

Criterion CTL



T+A

Criterion-Loudspeakers

T+A was founded in Herford in Eastern Westphalia, Germany, in the year 1978. We are scientists, and this explains our company name: T+A stands for Theory and Application in the field of electro-acoustics. Right from the outset it was our company philosophy to create, manufacture and optimise Hi-Fi components of the very highest quality, with the aim of developing fully mature High-End products for our customers all over the world. We recognise no limits where our products are concerned, and spare ourselves neither cost nor effort in striving to achieve perfection in sound. Back in 1982 we developed a unique and truly groundbreaking series of transmission line loudspeakers whose fundamental design principles are as effective today as ever.

We christened this series Criterion (benchmark), and this original range proved to be one of the most successful speaker designs ever produced. Ever since its introduction Criterion has been a byword for loudspeakers equipped with uniquely superior technology, offering extraordinarily good sound and unusually high performance. The latest incarnation of the range is named CTL and consists of three floor-standing loudspeakers that are more compact but even better and more powerful than their predecessors. The speakers boast completely new, ultra-modern high-performance drive units and a transmission line design which has undergone further refinement.



Criterion S 2200 CTL

Floor-standing loudspeaker

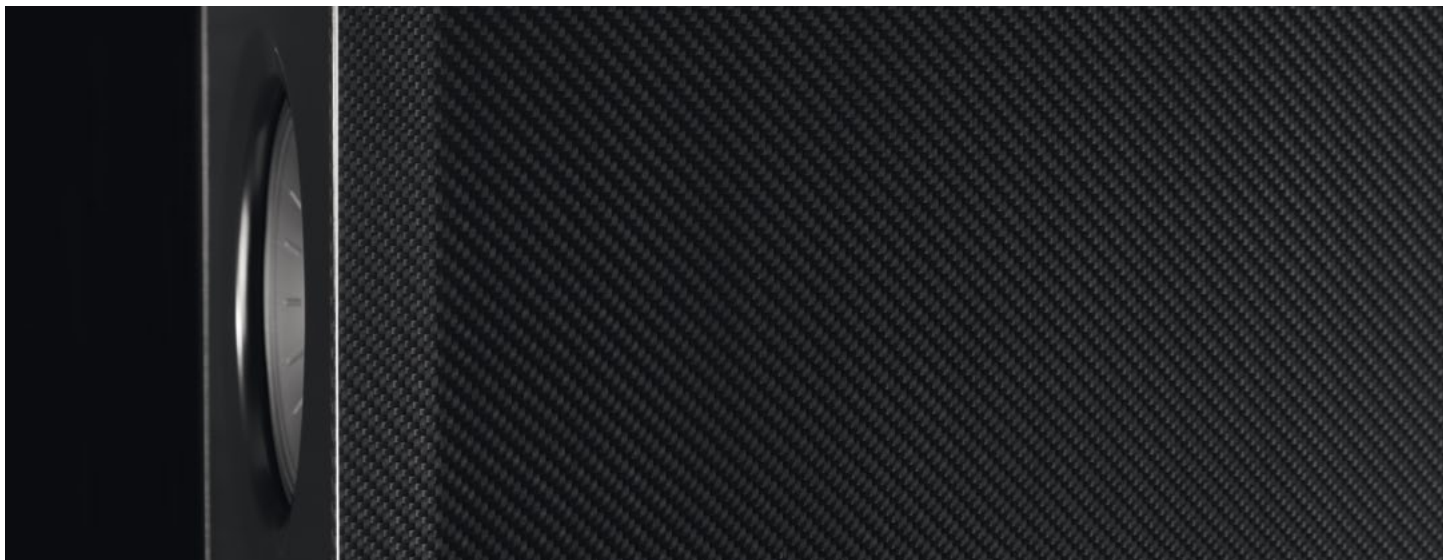


The S 2200 CTL is the top model, and features the largest bass drivers of the three. It demonstrates the basic principles of the CTL series in exemplary form. Each model features two special bass drivers, a “wide-range” mid-range unit and a completely new type of super treble dome tweeter made of specially impregnated woven fabric. The only differences between the three floor-standing speakers are the dimensions of their cabinets and the size of the drive units employed.

The S 2200 CTL is a large, fully developed floor-standing transmission line speaker with a very long transmission line. Its pair of newly developed long-throw woofers, with a diameter of 22 cm, are perfectly matched to the cabinet and the resonant frequency of the transmission line. Their extremely low resonant frequency ensures that the speaker offers incredibly deep, forceful and accurate bass, while their peak handling capability is faultless even at extreme levels. They are devoid of distortion and offer a full dynamic range. These characteristics are due to the sophisticated overall design of the system: hard, embossed cones, aluminium baskets with narrow struts and very great maximum excursion, powerful magnets and large high-performance voice coils.

The 15 cm mid-range driver is also a new development, and forms - in conjunction with the fabric dome tweeter and the subtly sculpted baffle (organic baffle) - an acoustic unit which we have named CD = Constant Directivity. It is responsible for the speaker’s superlative dispersion pattern and astonishingly spacious sound.

The S 2200 CTL is effortlessly capable of processing enormously high levels, yet its refined, carefully developed design also makes it the perfect choice for reproducing the most delicate music with natural sensitivity.





Criterion S 2100 CTL

Floor-standing loudspeaker



The S 2100 is the medium-sized floor-standing speaker in the CTL series; although it is more compact it is still not small, as it measures a full metre in height. This size ensures that there is ample volume available for the transmission line, which in turn generates very powerful low bass at high volume. In terms of construction it is very similar to the S 2200 CTL; the only difference is that the woofers are slightly smaller. The two 17 cm bass units exactly mirror the 22 cm drivers of the larger S 2200 CTL in design and features. Their resonant frequency is low, they are matched to the transmission line just as accurately, and their extremely hard, embossed cones generate very deep, forceful and accurate bass.

As in its big sister, the speaker's 15 cm mid-range, fabric dome tweeter and sculpted "organic baffle" combine to form an acoustic unit which we have named CD = Constant Directivity. This is responsible for the speaker's superbly spacious sound and outstanding radiation characteristics.

The impregnated fabric dome tweeter retains its lively, airy qualities even when reproducing extreme dynamic peaks, without any tendency to sound hard or sharp.

The CTL speakers are fitted with sophisticated double-sided three-way cross-over units (FSR). The circuit effortlessly processes even the highest signal levels, and ensures that the three frequency ranges are matched perfectly to the drive units.

The S 2100 CTL is effortlessly capable of processing very high levels, and provides a quality of low bass previously considered impossible from a cabinet of this modest size. Nevertheless, its bass response is not quite a match for that of the S 2200 CTL. Like the latter, its refined, carefully developed design also makes it the perfect choice for reproducing the most delicate music with natural sensitivity.





Criterion S 2000 CTL

Floor-standing loudspeaker



With a height of just 90 cm the S 2000 CTL is the smallest and slimmest floor-standing speaker in the range. It is of very similar construction to the other floor-standing loudspeakers, and features the same fabric dome tweeter as the two larger models. With a diameter of 15 cm the bass drivers are slightly smaller, while the mid-range unit is 12 cm in size. These units are also completely new designs, sharing the same construction features and level of refinement as the drivers employed in the large models.

In spite of its modest height the S 2000 CTL also ranks as a fully developed transmission line floor-standing speaker with a very long transmission line; this is made possible by the substantial depth of the cabinet and the folded duct. The two 15 cm bass drivers have a low resonant frequency, and are exactly matched to this line. Their extremely hard, embossed cones enable them to generate a very low, forceful and accurate bass. Like in the bigger models the 12 cm mid-range unit, the dome tweeter and the sculpted baffle form an acoustic unit. Combined with the narrow baffle, this is responsible for the speaker's superb radiation characteristics and astonishingly spacious sound.

Since the dome tweeter is positioned below the mid-range unit, the acoustic axis in the mid / high range rises as the distance to the listener increases, thereby compensating for the speaker's small height. This is helped by the carefully calculated design of the crossover unit. These features help to produce brilliant, natural-sounding reproduction of the entire mid / high range dissolves completely from the case. In spite of its small size the S 2000 CTL is effortlessly capable of processing high levels, and generates very good deep bass response. It sounds free and natural, with astonishingly spacious sound and dynamic range.

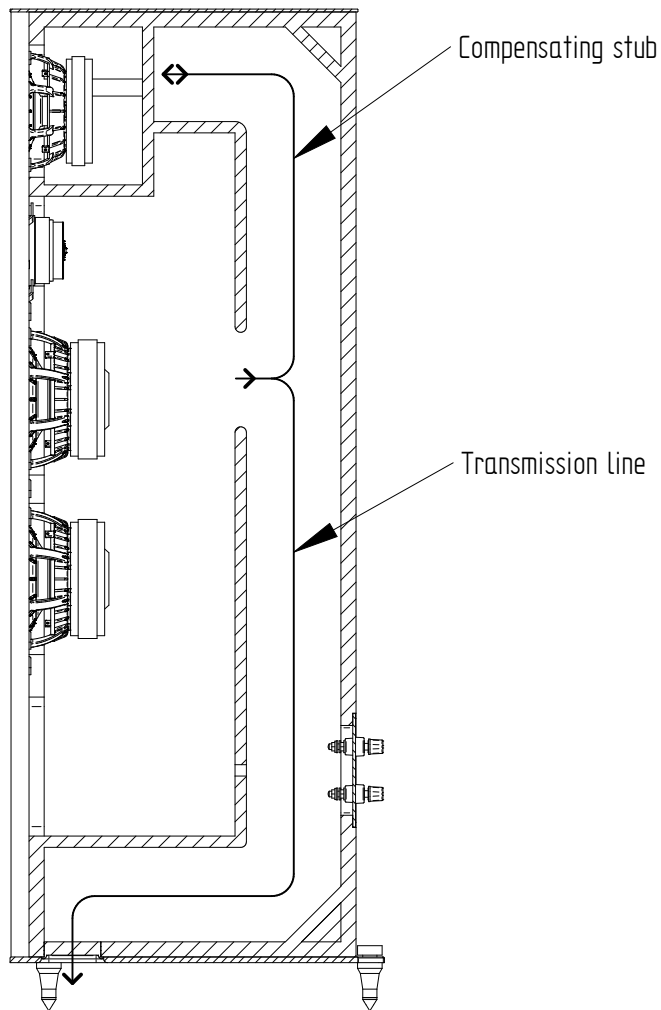








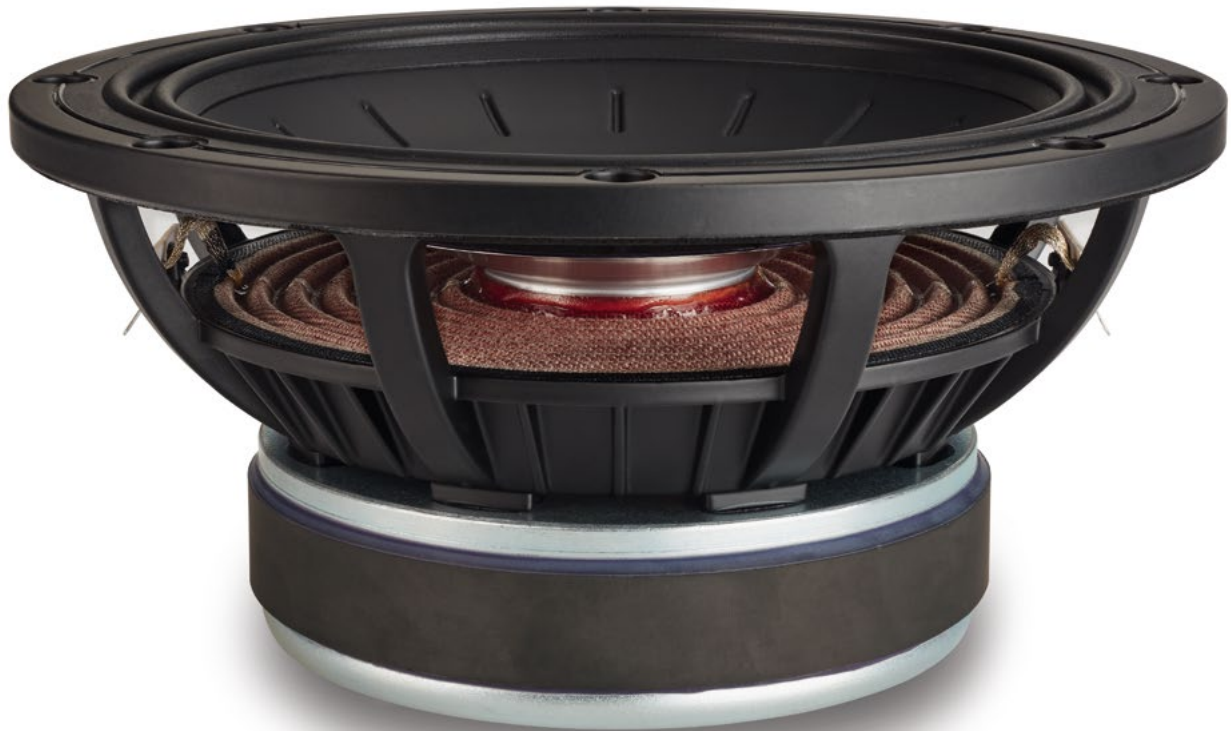
Technology



The transmission-line principle offers major advantages over the bass reflex system, but does call for extremely sophisticated cabinet design if the speaker is to exhibit a very low bass cut-off frequency. In specific terms, this means that the sound guide behind the bass drivers (the transmission-line) must be very long - similar to an organ pipe - otherwise very low frequencies cannot be generated. The new CTL = Compensated Transmission Line series features a cabinet design which even compensates the acoustical impedance of the system. All three transmission-line models are of extremely complex construction, and share the same basic design principles: an inner case which consists of a large number

of accurately machined individual components, slotted and channeled into each other, and bonded under pressure to ensure air-tight joints. All the openings and slots for the drive units are machined in the baffle itself, with the air-tight chamber for the mid-range unit. Directly behind the two bass drivers is the pressure chamber, coupled which the long, folded sound guide which constitutes the transmission line. The line is designed in such a way that its effective cross-section increases towards the outlet port, providing an optimum damping effect for the bass drivers. The inner case components are manufactured from different thicknesses of MDF and board, which effect excellent suppression and damping of structure-

borne sound and resonances. The large number of chambers and lines helps to make the cabinet extremely rigid and stable once the sides are bonded in place. This construction makes the cabinets very heavy, as well as completely eliminating structural sound and cabinet resonance effects. The baffles are machined from solid material, and feature carefully computed sound guides for each drive unit. There are no baskets, screws or baffle edges to disturb the sound dispersion, resulting in outstanding spatial imaging. We name this principle "organic baffle".



The resonant frequencies of the transmissonline and the bass drivers in one cabinet must be tuned accurately to each other. These requirements can only be fulfilled if the bass drivers have very low resonant frequency, are capable of large excursions, feature an extremely powerful magnet, and have high power handling capacity. Our woofers are specially developed and designed for this extreme application, and therefore feature rigid die-cast aluminium baskets, hard cones with embossing structures, long-excursion suspensions with accurate flat centering and extremely powerful magnets. The mid-range drivers are ingenious designs with embossed, resonance-free cones and large, high-performance magnets. They handle the

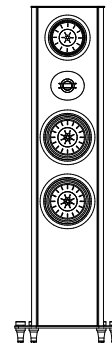
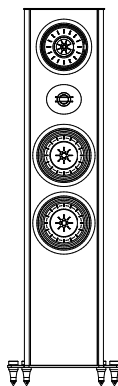
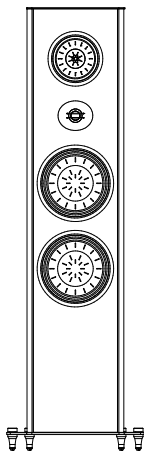
entire vocal range from 200 to 2000 Hz perfectly, while their dynamic and lively nature create an amazingly natural sound. The large chamber housing of the dome tweeter ensures a very low resonant frequency, while the impregnated fabric cone provides outstandingly low distortion over the entire frequency range. It retains its lively, airy qualities even when reproducing extreme dynamic peaks, without any tendency to sound hard or sharp. In all three models both the mid-range units and the dome tweeter together with the sculpted baffle form an acoustic unit which guarantees a constant radiation pattern in the transitional area between mid-range and treble

(CD = Constant Directivity). This allows us to achieve an exact imaging behavior and a striking spatiality. The sound dissolves completely from the case and the speakers are no longer locatable. All CTL loudspeakers are fitted with a sophisticated double-sided three-way crossover unit (FSR = Fast Signal Responce). It is effort-lessly capable of handling even the highest levels, and provides perfect control of the three frequency ranges. The speaker's impressive imaging and dispersion characteristics over the full frequency range are a direct result of the design of the crossover.

The Criterion CTL even looks good from underneath. We very deliberately positioned the bass outlet on the underside of the loudspeaker. The advantages of this layout are primarily acoustic, and it is quite incidental that the organically sculpted baffle, which is aesthetically very satisfying, is not interrupted visually by the bass opening. The adjustable spikes are fitted directly in the solid anodised base plate, ensuring that the Criterion CTL is completely stable on all modern types of flooring.



Specifications

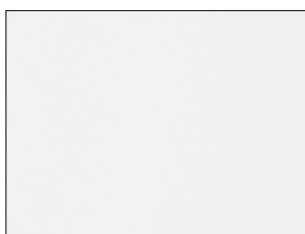


	S 2200 CTL	S 2100 CTL	S 2000 CTL
Principle	Floor-standing speaker	Floor-standing speaker	Floor-standing speaker
Nominal power rating Watts	250	200	150
Music power rating Watts	330	270	220
Impedance Ohms	4	4	4
Frequency range Hz	22 - 35000	25 - 35000	30 - 35000
Sensitivity	89 dB	88 dB	87 dB
Drive units bass mm	2 x 220	2 x 170	2 x 150
Drive units midrange mm	1 x 150	1 x 150	1 x 120
Drive units high frequency mm	1 x 25	1 x 25	1 x 25
Crossover frequencies Hz	200 / 2000	220 / 2000	250 / 2000
Dimensions H x W x D cm	120 x 27 x 40	100 x 22 x 35	90 x 20 x 31
Including plinth	125 x 39 x 46	106 x 32 x 40	96 x 30 x 36
Dimensions H x W x D inch	47.3 x 10.6 x 15.8	39.4 x 8.7 x 13.8	35.4 x 7.9 x 12.2
Including plinth	49.2 x 15.4 x 18.1	41.7 x 12.6 x 15.7	37.8 x 11.8 x 14.2
Weight kg, lbs	42 kg, 93 lbs	31 kg, 68 lbs	23 kg, 51 lbs

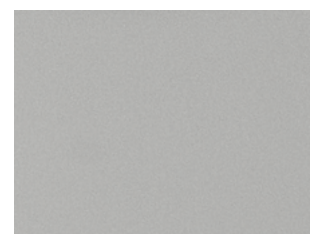
Technical modifications reserved



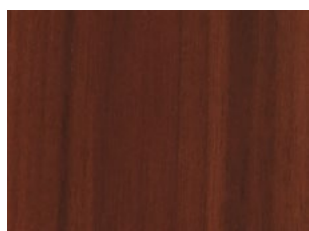
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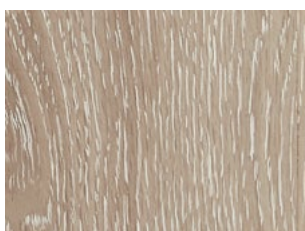
Rubbed lacquer white 11



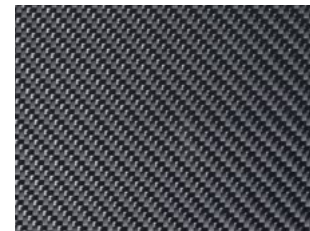
Arctic silver 96



Walnut dark 81



Oak whitewashed 95



High gloss carbon 93



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