

Smart Bus Driver for Control4

By Borneta Drivers

Programming Guide

Version 1.0

Contents

- 1. Introduction
- 2. Setting up Smart Bus modules
- 3. Adding drivers to Control4 Director
- 4. Acquiring your driver's license key
- 5. Configuring your driver
- 6. Testing your driver

Introduction

This document outlines the simplicity of integrating Control4 with Smart-G4 DIN-RAIL back-end modules.

Setting up Smart Bus modules

After setting up the smart bus IP gateway, relays, and dimmers, and installing <u>Smart-Cloud Software</u>, the following network settings have to be set for your LAN.

- 1. Router IP address: 192.168.10.1
- 2. Turn off any firewalls blocking port 6000 on UDP protocol.
- 3. Connect the Smart Bus IP Gateway to your LAN port in the router

Assign a device ID for each module in your Smart Bus network and take a note of that ID, this is explained in detail in the smart bus programming module found <u>here</u>.

For the purposes of this manual, the Relay module ID will be 100, Dimmer module ID 75, and IP gateway ID is 250. The subnet ID for the Smart Bus network will be 1.

Smart Clo	oud Configuration	Software V14.0	9 (C) SmartHom	e-Group (R) www.Smart	HomeBus.com		
Configure (C) Address(<u>A</u>) F	Pairing(P) Dev	rices (D) Test(T) Language	(L) Backup(B) Devel	opers(E9) Users(U) Other(O) Hot <u>e</u> l Help(H)		
<u>a X </u>	🗎 🗳 👲	■ ※ 🖾		1 R Q R	. 📴 🖉 🖎 🖄 🖬 🎔 🐜 🖪		
ON-line devi	ices						
Status	Subnet ID	Device ID	Model	Remark	Description		
 	1	75	SB-DIM6c2A-DN		Dimmer 6CH 2A/CH,DIN-Rail Mount		
×.	1	100	SB-RLY12c10A-DN		Relay 12CH 10A/CH DIN-Rail Mount		
· ·	1	250	SB-RSIP-DN		Hybird Integration Link with IP		
							6
							1
	Active Link Via:Eth	nernet			Current IP:192.168.10.104	Total Devices:3	Best Viewed at 1024x768 Resolution

Adding drivers to Control4 Director

The following drivers will be required, they can be found in the package provided after you purchase your license, or found on our <u>website</u> (coming soon).

- 1. Smart-Bus Hybrid Com (light_sbus_interface.c4i)
- 2. Smart-Bus 12 Channel Relay (light_sbus_12x10a_relay.c4i)
- 3. Smart-Bus 6 Channel Dimmer (light_sbus_6x2a_dimmer.c4i)

Copy and paste the drivers listed above into the Control4 driver directory as seen in the image below

ile <u>E</u> dit <u>V</u> iew <u>T</u> oo	ls <u>H</u> elp				
Organize 🔻 🛛 🕎 Op	pen Share with ▼ E-mail Burn New folder				≣ - □ 0
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Recent Places	light_Evo Light Channel_Mode Lighting.c4i	07/01/2012 5:50 PM	C4I File	33 KB	
SF Dropbox	🖻 light_Evo Lighting Scene_Mode Lighting.c4i	18/03/2012 11:16 PM	C4I File	32 KB	
	• Libraries > Documents > Controlf > Drivers • 14 Search Drivers Tools Help Copen Stars with • E-mail Burn New folder Documents library Divers Divers Divers Divers Divers Bight, Evo Light Channel, Mode Lighting, c4i O'(1/2022505 PM, C4FFE Bight, Evo Light Channel, Mode Lighting, c4i O'(1/2022505 PM, C4FFE Bight, Evo Light Channel, Mode Lighting, c4i Divers Bight, Evo Light Channel, Mode Lighting, c4i O'(1/2022505 PM, C4FFE Bight, Evo Light Channel, Mode Lighting, c4i Diverse Bight, Evo Light Channel, Mode Lighting, c4i Diverse Bight, Evo Light Channel, Mode Lighting, c4i Diverse C4i				
Cibraries	🗊 light_sbus_6x2a_light_dimmer.c4i	22/10/2012 9:16 PM	C4I File	16 KB	
Documents	🖉 light_sbus_12x10a_relay.c4i	22/10/2012 9:15 PM	C4I File	19 KB	
A libraries > D Corganize Corganize	🗷 light_sbus_interface.c4i	22/10/2012 9:12 PM	C4I File	48 KB	
Pictures	🖻 media_player_ZSA-201_202 _IPZatabit.c4i	15/08/2012 5:28 PM	C4I File	15 KB	
Videos	🖻 modelighting_232_mbus_MBus Interface_Control4(1).c4i	05/06/2012 11:28 AM	C4I File	207 KB	
	🖻 modelighting_232_mbus_MBus Interface_Control4.c4i	25/07/2011 11:45 AM	C4I File	191 KB	
😽 Homegroup	🕿 projector_Elmo_P10.c4i	24/05/2011 12:04 PM	C4I File	3 KB	
_	rojector_VPL-FX50_IR_Sony.c4i	24/05/2011 9:16 AM	C4I File	26 KB	
P Computer	receiver_AVR-2112CI _Network_Denon.c4i	12/02/2012 10:52 AM	C4I File	193 KB	
•	relay_mbus_modelighting_edinrp0504_4 Channel Relay Module_Control4.c4i	25/07/2011 11:45 AM	C4I File	15 KB	
📭 Network	🕿 thermostat_ip_nest_hvac.c4i	18/05/2012 4:20 PM	C4I File	82 KB	
	🗷 tuner_Arcam_T-32.c4i	Centrals_controls_cei 0.700/2011 1123 AM Cel Frie 207 AB terface_controls_cei 25/07/2011 1123 AM Cel Frie 191 KB terface_controls_cei 24/05/2011 1204 PM Cel Frie 3 KB ternancei 22/05/2011 1204 PM Cel Frie 3 KB ternancei 12/02/2012 1052 AM Cel Frie 26 KB 0504_4 Channel Relay Module_Control4_cei 25/07/2011 11:45 AM Cel Frie 15 KB 0604_2 Control4_cei 25/07/2011 11:45 AM Cel Frie 15 KB 0604_2 Control4_cei 25/07/2011 11:45 AM Cel Frie 15 KB 0604_2 Control4_cei 13/07/2012 615 PM Cel Frie 15 KB			
	tv_LC-46LE835 _Network_DriverWorksSharp.c4i	13/07/2012 6:15 PM	C4I File	49 KB	-
	tv_LC-70LE632U_Network_Sharp.c4i	12/06/2012 11:41 AM	C4I File	48 KB	
	tv_LC-70LE735U_Network_Sharp.c4i	12/06/2012 1:00 PM	C4I File	48 KB	
	🖾 tv_LG_47LW4500.c4i	25/02/2012 4:33 PM	C4I File	36 KB	
	🗷 tv_LN40A450_IR_Samsung.c4i	05/06/2012 11:05 PM	C4I File	77 KB	
	tv_Pioneer_PDP-507XG.c4i	11/10/2012 2:19 PM	C4I File	47 KB	
	🖻 tv_Platinium_Mirror TV.c4i	07/08/2012 12:05 PM	C4I File	31 KB	-

Start Control4 Composer Pro, and open a new project. In system design, select the search tab located in the Items Window. Under local database, the drivers listed above can be found as seen in the image below

Composer 2.1.0				
<u>File Driver Go Tools H</u> elp				
System Design	Properties	Properties	List View Info	Items
System	Properties			Locations My Drivers Search
Sample Project Home Main Goptal Media Goptal Media	There are no properties for the selected item.			Coal Database Online Database Device Type: others Manufacturer: SmartBus Model Grant-Bus S8-RLY12c10A-DN Grant-Bus S8-DN%c2A-DN Grant-Bus S8-DN%c2A-DN Grant-Bus S8-DN%c2A-DN Grant-Bus S8-DN%c2A-DN
System Design				<
Connections				Smart-Bus Interface Driver
(m) Media				Driver Status:
Agente				Creator: Borneta
Agents				Created: 13/07/2012 12:30 PM
💥 Programming				Modified: 13/12/2012 12:30 PM
				Notes
Director Status: Idle				Connected

Double click the Smart-Bus Hybrid Com Driver first, and then double click the Dimmers and Relays driver to add them to the project. This must be done in this order to make sure proper connections are made between the Hybrid Com driver and the other drivers.

The dimmer and relay drivers represent a single module each, to add multiple modules add more copies of the driver as you have done in the previous step (maximum of 254 modules can be added under a single S-Bus subnet). Note that only one Smart-Bus Hybrid Com driver is needed for each subnet.

Acquiring your driver's license key

In order to receive your license, you must first find the MAC address of your Home Controller, which is set as your network director.

Click the connections button, and then select your Home Controller in the IP Network Connections. In the available devices window, the MAC address can be found as seen in the image below.

Composer - Sample Project.c4p	Street and Street							_ 1 <mark>_ X</mark>		
<u>File Driver Go Tools Help</u>										
Connections		IP Network Connec	tions					Available Devices		
Control/AV	Network	Identify Disconnect	Identify Disconnect All Disconnect All							
IP Network		Device	Room	Туре	Address Type	Address				
IP Network		Device	Room Room Room	Type c4ka gen c4kcontrol4_hc300	Address Type	Address 192:168.10.255 c4:control4_hc300v2_homecontroller-Makr		Control		
8 Programming		_								
Director Status: Idle								Connected		

Send the MAC address of your Home Controller to us by e-mail or through our <u>website</u> (coming soon), and we will provide you with your License Key.

Configuring your driver

The Drivers should now be listed in the system window, click on the Smart-bus Interface Driver. The image below shows the properties for this driver.

G Composer 2.1.0								. 0 <u> </u>
File Driver Go Tools Help								
System Design	Properties		Properties	List View	Info	Items		
System	Properties					Locations	My Drivers	Search
G Sample Project	Properties Documentation L	ua						
House	Protocol	G4	-]		Occal Date	tabase 🔘 Or	line Database
- The Main	Subnet ID	1	4	1		Device Type:	others	•
- 😴 Room	IP Port	6000	A. V			Manufacturer:	Smart-Bus	•
	Connection State	Offline		1		Manufactu	Model	Driver Sta
Home Controller HC300	UDP Receive Rate (Milliseco	200	4	-		Smart-Bus	SB-RLY1	
	License Key	_		1		Smart-Bus	Hybrid Com	
Smart-Bus 12 Channel Relay	Debug Mode	Off		1				
System Design Connections Media Agents Spogramming						Smart-Bus la Driver Status: Creator: Born Created: 13/0 Modified: 13/	nterface Driver eta 7/2012 12:30 P	M
								Notes
Director Status: Idle							0	Connected

In the properties window, insert the license key you received, and press the Set Button.

The connection status will be changed to "Online".

The other properties for the Smart-bus Interface Driver are explained below:

Protocol: This Driver supports both G3 & G4 protocols. The default value is G4.

Subnet ID: The Subnet ID of the modules used in the project. For small to medium sized projects this is usually set to 1.

IP Port: The UDP port used to for communication between the Control4 and the S-Bus gateway. This should not be changed from 6000, except for advanced troubleshooting purposes.

Connection Status: shows the current status of the driver

UDP Receive Rate: Limits the traffic received by the driver to prevent system crashes.

Debug Mode: For advanced troubleshooting.

Click on either the dimmer or the relay driver next. In the properties window, set the Device ID. In the case of the Dimmer this should be 75 (for this example only), and for the Relay 100.

If the S-bus network is noisy, or has a high traffic load, the maximum send times value can be increased slightly to overcome such problems. The default value of 2 should be enough in most networks.

The feedback timeout value can be changed to increase the accuracy of the feedback but can slow down the feedback process.

Composer 2.1.0				
<u>File Driver Go Tools H</u> elp				
System Design	Properties		Properties List View Info	Items
System	Properties			Locations My Drivers Search
G Sample Project	Properties Documentation	n Lua		
Home	Device ID	100		Online Database
	Maximum Send Times	2		Device Type: others 👻
- 😨 Room	Englished Timograf	500		Manufacturer: Sirius Audio 💌
	Feedback Timeout	500		
Home Controller HC300	Debug Mode	Off	-	Manufactu Model Driver Sta
Institute & Channel Danner Image: System Design Image: System Design				Sirius Audio Drive' Status: Creator: Control4
S Programming				Created: 1/20/2005 2:22:54 PM Modified: 11/02/2005 12:30 PM
w rigginning				Notes
Director Status: Idle				Connected

The same steps above should be repeated for the rest of the modules in your project.

To setup the IP address that the driver will listen to, click the connections button, then select Networks tab.

G Composer 2.1.0											
File Driver Go Tools Hel	lp										
Connections		Control & Audio Video Connections									
Control/AV	Network	Smart-Bus Interface Driver									
G Sample Project		Name	Туре	Connection	Input/Output	Connected To					
😑 🤴 Home		Control Outputs									
E M House		💭 S-Bus	Control	S-Bus	Output	Smart-Bus 6 Channel Dimmer->S-Bus, Smart-Bus 12 Char	nel Relay->S-Bus				
E- Com											
Digital Med	dia										
- G Internet R	tadio										
	troller HC300										
	Interface Driver										
Smart-Bus	6 Channel Dimmer										
Smart-bus	12 Channel Relay										
		S-Bus Input Devices									
		Device	Name	Location	Connections						
		Smart-Bus 6 Channel Di	S-Bus	Room	Smart-Bus Interface D	Driver->S-Bus					
		Smart-Bus 12 Channel R	S-Bus	Room	Smart-Bus Interface D	Driver->S-Bus					
System Design											
Connections											
Media											
Agents											
Recorramming											
Troy continue											
Director Status: Idle							Connected				

In the IP Network Connections window, double click the Smart-bus Interface Driver and enter the following IP address: 192.168.10.255

Composer - Sample Project.c4	p								- 0 X
File Driver Go Tools Help									
Connections		IP Network Connec	Available Devices						
Control/AV	Network	Identify Disconnect					Disconnect All		
IP Network		Device	Room	Туре	Address Type	Address			
		Smart-Bus Interface Drive	r Room Room	c4:lua_gen c4:control4_hc300	IP UUID	192.168.10.255 c4:control4_hc300v2_homecontroller-Makr			
System Design Connections Media Agents Frogramming		Identify: Room	river	Works	Cause i the Dev Type th 192.160	Aestification to be sent from eccontrolled by this driver or network address below. 10.0000 Disconnect Disconnect			
Director Status: Idle									Connected

After completing this step, your driver will be ready for connections our driver and Control4 proxy drivers.

Testing your driver

Click the System Design Button, then Add drivers found in items window. An example of a driver suitable for the Dimmer module is the Outlet Light provided by Control4.

For the relay module several drivers can be used such as:

- HPC Lighting Driver created by Card Access
- Fan
- Door
- Pump

The image below shows a sample project with some drivers added.

Composer - Sample Project.c4p	The second state which the second state of the					
<u>File Driver Go Tools H</u> elp						
System Design	Properties		Properties	List View	Info	Items
System	Properties				Apply to	Locations My Drivers Search
G Sample Project	Click Ramp Rate Up					Media Controller
😑 😽 Home	0	C-t				
House	v v v	Set				
👜 🔤 Main	Click Ramp Rate Down					
E- 👽 Room						
	0 🗢 S	econds v Set				Home Controller HC1000
Digital Media	Provent Laurel					Home Controller HC 1000 V2/V3
Creat Radio	Freset Level					Home Centreller HC200P
Smart Bus 6 Channel Dimmer	0 🚊 Nu	umeric Value(%) Set				Home Controller HC300C
Smart-Bus 12 Channel Relay						
Kitchen Dimmer	Advanced Properties					🔓 🗐 Light
Bar Dimmer	Advanced rioperties	•				Wireless Dimmer
	Properties Documentation	Lua				
Door	Top LED color					
	ghting Driver (DriverWorks)	Rha	-			
Fan			•			
Eountain	> (hex RGB)	0000FF				HPC Lighting Driver
Electronic Gate	> OFF (standard colors)	LED Off	•			User Interface System Remote Control SR-150
Radiant Floor	> (hex RGB)	000000				System Remote Control SR-250
Sprinkler System	Pottom LED color				=	Commissioning Remote Control CF
	Dottom EED Cold					
System Design	> ON (standard colors)	LED Off	•			Mini Touch Screen V2
System Design	> (hex RGB)	000000				Wireless Touch Screen - 10.5"
Connections	> OFF (standard colors)	Phys	_			Wireless Touch Screen v2 - 10.5"
Media		bide				Touch Screen - 7"
	> (hex HGB)	UUUUFF				
agents	Invert Relay	No	•			
Second mine	Debug Mode	Off	-			3-Button Keypad
w royumny						B LCD Keyned DOS
					-	CCD Reypad POE
Diractor Statur: Ida						Connected
on eccor o cardon fulle						Comletted

To connect each channel in the modules to its proper driver, select the connections button under Control/AV select the Dimmer module, select the light outputs channel under proxy then drag and drop each channel to the appropriate device listed under light input device.

Composer - Sample Project.c	4p	Internet Local Printers (2006)								
<u>File Driver Go Tools Hel</u>	p									
Connections		Control & Audio Video Connections								
Control/AV	Network	Smart-Bus 6 Channel D	immer							
Control(AV Network Sample Project Sample Project Home Main Main Diagonal Provide HC300 Controller HC300 Cont		Smart-cus & Channel D Name Control Inputs S 5-8us Proxy ≧ Light 1 ≧ Light 1 ≧ Light 2 ≧ Light 4 ≧ Light 5 ≧ Light 6	Immer Type Control Proxy Proxy Proxy Proxy Proxy Proxy	Connection S-Bus LIGHT LIGHT LIGHT LIGHT LIGHT LIGHT	Input/Output Input Output Output Output Output Output Output	Connected To Smart-Bus Interface Driver->S-Bus Kitchen Dimmer->Light Bar Dimmer->Light				
- Boor Boor - Fan - Fan - Fountain - Fan -	Gate por ystem	Device	Name	Location	Connections		1			
System Design Connections Hedia Agents System Design										
Director Status: Idle							Connected			

Repeat the steps above for the relay.

Composer - Sample Project.c	c4p	and the second second second second									
<u>File Driver Go Tools H</u> el	lp										
Connections		Control & Aud	Control & Audio Video Connections								
Control/AV	Network	Smart-Bus 12 Channe	Relay								
G Sample Project		Name	Type	Connection	Input/Output	Connected To					
😑 😽 Home		Control Inputs									
House		Gr S-Bus	Control	S-Bus	Input	Smart-Bus Interface Driver->S-Bus					
🚊 🔄 Main		Design	Contract	0.000	an porc						
🖮 🐨 Room		Proxy									
Home Con	troller HC300	ETRelay 1	Proxy	RELAY	Output	Salon Hidden Light->Relay					
😥 Digital Med	dia	ETRelay 2	Proxy	RELAY	Output	Door->Relay					
	tadio	ETRelay 3	Proxy	RELAY	Output	Door Lock->Relay					
	Interface Driver	B Kelay 4	Proxy	RELAY	Output						
Smart-Bus	6 Channel Dimmer	B Relay 5	Proxy	RELAT	Output	Floatnam-sRelay					
Smart-Bus	12 Channel Relay	B Relay 0	Proxy	DELAY	Output	Electionic Gate-Picelay					
Kitchen Dir	mmer	B Relay /	Proxy	DELAY	Output	Padiant Elect >Dolay					
Bar Dimme	r	B Relay 0	Proxy	DELAY	Output	Socialdor Sustem > Dolou					
Salon Hidd	ien Light	BT Pelay 10	Proxy	DELAY	Output	aprinted ayatem siteday					
Door		BT Delay 11	Proxy	DELAY	Output						
Door Lock		BT Relay 12	Proxy	DELAY	Output						
Fan		S Freedy IL	TIONY	NEL RI	output						
Fountain											
	Gate										
Pump	005										
Carioklar S	Sustem	Device	Name	Location	Connections						
Sprinder 5	y stem										
		_									
🔯 System Design											
N											
() Media											
Rgents											
🐉 Programming											
irector Status: Idle							Connected				