1. Device must support discrete level set commands

1.1. Find / create (1.1) function (command)

1.2. Provide desired function name

1.3. Enter function data using parameters where possible:

1.3.1. Ie: “SPOxxAVyy”

where xx = output number

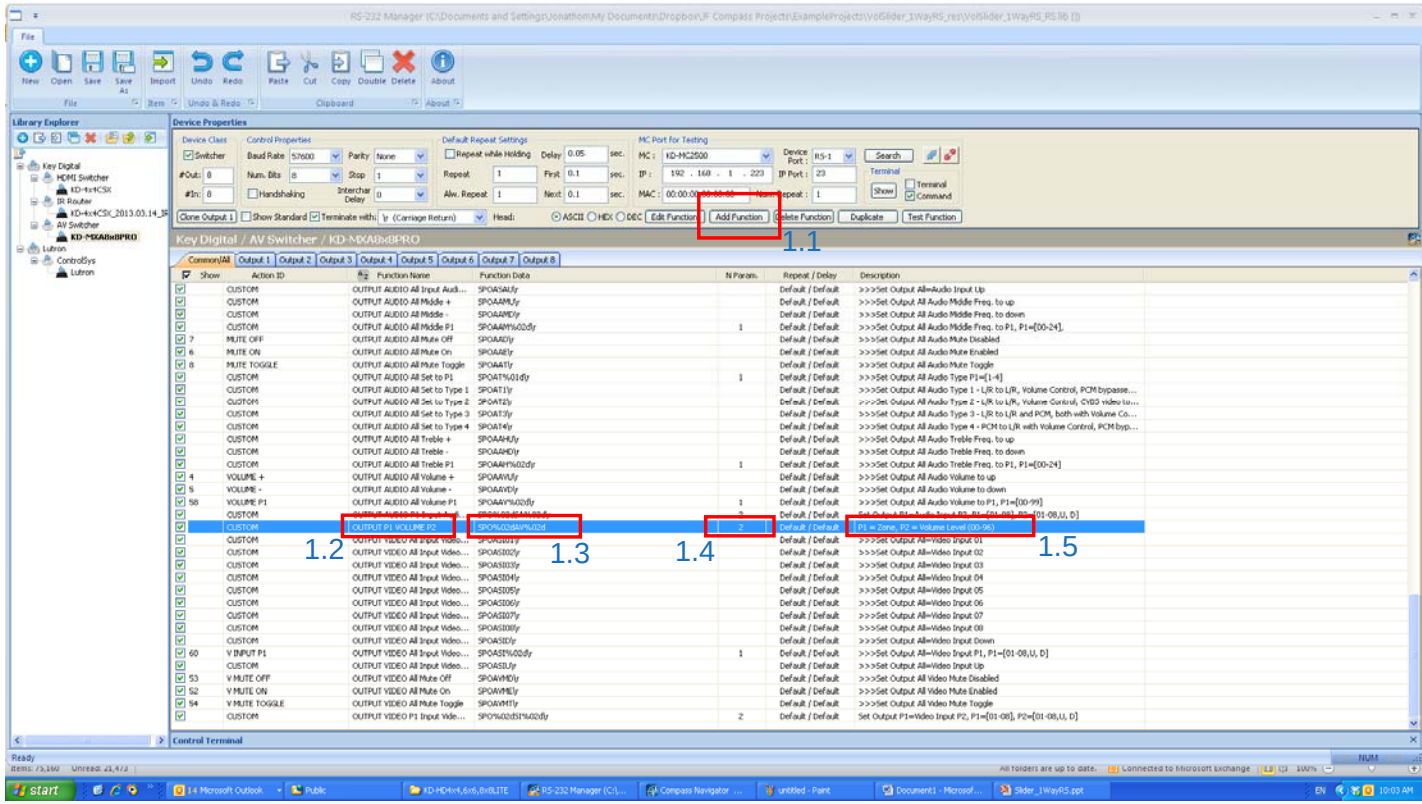
where yy = volume level

1.3.2. % informs software that parameter will begin

1.3.3. Refer to chart: Compass Library Manager Parameters / Variables (1.6)

1.4. Enter correct number of parameters (N Param) by double-clicking in respective cell

5. Enter notes on parameter’s potential value in Description cell. Parameter’s values and placement will vary by controlling device. Refer to device literature for accurate RS-232 coding information.



1.6

Compass Library Manager Parameters / Variables			
Format Specifier	**Data Type / Name**	**Navigator Variable Representation**	**Description**
%d	Integer	Int	Variable can hold any integer value (whole numbers) from 0 to 65536
%s	String	String	Variable can hold any string value (all ASCII Characters), up to 1,000 characters
%f	Float	Double	Variable can hold any integer value (with decimal places), with 2^16 place
%b	Boolean	Bool	Variable represents true or false (1 or 0, respectively)
%x	Hex	N/A	Variable entered as integer value is converted to Hex value automatically
%c	Checksum	N/A	Sum of all preceding bytes for 8-bit or 7-bit
Examples			
Integer			
%d			Unspecified length
%01d			1-integer in length (0-9)
%02d			2-integers in length (00-99)
%03d			3-integers in length (000-999)
%04d			4-integers in length (0000-9999)
…and so on. (%05d, %06d, %07d, etc)			
String			
%s			Unspecified length
%01s			1-integer in length (ie A)
%02s			2-integers in length (ie A1C)
%03s			3-integera in length (ie A1C)
%04s			4-integers in length (ie -A1C)
…and so on. (%05s, %06s, %07s, etc)			
Float			
%f			Unspecified length
%.01f			1-integer following decimal (ie .5)
%.02f			2-integers following decimal (ie .90)
%1.02f			1-integer preceding decimal place and 2-integers following decimal place (ie 9.99)
%3.03f			3-integers preceding decimal place and 2-integers following decimal place (ie 123.456)
…and so on…			

2. Create a variable to store the value of zone's current volume level

   2.1 Assign desired name

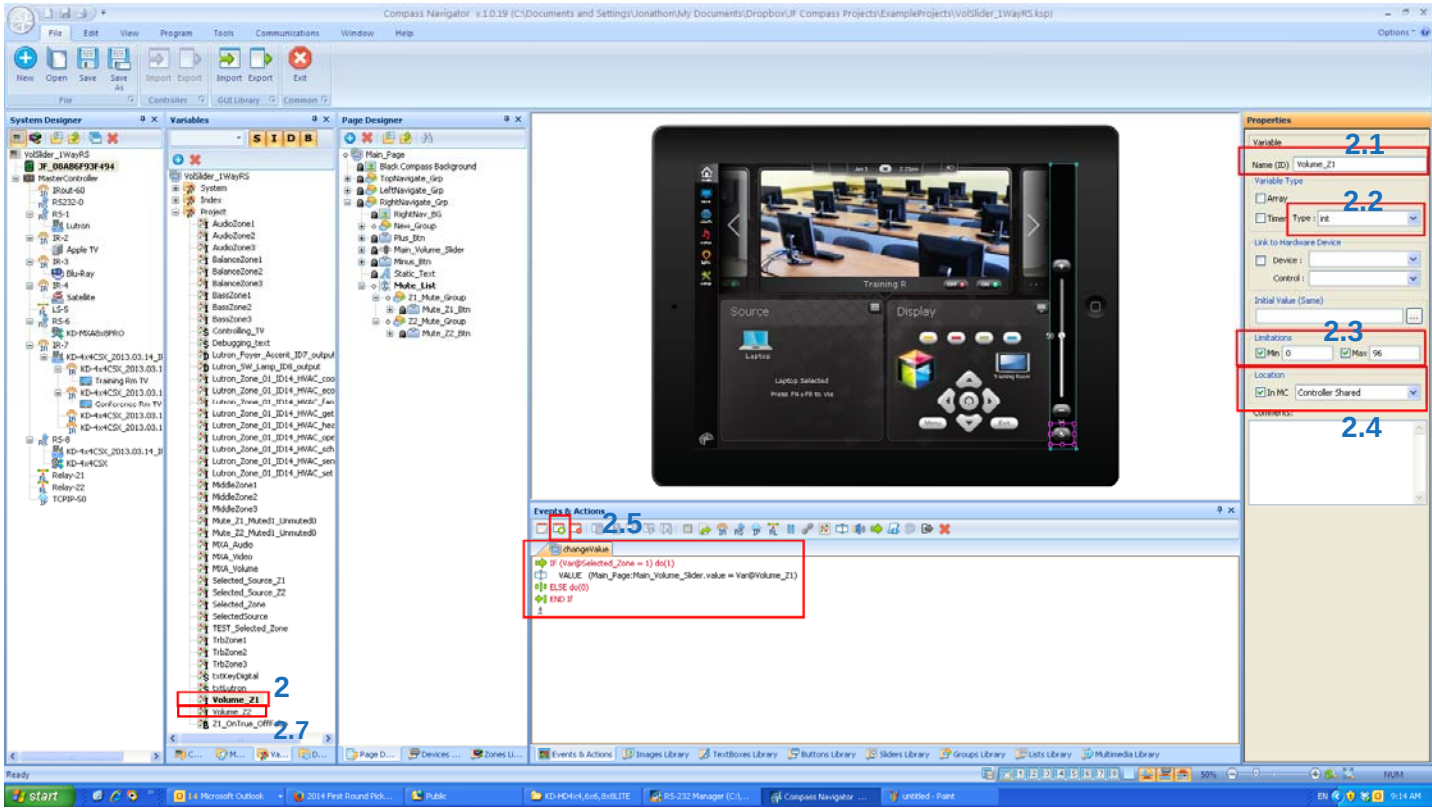
   2.2 Assign type. Note: Integer (int) is recommended for devices with all positive value for discrete volume level (ie. 00 to 96) and hex value, String is recommended for devices with negative and positive value (ie. -60 to 16)

   2.3 Provide proper value limits based on device's acceptable value range for volume level

   2.4 Optional: Choose "Controller Shared" if multiple iOS devices will be utilized to enable the variable's value to be broadcasted globally amongst all controllers

   2.5 Create a Change Value event by pressing "Add New Event" (small, green plus) icon. Add a GUI event that sets the slider's value to reflect the value of the variable IF the controller is in the appropriate zone.

   Repeat for each additional zone



3. Define appropriate properties to slider

3.1. Minimum (Min) and Maximum (Max) values should correspond with range established for variable in 2.3

4. Attach appropriate Events & Actions to volume slider

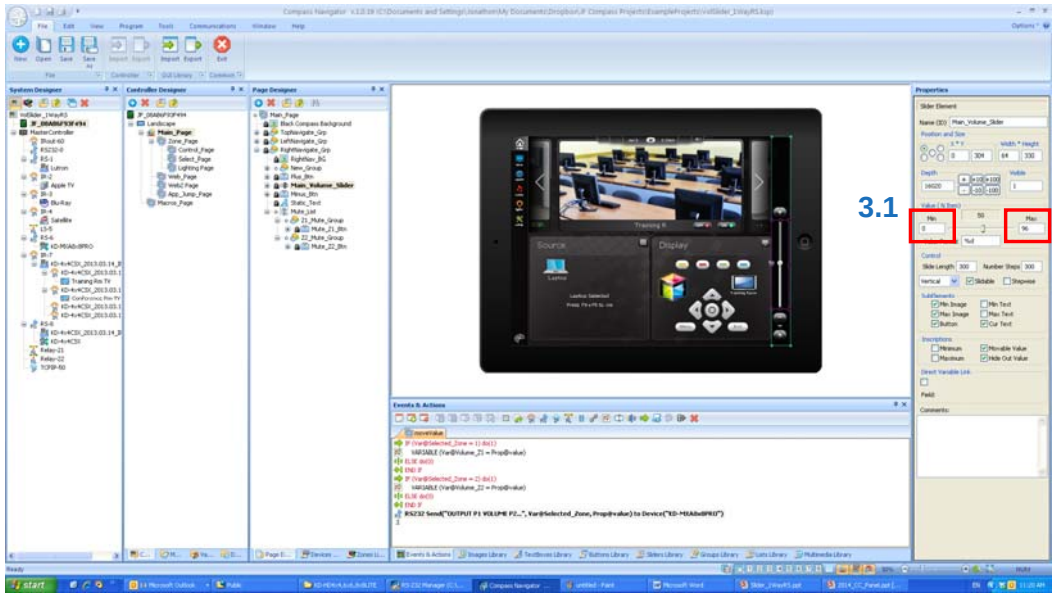
4.1. Add IF event(s) that stores the appropriate variable's value IF in the respective zone

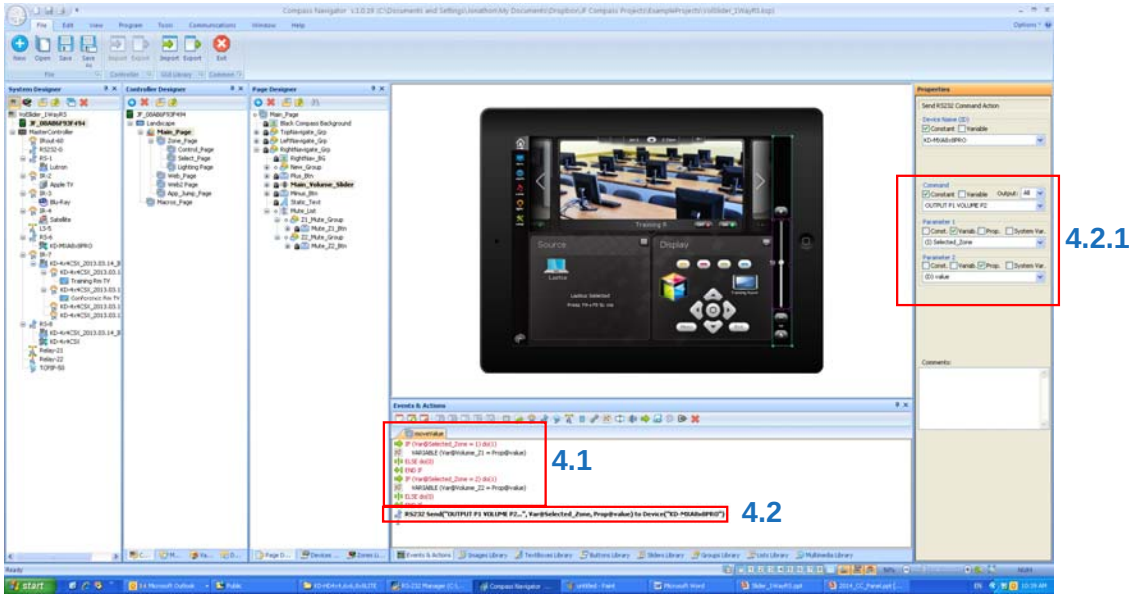
4.2. Add RS-232 event calling the RS-232 command found/created in step 1. This command is called after the IF statements complete

4.2.1 Fill values for Parameter fields

Ie. Parameter 1 = Output number, which value has been set by "Selected_Zone" variable

Parameter 2 = value of slider





5. If using +/- volume increase/decrease buttons

5. 1. Attach IF Event that will check for value of “Selected_Zone”

5. 2. Attach Variable Value event and drag in between “IF” and “ELSE”

5.2. 1. Select “Value Add” to add to current value of variable

5. 3. Attached RS-232 event, calling the RS-232 command found/created in step 1. The event will be placed within the IF statement between “IF” and “ELSE”

5.3. 1. Ie. Parameter 1 is the value of the “Selected_Zone” variable

5.3. 2. Ie. Parameter 2 is the value of the “Volume_Z1” variable, which was previously established in 5.3.1

5. 4. Repeat for each additional zone

5. 5. Add a repeat (press & hold) event, providing adequate time between repeats depending on response time of the device being controlled.