

SnapAV Wattbox Integration Protocol Document Integration Protocol v1.7 rev20190520

Overview

This integration protocol details how a third-party system can be used to control a SnapAV Wattbox. With the wattbox online, the integration protocol will be listening for connections on **port 23 at the controllers IP address. NOTE: 10 simultaneous connections can be made at a time.** To get started, netcat or similar software can be used to initiate a connection and test any of the following protocol commands below.

Authentication

The protocol requires authentication before proceeding with commands. Once connected, a login prompt will be received and the third-party system must provide a valid username and password. If correct, login will be successful and other commands can be issued. If incorrect, the third-party system will be prompted for login again.

Specification

THIRD-PARTY SYSTEM <-----> SnapAV Wattbox i.e. Wattbox IP: 192.168.0.20 Port: 23

Integration

Message Structure
Command and response messages are standard ASCII text.
? – Request message
! – Control message
- Error message
~ - Unsolicited message
\n – End of command message, ASCII hex: 0x0A dec: 11

Protocol

Protocol Command	Description/Response
?Firmware\n	Request Firmware Version.
	Response: ?Firmware=1.0.0.0\n
?Hostname\n	Request Hostname.
	Response: ?Hostname=Wattbox\n
?Serial\n	Request Serial Number.
	Response: ?Serial=12345678\n
?Model\n	Request Model Number.

	Response: ?Model=WB-700-IPV-12\n
?OutletCount\n	Request Outlet Count.
	Response: ?OutletCount=16\n
?OutletStatus\n	Request Outlet States.
	Where the array index is the outlet number and the value at the index indicates
	state. 0 for off. 1 for on.
?OutletPowerStatus=OUTLET\n	Request Outlet Power Status for a specific outlet.
Where OUTLET is the Outlet	Response:
number.	?OutletPowerStatus=1,1.01,0.02,116.50\n
	where 1 is the outlet index you requested, 1.01 is the power in watts, 0.02 is the surrent in amos, and 116 EQ is the voltage in voltage
?PowerStatus\n	Request Power Status for the system.
	Response:
	?PowerStatus=60.00,600.00,110.00,1\n
	Where 60.00 is the current in amps, 600.00 is the power in watts, 110.00 is the
	voltage in volts, and 1 is the safe voltage status.
?AutoReboot\n	Request Auto Reboot Status for the system.
	Response:
	?AutoReboot=1\n
	Enabled = 1
	Disabled = 0
?OutletName\n	Request Outlet Names for all outlets. The names will be sent with brackets
	around every NAME and comma delineated between each set.
	Response:
	?OutletName={Outlet 1},{Outlet 2},{Outlet 3},{Outlet 4},{Outlet 5},{Outlet
	6},{Outlet 7},{Outlet 8},{Outlet 9},{Outlet 10},{Outlet 11},{Outlet 12}\n
!OutletNameSet=OUTLET,NAME\	Request to change the name of a specific outlet.
n	
Where OUT IT is the outlet	Response:
number and NAME is the new	OK(II
name.	
!OutletNameSetAll={NAME},{NA	Request to change the names for every outlet. Order matters and starts with
ME},{NAME},{NAME},{NAME},{NA	Outlet 1. The brackets are required around every NAME with commas in-
ME},{NAME},{NAME},{NAME},{NA	between each set.
ME},{NAME},{NAME}\n	
	Response:
21 IPSStatus) n	UN (II Request LIPS Status if there is a LIPS attached
: OF SSIGIUS (II	nequest or 3 status II there is a or 3 attached.

	Response: ?UPSStatus=50,0,Good,False,25,True,False\n Where 50 is the battery charge perecentage, 0 is the battery load as a percentage, Good indicates battery health, False indicates power lost, 25 indicates battery runtime in minutes, True indicates alarm enabled, False indicates alarm muted. Battery Charge: 0-100% Battery Load: 0-100% Battery Health: Good/Bad Power Lost: True/False Battery Runtime: Number in Minutes Alarm Enabled: True/False
?UPSConnection\n	Request UPS Connection to find out if a UPS has been attached to the watthox
 !OutletSet=OUTLET,ACTION,DELA Y\n Where OUTLET is the outlet number and ACTION is ON/OFF/TOGGLE/RESET. If action RESET, an optional third parameter is provided for delaying the reset by x amount of seconds. 	Response: ?UPSConnection=0\n Disconnected = 0 Connected = 1 Request to set a specific outlet to a new state. RESET does adhere to power on delay but one may override that value by passing a third optional parameter for DELAY. This delay must be in seconds and ranges from 1 – 600 seconds. To reset all outlets, set OUTLET to 0 and action to RESET. Response: OK\n
!OutletPowerOnDelaySet=OUTLE	Request to set the power on delay for a specific outlet. The power on delay is in
T,DELAY\n	seconds and accepts values between 1 and 600.
Where OUTLET is the outlet number and DELAY is the time in seconds.	Response: OK\n
!OutletModeSet=OUTLET,MODE\ n	Request to set a specific outlet to a new operating mode. Reference the below table to determine the mode and send the corresponding number value. Any number sent outside of this range will be rejected.
where OUILET is the outlet	Enabled = 0
mode represented as a number.	Disabled = 1
	Reset Only = 2
	Response: OK\n

!OutletRebootSet=OP, OP, OP,	Request to change the reboot operation of an outlet when a host goes offline
OP, OP, OP, OP, OP, OP, OP, OP,	and triggers a reboot. Reference the below table to determine the mode and
OP∖n	send the corresponding number value. Any number sent outside of this range
	will be rejected.
Where OP is the reboot operation	
taken during a host reboot.	(Any selected hosts time-out) Or = 0
	(All selected hosts time out) And = 1
	Response:
	OK\n
!AutoReboot=STATE\n	Request to set auto reboot to a new state.
Where STATE is 1 for enabled or	Response:
0 for disabled	OK\n
!AutoRebootTimeoutSet=TIMEO	Request to change the timeout settings for the device. Reference the below
UT,TIMEOUT,PING_DELAY,REBOO	table for valid range values.
T_ATTEMPTS\n	
	Timeout [1-60] – Select a value between 1 and 60 seconds. This is the amount of
Where TIMEOUT is a number	time the device will wait before timing out a host.
value in seconds, COUNT is a	
number value, PING_DELAY is a	Count[1-10] – Select a value between 1 and 10. This is the number of
number value and REBOOT	consecutive time-outs that must occur before triggering auto-reboot.
ATTEMPTS is a number value.	
	Ping Delay [1-30] - Select a value between 1 and 30 minutes. This is the amount
	of time the device waits to retest the connection after auto-rebooting.
	Reboot attempts [0 = unlimited, 1-10] - Select a value between 0 and 10. This is
	the number of times the device will auto-reboot. 0 represents infinite reboots.
	Response:
	OK\n
!FirmwareUpdate=URL\n	Update firmware for the device. This API will respond OK right before the system
	shuts down. The client will loose the connection to the device until the device is
Where URL is the full path to the	back online.
upgrade file.	
	Response:
	OK\n
!Reboot\n	Request to reboot the device immediately. The client will loose the connection
	to the device until the device is back online.
	Response:
	OK\n
!AccountSet=USER,PASS\n	Request to change the login credentials for a given user and given password. If
	successful, the client will loose the connection and require a reconnect to login
Where USER is the username and	again. Invalidate usernames or passwords will be rejected.
PASS is the password.	
	Response:

	OK\n
!NetworkSet=HOST,IP,SUBNET,G ATEWAY,DNS1,DNS2\n	Request to change the network settings for the device.
	If setting DHCP, do not send IP,SUBNET,GATEWAY,DNS1,DNS2.
Where HOST is the hostname, IP is the static address, SUBNET is subnet, GATEWAY is gateway, DNS1 is primary dns server, DNS2	If setting STATIC, IP,SUBNET,GATEWAY,DNS1 are required. DNS2 is optional and will be auto filled to 8.8.8.8 if nothing was entered.
is secondary dns server.	If the settings are valid, the changes will be made and the device will reboot. The client will loose the connection to the device until the device is back online. Please note the device may come back at a different IP address depending on the settings sent. Response:
	OK\n
<pre>!ScheduleAdd={NAME},{OUTLET, OUTLET,OUTLET},{ACTION},{FREQ },{DAY,DAY,DAY DATE},{TIME}\n Where NAME is the schedule name, OUTLET is an array of author numbers ACTIONICIES</pre>	Request to add a schedule to the scheduled events for the device. Brackets are required around every value with a comma delimiter between each set. Parameter 2 is an array of outlets to indicate which outlets the ACTION will be performed on once the schedule is triggered. Reference the below table to determine the correct field and send the corresponding values. Values outside of any of these ranges will be rejected.
action performed, FREQUENCY is	Outlet = {1,2,3} Would tie outlets 1,2,3 to this schedule.
are the days for recurring or date for once, TIME is the time.	Action - Off = 0 - On = 1 - Reset 2
	Frequency
	 Once = 0 Recurring = 1
	If Recurring Days [s,m,t,w,t,f,s] – This is an array where the index indicates the day of the week and if the value at the index is a 0, the day is not included, if the value at the index is 1, the day is included. The following example will recur every Monday, Wednesday, and Friday. {0,1,0,1,0,1,0}
	If Once Date [yyyy/mm/dd] – {2018/09/28}
	Time [hh:mm] – 24-Hour based so 1:30pm would be represented as 13:30.
	Response: OK\n

!HostAdd=NAME,IP,{OUTLET,OUT	Request to add a host to the list of hosts to be monitored by the device. Brackets
LET}\n	are required around the outlets array. This array indicates which outlets should
	be tied to the host being added.
Where NAME is the host name, IP	
is the Website or IP address to be	
tested, and OUTLET is an array of	
outlet numbers.	
#Error\n	Sent whenever an invalid command was received or an internal device error has
	occurred. Please see the device log page for further detailed error messages.

Example:

\$ nc 192.168.26.27 23
Please Login to Continue
Username: wattbox
Password: wattbox
Successfully Logged In!
?Firmware
?Firmware=0.0.0.1