

Guide Technical Manual

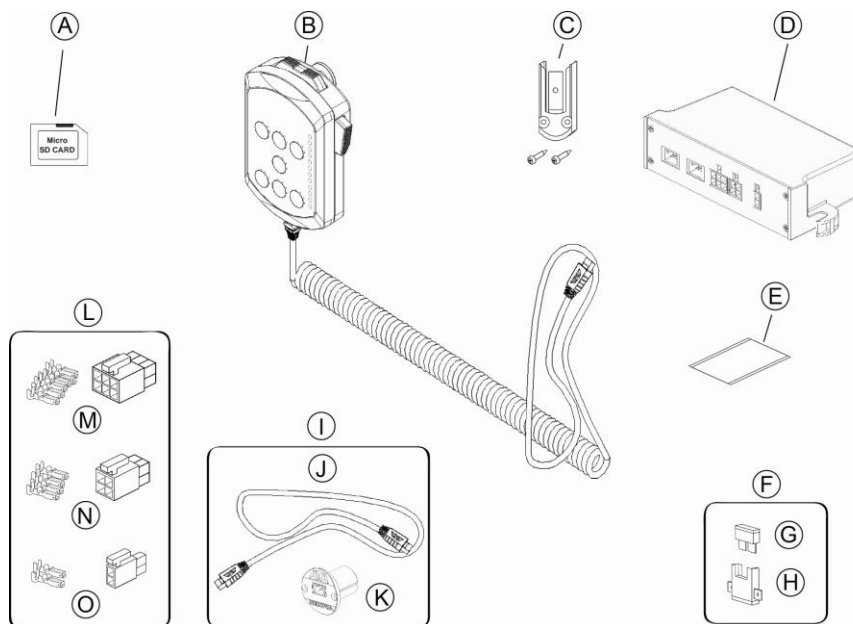
SPA Nano 112

SPA NANO 112 is a compact Siren & Public Address System for rapid response vehicles. It ensures the blue and amber beacons, projectors, radio power supply, Siren and Public Address functions and enables the broadcasting of 3 pre-recorded messages from the SD memory card, or from an external audio source (Broadcasting Function).



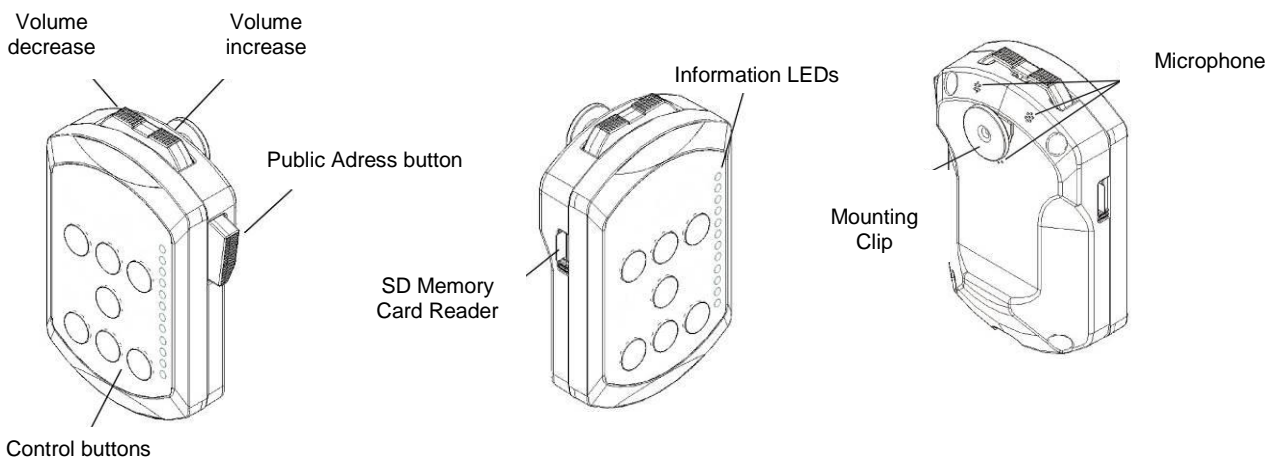
1. COMPOSITION

1.1. KIT CONTENTS

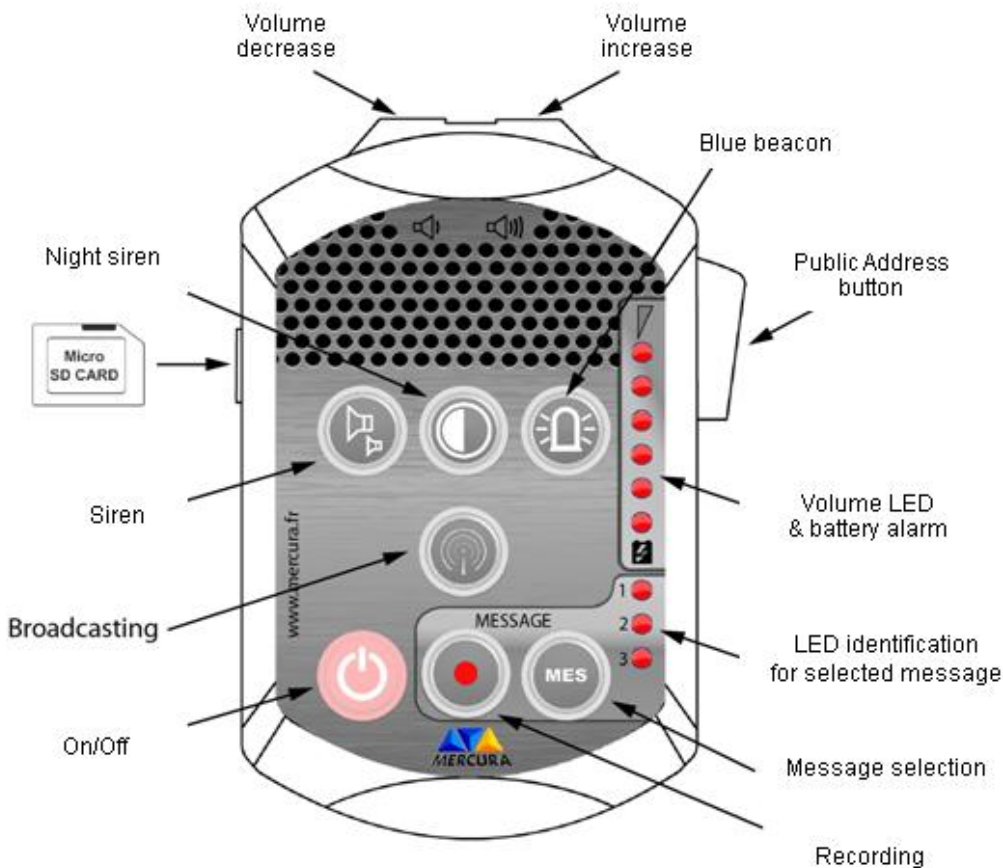


- A. SD memory card
- B. HANDY control panel
- C. Support for HANDY control panel
- D. SPA NANO module
- E. Dual-sided adhesive
- F. Fuse kit
- G. Fuse
- H. Fuse holder
- I. Dash-board connection kit
- J. 8 pin CAN BUS wire
- K. Dash-board interconnection
- L. Connectors kit
- M. 6 pin connector
- N. 4 pin connector
- O. 2 pin connector

1.2. CONTROL PANEL



Weight: Handy and cable: 400g	Length x Height x Depth (mm): 76 x 121 x 37	Power Supply 12 V via a BUS wiring loom	Consumption minimum 40 mA	Consumption maximum 160 mA	Operating Temperature -40°C to +85°C
<ul style="list-style-type: none"> "E" Marking Regulation R10 n° "E2*10R03*11026 CISPR25 (2008): class 5 radiating; class 5 conducting 			<ul style="list-style-type: none"> IP42 according to NF EN 60529 IK08 according to NF EN 50102 		
<ul style="list-style-type: none"> Memory Card Reader μSD Class 6 or 10Go up to 8Go Recording of messages in « WAV » format, mono sampled at 16 bits for 20,8 KHz and a size of 40 Ko / sec 					



2.3. SIREN



- Pressing the corresponding button activates the SIREN and the BLUE BEACON output, pressing the button again deactivates the SIREN function, but maintains the BLUE BEACON output function.
- Deactivating the BLUE BEACON deactivates the SIREN.
- Pressing the Fire Equipment Officer pedal (if wired) activates the SIREN. Releasing this pedal deactivates the siren.
- Pressing the vehicle HORN (if wired option) activates the SIREN if the BLUE BEACON is ON. Pressing it again deactivates the SIREN.
- Putting on the hand-brake switches off the siren, if it is activated and if the Hand-brake option has been wired. The associated button, however, remains functional in order to control the SIREN.

2.4. SIREN – NIGHT MODE



PLEASE NOTE: This function is available according to the current tones and regulations in force

- Pressing the associated button activates the Night Siren mode (power attenuated); pressing it again deactivates the Night Mode.

2.5. BLUE BEACON



- Pressing the corresponding button activates the BLUE BEACON output; pressing it again, deactivates it.
- Pressing the Fire Equipment Officer pedal activates the BLUE BEACON.

2.6. BROADCASTING



- Pressing this button activates the BROADCASTING function. This function enables the broadcasting of an external audio source when it is connected to the BF input of the SPA.

2.7. BROADCASTING A PRE-RECORDED MESSAGE



- The button « MES » enables the selection of 3 voice messages saved in « WAV » format on the SD memory card inserted in the card reader slot on the left side of the HANDY control panel. The initial position is « Stop ». All the message selection LED lights are off. Pressing the button once enables the first message to be broadcast, the associated led for message n°1 then lights up and the message is broadcast after about 2 seconds.
- Pressing the button a second time selects message n°2, the associated led for message n°2 then lights up and the message is broadcast after about 2 seconds
- Pressing the button a third time selects message n°3, the associated led for message n°2 then lights up and the message is broadcast after about 2 seconds.
- The message broad-casting is deactivated when pressing the « MES » button a fourth time. The associated LED lights go off.

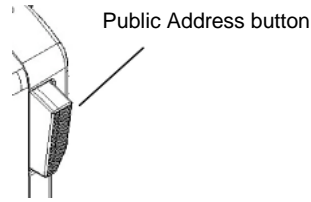
2.8. MESSAGE RECORDING ON THE SPA



- The « RECORDING FUNCTION » is activated by pressing the corresponding « RECORD MESSAGE » button
- Selecting the message to be recorded is done by pressing the « MES » button. The Selected message shows up on one of the 3 led lights.



- Press and hold in the « PUBLIC ADDRESS BUTTON » to start recording a voice message via the microphone. This vocal message is recorded on the Micro SD memory card.



- Release the «PUBLIC ADDRESS BUTTON » to stop recording ;
- Pressing the « RECORD MESSAGE » button exits the « RECORDING» mode.

2.9. MESSAGE RECORDING FROM A LAPTOP

The messages can be directly recorded onto a Micro SD Card from a Laptop with the adapted type of software, such as Audacity or equivalent. The Software setting must be:

- Mono
- 16 bits
- Sampling Frequency 208333 Hz
- Message size: 40 Ko per second of recording
- The maximum message length should be theoretically: more than 6h30 (1Go maximum / message)

Maximum n° messages: 3

File names to be used for the messages (Capital letters): MESS1.WAV / MESS2.WAV / MESS3.WAV

3. FAULT

The power supply to the accessories and equipment linked to the CCS system are protected against short-circuits.

Note:

- One Button can control several outputs (siren, beacons):
 - the corresponding flashing button indicates that at least one of the outputs is faulty.
 - Only the faulty output is cut.

3.1. FAULT ON CONTROLLED OUTPUT

When a piece of equipment is faulty, the fault appears on the control panel. The corresponding CCS button for the faulty equipment flashes, followed by 3 warning beeps. Control of the equipment is deactivated in order to protect the material and its wiring loom. To reactivate it, press the button again. If the fault persists, the LED light starts flashing again.



Cyclical flashing of the button corresponding to the faulty equipment (3 flashes + 1 pause)

The faults detected on the Loud-speaker output are:

- Open Load (the loud-speaker is no longer consuming power following deactivation)
- Short

A fault detected on the BLUE BEACON output indicates a short-circuit.

To re-set a faulty permanent output, the system must be switched off completely, then switched on via the ON / OFF button.

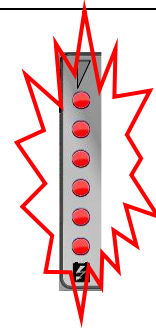
The Battery alarm can be seen when 6 red LED lights on the volume gauge flash according to the levels below :

1st Level: 11.8V / 23.6V

- 3 beeps + battery alarm light flashes (3 short flashes, 1 pause)

2nd Level: 11.5V / 23V

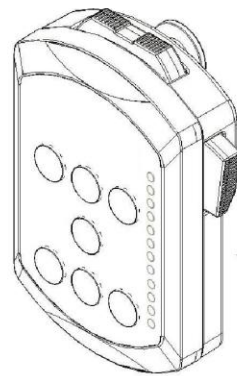
- System shut down 3 minute* count-down starts.
- Battery voltage is always <11.5 after 3minutes: System Shut-down.



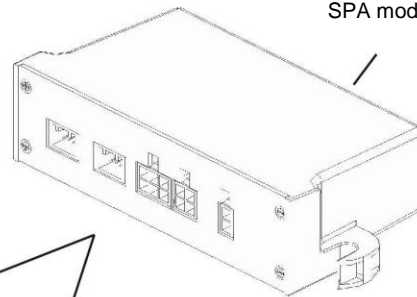
***PLEASE NOTE: IF THE VOLTAGE DROPS SUDDENLY UNDER 11 VOLTS, THE SYSTEM SHUTS DOWN AFTER 15 SECONDS (BOTH IN 2 VOLTS AND 24 VOLTS). THIS IS A SIGN OF A FAULTY OR USED BATTERY.**

4. GENERAL LAYOUT

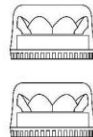
HANDY control panel



SPA module



Blue beacons

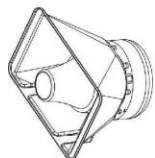


3.5 A output

150 W Mercura Loudspeaker (if 53 V output)

or

4Ω Mercura Compact Loudspeaker (if 27 V output)

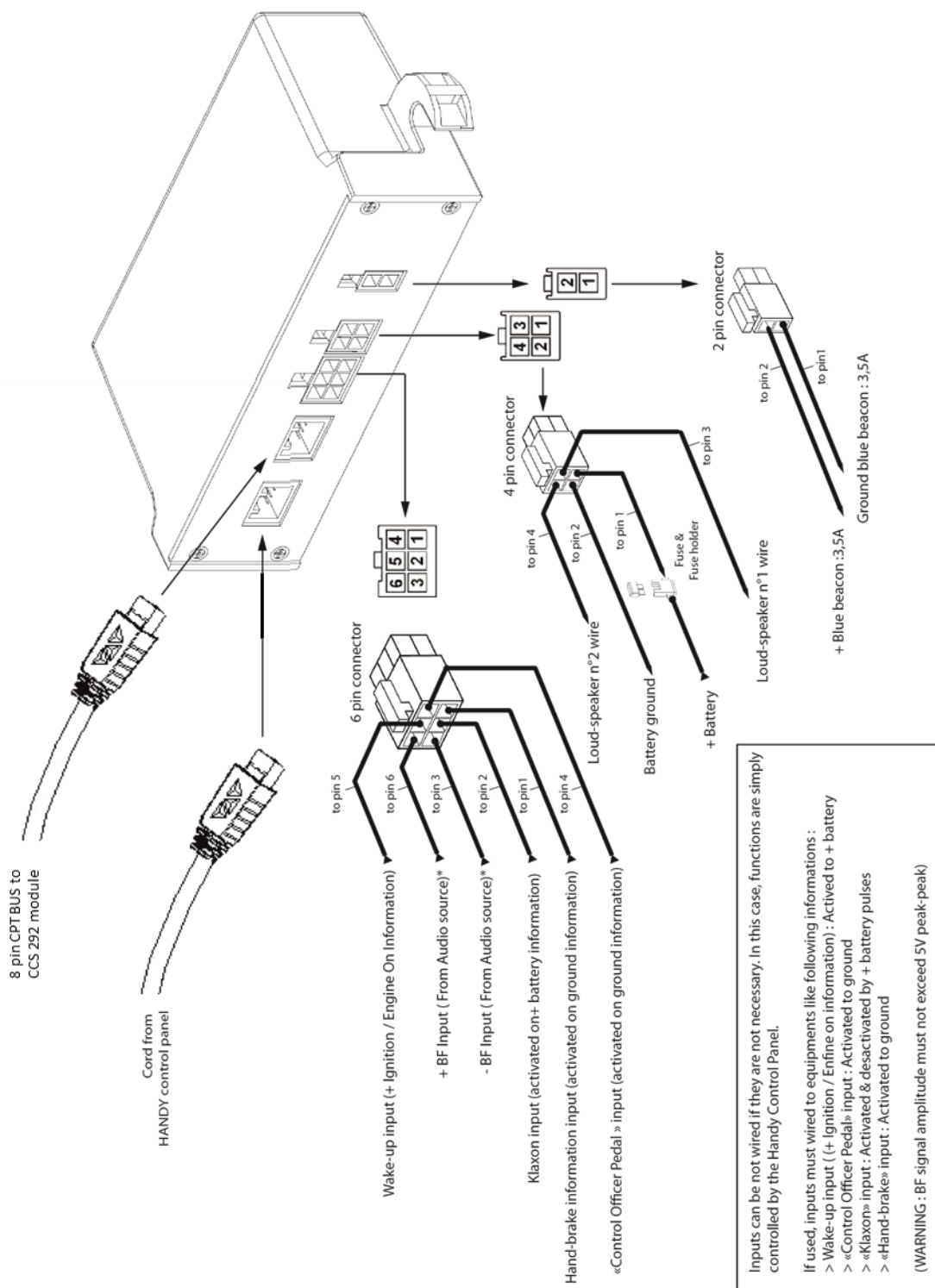


WARNING!

The SPA module 112 is configured for a type of loudspeaker. It is imperative to respect the characteristics of the loudspeaker mentioned on the SPA module's label, otherwise the system will be damaged.

5. WIRING

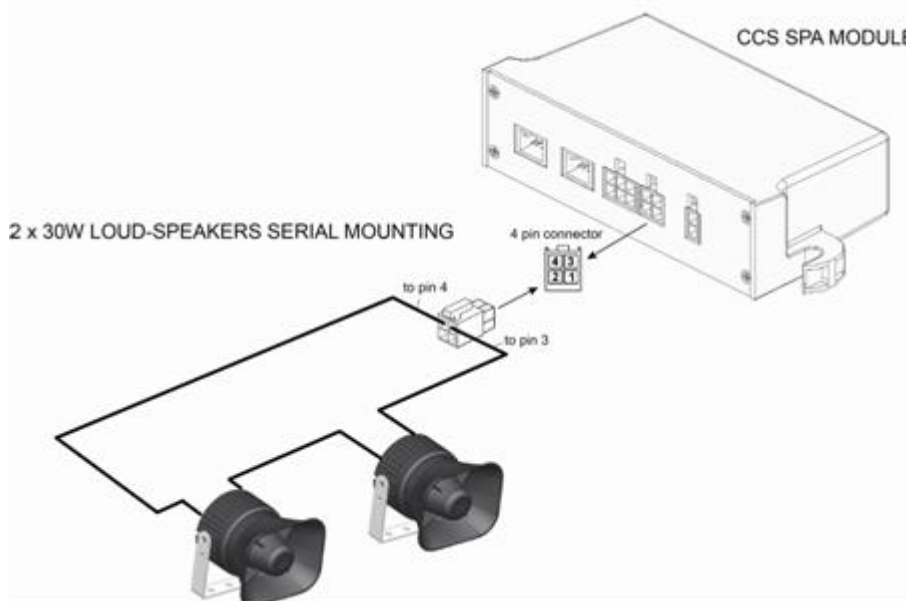
5.1. GENERAL WIRING



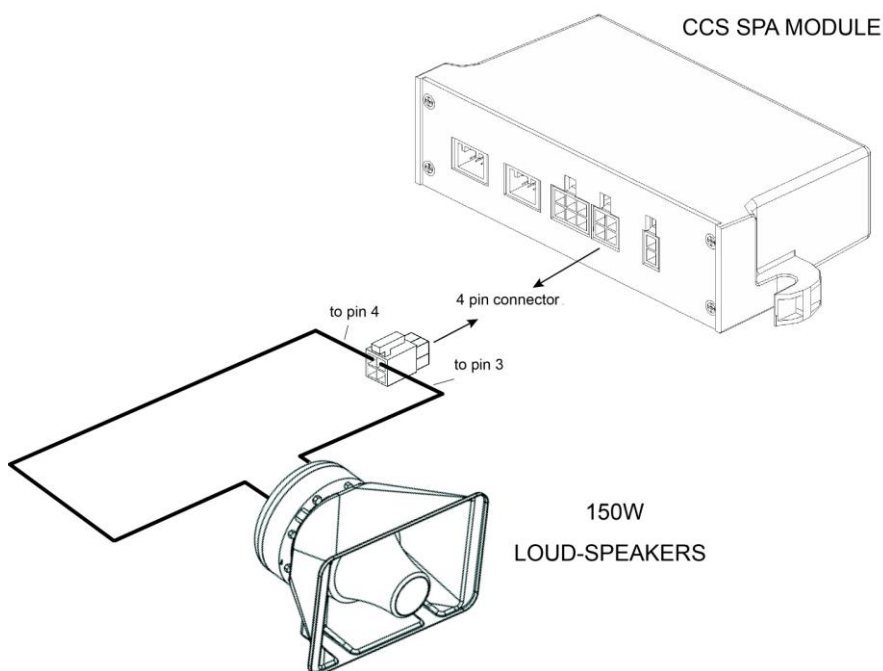
5.2. TYPES OF LOUDSPEAKER CONNECTIONS

SPA configured for HP 150W

Le HP doit être adapté à la puissance du SPA		Code:			
Tension de Sortie	Charge typique	10R04 11026	SPA	www.mercura.fr	
27V	HP-Compact				
53V	HP-M				
		2014 2015 2016 2017	1 2 3 4 5 6 7 8 9 10 11 12		
		CPT	Mini-Fit@6 pts	Mini-Fit@4 pts	Mini-Fit@2 pts
- Tension d'entrée: 10-30V - Consommation < 10A					
Product not weatherproof ! Doit être protégé des projections d'eau et de ruissellement !		Bus CAN	BF diff / Ent Log	Alim / HP	Pow Aux

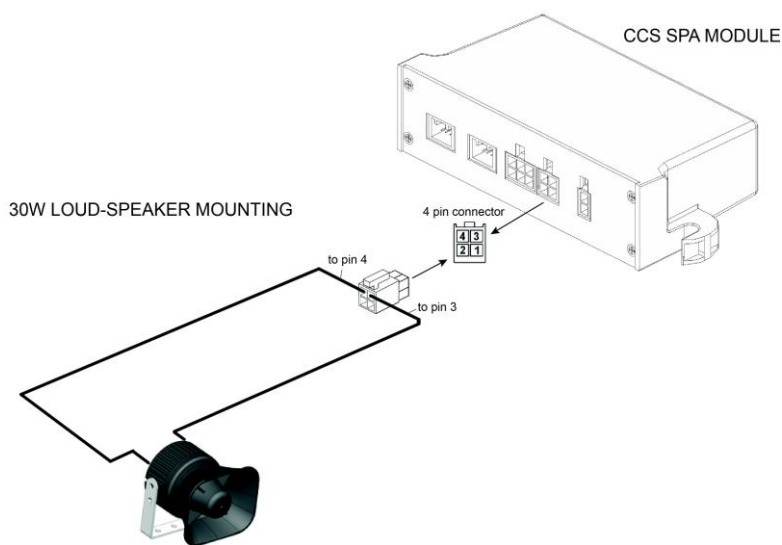


OR



SPA configured for Compact Loudspeaker

Le HP doit être adapté à la puissance du SPA		Code:			
Tension de Sortie	Charge typique	10R04 11026	SPA	www.mercura.fr	
27V	HP- Compact				
50V	HP M	2014 2015 2016 2017	1 2 3 4 5 6 7 8 9 10 11 12		
- Tension d'entrée: 10-30V - Consommation < 10A			Mini-Fit@6 pts 	Mini-Fit@4 pts HP - masse HP + Bat 	Mini-Fit@2 pts + Pow - masse
Product not weatherproof! Doit être protégé des projections d'eau et de ruissellement !		Bus CAN	BF diff / Ent Log	Alim / HP	Pow Aux



Wiring for the dash-board interconnection option

