Many years of lifetime have branded this type to be the most rigid and most precise 8" woofer. Now some very important specifications got upgraded: the cone is changed to polymer based mixture (PH-A-phase homogeneous area), enriched with metal oxide particles for higher damping and the geometric shape is revised for almost unmeasurable distortion (see diagram h.d.). The magnet system is enlarged substantially and allows now cone displacement of total 29 mm. The center venting is adjusted accordingly. The higlighted advantages are DTL (dynamic transient linearity), HEXACOIL and the rigid magnesium die cast frame remain unchanged.

With a STEP-FUNCTION data about SPL and time scale are not important. A trained expert can compare stepfunctions made with even different stages. The cone steps up and creates a sound wave which meets a 1/4" BAX measuring mic. The slope shown on the screen shows the amount of air moved. So with woofers of same diameter the average of slope is the same. If now rise and slope is set in relation to each other two stepfunctions can be compared. The right picture shows that the 21 W-54 has a rise time ten times as fast as normal speakers of this size.

TONE BURSTS
Tone bursts are the best way to obtain an accurate picture of overall acoustic performance. Regrettably they are mostly used only to test rise-time and ringing - which shows much more clearly with a step function test! With a tone burst, all the moving parts of a speaker can be loaded without burning the voice coil. With a given frequency the SPL should be 30dB higher at 1000 W input when compared with a 1 W input. If the output is linear, this test shows the driver's ability to reproduce the transients without compression. The right picture shows that even a 1000 W input is not the limit: the dynamic response is absolutely linear. Data given in catalogues (and even test reports) normally are calculated figures and not measured values.

This compression effect is either under-rated or ignored very often. That is why many speakers do not produce SPL, it's above 100 dB, in spite of higher theoretical specifications. However this test exposes such anomalies between calculations and actual measurements.

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**FEATURES**

- magnesium die cast basket
- very high power handling
- high BL-factor
- rigid construction
- tramp proof
- vented long throw system
- hexacell technique
- PHA cone material (phase homogeneous area)

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**APPLICATIONS**

- 8" woofer for all kind of hi-fi use:
- 2 way (or up) systems
- transmission line bass reflex
- aperiodic damped or sealed enclosure

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**Full automatic production lines splitting out big numbers of more or less one-way products with internal speed have impressed most of the visitors of far eastern acoustic factories.**

**impressed said the production engineer of a high grade rationalised speaker factory when visiting the DYNAUDIO plant: 'My god, you are making speakers like the swiss watch makers are making their world famous watches.'**