get Value()
{static} {method} +Test Upload to S3()
{static} {method} +Test Write()
{static} {method} +Control Experiment SM()
{static} {method} +Tree()


}
"Control Experiment SM" *-- "Instrument.KH7008"
"Control Experiment SM" *-- "Instrument.Lockin"
"Control Experiment SM" *-- "Instrument.Cryostat"
"Control Experiment SM" *-- "Instrument.CBridge"
"Control Experiment SM" *-- "Instrument.OpticalDelayLine"
"Control Experiment SM" *-- "Instrument.Strain"
"Control Experiment SM" *-- "Instrument.VNA"



class "SweepControl" {
{field} -Scan control : Array of Cluster
{field} -Scan parameters : Array of Cluster
{field} -Post action (indexing priority) : Array of Enum {}
{field} -Experiment : Enum {}
{field} -Sorted scan control : Array of Cluster
{field} +Sorted scan parameters : Array of Cluster
{field} +Parameter (Now) : Double Float
{field} +Control Experiment : LV Class
{field} -Scan parameters 2 : Array of Cluster
{field} -Sorted scan parameters 2 : Array of Cluster
{field} -Scan Parameters (now) : Cluster
{field} -Indices : Cluster
{field} -Stop? : Boolean
{field} -Sweep Lockin Array : Array of Cluster
{static} {method} +AppendDBLtoComments()
{static} {method} +Post action()
{static} {method} +Scan action()
{static} {method} +Sort Scan Parameters()
{static} {method} +Create Scan()
{static} {method} +Sweep Control Inner Loop()
{static} {method} +D-Lockin()
{static} {method} +Take Measurement()
{static} {method} +Sweep Control()
{static} {method} +Continuous B sweep()
{static} {method} +Sweep Control Cartesian()
{static} {method} +Sweep Control Loop()
{static} {method} +SweepControl.TestLauncher()
{method} #Process()
```

```
}
"SMO" <|-- "SweepControl"
"SweepControl" *-- "Control Experiment SM"


class "Transport" {
{field} +Dependencies : Cluster
{field} -Notifier : Notifier
{static} {method} +Add Braces String()
{static} {method} +Add Braces Array()
{static} {method} +Add Braces()
{static} {method} +Calculate R and G - Four Terminal()
{static} {method} +Calculate R and G - Two Terminal()
{static} {method} +Decimate and Filter()
{static} {method} +GraphLockin_vs_Parameter()
{static} {method} +2D Results to X and Y Arrays()
{static} {method} +Create Keys (AI)()
{static} {method} +Create Keys (AO)()
{static} {method} +Exec State to Append()
{static} {method} +Append Waveform if new()
{static} {method} +IV()
{static} {method} +IV_Sweep()
{static} {method} +Lockin_time()
{static} {method} +Lockin_Vsg()
{static} {method} +Lockin_sweep()
{static} {method} +Lockin_AIWFM_time()
{static} {method} +Lockin()
{static} {method} +THz_TimeDelay()
{static} {method} +Sweep_AIWFM_time()
{static} {method} +Temp Sweep Control()

}
"Transport" *-- "SweepControl"
"Transport" *-- "Control Experiment SM"



@enduml
```

2.2. Sequence Experiment.lvclass

Responsibility: LevyLab Instrument based on JKI SMO (by val).

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Sequence Experiment" {
{field} -Configuration : Cluster
{static} {method} +Sequence Experiment.getAll()
{static} {method} -Sequence Experiment.Command Enum to String()
{static} {method} -Sequence Experiment.Configuration Window()
{static} {method} #Sequence Experiment.Client()
{static} {method} +Sequence Experiment.AppLauncher()
{method} +Open()
{method} +Close()
{method} #Configure Instrument()
{method} #Handle Command()
{method} #getAll()
{method} #Get SMO Name()
{method} #Get SMO Public API()
{method} #Get SMO Port()
{method} #Get SMO RC Type()
{method} #Process()

}
"Instrument" <|-- "Sequence Experiment"


@enduml
```

Table 2. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Open	Sequence Experiment [11] / Address [10] / error in (no error) [8] — SEQ OPEN — [3] Sequence Experiment out / [0] error out	No description found (add content in vi description)			
Close	Sequence Experiment [11] / error in (no error) [8] — SEQ CLOSE — [3] Sequence Experiment out / [0] error out	No description found (add content in vi description)			
Sequence Experiment.getAll	Sequence Experiment [11] / error in (no error) [8] — SEQ getALL — [3] Sequence Experiment out / [2] getAll / [0] error out	No description found (add content in vi description)			
Configure Instrument	Sequence Experiment [11] / error in (no error) [8] — SEQ — [3] Sequence Experiment out / [0] error out	No description found (add content in vi description)	🔑		
Handle Command	Sequence Experiment [11] / Command [10] / Data [9] / error in (no error) [8] — SEQ HANDLE CMD — [3] Sequence Experiment out / [2] Command / [1] Processed Data / [0] error out	No description found (add content in vi description)	🔑		

Name	Connector pane	Description	S.	R.	I.
getAll		No description found (add content in vi description)	🔑		
Get SMO Name		No description found (add content in vi description)	🔑		
Get SMO Public API		No description found (add content in vi description)	🔑		
Get SMO Port		No description found (add content in vi description)	🔑		
Get SMO RC Type		No description found (add content in vi description)	🔑		
Read Configuration File		No description found (add content in vi description)	🔑		
Write Configuration File		No description found (add content in vi description)	🔑		
Sequence Experiment.Client		No description found (add content in vi description)	🔑		
Process		--- JKI State Machine Objects™ http://jki.net/state-machine-objects/ Copyright (C) 2005-2015, JKI <info@jki.net> ALL RIGHTS RESERVED	🔑	🟦	
Sequence Experiment. AppLauncher		No description found (add content in vi description)			

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🅿 → Preallocated reentrancy | 🆂 → Shared reentrancy

Inlining: → Inlined

2.3. Sequence Experiment UI.lvclass

Responsibility: LevyLab Instrument UI class that inherits from SMO.UI.

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Sequence Experiment UI" {
{field} -Instrument : LV Class
{static} {method} +Sequence Experiment UI.TestLauncher()
{method} #Process()

}
"Instrument UI" <|-- "Sequence Experiment UI"
"Sequence Experiment UI" *-- "Instrument"



@enduml
```
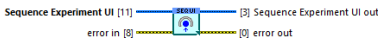
Table 3. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Process		-- JKI State Machine Objects™ http://jki.net/state-machine-objects/ Copyright (C) 2005-2015, JKI <info@jki.net> ALL RIGHTS RESERVEDJKI State Machine Objects (SMO) 1.0.0.5 JKI - JKI Copyright (c) 2016, JKI	🔑	🅢	
Sequence Experiment UI.TestLauncher		JKI State Machine Objects (SMO) 1.0.0.5 JKI - JKI Copyright (c) 2016, JKI			

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🅟 → Preallocated reentrancy | 🅢 → Shared reentrancy

Inlining: ⊞ → Inlined

2.4. Sequence Experiment SM.lvclass

Responsibility: No description found (add content in lvclass description)

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Sequence Experiment SM" {
{static} {method} +Main()

}


@enduml
```

Table 4. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Main		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

2.5. Control Experiment.lvclass

Responsibility: LevyLab Instrument based on JKI SMO (by val).

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Control Experiment" {
{field} -Configuration : Cluster
{static} {method} +Control Experiment.getAll()
{static} {method} -Control Experiment.Command Enum to String()
{static} {method} -Control Experiment.Configuration Window()
{static} {method} #Control Experiment.Client()
{static} {method} +Control Experiment.AppLauncher()
{method} +Open()
{method} +Close()
{method} #Configure Instrument()
{method} #Handle Command()
{method} #getAll()
{method} #Get SMO Name()
{method} #Get SMO Public API()
{method} #Get SMO Port()
{method} #Get SMO RC Type()
{method} #Process()

}
"Instrument" <|-- "Control Experiment"


@enduml
```

Table 5. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Open		No description found (add content in vi description)			
Close		No description found (add content in vi description)			
Control Experiment.getAll		No description found (add content in vi description)			
Configure Instrument		No description found (add content in vi description)	🗝		
Handle Command		No description found (add content in vi description)	🗝		

Name	Connector pane	Description	S.	R.	I.
getAll		No description found (add content in vi description)	🔑		
Get SMO Name		No description found (add content in vi description)	🔑		
Get SMO Public API		No description found (add content in vi description)	🔑		
Get SMO Port		No description found (add content in vi description)	🔑		
Get SMO RC Type		No description found (add content in vi description)	🔑		
Read Configuration File		No description found (add content in vi description)	🔑		
Write Configuration File		No description found (add content in vi description)	🔑		
Control Experiment.Client		No description found (add content in vi description)	🔑		
Process		-- JKI State Machine Objects™ http://jki.net/state-machine-objects/ Copyright (C) 2005-2015, JKI <info@jki.net> ALL RIGHTS RESERVED	🔑	🄢	
Control Experiment. AppLauncher		No description found (add content in vi description)			

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🄟 → Preallocated reentrancy | 🄢 → Shared reentrancy

Inlining: → Inlined

2.6. Control Experiment UI.lvclass

Responsibility: LevyLab Instrument UI class that inherits from SMO.UI.

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Control Experiment UI" {
{field} -Instrument : LV Class
{static} {method} +Control Experiment UI.TestLauncher()
{method} #Process()

}
"Instrument UI" <|-- "Control Experiment UI"
"Control Experiment UI" *-- "Instrument"


@enduml
```
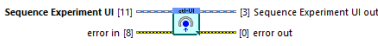
Table 6. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Process	Sequence Experiment UI [11] [3] Sequence Experiment UI out error in [8] [0] error out	-- JKI State Machine Objects™ http://jki.net/state-machine-objects/ Copyright (C) 2005-2015, JKI <info@jki.net> ALL RIGHTS RESERVEDJKI State Machine Objects (SMO) 1.0.0.5 JKI - JKI Copyright (c) 2016, JKI	⚷	Ⓢ	
Control Experiment UI.TestLauncher	ctl-UI	JKI State Machine Objects (SMO) 1.0.0.5 JKI - JKI Copyright (c) 2016, JKI			

Scope: ⚷ → Protected | ⚷ → Community

Reentrancy: Ⓟ → Preallocated reentrancy | Ⓢ → Shared reentrancy

Inlining: ⊞ → Inlined

2.7. Control Experiment SM.lvclass

Responsibility: No description found (add content in lvclass description)

Version: 1.0.0.0

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Control Experiment SM" {
{field} -Experiment : Cluster
{field} +Wiring Configuration : Cluster
{field} +Instruments : Cluster
{field} +Comments : String
{field} -DAT Path : Path
{field} -dictionary : Datalog
{field} -AWS Credentials : Path
{field} -File Path : Path
{field} -Device Description : String
{static} {method} +Generate Comments()
{static} {method} +Comments.Add D()
{static} {method} +Comments.Add Wiring Description()
{static} {method} +Comments.Add Experiment Description()
{static} {method} +Comments.Add Sweep Description()
{static} {method} +Comments.Add Lockin Description()
{static} {method} +Comments.Create Lockin AO Description()
{static} {method} +Comments.Create Lockin REF Description()
{static} {method} +Comments.Create Lockin Sampling Description()
{static} {method} +D()
{static} {method} +Instrument Class Paths()
{static} {method} +Get Date Time ISO()
{static} {method} +Get Date Time For Filename()
{static} {method} +Find File()
{static} {method} +Load Instrument Classes()
{static} {method} +Multiply Gains()
{static} {method} +ElectrodesLabelsToPickeringChannels()
{static} {method} +Number to Letter()
{static} {method} +Letter to Number()
{static} {method} +DBL Variant or Array Variant to Array()
{static} {method} +D()
{static} {method} +Compare With Pr()
{static} {method} +Reset Counter()
{static} {method} +Open Experiment VI()
{static} {method} +Open Lockin()
{static} {method} +GetLocalComputerName()
```

```
{static} {method} +Initialize KH Array()
{static} {method} +Append Dictionary Element()
{static} {method} +Close Dictionary()
{static} {method} +Erase Comments()
{static} {method} +Get Channel Indices()
{static} {method} +Move Existing Config Files()
{static} {method} +Class XML FGV()
{static} {method} +Control Experiment FGV()
{static} {method} +Create Transport DAT File()
{static} {method} +Save Transport DAT File()
{static} {method} +Save Transport DAT File 2D()
{static} {method} +Save Transport ITX File()
{static} {method} +Save Transport TDMS File()
{static} {method} +Upload to S3()
{static} {method} +Save JSON File()
{static} {method} +Pickering 4 Wire PPMS DR Asynchronous()
{static} {method} +Pickering 4 Wire Asynchronous()
{static} {method} +PickeringReadConfig Asynchronous()
{static} {method} +PickeringWriteConfig Asynchronous()
{static} {method} +Asana Dictionary Get Value()
{static} {method} +Asana Dictionary Tasks Get Value()
{static} {method} +Test Upload to S3()
{static} {method} +Test Write()
{static} {method} +Control Experiment SM()
{static} {method} +Tree()


}
"Control Experiment SM" *-- "Instrument.KH7008"
"Control Experiment SM" *-- "Instrument.Lockin"
"Control Experiment SM" *-- "Instrument.Cryostat"
"Control Experiment SM" *-- "Instrument.CBridge"
"Control Experiment SM" *-- "Instrument.OpticalDelayLine"
"Control Experiment SM" *-- "Instrument.Strain"
"Control Experiment SM" *-- "Instrument.VNA"



@enduml
```
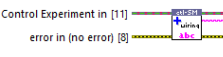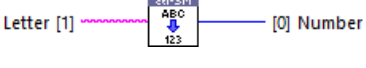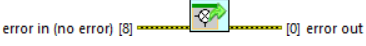
Table 7. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Generate Comments	Control Experiment [10] → [3] Control Experiment out / [2] Comments / error in (no error) [7] → [0] error out	No description found (add content in vi description)			
Comments.Add Device Description	Control Experiment in [11] → [3] Control Experiment out / error in (no error) [8] → [0] error out	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Comments.Add Wiring Description		No description found (add content in vi description)			
Comments.Add Experiment Description		No description found (add content in vi description)			
Comments.Add Sweep Description		No description found (add content in vi description)			
Comments.Add Lockin Description		No description found (add content in vi description)			
Comments.Create Lockin AO Description		No description found (add content in vi description)			
Comments.Create Lockin REF Description		No description found (add content in vi description)			
Comments.Create Lockin Sampling Description		No description found (add content in vi description)			
Device and User DSC Paths		No description found (add content in vi description)			
Instrument Class Paths		No description found (add content in vi description)			
Get Date Time ISO		No description found (add content in vi description)			
Get Date Time For Filename		No description found (add content in vi description)			
Find File		No description found (add content in vi description)			
Load Instrument Classes		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Multiply Gains		No description found (add content in vi description)			
ElectrodesLabelsToPickeringChannels		No description found (add content in vi description)			
Number to Letter		No description found (add content in vi description)			
Letter to Number		No description found (add content in vi description)			
DBL Variant or Array Variant to Array		No description found (add content in vi description)			
Device and User PGSQL Paths		No description found (add content in vi description)			
Compare With Previous		No description found (add content in vi description)			
Reset Counter		No description found (add content in vi description)			
Open Experiment VI		No description found (add content in vi description)			
Open Lockin		No description found (add content in vi description)			
GetLocalComputerName		No description found (add content in vi description)			
Initialize KH Array		No description found (add content in vi description)			
Write Dictionary Element		No description found (add content in vi description)			
Write Dictionary Elements (Loop)		No description found (add content in vi description)			
Append Dictionary Element		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Read All Dictionary Elements		No description found (add content in vi description)			
Close Dictionary		No description found (add content in vi description)			
Write Experiment Description		No description found (add content in vi description)		▣	⇶
Write Experiment Folder		No description found (add content in vi description)			
Write Sweep Element		No description found (add content in vi description)			
Read Device		No description found (add content in vi description)		▣	⇶
Read Experiment Path		No description found (add content in vi description)		▣	⇶
Read Experiment Description		No description found (add content in vi description)		▣	⇶
Erase Comments		No description found (add content in vi description)		▣	⇶
Read Comments		No description found (add content in vi description)		▣	⇶
Read Instruments		No description found (add content in vi description)			
Get Channel Indices		No description found (add content in vi description)			
Read Experiment Configuratio n		No description found (add content in vi description)		▣	⇶
Read Wiring Configuratio n		No description found (add content in vi description)		▣	⇶
Write Device Description JSON		No description found (add content in vi description)		▣	⇶

Name	Connector pane	Description	S.	R.	I.
Write Experiment Description JSON		No description found (add content in vi description)			
Move Existing Config Files		No description found (add content in vi description)			
Class XML FGV		No description found (add content in vi description)			
Control Experiment FGV		No description found (add content in vi description)			
Read Control Experiment.json		No description found (add content in vi description)			
Create Transport DAT File		No description found (add content in vi description)			
Save Transport DAT File		No description found (add content in vi description)			
Save Transport DAT File 2D		No description found (add content in vi description)			
Save Transport ITX File		No description found (add content in vi description)			
Save Transport TDMS File		No description found (add content in vi description)			
Upload to S3		No description found (add content in vi description)			
Save JSON File		No description found (add content in vi description)			
Pickering 4 Wire PPMS DR Asynchronous		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Pickering 4 Wire Asynchronou s	Control Experiment in [11] / X Channel Array [10] / Y Channel Array [9] / error in (no error) [8] — [3] Control Experiment out / [0] error out	No description found (add content in vi description)			
PickeringRea dConfig Asynchronou s	Control Experiment in [11] / error in (no error) [8] — [3] Control Experiment out / [2] Pickering Config / [0] error out	No description found (add content in vi description)			
PickeringWri teConfig Asynchronou s	Control Experiment in [11] / Pickering Config [10] / error in (no error) [8] — [3] Control Experiment out / [0] error out	No description found (add content in vi description)			
Asana Dictionary Get Value	Data [11] / Key [10] / error in (no error) [8] — [3] Value / [0] error out	No description found (add content in vi description)			
Asana Dictionary Tasks Get Value	data [11] / Key [10] / error in (no error) [8] — [3] Value / [0] error out	No description found (add content in vi description)			
Test Upload to S3	UPLOAD S3	No description found (add content in vi description)			
Test Write	WRITE FILE	No description found (add content in vi description)			
Control Experiment SM		Use this VI to help configure your experiment. 1. Choose Pickering or Not Pickering 2. Configure the Electrode control to show which electrode is connected to which lockin 3. Choose a Label for each electrode to configure Krohn Hite amplifier automatically 4. Easily set all Krohn Hite channels to be "all ground" or "all differential" mode 5. Fill out information about you and your device in the lower left corner 6. When you are finished, or when you want to update the amplifiers, click the "CREATE OUTPUT" button located in upper right. Clicking this button will set the amplifiers, Pickering switch (if you have one), and write information to a functional global variable that you can easily read from elsewhere in your program			

Name	Connector pane	Description	S.	R.	I.
Tree	ctl-SM	No description found (add content in vi description)			

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🅿 → Preallocated reentrancy | 🆂 → Shared reentrancy

Inlining: ⬚ → Inlined

2.8. SweepControl.lvclass

Responsibility: By value SMO class with very small footprint. It includes a process and a launcher.

Version: 1.0.0.47

Scope: 🔑 → Protected | 🔑 → Community

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "SweepControl" {
{field} -Scan control : Array of Cluster
{field} -Scan parameters : Array of Cluster
{field} -Post action (indexing priority) : Array of Enum {}
{field} -Experiment : Enum {}
{field} -Sorted scan control : Array of Cluster
{field} +Sorted scan parameters : Array of Cluster
{field} +Parameter (Now) : Double Float
{field} +Control Experiment : LV Class
{field} -Scan parameters 2 : Array of Cluster
{field} -Sorted scan parameters 2 : Array of Cluster
{field} -Scan Parameters (now) : Cluster
{field} -Indices : Cluster
{field} -Stop? : Boolean
{field} -Sweep Lockin Array : Array of Cluster
{static} {method} +AppendDBLtoComments()
{static} {method} +Post action()
{static} {method} +Scan action()
{static} {method} +Sort Scan Parameters()
{static} {method} +Create Scan()
{static} {method} +Sweep Control Inner Loop()
{static} {method} +D-Lockin()
{static} {method} +Take Measurement()
{static} {method} +Sweep Control()
{static} {method} +Continuous B sweep()
{static} {method} +Sweep Control Cartesian()
{static} {method} +Sweep Control Loop()
{static} {method} +SweepControl.TestLauncher()
{method} #Process()

}
"SMO" <|-- "SweepControl"
"SweepControl" *-- "Control Experiment SM"



@enduml
```
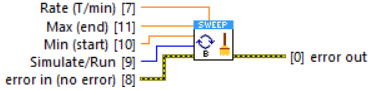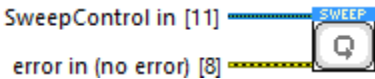
Table 8. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AppendDBLtoComments		No description found (add content in vi description)			
Post action		No description found (add content in vi description)			
Scan action		No description found (add content in vi description)			
Sort Scan Parameters		No description found (add content in vi description)			
Create Scan		No description found (add content in vi description)			
Sweep Control Inner Loop		No description found (add content in vi description)			
D-Lockin		No description found (add content in vi description)			
Read Sorted scan parameters		No description found (add content in vi description)			
Read Sweep Configuration File		No description found (add content in vi description)			
Read Sweep Configuration Example		No description found (add content in vi description)			
Read Control Experiment		No description found (add content in vi description)		▣	⇥
Take Measurement		No description found (add content in vi description)			
Read Parameter (Now)		No description found (add content in vi description)		▣	⇥
Read Sweep Control.json		No description found (add content in vi description)			
Read Continuous B Sweep.json		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Sweep Control		- Priority 0 is the fastest loop - You can put multiple scan names in one priority. - OFF has to be the last priority - Choose an Experiment (Lockin_Sweep, IV, etc) to run at each Scan Setting - Open the Exeriment subVIs to choose settings			
Continuous B sweep	Rate (T/min) [7] Max (end) [11] Min (start) [10] Simulate/Run [9] error in (no error) [8] [0] error out	No description found (add content in vi description)			
Sweep Control Cartesian		- Priority 0 is the fastest loop - You can put multiple scan names in one priority. - OFF has to be the last priority - Choose an Experiment (Lockin_Sweep, IV, etc) to run at each Scan Setting - Open the Exeriment subVIs to choose settings			
Sweep Control Loop	SweepControl in [11] error in (no error) [8]	No description found (add content in vi description)			
SweepControl.TestLauncher		No description found (add content in vi description)			
Process	SweepControl [11] error in [8] [3] SweepControl out [0] error out	--- JKI State Machine Objects™ http://jki.net/state-machine-objects/ Copyright (C) 2005-2015, JKI <info@jki.net> ALL RIGHTS RESERVED	🔑	🅂	

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🅿 → Preallocated reentrancy | 🅂 → Shared reentrancy

Inlining: ⬚ → Inlined

2.9. Transport.lvclass

Responsibility: No description found (add content in lvclass description)

Version: 1.0.0.7

```
@startuml
set namespaceSeparator :
skinparam ClassBackgroundColor #FFFFFF
skinparam ClassBorderColor #555555
skinparam ClassFontColor #000000
skinparam ClassHeaderBackgroundColor #808080

skinparam top to bottom direction
class "Transport" {
{field} +Dependencies : Cluster
{field} -Notifier : Notifier
{static} {method} +Add Braces String()
{static} {method} +Add Braces Array()
{static} {method} +Add Braces()
{static} {method} +Calculate R and G - Four Terminal()
{static} {method} +Calculate R and G - Two Terminal()
{static} {method} +Decimate and Filter()
{static} {method} +GraphLockin_vs_Parameter()
{static} {method} +2D Results to X and Y Arrays()
{static} {method} +Create Keys (AI)()
{static} {method} +Create Keys (AO)()
{static} {method} +Exec State to Append()
{static} {method} +Append Waveform if new()
{static} {method} +IV()
{static} {method} +IV_Sweep()
{static} {method} +Lockin_time()
{static} {method} +Lockin_Vsg()
{static} {method} +Lockin_sweep()
{static} {method} +Lockin_AIWFM_time()
{static} {method} +Lockin()
{static} {method} +THz_TimeDelay()
{static} {method} +Sweep_AIWFM_time()
{static} {method} +Temp Sweep Control()


}
"Transport" *-- "SweepControl"
"Transport" *-- "Control Experiment SM"



@enduml
```

Table 9. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Add Braces String	String in [1] ~~~~~ str [str] ~~~~~ [0] String out	No description found (add content in vi description)			
Add Braces Array	String in [1] ~~~~~ str [str] ~~~~~ [0] String out	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Calculate R and G - Four Terminal	Lockin[] [11], Current [10], V+ [9], V- [8] → [3] R_4T (ohms), [2] G_4T (e2/h)	No description found (add content in vi description)			
Calculate R and G - Two Terminal	Lockin [] [11], AO Amp (V) [10], Current [9], Vsource [8] → [3] R_2T (Ohms), [2] G_2T (Siemens)	No description found (add content in vi description)			
Decimate and Filter	Waveform in [11], decimating factor [10], low cutoff freq: fl [9], error in (no error) [8], Enabled? [6] → [3] Decimated and Filtered Array, [0] error out	No description found (add content in vi description)			
GraphLockin_vs_Parameter	reset? [7], X[] [11], Y[] [10], Parameter [9], Current [8], V+ [6], V- [4] → [3] X vs Parameter, [2] Y vs Parameter, [1] G(e2/h) vs Parameter, [0] R(Ohms) vs Parameter	No description found (add content in vi description)			
2D Results to X and Y Arrays	Results [11] → [3] X, [2] Y	No description found (add content in vi description)			
Create Keys (AI)	Numeric [3] → [1] AI Keys	No description found (add content in vi description)			
Create Keys (AO)	Numeric [3] → [1] AO Keys	No description found (add content in vi description)			
Exec State to Append	Execution:State [3] → [1] append?	No description found (add content in vi description)			
Append Waveform if new	Waveforms in [11], New Waveform [10], error in (no error) [8] → [3] AI Waveforms out, [0] error out	No description found (add content in vi description)			
Read Dependencies	Transport in [11], error in (no error) [8] → [3] Transport out, [2] Dependencies, [0] error out	No description found (add content in vi description)		🔲	⇥
Write Dependencies	Transport in [11], SweepControl [10], Control Experiment [9], error in (no error) [8] → [3] Transport out, [0] error out	No description found (add content in vi description)		🔲	⇥
Write notifier	Transport in [11], notifier [10], error in (no error) [8] → [3] Transport out, [0] error out	No description found (add content in vi description)		🔲	⇥
Read Lockin_Vsg.json	Transport in [11], file (use dialog) [10], error in (no error) [8] → [3] Transport out, [2] Lockin_Vsg, [0] error out	No description found (add content in vi description)			
Read Lockin_Sweep.json	Transport in [11], file (use dialog) [10], error in (no error) [8] → [3] Transport out, [2] Configure Sweep, [0] error out	No description found (add content in vi description)			
IV	Transport [11], error in [8], Speed [6] → [3] Transport out, [0] error out	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
IV_Sweep	Transport [11] — [3] Transport out / error in [8] — [0] error out	No description found (add content in vi description)			
Lockin_time	Transport [11] — [3] Transport out / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Lockin_Vsg	Transport [11] — [3] Transport out / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Lockin_sweep	Transport [11] — [3] Transport out / Sweep Lockin cluster [10] — / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Lockin_AIWFM_time	Transport [11] — [3] Transport out / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Lockin	Transport [11] — [3] Transport out / error in (no error) [8] — [0] error out / initialize? [6] — / stop? [4] —	No description found (add content in vi description)			
THz_TimeDelay	Transport [11] — [3] Transport out / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Sweep_AIWFM_time	Transport.lvclass [11] — [3] Transport.lvclass / error in (no error) [8] — [0] error out	No description found (add content in vi description)			
Temp Sweep Control		No description found (add content in vi description)			

Scope: 🔑 → Protected | 🔑 → Community

Reentrancy: 🅿 → Preallocated reentrancy | 🆂 → Shared reentrancy

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3.1.1. Antidoc

Project website: Antidoc

Maintainer website: Wovalab

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Project website: Asciidoc toolkit

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3.1.4. classy Diagram Viewer

Project website: classy Diagram Viewer

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