Electrostatic compared to conus speakers

A brief resume why you should choose a full flat panel speaker instead of a conventional speaker.

Type	Conventional (Conus)	Electrostatic
Name	Electrodynamic	Electrostatic
Name means	Something moves	Not moving
Name refers to	Coil	Charge on diaphragm
Force comes from interaction with	Magnetic field	Electric field
Field generated by	Magnet	Voltage across plates
System works based on	Magnetic fields generated by currents flowing through wires.	Pure electric fields flowing through space.
Linear field	No, magnets and magnetic structures must be very carefully designed to preserve some semblance of linearity across the small space through which the coil moves. The fields generated by the coil aren't exactly linear, either.	Yes. The voltages across the two plates are naturally linear across the space between the plates.
Weight of motor	Insulated coil of wire held together with glue.	Zero: clinging electrons are moved through electrostatic force.
Linear motor force?	No, varies with position of coil, linearity of coil and variations in magnetic field across the gap.	Yes. Perfectly linear push-pull action across the entire gap and across the entire diaphragm.
Motor force applied to	Coil glued to center of cone or dome.	Applied evenly across entire radiating surface.
Radiating surface	Cone or dome, usually paper or heavy, stiff plastic.	Extremely thin film.
Weight of radiating surface	Heavy, has to support itself and the coil and all the force from the coil glued to it at just one point. Typical speaker cone weights measured in ounces.	Virtually weightless: weighs less than the air around it. All parts of the film are driven equally to make sound, so no one part has to do much of anything by itself. Typical speaker diaphragm weights measured in milligrams, headphone diaphragms in micrograms.
Does radiating surface have any resonances?	Many. Tap a cone, and it has a sound from waves bouncing around inside the cone from center to edge, all through the audio band. At low frequencies, the interaction between the springy suspension and the air in a box adds its own low-frequency resonances, which were first well described by Neville Thiele and Richard Small. Speaker and headphone designers spend a lot of time working around these resonances.	None. The film is microscopically thin and has nothing to resonate. Even if it did, the air around it would damp it, as the air is much heavier than the film.
Does radiating surface always move as one?	No. Numerous breakup modes occur at different frequencies. Cone or dome motion only approximates piston motion at the lowest frequencies.	Yes.
Acoustic energy storage (leads to short-term echoes, time smears and resonances that muddy the sound.)	Many: kinetic energy in the piston motion of the coil, spider and cone motion, and vibrations inside the cone and dome materials.	None.
Cabinet problems	When drivers are mounted in boxes, half the sound goes from the back of the driver into the box. It then bounces around inside the box, and some of it comes back out through the cabinet, or even reflects back out through the driver itself. Even with all the distortion inherent in dynamic drivers, mounting them in boxes colors and degrades the sound even more.	None: no cabinet. Film floats free between perforated plates.
Crossovers?	Yes, if woofers and tweeters are used. Crossovers add their own coloration, frequency, phase and group delay problems.	No.