Digital Siren

MCS-DDSA 200W Digital Siren UNI-SIR-D20

PRODUCT OVERVIEW

The MCS-DDSA siren incorporates multi mode functionality. Because it is based on digital technology it can operate in different modes on the same installation by utilising different sets of speakers, if required.

Pumping out 200 Watts of 'real' dB power, unlike other offerings that are rated at 200 Watts as that is how much power they consume rather than reflecting how loud they actually are. The MCS-DDSA is unlike any other amplifier currently on the market.

It can produce two different siren tones at the same time giving a 'two vehicle' effect via 2 x 100 Watt speakers, or scrolled siren sounds via a 1 x 200 Watt speaker, plus, if required either 'simultaneously or separately' a low frequency rumble sound via 1 or 2 x low frequency 200w rumble speakers (rumblers).

With circuitry based on Class D digital siren technology this device is optimised to produce a true 200 Watt output or if preferred 2 x 100 Watt outputs with or without the optional low frequency rumble effect.

It can be controlled with conventional switches via on/off controls, in conjunction with the Horn Ring Transfer (HRT) feature if required and/or via CAN Bus signals for other complementary MCS controllers and switch units.

Low Frequency Rumble Tone Feature

This contributes to improving emergency vehicle operator and public safety especially in urban environments with high density heavy traffic and pedestrians. Also aids with clearing junction/intersection passage.

When used with the LSP-108 digital speaker to optimise the low frequency tones generated from the siren amplifier the output is a highly distinguishable 'Rumble' sound. As the sound is notably different to the standard siren tones that everyone is now familiar with this immediately gets peoples attention as well as creating a better sense of the direction the vehicle is coming from.

As the speaker is of a specialised nature, and should ideally be fitted in pairs, it is important that they are fitted correctly to take full advantage of the 'GROUND' effect. As such it is mainly appropriate to larger vehicles such as fire appliances and larger 4x4's.

MODEL: UNI-SIR-D20

FUNCTIONS & FEATURES

- 12 and 24 volt operation
- Interconnects to related products via proprietary CAN Bus
- Operates via a MCS Multiway Switch Unit or directly via discreet inputs
- Hands free operation via the HRT (Horn Ring Transfer) feature enables scrolling through pre-selected siren tones
- Selectable UK siren sounds with Air/Bull horn option
- Siren active output (ideal as Data Recorder Input)
- On board status LEDs
- City mode volume reduction feature
- Workshop (test) mode volume suppression

Rumble Effect Functions

- Automatic 'standard siren reduction' when Rumble effect active - typically 75%
- Automatically 'shut off' of Rumble effect to avoid accidental misuse - typically 8 seconds
- Adjustable automatic volume reduction and shut off times
- Use Rumble effect independently or with conventional sirens
- All user controlled via 'free' MCS configuration software

Absolute Maximum Ratings

- 30 volts DC supply voltage
- 20 Amps maximum

Electrical Characteristics

- Nominal supply voltage: 13.8 or 27.4 Volts DC.
  Typically: 168mA @ 13.8 Volts no peripherals attached
- Standby Current: System Standby.
  Typically: 19mA @ 13.8 Volts no peripherals attached
  Maximum: 21mA
- Standby Temperature: -20°C to +70°C
- Operating temperature: -20°C to +65°C

Power

- 1 x 40 Amp DC on pluggable connector (20 Amp fuse MUST be used)
- 1 x Ground/chassis connection (40 Amp rated or more)

Digital Inputs

- 5 x positive switched inputs 1, 2 & 3, HRT + Air Horn
- 2 x negative switched (HRT & Airhorn)

Analog monitoring

- Incoming system voltage sense
- Internal temperature monitor
- Siren system current monitor

Outputs

- 3 x High or Low switching 500mA rated outputs with in-line resettable fuse
- Amplifier outputs typically into a 8 Ohm speaker load

Communication

- 1 x CAN Bus 2.0 full speed interface

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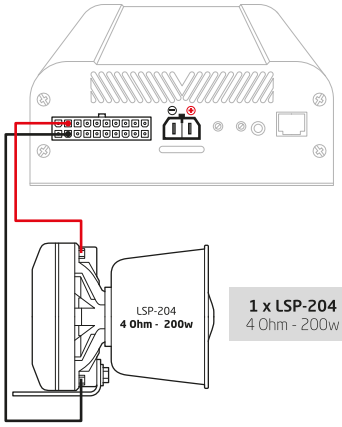
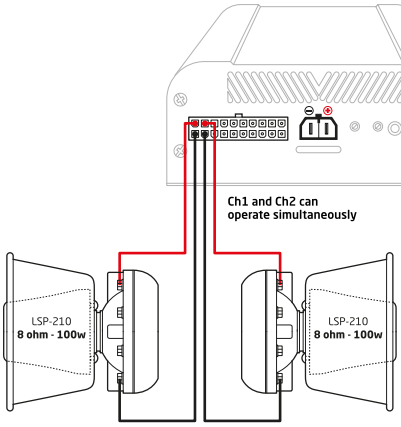
Typical System Configurations

OPTION 1
1 x 200w Digital Speaker



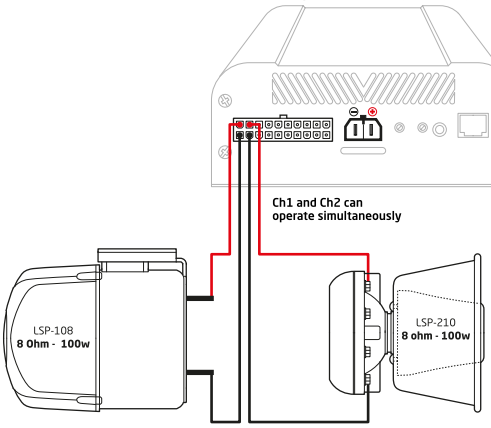
1 x LSP-204
4 Ohm - 200w

OPTION 2
2 x 100w Electronic Speakers



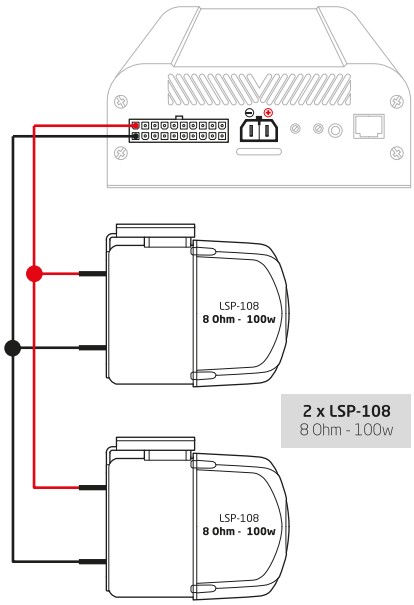
2 x LSP-210
8 Ohm - 100w

OPTION 3
1 x 100w Electronic Speaker
1 x 100w Digital Low Frequency Speaker



1 x LSP-210
8 Ohm - 100w
1 x LSP-108
8 Ohm - 100w

OPTION 4
2 x 100w Digital Low Frequency Speakers



2 x LSP-108
8 Ohm - 100w

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INPUTS AND OUTPUTS (CON1)

Pin	Name	Function	
1	CAN Data High	Data	
2	CAN Data Low	Data	
3	Airhorn Negative	Input	Airhorn Active Low
4	Input 2	Input	Positive Switching Input
5	Input 3	Input	Positive Switching Input
6	Radio In 1A	Input	Radio Signal Input, to be used with a spare Input
7	Ground		
8	Auxiliary 2	Output	500mA Max Positive or Negative Switched
9	Channel 1 -	Output	Negative Speaker Output for Channel 1
10	Channel 2 -	Output	Negative Speaker Output for Channel 2
11	Operation Switch	Input	Active High
12	HRT Negative	Input	HRT Active Low
13	Input 1	Input	Positive Switching Input
14	Airhorn Positive	Input	Airhorn Active High
15	HRT Postive	Input	HRT Active High
16	Radio In 1B	Input	Radio Signal Input, to be used with a spare Input
17	Data Out/Auxillary 1	Output	500mA Max Positive or Negative Switched
18	Auxilliary 3	Output	500mA Max Positive or Negative Switched
19	Channel 1+	Output	Postive Speaker Output for Channel One
20	Channel 2+	Output	Positive Speaker Output for Channel Two

POWER INPUTS (CON2)

Pin	Name	Function	Fuse
1	Ground	System Ground / Chassis	
2	Supply	12V-24V Input	20A

CANBus Connector (CON3)

Pin	Name	Function
1	CAN High	CAN Data
2	Microphone	Microphone Input Signal
3	Supply	12V-24V DC Output 250mA Max
4	Ground	Chassis
5	PTT Switch	Push to Talk Active Low
6	CAN Low	CAN Data

UK VERSION OPERATION

The MCS-DDSA200 is normally asleep which is indicated via a red status LED which will double flash continuously when sleeping. Upon a positive signal at the operation switch the unit will be in the active\armed state and the status LED will remain steady on.

If the HRT input is either positively or negatively triggered the siren will begin to run. The output of this will depend on the DIP switch configuration selected at powerup. While the siren is running a single trigger of the HRT will scroll to the next tone in the tone sequence, where as a double trigger of the HRT will stop the siren.

If the Airhorn input is either positively or negatively triggered, regardless if the siren is running, the Airhorn will sound. When the signal is released, the Airhorn will turn off. If the siren was running prior to the airhorn the system will continue to run the current siren tone when the airhorn is released.

Positively triggering Input 1 will activate the radio rebroadcast function. The active channels will be dependent upon the DIP switch settings selected. Radio will not use Channel 2 in Mode 3 and 4.

Positively triggering Input 2 will activate city mode function. This will reduce the output to 50% as long as this input is active.

Positively triggering Input 3 will activate the Rumble tone. This function is only active in Mode 3 and 4 of the DIP switch setting. The Rumble tone will last for 8 seconds and requires the siren to be running a tone. This can only be triggered again after the release of the input. The Rumble tone is only ever played on Channel 2.

If a fist mic or handset is used with PTT function this will override any output except Airhorn. The order of precedence is Airhorn, PTT, Radio and lastly siren tone.

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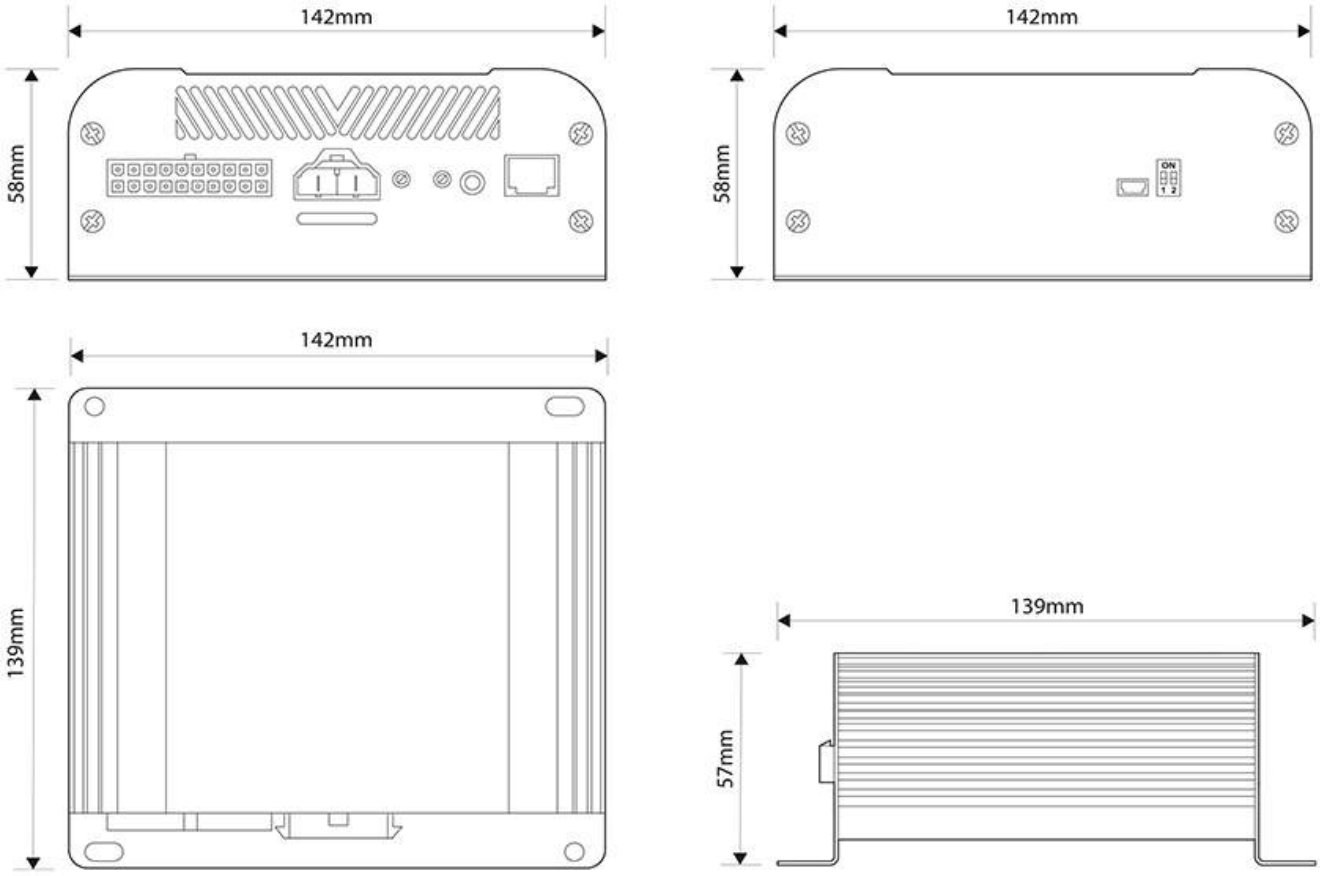
Dimensions



Replacement Parts

Connector and Pin Kit: Part Number 22-1708