

Samsung
LightAmp
Device Driver
NetLinx API

1. XDD Information

Device Details

Device Type: Monitor

Manufacturer: Samsung

Model(s): LightAmp

Device Revision: 1.0.0

Built with Driver Design Version: 1.2.12

Support Communication Types: Serial

Serial Connection Parameters:

Physical Layer: RS-232

Baud Rate: 9600

Data bits: 8

Stop bits: 1

Parity: None

Flow control: None

File Name: Samsung_Monitor_LightAmp_1.0.0.xdd

Author's Email: ian.craigie@harman.com

Default Device Warming Time: 0 seconds

Default Device Cooling Time: 0 seconds

The following are comments provided by the author of the XDD.

MANUFACTURER'S URL (website and/or product manuals)

SUPPORT CONTACT (name, email, phone)

REVISION HISTORY (When you modify a driver, increment the version and note the changes here)

1.0.0: Initial Revision

ACCESSORY PRODUCTS (mounting brackets, cables)

SERIAL PORT SPECS (pinout)

CONTROL USAGE

HAND CONTROL MODEL NUMBER

2. Channel Information

The following are NetLinx Channels supported by this Device Driver. " * " denotes channels provided by Duet2 base and not protocol provided in this Device Driver.

Channel	Port	Description
9*	1	Function: Power State Momentary Function: Cycle power when channel is activated NetLinx Constant: POWER
27	1	Function: Power State Description: Momentary Function: Power is turned on when channel is activated NetLinx Constant: PWR_ON
28	1	Function: Power State Description: Momentary Function: Power is turned off when channel is activated NetLinx Constant: PWR_OFF
196*	1	Function: Input Source Momentary Function: Cycle input source when channel is activated Cycle Order: INPUT1, INPUT2 NetLinx Constant: SOURCE_CYCLE
251*	1	Function: Power State Description: Communication is established with device while channel is on NetLinx Constant: MODULE_DEVICEONLINE ON: Communication online. OFF: Communication offline.
252*	1	Function: Power State Description: Module data is synchronized with device while channel is on NetLinx Constant: MODULE_DATA_INITIALIZED ON: Data initialized. OFF: Data not initialized.
253*	1	Function: Power State Description: Feedback: Indicates Power is starting up and cannot accept commands NetLinx Constant: POWER_STARTUP_FB ON: Device warming. OFF: Device done warming.
254*	1	Function: Power State Description: Feedback: Indicates Power is shutting down and cannot accept commands NetLinx Constant: POWER_SHUTDOWN_FB ON: Device cooling. OFF: Device done cooling.
255*	1	Function: Power State Description: Discrete Function: Power is on while channel is active NetLinx Constant: POWER_ON ON: Device ON. OFF: Device OFF.

3. Level Information

No Levels are supported by this Device Driver.

4. Command Information

The following are NetLinx Commands supported by this Device Driver.

Functional Group	Port	SNAPI2 Command
Power State	1	?COOLDOWN Description: ?COOLDOWN - Query for shut down time. Responds with: COOLDOWN-<time> Where: <time> is in seconds
Power State	1	?WARMUP Description: ?WARMUP - Query for start up time. Responds with: WARMUP-<time> Where: <time> is in seconds
Power State	1	COOLDOWN Description: COOLDOWN-<seconds> - Set shut down time. Where: <time> is in seconds
Power State	1	COOLING Description: COOLING-<time> - Cooling down counter time. Where: <time> is seconds remaining
Power State	1	COUNTERNOTIFY Description: COUNTERNOTIFY-<state> - Turn power counter notification on or off. Where: <state> is 1 or 0
Power State	1	WARMING Description: WARMING-<time> Warming up counter time, <time> is seconds remaining
Power State	1	WARMUP Description: WARMUP-<seconds> - Set warm up time. Where: <time> is in seconds
Input Source	1	?INPUT Description: ?INPUT - Query for the current input. Responds with: INPUT-<device label> Where: <device label> is one of the values returned in the query ?INPUTPROPERTIES.

Input Source	1	<p>?INPUTCOUNT</p> <p>Description: ?INPUTCOUNT Query for the number of inputs</p>
Input Source	1	<p>?INPUTLISTCOUNT</p> <p>Description: ?INPUTLISTCOUNT - Query for the number of input groups. Responds with: INPUTLISTCOUNT-<input count></p>
Input Source	1	<p>?INPUTPROPERTIES</p> <p>Description: ?INPUTPROPERTIES - Query input properties. Responds with one INPUTPROPERTY response for each input: INPUTPROPERTY- <index>,<inputGroup>,<signalType>,<deviceLabel>,<displayName>, Where: <index> is a virtual input number between 1 and <count>. <inputGroup> is the integer value of the virtual input port on the device (mutually exclusive group) <signalType> <deviceLabel> is the label on the device <displayName> is the text shown on the device display.</p>
Input Source	1	<p>?INPUTPROPERTY</p> <p>Description: ?INPUTPROPERTY-<index> - Query input properties for single input. Where: <index> is a virtual input number between 1 and <count> Responds with: INPUTPROPERTY-<index>,<inputGroup>,<signalType>,<deviceLabel>,<displayName> <index> is a virtual input number between 1 and <count> <inputGroup> is the integer value of the virtual input port on the device (mutually exclusive group). <signalType> <deviceLabel> is the label on the device. <displayName> is the text shown on the device display.</p>
Input Source	1	<p>INPUT-INPUT1 INPUT-INPUT2</p> <p>Description: INPUT-<displayName> Set the current input.</p>
Device	1	<p>LISTSET-<list name></p> <p>Description: LISTSET-<name>,<key>,<value>[;<key>,<value>...] - Command to create a PropertyList. Where: <name> is the PropertyList name. <key> is the property key. <value> is the property value. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>
Device	1	<p>LISTSELECT-<list name></p> <p>Description: LISTSELECT-<name>,<index> - Command to a PropertyList to select the element at index. Where: <name> is the PropertyList name. <index> is the one-based decimal ordinal value of a property in the list, or key name. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>

Device	1	<p>LISTNEXT-<list name></p> <p>Description: LISTNEXT-<name> - Command to iterate in a forward* direction to the PropertyList's next selected element. *Forward means increasing ordinal value. Where: <name> is the PropertyList name. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>
Device	1	<p>LISTPREV-<list name></p> <p>Description: LISTPREV-<name> - Command to iterate in a backward* direction to the PropertyList's next selected element. *Backward means decreasing ordinal value. Where: <name> is the PropertyList name. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>
Device	1	<p>?LISTSELECT-<list name></p> <p>Description: ?LISTSELECT-<name> - Query to discover a PropertyList's selected element. Where: <name> is the PropertyList name. If <name> is not recognized, no response. If no selected element, Responds with: LISTSELECT-<name>,0 Where: <name> is the PropertyList name. Otherwise: Responds with: LISTSELECT-<name>,<index>,<key>,<value> Where, <name> is the PropertyList name. <index> is the one-based decimal ordinal value of this property in the list. <key> is the property key. <value> is the property value. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>
Device	1	<p>?LISTSIZE-<list name></p> <p>Description: ?LISTSIZE-<name> - Query to discover a PropertyList size. Where: <name> is the PropertyList name. If <name> is not recognized, no response; otherwise, Responds with: LISTSIZE-<name>,<size> Where: <name> is the PropertyList name. <size> is a decimal integer representing the size of the list. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>
Device	1	<p>?LIST-<list name></p> <p>Description: ?LIST-<name> - Query to discover a PropertyList contents. Where: <name> is the PropertyList name. If <name> is not recognized, no response; otherwise, a series of NetLinx strings, one for each element in the PropertyList. Responds with: LIST-<name>,<index>,<key>,<value> Where: <name> is the PropertyList name, <index> is the one-based decimal ordinal value of this property in the list. <key> is the property key. <value> is the property value. LIST APIs are to be used for user defined property list, these APIs are not intended to be used for well known SNAPI properties.</p>

Device	1	<p>?FWVERSION</p> <p>Description: ?FWVERSION - Query for the device firmware version, Responds with: FWVERSION-<version></p>
Device	1	<p>?VERSION</p> <p>Description: ?VERSION - Query for the module version, Responds with: VERSION-<version></p>
Device	1	<p>?DRIVERVERSION</p> <p>Description: ?VERSION - Query for the device driver version, Responds with: DRIVERVERSION-<version> (Only valid for Driver Design Modules)</p>
Device	1	<p>DEBUG-<state></p> <p>Description: DEBUG-<state> - Set the debug state. Where: <state> is 1-4 for ERROR, WARNING, DEBUG, INFO</p>
Device	1	<p>?DEBUG</p> <p>Description: ?DEBUG - Query the debug level, Responds with: DEBUG-<state> Where: <state> is 1-4 for ERROR, WARNING, DEBUG, INFO</p>
Device	1	<p>REINIT</p> <p>Description: REINIT - Reinitialize communication with the device</p>
Device	1	<p>Diagnostic_Mode-<mode></p> <p>Description: NOT FOUND</p>
Device	1	<p>?PROPERTY-IP_Address</p> <p>Description: ?PROPERTY-IP_Address Query the current value of IP address.</p>
Device	1	<p>PROPERTY-IP_Address,<xxx.xxx.xxx.xxx or hostname></p> <p>Description: PROPERTY-IP_Address,<xxx.xxx.xxx.xxx> - or PROPERTY-IP_Address,<hostname> - Set the value of IP address. Where: <xxx.xxx.xxx.xxx> is an IP address. <hostname> is a host name. REINIT required to take affect.</p>

Device	1	<p>PROPERTY-Port,<port number></p> <p>Description: PROPERTY-Port,<port number> - Set the value of the port number associated with the IP address. Where: <port number> is a port number. REINIT required to take affect.</p>
Device	1	<p>?PROPERTY-Port</p> <p>Description: ?PROPERTY-Port - Query the current value of the port number. Associated with PROPERTY-IP_Address.</p>
Device	1	<p>PROPERTY-Baud_Rate,<baud rate></p> <p>Description: PROPERTY-Baud_Rate,<baud rate> - Where: <baud rate> is a serial port baud rate. Set the value of the baud rate associated with the Serial port. REINIT required to take affect.</p>
Device	1	<p>?PROPERTY-Baud_Rate</p> <p>Description: ?PROPERTY-Baud_Rate - Query the current value of the baud rate. Associated with the Serial port.</p>
Device	1	<p>?PROPERTY-Device_ID</p> <p>Description: ?PROPERTY-Device_ID - Query the current value of the device id. If supported by the device this is the id of the end device.</p>
Device	1	<p>PROPERTY-Device_ID,<device id></p> <p>Description: PROPERTY-Device_ID,<device id> - Set the current value of the <device id>. Where: <device id> is a new device ID. If supported by the device this is the id of the end device. REINIT required to take affect.</p>
Device	1	<p>PROPERTY-Poll_Time,<time></p> <p>Description: PROPERTY-Poll_Time,<time> - Set the current value of the poll timer interval. Where: <time> is expressed in milliseconds. Warning setting the interval lower than 10,000ms (10 seconds) is not recommended. REINIT is not required to take affect.</p>
Device	1	<p>?PROPERTY-Poll_Time</p> <p>Description: ?PROPERTY-Poll_Time - Query the current value of the poll time interval.</p>
Device	1	<p>PROPERTY-Online_Timeout,<time></p> <p>Description: PROPERTY-Online_Timeout,<time> - Set the current value of the online timeout interval. Where: <time> is expressed in seconds. This interval is the maximum time the device will remain in the online state given that no communication has been received from the device. REINIT required to take affect.</p>

Device	1	?PROPERTY-Online_Timeout Description: ?PROPERTY-Online_Timeout - Query the current value of the online timeout interval.
Device	1	?PROPERTY-Minimum_Command_Interval Description: ?PROPERTY-Minimum_Command_Interval - Query the current value of the Minimum Time Interval Between Command Messages (in milliseconds). This property is read-only.
Device	1	PASSTHRU-<buffer> Description: PASSTHRU-<buffer> - Send a message directly to the device. Where: <buffer> is the data to send
Device	1	PASSBACK-<state> Description: NOT FOUND
Device	1	PROPERTY-<property name,value> Description: PROPERTY-<name>,<value> - Set the property to a value. Where: <name> is the property name. <value> is the property value.
Device	1	?PROPERTY-<property name> Description: ?PROPERTY-<name> Query for the value of property. Responds with: PROPERTY-<name>,<value>

5. Custom Command Information

No Custom NetLinx Commands supported by this Device Driver.

6. HAS Properties Information

The following NetLinx HAS Properties are supported by this Device Driver.

Port	Satisfied	HAS Property Query
1	?PROPERTY-Command-Holdoff	FALSE
1	?PROPERTY-Has-Aspect-Ratio	FALSE
1	?PROPERTY-Has-Aspect-Ratio-Cycle	FALSE
1	?PROPERTY-Has-Brightness	FALSE
1	?PROPERTY-Has-Color	FALSE
1	?PROPERTY-Has-Contrast	FALSE
1	?PROPERTY-Has-Filter	FALSE
1	?PROPERTY-Has-Freeze	FALSE
1	?PROPERTY-Has-Freeze-Cycle	FALSE
1	?PROPERTY-Has-Input-Select	TRUE
1	?PROPERTY-Has-Input-Select-Cycle	TRUE
1	?PROPERTY-Has-Lamp	FALSE
1	?PROPERTY-Has-Menu	FALSE
1	?PROPERTY-Has-Menu-10Key	FALSE
1	?PROPERTY-Has-Menu-Navigate	FALSE
1	?PROPERTY-Has-PIP	FALSE
1	?PROPERTY-Has-PIP-Cycle	FALSE
1	?PROPERTY-Has-PIP-Position-Cycle	FALSE
1	?PROPERTY-Has-Picture-Mute	FALSE
1	?PROPERTY-Has-Picture-Mute-Cycle	FALSE
1	?PROPERTY-Has-Power	TRUE
1	?PROPERTY-Has-Power-Cycle	TRUE
1	?PROPERTY-Has-Sharpness	FALSE
1	?PROPERTY-Has-Tint	FALSE
1	?PROPERTY-Has-Volume	FALSE
1	?PROPERTY-Has-Volume-Mute-Cycle	FALSE
1	?PROPERTY-Has-Volume-Ramp	FALSE

7. Properties Information

The following NetLinX Properties are supported by this Device Driver.

Port	Property Query	Value
1	?PROPERTY-Lamp-Count	0
1	?PROPERTY-Menu-List	None Provided.
1	?PROPERTY-Menu-Navigate-List	None Provided.

8. Sample NetLinx Code

The following is sample NetLinx code.

```
PROGRAM_NAME='Main'
(*****)
(*****)
(* System Type : NetLinx *)
(*****)
(*****)
(*          DEVICE NUMBER DEFINITIONS GO BELOW          *)
(*****)
DEFINE_DEVICE
dvSerialPort = 5001:1:0
dvIpPort = 0:4:0
vdvMyDevice = 41001:1:0
(*****)
(*          CONSTANT DEFINITIONS GO BELOW          *)
(*****)
DEFINE_CONSTANT
(*****)
(*          DATA TYPE DEFINITIONS GO BELOW          *)
(*****)
DEFINE_TYPE
(*****)
(*          VARIABLE DEFINITIONS GO BELOW          *)
(*****)
DEFINE_VARIABLE
CHAR MyXDDFile[] = 'Samsung_Monitor_LightAmp_1.0.0.xdd'
(*****)
(*          LATCHING DEFINITIONS GO BELOW          *)
(*****)
DEFINE_LATCHING
(*****)
(*          MUTUALLY EXCLUSIVE DEFINITIONS GO BELOW          *)
(*****)
DEFINE_MUTUALLY_EXCLUSIVE
(*****)
(*          SUBROUTINE/FUNCTION DEFINITIONS GO BELOW          *)
(*****)
(* EXAMPLE: DEFINE_FUNCTION <RETURN_TYPE> <NAME> (<PARAMETERS>) *)
(* EXAMPLE: DEFINE_CALL '<NAME>' (<PARAMETERS>) *)
(*****)
(*          STARTUP CODE GOES BELOW          *)
(*****)
DEFINE_START
DEFINE_MODULE 'DeviceDriverEngine' MyDevice(vdvMyDevice, dvSerialPort, MyXDDFile)
(*****)
(*          THE EVENTS GO BELOW          *)
(*****)
DEFINE_EVENT
(*****)
(*          THE ACTUAL PROGRAM GOES BELOW          *)
(*****)
DEFINE_PROGRAM
(*****)
(*          END OF PROGRAM          *)
(*          DO NOT PUT ANY CODE BELOW THIS COMMENT          *)
(*****)
```

End of Document.