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## Sounder Test Report

Make: e2S

Model No: A141-Sounder

For: e2S

Report No. R.2053-A141-Sounder

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## **1.00 Object**

1.01 The object of this Report is to present the measurement of the sound pressure level of the A141 Multi-cellular Horn Sounder.

## **2.00 Scope**

2.01 The following characteristics were measured:

- (i) On-axis sound pressure level ( $L_{Amax}$ ) for 4 tones normalised to 1m.
- (ii) Polar response ( $L_{Amax}$ ) for 4 tones normalised to 1m at 30 degree intervals.

## **3.00 Measuring Equipment**

3.01 The following measuring equipment was used:

- (i) Rion Sound Level Meter Type NL-52, Serial No. 142652
- (ii) Bruel & Kjaer Calibrator Type 4231, Serial No. 2122970

3.02 The equipment carries current traceable calibration.

## **4.00 Sounder Information**

4.01 The following sounder was measured:

- A141 Multi-cellular Horn Sounder.
- A141 sounder controller and power supply unit (PSU) supplied by e2S.

4.02 Appendix A shows details of the A141 sounder controller and PSU.

## **5.00 Method**

5.01 The device was mounted in full space as per pole mounted device described in BS EN54-3:2001 Figure A3.

5.02 The measurements were made in an anechoic chamber.

5.03 The supply voltage was applied to the sounder controller and PSU.

5.04 All measurements were in general accordance with BS EN 54-3:2014, Annex A.

**6.00 Results**

6.01 Table 1 gives the results of the on-axis  $L_{Amax}$  sound pressure level measurements for each of the 4 x tones referenced to a distance of 1m.

Table of Measured On-Axis Sound Pressure Levels

Tone No.	DIP Switch	Description	Measured $L_{Amax}$ Re: 1m
2	100000	800/100Hz @ 0.25 sec Alternating	142
9	000100	1200/500Hz @ 1Hz – DIN/PFEER P.T.A.P	142
19	010010	1.4kHz-1.6kHz 1s, 1.6kHz-1.4kHz 0.5s – NF C48-265	142
37	001001	1000Hz – PFEER Toxic Gas	142

Table 1

6.02 Tables 2a and 2b show the results of the horizontal and vertical polar measurements ( $L_{Amax}$ ) for each tone referenced to a distance of 1m.

Table of Measured Horizontal and Vertical Polar SPL's

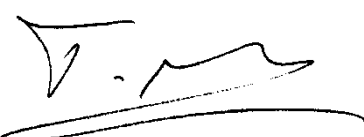
Tone No.	Horizontal $L_{Amax}$ Re: 1m						
	15 deg	45 deg	75 deg	105 deg	135 deg	165 deg	180 deg
2	137	127	118	113	115	117	118
9	137	128	121	116	116	120	122
19	137	127	120	116	111	111	116
37	137	127	117	113	116	118	118

Table 2a

Tone No.	Vertical $L_{Amax}$ Re: 1m						
	15 deg	45 deg	75 deg	105 deg	135 deg	165 deg	180 deg
2	139	130	122	118	118	119	118
9	139	132	126	123	122	122	122
19	137	128	121	118	116	116	116
37	139	128	120	119	118	119	118

Table 2b

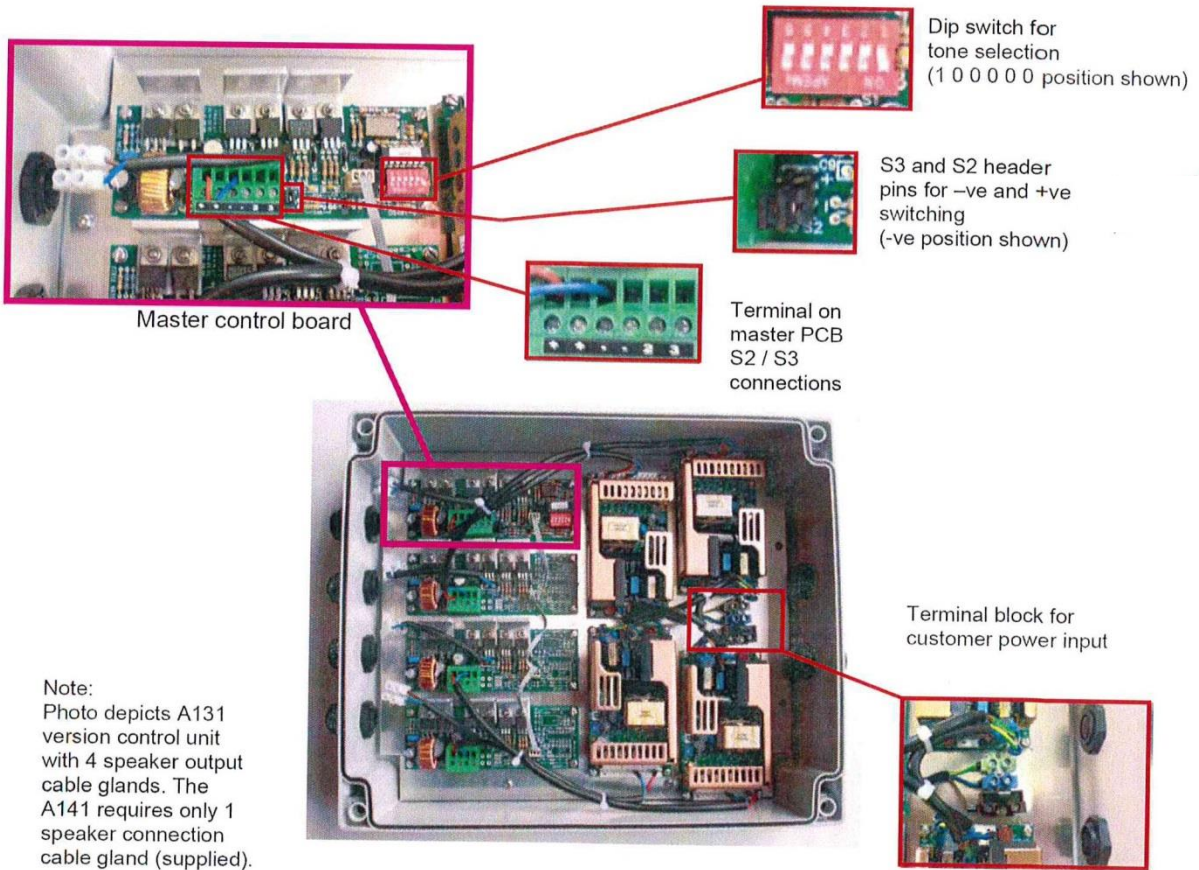
6.03 Note that all  $L_{Amax}$  levels are accurate to within  $\pm 1$ dB.

Signed: 

Countersigned: 

# APPENDIX A

# A141 Sounder Controller and Power Supply Unit



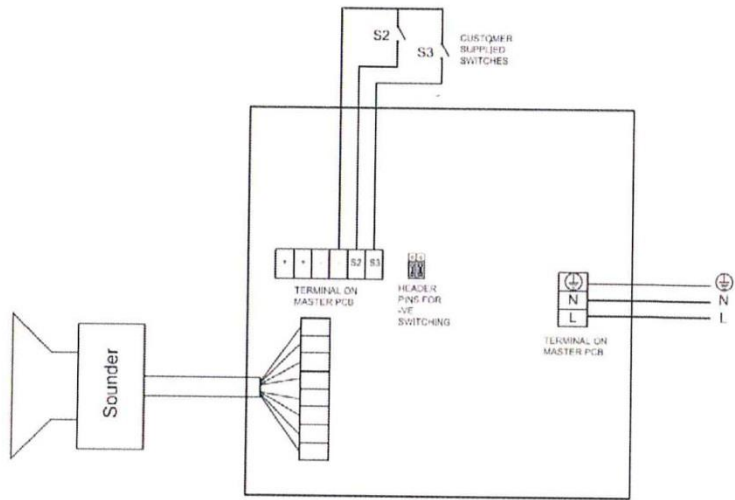


Fig 3a: Schematic Circuit Diagram of AC unit with stages S2 and S3 with negative switching

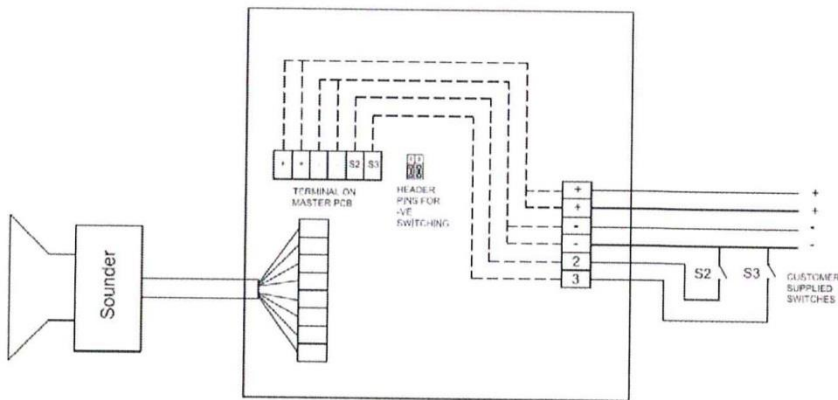


Fig 3b: Schematic Circuit Diagram of DC unit with stages S2 and S3 with negative switching

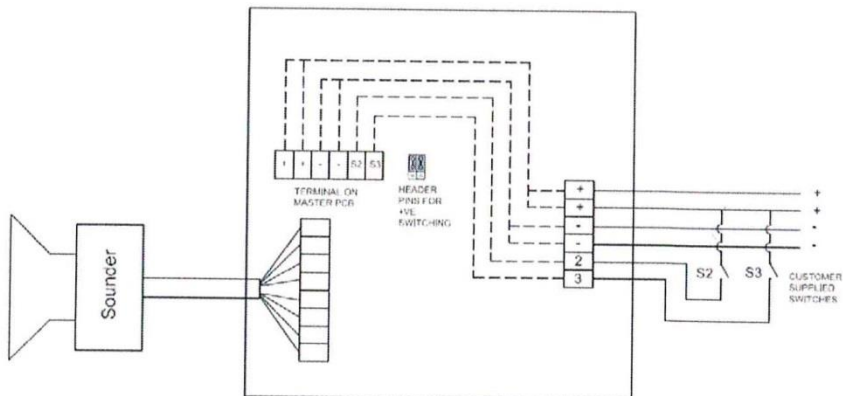


Fig 3c: Schematic Circuit Diagram of DC unit with stages S2 and S3 with positive switching