



Sensor controlled subwoofers

The Feedback loop controlled subwoofers have clear advantages over conventional subwoofers when it comes to sonic performance, output and size.

The advanced design aligns several new technologies for outstanding performance.

Key technologies

- Award winning sensor controlled technology
- Feedback loop control – ultra low distortion, very extended and controlled response
- Long excursion 18" woofers with integrated velocity sensor

What is the Velocity Feedback Loop Comparator?

The specially designed 18" driver includes a built in "velocity sensor" that measure precisely the movement of the voice coil. The "velocity sensor" sends information to the Comparator about velocity, excursion and speed of the voice coil (using XLR cable).

The comparator unit of the C10 compares the original input signal to the movement measurement from the "velocity sensor" and adjusts the amplifier driving voltage and/or current so that the diaphragm moves the way it should move. This compensates in real time for the non linearity of the speaker/cabinet.

Reduced group delay

This is a big issue that is most often overlooked in conventional designs. The feedback comparator technology offers great advantages in the time domain. In fact the upper bass

and the very low frequency are time aligned which means they are reproduced at the same time resulting in extremely accurate and musical bass reproduction.

Transducers

The Sensor controlled subwoofers are equipped with extremely long excursion 18" neodymium ultra low distortion woofers with integrated velocity sensors that measure, compare and control cone movements. The neodymium motor delivers extreme high magnetic flux for increased efficiency. The 4" voice coil is 50 mm high, ensuring ultra linear excursion of 40 mm / pp at consistent magnetic force. State of the art carbon-fiber cone ensure maximum stiffness and low moving mass. Three aluminum shorting rings reduce inter-modulation distortion; minimize induction variation while reducing thermal compression. This design reduces dramatically the distortion of a typical subwoofer at longer excursion levels, and improves the overall sound quality and performance characteristics of the cabinet. The sensor is in fact an additional voice coil connected to the loudspeakers voice coil in a high precision, magnetically shielded system.

Electronics and Cabling

The Coda Audio C10 amplifier provides integrated power and feedback loop control solution for the Sensor controlled subwoofers. The unit has two amplifier channels as well as two comparators connected to a 5-pol Neutrik XLR input. The comparator's electronic circuit loop measures the voice coil excursion of the driver and corrects the signal, significantly decreasing distortion. The unit is set for flat frequency response down to 25 Hz (-6 dB).

SC8

SC8

Sensor controlled subwoofer
with versatile pattern control



- 4 x Coda Audio 18" extreme high output subwoofer
- Velocity sensors for feedback loop control
- Extended frequency range down to 20Hz (-6 dB), 25 Hz (-3dB)
- Ultra low distortion

- Fast transient response, the upper bass and the ultra low frequency are time aligned
- Cardio, Hypercardio or Omni directional mode
- Optional rigging hardware for flown or ground-stacked arrays
- Reduced truck space for reduced labor and transport costs

- System components: RC40 Rack, AIRLINE LA12 / RC20 Rack, AIRLINE LA8

The SC8 subwoofer

Description: Sensor controlled subwoofer with versatile directional characteristic incorporating four 18" long excursion woofers in a sealed enclosure.

SC8 key technologies:

The advanced design aligns several new technologies for outstanding performance.

Feedback loop control – ultra low distortion

Sealed enclosure – superior transient and phase response
Versatile pattern control – Cardio or Omni mode in one cabinet. Long excursion drivers with integrated velocity sensor

Main advantages of the Feedback Loop Comparator:

Total Harmonic Distortion is reduced significantly
About 20 dB less distortion at 20 Hz compared to the cabinet without velocity sensor.

Extended Frequency response

The SC8 subwoofer provides perfectly flat response down to 25 Hz and very high output and low distortion. No high pass filters or equalizers are required.

Reduced group delay

The upper bass and the very low frequency are time aligned resulting in extremely accurate and musical bass reproduction.

Directivity

The SC8 can be configured for different polar patterns: Cardio / Hypercardio or Omni directional when the cabinet is rotated at 90°.

Applications:

The SC8 subwoofer is perfect suited not only as a sub-extension for AIRLINE LA12, but for general use in arenas, houses of worship, theatres, clubs and open air.

TECHNICAL SPECIFICATIONS SC8 / SC8F

Type:	Sensor controlled Cardio / Omni subwoofer
Application:	High output subwoofer
Frequency response:	20 Hz (-6 dB), 25 Hz (-3 dB) to 125 Hz
Power handling (AES / Peak):	6000 W / 24000 W
Sensitivity 1 W / 1m:*	106 dB @ 50 Hz
Maximum output peak:**	150 dB
Components:	4 x 18" neodymium ultra low distortion woofers 4" (101.6 mm) voice coil, 1500 W (AES) each
Front:	2 x 18"
Rear:	2 x 18"
Nominal impedance:	Front: 4 Ohm +-1, Rear: 4 Ohm +-1
Input connectors:	2 x Neutrik™ NL4MP
Velocity sensors output:	1 x Neutrik™ NC5FDL1
Suspension:	optional flying hardware: SC8F (compatible to AIRLINE LA12 Frame)
Enclosure material:	Baltic birch
Finish:	Textured black Paint
Dimensions:	1108 x 540 x 982 mm
Net weight SC8:	122 kg
Net weight SC8F:	135 kg

* Half-space loading

** Measured with pink noise 6 dB crest factor

ACCESSORIES

FR122	Compact frame for flying or ground stacking AIRLINE LA12 and/or SC8F in cardio mode
FR002	Upgrade kit FR120 to FR122
DOT SC8	Transport dolly for up to 3 units SC8 / SC8F
CAH SC-10	Hybrid speaker and sensor system cable for SC subwoofers, 10 m
CAH SC-20	Hybrid speaker and sensor system cable for SC subwoofers, 20 m
CO SC8	Protection cover for single SC8 / SC8F
CO SC8x2	Protection cover for 2x SC8 / SC8F