



# Spider XL – RTI (Stand alone)



## QUICK REFERENCE GUIDE : SPIDER XL

### WHAT IS THE SPIDER-XL

The Spider-XL is designed to integrate appliances into the Canbus (Electronics Network) of your Volvo. It offers several in- and outputs which allow control of external appliances from your Volvo or the other way around.

The Spider-XL CPU is the same for all possible configurations. The harnesses and firmware deliver you the different possible options.

**You have chosen the RTI STANDALONE VERSION; which indicates that you want to operate an original Volvo P2-RTI screen without (!) the original RTI Computer connected. (This RTI screen was originally supplied in S60/V70/XC70/S80 2002-2006 and XC90 2003-2014).**

### KNOWLEDGE/TOOLS AND EXTRA'S REQUIRED – RTI STANDALONE VERSION

For the use and installation of the Spider XL, basic car-electronics knowledge is required.

The tools and extra's required to finalize the installation properly depend the current installation of the RTI screen.

For the RTI STANDALONE version to work, at least an original Volvo 16:9 RTI screen is required.

### FUNCTIONS AVAILABLE IN THE SPIDER-XL – RTI- STANDALONE VERSION

Configuration is setout in page 2; pinout.

### COMPATIBILITY – RTI STANDALONE VERSION VERSION

The Spider-XL with RTI standalone configuration inside and harnesses supplied is tested and working in: Volvo S80 MY 2001-2006, Volvo S60 MY 2001-2009, Volvo V70 MY 2001-2007, Volvo XC70 2001-2007, Volvo XC90 2003-2014.

### SUPPLIED IN BASIC SET

Please see the general Spider-XL documentation for parts supplied in the set.

Instruction# 1700	Version# 1.01	Part# VT-1700	EAN# 871932411545	Author: BE
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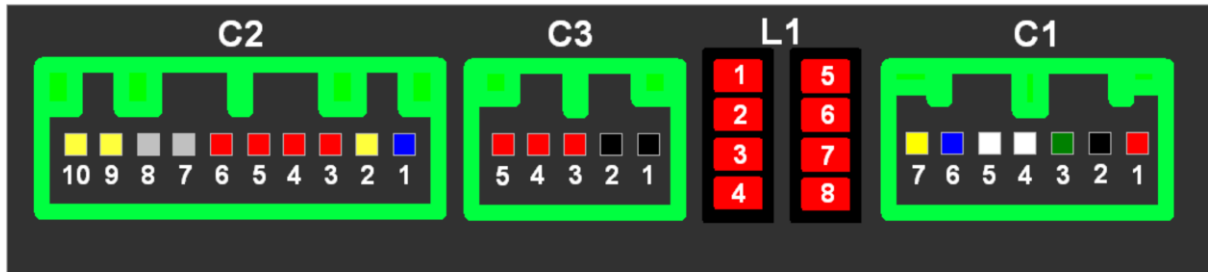


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## PINOUT

For all Spider-XL configurations the basic pinout is the same, for the RTI STANDALONE VERSION, specific configurations are mentioned below:



Item	Pin	Color	Type	Dir	Function	Connect to	Remark	LED
C1	1	RED	12V+	I	Spider-XL general operation	+30 (12V+ Battery)	1A required (Do NOT connect to ignition 12V+!)	
C1	2	BLACK	GND	I	Spider-XL general operation	GND		
C1	3	GREEN	Canbus	I/O	Spider-XL general operation	HS or LS can LOW	Twisted with C1-4	
C1	4	WHITE	Canbus	I/O	Spider-XL general operation	HS or LS can HIGH	Twisted with C1-3	
C1	5	WHITE	-		No function, for future use.	No function		
C1	6	BLUE	-		No function, for future use.	No function		
C1	7	YELLOW	-		No function, for future use.	No function		
C2	1	BLUE	Serial	O	Connect to RTI SCREEN	Connect to supplied Screen video cable (green wire with terminal going into the grey screen harness)		
C2	2	YELLOW	Serial	I	Receive (RX), get control from external appliance	No function		
C2	3	RED	12V+/Pwm	O	+15 TO RTI SCREEN and optional Video switch	Connect to screen power harness and/or to the video switch 12V+ wire (red)	Max 3A	L1
C2	4	RED	12V+/Pwm	O	+15 TO Reversing CAMERA	Connect to the 12V+ of a reversing camera.	Max 3A	L2
C2	5	RED	12V+/Pwm	O	+15 Future use		Max 3A	L3
C2	6	RED	12V+/Pwm	O	+15 Future use		Max 3A	L4
C2	7	GREY	Relay	T	Open/Close Future use		Max 2A	L8
C2	8	GREY	Relay	T	Open/Close Future use		Max 2A	L8
C2	9	YELLOW	12V+	I	12V+ trigger towards Spider-XL			L6
C2	10	YELLOW	12V+	I	12V+ trigger towards Spider-XL			L7
C3	1	BLACK	GND	I	GROUND	GND (in harness)		
C3	2	BLACK	GND	I	GROUND	GND (in harness)		
C3	3	RED	12V+	I	+30	Free for use		
C3	4	RED	12V+	I	+30	+30 (in harness)		
C3	5	RED	12V+	I	+30	+30 (in harness)		
L1	LED				Representation of status C2-3			
L2	LED				Representation of status C2-4			
L3	LED				Representation of status C2-5			
L4	LED				Representation of status C2-6			
L5	LED				Representation of Spider-XL Status			
L6	LED				Representation of status C2-9			
L7	LED				Representation of status C2-10			

## TECHNICAL DATA

Power source : 13.4V (10.8V-15V allowable), Negative GND, Current consumption active : ~1A, Current consumption “sleep” (ignition off) ~4mA, Dimensions (WxHxD mm) 12x5x2, Weight CPU (gram) 200, Max current ports C2-3/6 3A each and should match total of C3 3/5 (max 5A supply on each pin).

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## CONTROLLING THE SPIDER-XL LOGIC

Settings/Configuration (operational use for firmware “RTI Standalone”):

Function	Automated	Manual operation	Additional info	Values
Choose PAL	-	Read+Mirror-joystick-right	Stored in Mem, available until power removed from Spider-XL. NOTE: you need to select RIGHT mirror before using the mirror-joy-right.	RTI 16:9 screen will be activated using <b>PAL</b>
Choose NTSC	-	Read+Mirror-joystick-left	Stored in Mem, available until power removed from Spider-XL. NOTE: you need to select RIGHT mirror before using the mirror-joy-right.	RTI 16:9 screen will be activated using <b>NTSC</b>
Choose Video Source 1	-	Read + Prev (for P3 also read + left)	Stored in Mem, available until power removed from Spider-XL	
Choose Video Source 2	-	Read + Next (for P3 also read + right)	Stored in Mem, available until power removed from Spider-XL	
Screen always up if key in ignition position 2; main source (Video 1) activated automatically.		Read + VolUp	Stored in Mem, available until power removed from Spider-XL	Default is : screen is <b>always UP</b> at ignition position 2, and main video source (video )1 is active.
Screen normally down, but upped if gear in reverse		Read + VolDown	Stored in Mem, available until power removed from Spider-XL. Changing the next option below this one will overrule the forced-down if reverse gear is selected)	Default is : screen is always UP and video source 1 is active.
Reverse camera auto-up activation		Read + Reset	Stored in Mem, available until power removed from Spider-XL, overrules “Read + VolDown” but only if reverse gear is selected	Default is : reverse camera trigger not activated.

KEY + KEY means : press first key and don't release, then press second key , release second key and release first key. (so keys are pressed simultaneous!)

The Spider-XL (once power and canbus are connected) will try to recognize the car at first time ignition is in position 2. If the Spider-XL is connected right, Led 5 will be on immediately.

Led 6 will blink a few times to show its busy finding out what car it is in. Once the car is recognized this process is ended and the led stops blinking.

A while after the car is shut-down (key is out), all computers in the car will enter sleep-mode. So will the CFE. Led 5 will turn OFF at that point.

Once the car is recognized, functions will start working as programmed. (Based on the config you have chosen!).

If the car is not recognized at all or functions do not work (partially or at all), it could be that the information available on the Canbus network is (partially) unknown to the Spider-XL.

Contact us in such case with at least the following information:

- Car type and modelyear
- Order number
- Problem description

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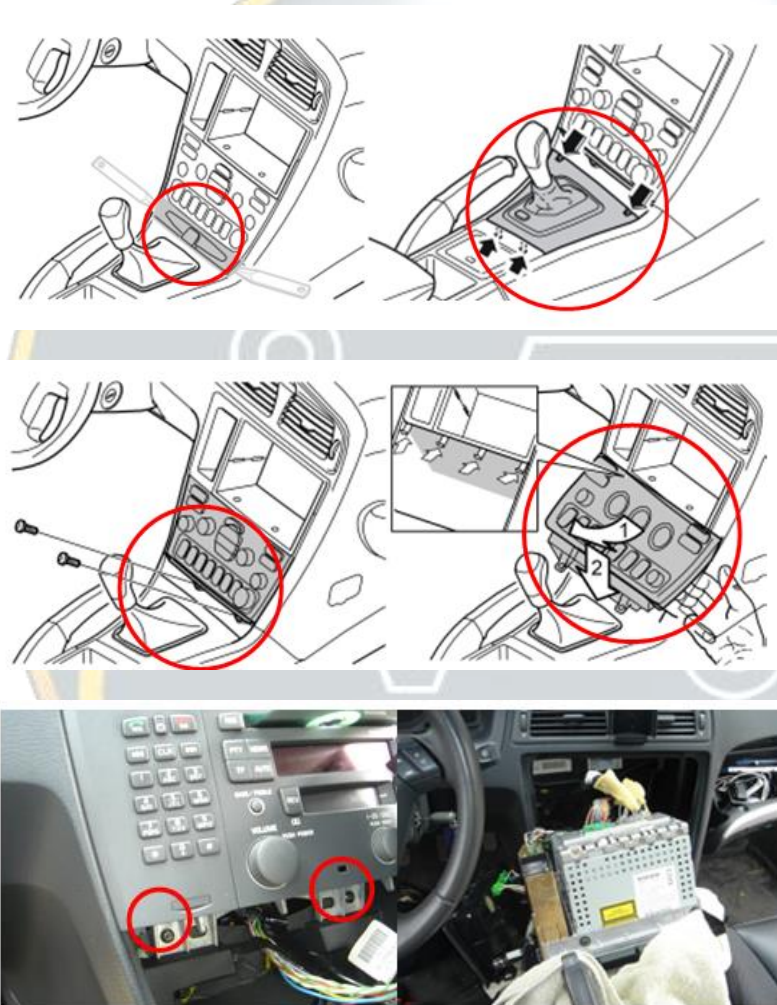
## INSTALLATION TIPS

The installation of the Spider is pretty straight forward.

You'll need 12V+ (+30 : so battery power, NOT ignition power!), a GND and lowspeed canbus hookup for the Spider to be able to work.

For **S60/S80/V70/XC70 2001-2007** we suggest connections to be made at the GREEN connector at the radio.

Remove the radio:



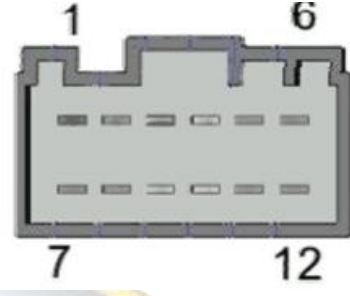
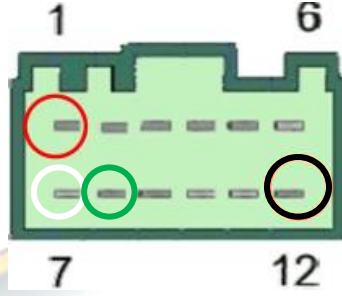
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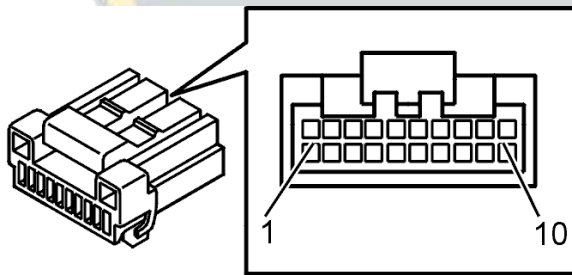
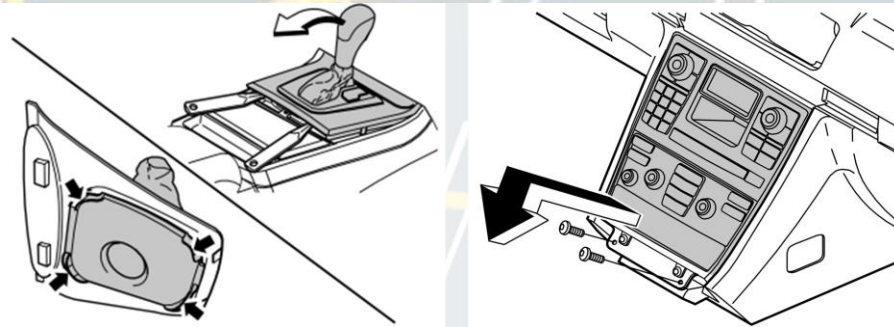


Find the green connector in the radio and connect as follows:



- Red -> 12V+ (Battery/+30)
- Black -> GND
- Green -> LS-Can-Low
- White -> LS-Can-High

For **XC90 2003-2014** we suggest connection to be made at the green connector at the ICM (Screen of the audio system) AND for power to a fused 12V+ (+30) wire (or a spare fuse space) in the left front of the car at the fuse-box. Do NOT use the 12v+ wires near the ICM or CD Player, they are not capable of handling large Ampere's!



Connector at ICM (Display)

- The **BLACK** wire from the CFE Plus harness -> **Pin 10** (Pin 10 should contain a **Brown** wire!)
- The **white** wire from the CFE Plus harness -> **Pin 5** (should also be **white**!)
- The **green** wire from the CFE Plus harness -> **Pin 3** (should also be **green**!)

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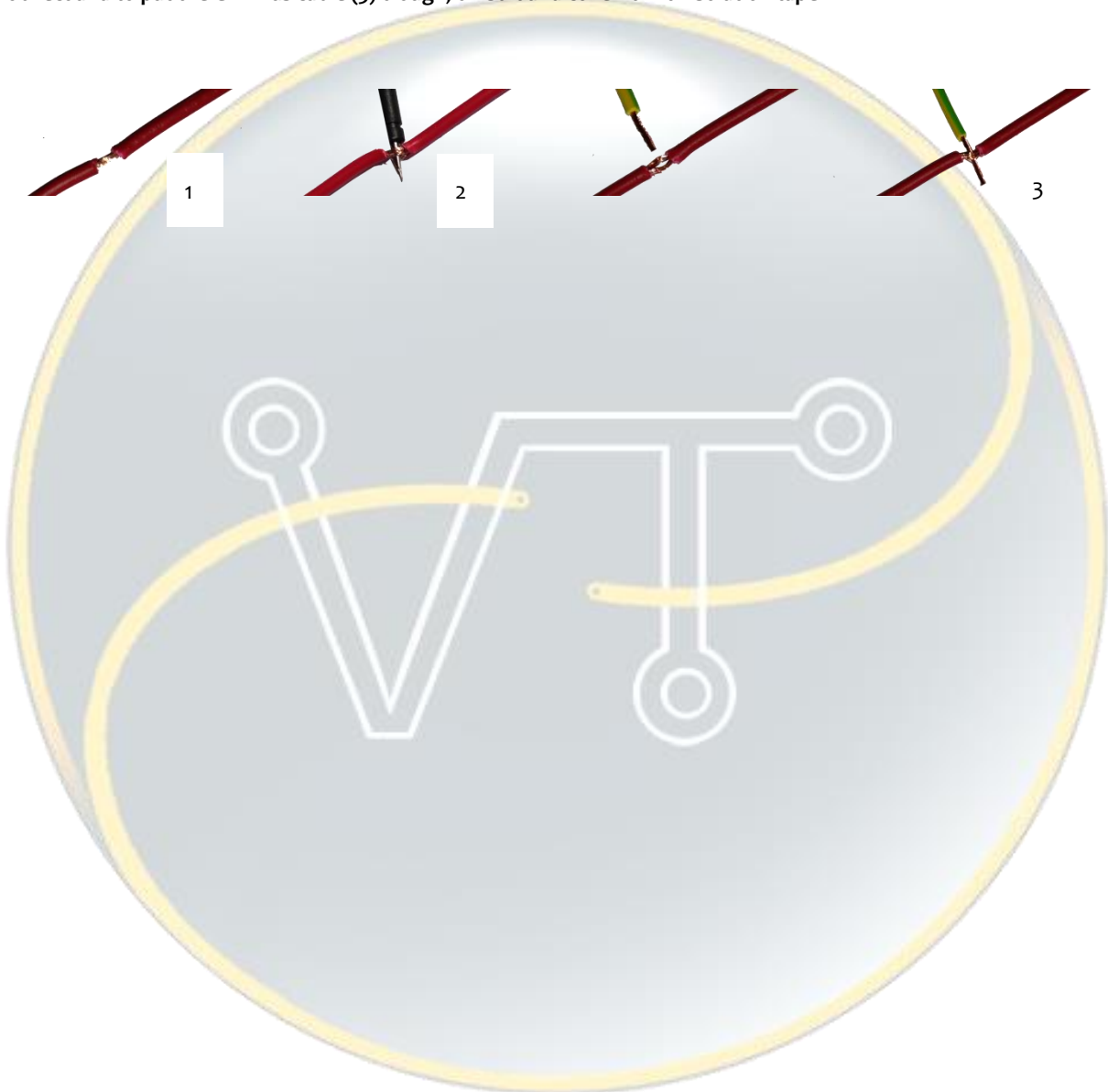
Quick Reference guide

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*Howto; connect the Spider-XL harness's wires to an existing wire in the car.*

Strip (1) the wire to be connected to at a place where you can reach it good enough to make en 'eye' (2) with a sharp object and to put the CFE Plus cable (3) trough, twist it and cover it with isolation tape.



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