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**ACR**<sup>®</sup>

**SWISS**

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# **Expansion of Sound – Expansion of Mind. the Combination of Craftmanship and Technology Creating a New Dimension in Audio**

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Every single ACR product derives from a unique idea, incorporating both the requirements of our time and the most advanced technology blended with traditional craftmanship. Through their superior quality ACR products have become the topic among music lovers, audio engineers and professional musicians all over the world.

Our aim has always been the fusion of the latest technology on the level of engineering with that of craftmanship if not art on the level of design. The latest epoch-making sound sources such as the Compact Disc or Digital Audio Tape plus the things yet to come produce a continuous challenge for us to strive for perfection of sound reproduction:

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## ACR – Pioneers in Loudspeaker Kits

In 1975 ACR – Acoustic Center of Research – opened its doors to the public. It was only a small shop close to Zurich's city centre through Europe's first specializing in nothing but loudspeakers. At the time, nobody in the industry believed in a possible success of this project initiated by a couple of young audio fanatics dedicated to the perfection of sound reproduction with loudspeakers. Contrary to all predictions ACR products soon had a solid following of loudspeaker enthusiasts soon spreading beyond the city boundaries all over the country.

The tiny shop at 21, Sternenstrasse rapidly became the Mekka for all "speaker addicts". ACR did not deal in hundreds of different products but started its line with a number of superb chassis and only two loudspeaker kits. However, on all their products they were able to provide full information down to the last detail regarding such things as characteristics of cone and dome material or voice coil widths, the wire material used therein etc. In short ACR had a profound knowledge of the products they were offering their clients.

About one year after its foundation ACR published its first loudspeaker catalogue for Switzerland and Germany. Priced at DM 10.– it sold over 10000 copies in Germany alone. This also had the effect that ACR became popular in Germany. As time passed the company expanded its range of speaker kits and ACR shops were popping up all over Switzerland, Germany and Austria. Nevertheless the original concept of the small shop with few but committed staff was never abandoned. Today ACR shops can be found in more than twenty cities. Parallel to its development in the audio field ACR has also become one of Europe's most renowned manufacturer of computer controlled professional lighting equipment, a leading installer of turn-key installations for clubs and discotheques as well as the largest manufacturer of show laser equipment on the Continent.



# Full Range

The **FE Series** of full-range speaker units started their story of success with the first model FE103. The speaker series features bright and crisp sound while demonstrating a high level of performance even in small enclosures.

The **FF Series** uses a special white cone paper in order to achieve clearer definition and better sound dispersion. All FF modules are equipped with a aluminium center dome for dust protection. They are the "New Wave" of full-range speaker units that were developed with regard to the new audio life still to come.

The **FP Series** are high performance speaker units. Their excellent sound resolution allow sharp, bright and crisp sound reproduction while at the same time offering low distortion even at high input levels.

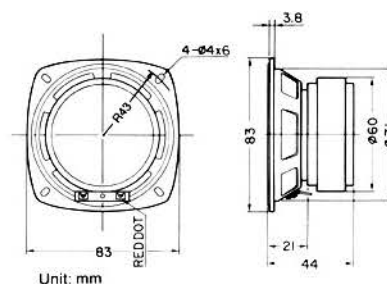
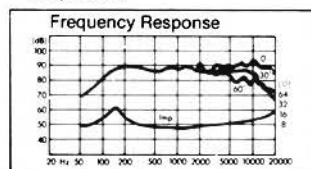
## FE Series

8cm cone-type, full-range unit

### FE83



■ The selected cone paper material insures reproduction of bright and crisp sound.



Unit: mm

#### Specifications

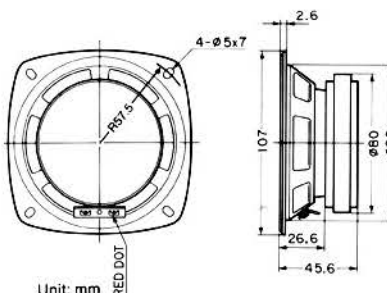
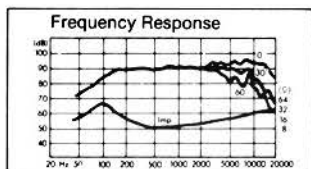
- Impedance ..... 8Ω
- Min. resonance frequency ..... 140Hz
- Reproduction frequency response .....  $f_0 \sim 20\text{kHz}$
- Output sound pressure level ..... 88dB/W(1m)
- Input ..... 7W(Mus.)
- $m_0$  ..... 1.15g
- $Q_0$  ..... 0.8
- Effective vibration radius(a) ..... 3.0cm
- Magnet weight ..... 140g
- Total weight ..... 0.364kg

10cm cone-type, full-range unit

### FE103



■ The roll edge and heat-resistant, efficient voice coil assure low distortion even at full power.



Unit: mm

#### Specifications

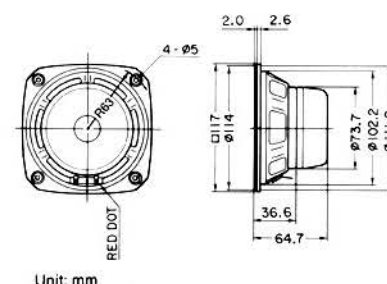
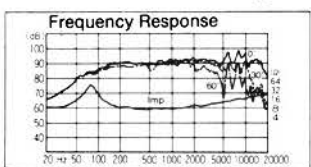
- Impedance ..... 8Ω
- Min. resonance frequency ..... 80Hz
- Reproduction frequency response .....  $f_0 \sim 18\text{kHz}$
- Output sound pressure level ..... 89dB/W(1m)
- Input ..... 15W(Mus.)
- $m_0$  ..... 2.7g
- $Q_0$  ..... 0.35
- Effective vibration radius(a) ..... 4.0cm
- Magnet weight ..... 193g
- Total weight ..... 0.63kg

12cm cone-type, full-range unit

### FE127



■ 12cm speaker featuring repulsion-type special magnetic circuitry of high efficiency and low leakage.



Unit: mm

#### Specifications

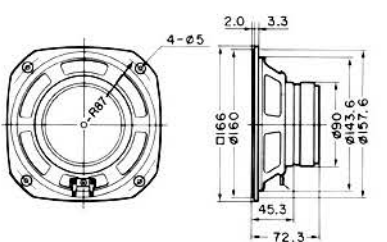
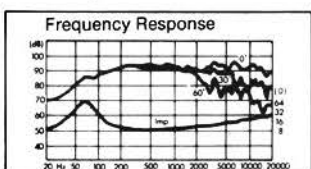
- Impedance ..... 8Ω
- Min. resonance frequency ..... 70Hz
- Reproduction frequency response .....  $f_0 \sim 20\text{kHz}$
- Output sound pressure level ..... 90dB/W(1m)
- Input ..... 40W(Mus.)
- $m_0$  ..... 2.9g
- $Q_0$  ..... 0.56
- Effective vibration radius(a) ..... 4.6cm
- Magnet weight ..... 157g
- Total weight ..... 0.57kg

16cm double-cone, full-range unit

### FE164



■ The use of the sub-cone improves the response in high frequencies and directivity.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 50Hz
- Reproduction frequency response .....  $f_0 \sim 20\text{kHz}$
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 60W(Mus.)
- $m_0$  ..... 6.9g
- $Q_0$  ..... 0.34
- Effective vibration radius(a) ..... 6.5cm
- Magnet weight ..... 330g
- Total weight ..... 1.1kg

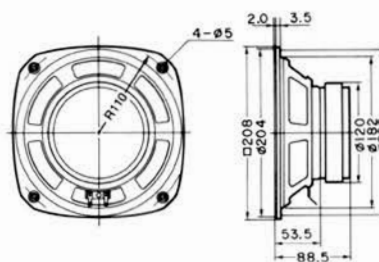
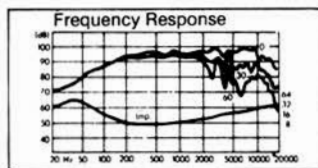


20cm double-cone, full-range unit

## FE204



■ High efficiency and easy handling, thanks to the small-mass vibration system and powerful magnetic circuitry.



Unit: mm

### Specifications

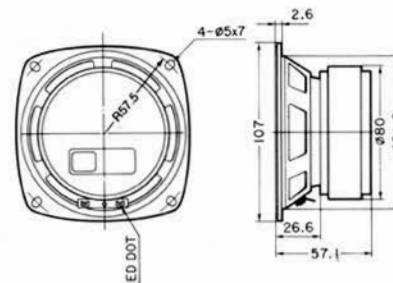
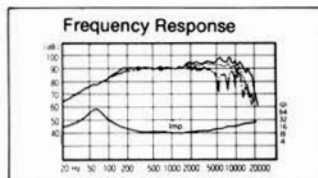
- Impedance ..... 8Ω
- Min. resonance frequency ..... 45Hz
- Reproduction frequency response .....  $f_s \sim 20\text{kHz}$
- Output sound pressure level ..... 95dB/W(1m)
- Input ..... 80W(Mus.)
- $m_a$  ..... 14.6g
- $Q_s$  ..... 0.23
- Effective vibration radius(a) ..... 8.1cm
- Magnet weight ..... 848g
- Total weight ..... 2.4kg

10cm cone-type, full-range unit

## FE103Σ



■ All frequency bands can be covered with this unit. Powerfull and rich sound can be reproduced.



Unit: mm

### Specifications

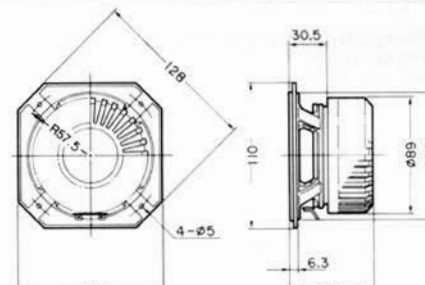
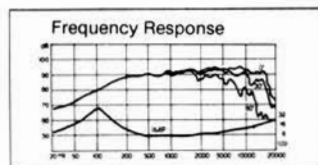
- Impedance ..... 8Ω
- Min. resonance frequency ..... 70Hz
- Reproduction frequency response .....  $f_s \sim 18\text{kHz}$
- Output sound pressure level ..... 90dB/W(1m)
- Input ..... 15W(Mus.)
- $m_a$  ..... 2.9g
- $Q_s$  ..... 0.32
- Effective vibration radius(a) ..... 4.2cm
- Magnet weight ..... 386g
- Total weight ..... 0.96kg

10cm double-cone, full-range unit

## FE106Σ



■ Definitive version of 10cm full-range speaker for use in a back-load horn type enclosure.



Unit: mm

### Specifications

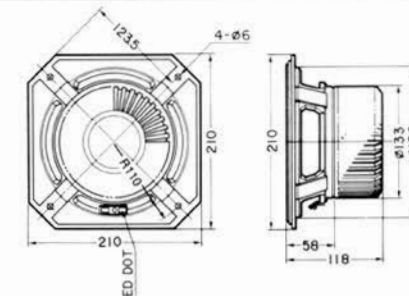
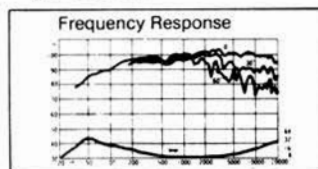
- Impedance ..... 8Ω
- Min. resonance frequency ..... 80Hz
- Reproduction frequency response .....  $f_s \sim 18\text{kHz}$
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 15W(Mus.)
- $m_a$  ..... 2.7g
- $Q_s$  ..... 0.28
- Effective vibration radius(a) ..... 4cm
- Magnet weight ..... 386g
- Total weight ..... 0.95kg

20cm double-cone, full-range unit

## FE206Σ



■ Optimum for use in a back-load horn type enclosure.



Unit: mm

### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 45Hz
- Reproduction frequency response .....  $f_s \sim 20\text{kHz}$
- Output sound pressure level ..... 96.5dB/W(6.5m)
- Input ..... 80W(Mus. 3W)
- $m_a$  ..... 12.0g
- $Q_s$  ..... 0.26
- Effective vibration radius(a) ..... 8.1cm
- Magnet weight ..... 1.7kg(double)
- Total weight ..... 3.7kg

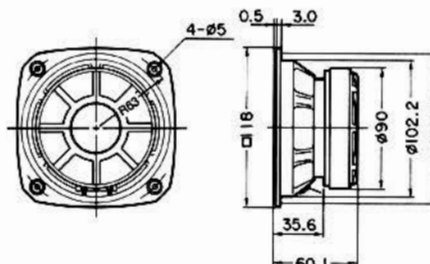
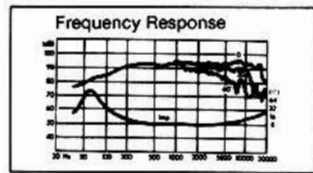
## FF Series

12cm cone-type, full-range unit

### FF125



■ Bright and light sound from high efficiency and high permissible input level.



Unit: mm

#### Specifications

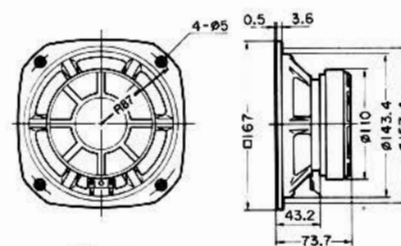
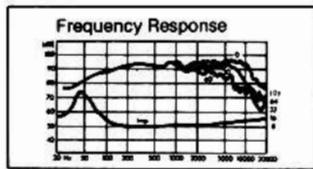
- Impedance ..... 8Ω
- Min. resonance frequency ..... 60Hz
- Reproduction frequency response .....  $f_0$ ~18kHz
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 50W(Mus.)
- $m_0$  ..... 2.6g
- $Q_0$  ..... 0.24
- Effective vibration radius(a) ..... 4.6cm
- Magnet weight ..... 330g
- Total weight ..... 0.865kg

16cm cone-type, full-range unit

### FF165



■ The sound can be upgraded by using an additional tweeter.



Unit: mm

#### Specifications

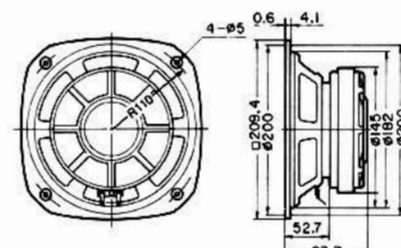
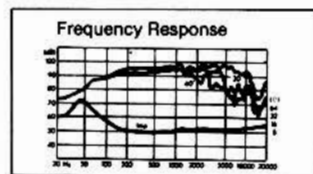
- Impedance ..... 8Ω
- Min. resonance frequency ..... 45Hz
- Reproduction frequency response .....  $f_0$ ~14kHz
- Output sound pressure level ..... 94dB/W(1m)
- Input ..... 70W(Mus.)
- $m_0$  ..... 7.2g
- $Q_0$  ..... 0.26
- Effective vibration radius(a) ..... 6.5cm
- Magnet weight ..... 600g
- Total weight ..... 1.685kg

20cm cone-type, full-range unit

### FF225



■ Suitable for use with any kind of enclosure, from sealed type to back-load horn type.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 40Hz
- Reproduction frequency response .....  $f_0$ ~14kHz
- Output sound pressure level ..... 96dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 18.2g
- $Q_0$  ..... 0.23
- Effective vibration radius(a) ..... 8.4cm
- Magnet weight ..... 1,067g
- Total weight ..... 3.7kg

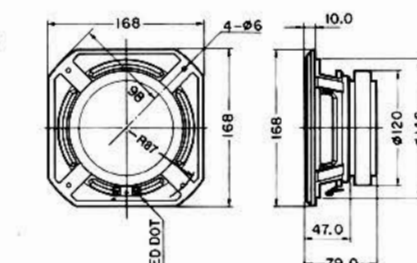
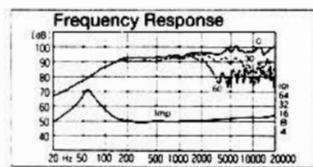
## FP Series

16cm double-cone, full-range unit

### FP163



■ The double-cone mechanism using a sub-cone improves the directivity and high-frequency response.



Unit: mm

#### Specifications

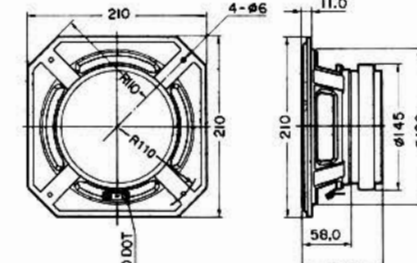
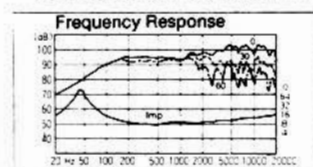
- Impedance ..... 8Ω
- Min. resonance frequency ..... 55Hz
- Reproduction frequency response .....  $f_0$ ~20kHz
- Output sound pressure level ..... 93dB/W(1m)
- Input ..... 80W(Mus.)
- $m_0$  ..... 7.0g
- $Q_0$  ..... 0.33
- Effective vibration radius(a) ..... 6.5cm
- Magnet weight ..... 720g
- Total weight ..... 2.25kg

20cm double-cone, full-range unit

### FP203



■ The sound is bright and steady, featuring sharp-cutting high tone.



Unit: mm

#### Specifications

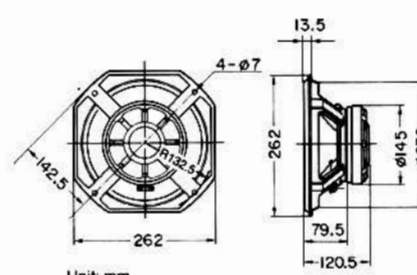
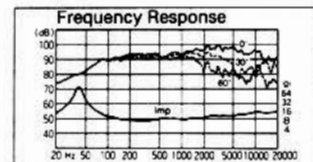
- Impedance ..... 8Ω
- Min. resonance frequency ..... 40Hz
- Reproduction frequency response .....  $f_0$ ~20kHz
- Output sound pressure level ..... 95dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 12.0g
- $Q_0$  ..... 0.33
- Effective vibration radius(a) ..... 8.1cm
- Magnet weight ..... 1,090g
- Total weight ..... 3.75kg

25cm cone-type, full-range unit

### FP253N



■ The frame is designed to have sufficient sturdiness and strength. A tweeter can be added without trouble thanks to the proper high-frequency response.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 37Hz
- Reproduction frequency response .....  $f_0$ ~20kHz
- Output sound pressure level ..... 95dB/W(1m)
- Input ..... 120W(Mus.)
- $m_0$  ..... 21g
- $Q_0$  ..... 0.5
- Effective vibration radius(a) ..... 10.3cm
- Magnet weight ..... 1,055g
- Total weight ..... 4.4kg

# Woofer

In high fidelity sound reproduction the quality of performance in the low and ultra-low frequencies is directly related to the realistic listening experience of music. Therefore ACR offers a wide range of high performance and easy-to-handle quality woofers.

The **RW Series** woofers marked by their red gaskets (soon available in black) can reproduce tight low frequencies at high cost efficiency.

The **FW100/160/200/250 Series** are high-compliance woofers developed for superior low-frequency reproduction so as to be sufficiently powerful even when they are installed in relatively small size enclosures. The **FW305** and **FW405** have powerful magnetic circuits for low distortion. They are suitable for low and ultra-low bass reproduction. The **FW505** has a large 200 mm dia. ferrite magnet. The **FW800** Super-Woofer with super-wide 800 mm diameter is for ultimate ultra-low frequency reproduction and is the world's largest

bass driver produced in series. The **FW120/180/220** are the latest developments of ACR. All models feature cones made of carbon and aramid that are glued crosswise. This construction results in high rigidity cones with low sound distortion and high impulse accuracy.

The **TC Series** are fitted with polypropylene cones and dual voice coils thus enabling surprisingly strong bass rendition compared to the size of these loudspeakers. They are especially suited for high quality two-way combinations in small size enclosures.

The **SLE Series** are the only type woofer in the world that can operate without rim suspension (protected by patents worldwide). These woofers allow distortion-free reproduction from bass up to midrange (approx. 1500 – 2000 Hz). For high-end speakers or active loudspeakers combinations there is hardly an alternative to the SLE.

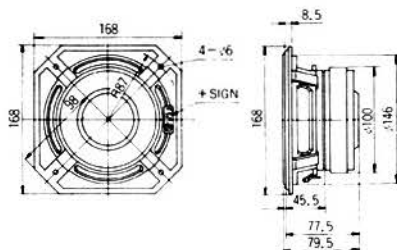
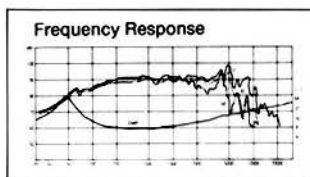
## RW Series

16cm woofer

### RW162



■ Superb cone paper is used.



Unit: mm

#### Specifications

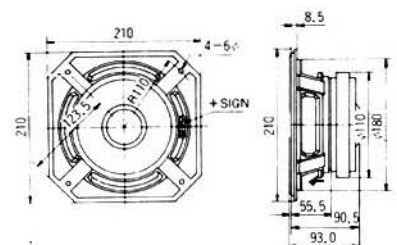
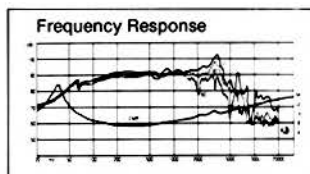
- Impedance ..... 8Ω
- Min. resonance frequency ..... 40Hz
- Reproduction frequency response .....  $f_s \sim 9\text{kHz}$
- Output sound pressure level ..... 91dB/W(1m)
- Input ..... 60W(Mus.)
- $m_0$  ..... 15g
- $Q_s$  ..... 0.34
- Effective vibration radius(a) ..... 6.4cm
- Magnet weight ..... 377g
- Total weight ..... 1.54kg

20cm woofer

### RW202



■ Even with a small enclosure, powerful bass sound can be reproduced.



Unit: mm

#### Specifications

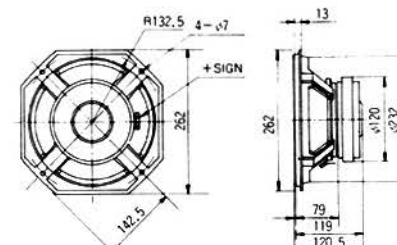
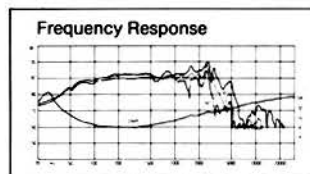
- Impedance ..... 8Ω
- Min. resonance frequency ..... 30Hz
- Reproduction frequency response .....  $f_s \sim 5.5\text{kHz}$
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 60W(Mus.)
- $m_0$  ..... 27g
- $Q_s$  ..... 0.31
- Effective vibration radius(a) ..... 8.1cm
- Magnet weight ..... 567.5g
- Total weight ..... 1.95kg

25cm woofer

### RW252



■ Designed for use in a 2-way speaker system, reproducing smooth sound.



Unit: mm

#### Specifications

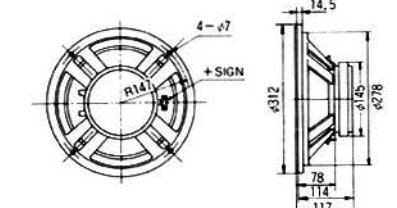
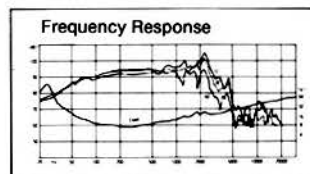
- Impedance ..... 8Ω
- Min. resonance frequency ..... 27Hz
- Reproduction frequency response .....  $f_s \sim 5\text{kHz}$
- Output sound pressure level ..... 92.5dB/W(1m)
- Input ..... 90W(Mus.)
- $m_0$  ..... 43g
- $Q_s$  ..... 0.33
- Effective vibration radius(a) ..... 10.45cm
- Magnet weight ..... 721g
- Total weight ..... 3.35kg

30cm woofer

### RW302



■ High rigidity and high performance, resulting in rich bass sound.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 25Hz
- Reproduction frequency response .....  $f_s \sim 4\text{kHz}$
- Output sound pressure level ..... 94.5dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 54g
- $Q_s$  ..... 0.28
- Effective vibration radius(a) ..... 12.15cm
- Magnet weight ..... 1.088g
- Total weight ..... 4.63kg



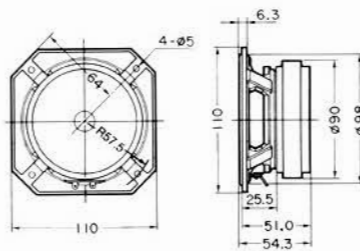
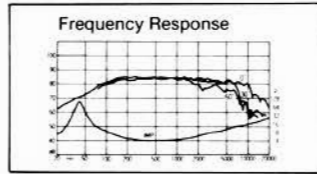
# FW Series

10cm cone-type woofer unit

## FW100



■ Small but having excellent bass reproduction, this woofer can be used in making a super-compact speaker system.



Unit: mm

### Specifications

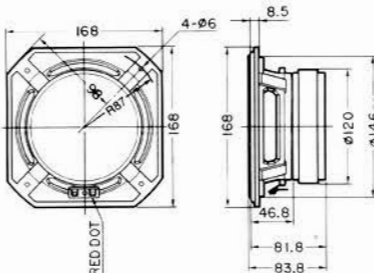
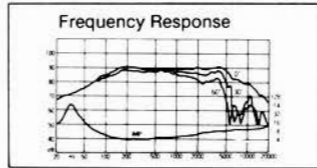
- Impedance ..... 4Ω
- Min. resonance frequency ..... 45Hz
- Reproduction frequency response .....  $f_s \sim 10\text{kHz}$
- Output sound pressure level ..... 84dB/W(1m)
- Input ..... 50W(Mus.)
- $m_0$  ..... 7.3g
- $Q_0$  ..... 0.32
- Effective vibration radius(a) ..... 4.0cm
- Magnet weight ..... 330g
- Total weight ..... 0.95kg

16cm cone-type woofer unit

## FW160



■ The heat-resistant voice coil is highly efficient and distortion is low even at full power output.



Unit: mm

### Specifications

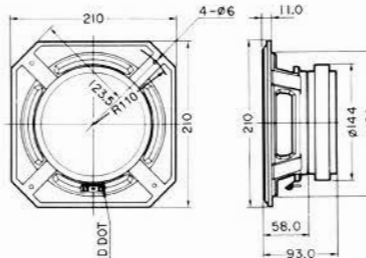
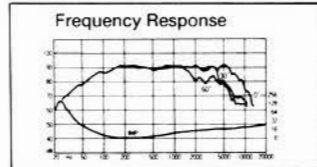
- Impedance ..... 4Ω
- Min. resonance frequency ..... 30Hz
- Reproduction frequency response .....  $f_s \sim 10\text{kHz}$
- Output sound pressure level ..... 87dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 21g
- $Q_0$  ..... 0.27
- Effective vibration radius(a) ..... 6.5cm
- Magnet weight ..... 850g
- Total weight ..... 2.6kg

20cm cone-type woofer unit

## FW200



■ The rise of impedance in high frequencies is suppressed, making it easy to design a network with this woofer.



Unit: mm

### Specifications

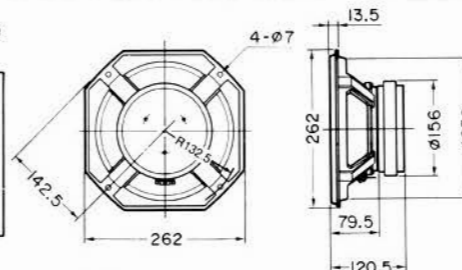
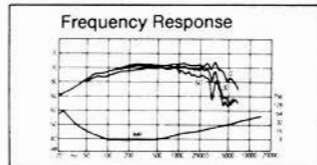
- Impedance ..... 8Ω
- Min. resonance frequency ..... 25Hz
- Reproduction frequency response .....  $f_s \sim 6\text{kHz}$
- Output sound pressure level ..... 91dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 28g
- $Q_0$  ..... 0.25
- Effective vibration radius(a) ..... 8.1cm
- Magnet weight ..... 1,090g
- Total weight ..... 3.8kg

25cm cone-type woofer unit

## FW250



■ Even a small enclosure can provide bass with good damping.



Unit: mm

### Specifications

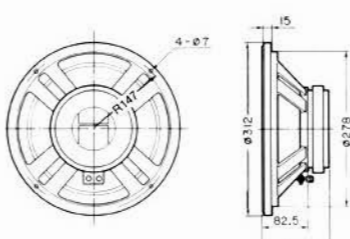
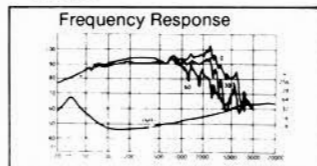
- Impedance ..... 8Ω
- Min. resonance frequency ..... 23Hz
- Reproduction frequency response .....  $f_s \sim 4.5\text{kHz}$
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 55g
- $Q_0$  ..... 0.21
- Effective vibration radius(a) ..... 10.5cm
- Magnet weight ..... 1,410g
- Total weight ..... 5.0kg

30cm cone-type woofer unit

## FW305



■ Suitable for a wide range of enclosures from compact to larger models.



Unit: mm

### Specifications

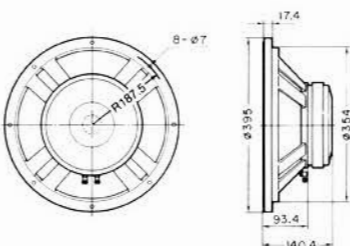
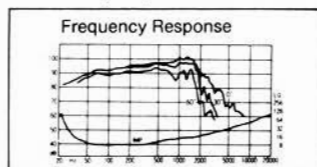
- Impedance ..... 8Ω
- Min. resonance frequency ..... 25Hz
- Reproduction frequency response .....  $f_s \sim 3.5\text{kHz}$
- Output sound pressure level ..... 95dB/W(1m)
- Input ..... 125W(Mus.)
- $m_0$  ..... 55g
- $Q_0$  ..... 0.31
- Effective vibration radius(a) ..... 12.95cm
- Magnet weight ..... 1,410g
- Total weight ..... 5.0kg

40cm cone-type woofer unit

## FW405



■ Uses low-distortion magnetic circuitry and a thick diecast yoke for high efficiency in operation.



Unit: mm

### Specifications

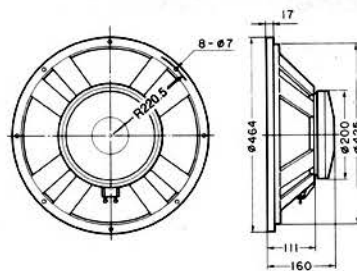
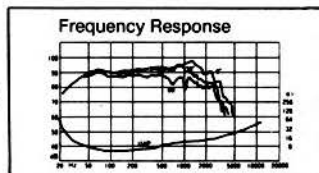
- Impedance ..... 8Ω
- Min. resonance frequency ..... 20Hz
- Reproduction frequency response .....  $f_s \sim 2.5\text{kHz}$
- Output sound pressure level ..... 96dB/W(1m)
- Input ..... 150W(Mus.)
- $m_0$  ..... 125g
- $Q_0$  ..... 0.38
- Effective vibration radius(a) ..... 16.85cm
- Magnet weight ..... 1,821g
- Total weight ..... 7.8kg

46cm cone-type woofer unit

## FW505



■ With the large 200mm dia. ferrite magnet, this can also be used as a super-woofer.



Unit: mm

### Specifications

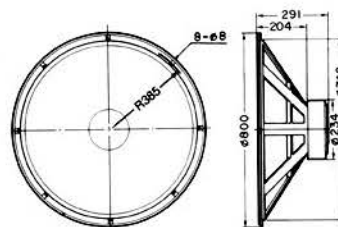
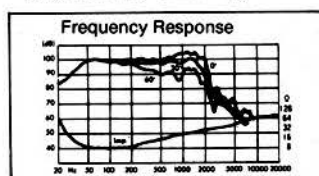
- Impedance ..... 8Ω
- Min. resonance frequency ..... 20Hz
- Reproduction frequency response .....  $f_0 \sim 3.0\text{kHz}$
- Output sound pressure level ..... 96dB/W(1m)
- Input ..... 150W(Mus.)
- $m_0$  ..... 170g
- $Q_s$  ..... 0.4
- Effective vibration radius(a) ..... 20.15cm
- Magnet weight ..... 2,010g
- Total weight ..... 10.5kg

80cm cone-type super woofer unit

## FW800



■ A super-woofer using a large, 200mm dia., 2kg heavy ferrite magnet.



Unit: mm

### Specifications

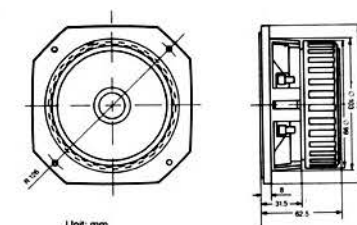
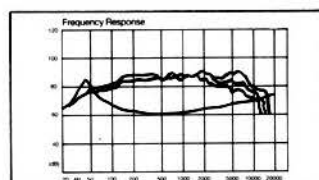
- Impedance ..... 8Ω
- Min. resonance frequency ..... 15Hz
- Reproduction frequency response .....  $f_0 \sim 2\text{kHz}$
- Output sound pressure level ..... 100dB/W(1m)
- Input ..... 300W(Mus.)
- $m_0$  ..... 385g
- $Q_s$  ..... 0.45
- Effective vibration radius(a) ..... 35.75cm
- Magnet weight ..... 2,010g
- Total weight ..... 20.5kg

12 cm Carbon-Aramid woofer

## FW120



■ For small but highly efficient two-way combinations as well as a midrange cone-speaker in three-way systems. The FW120 can also be used for car audio.



Unit: mm

### Specifications

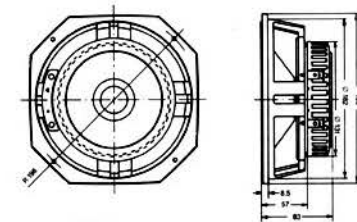
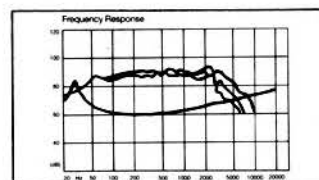
- Impedance ..... 8Ω
- Min. resonance frequency ..... 53 Hz
- Reproduction frequency response .....  $f_0 \sim 10\text{ kHz}$
- Output sound pressure level ..... 88 dB/W(1 m)
- Input ..... 80 W(Mus.)
- $m_0$  ..... 7.4 g
- $Q_s$  ..... 0.33
- Effective vibration radius (a) ..... 4.6 cm
- Magnet weight ..... 330 g
- Total weight ..... 1.1 kg

18 cm Carbon-Aramid woofer

## FW180



■ Suitable as extended woofer or midbass in four-way-combinations or bass in small two-way combinations.



Unit: mm

### Specifications

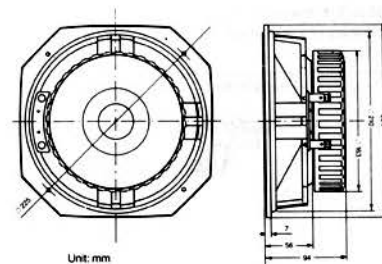
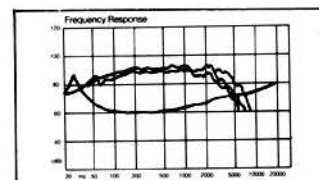
- Impedance ..... 8Ω
- Min. resonance frequency ..... 30 Hz
- Reproduction frequency response .....  $f_0 \sim 5\text{ kHz}$
- Output sound pressure level ..... 90 dB/W(1 m)
- Input ..... 100 W(Mus.)
- $m_0$  ..... 26.5 g
- $Q_s$  ..... 0.36
- Effective vibration radius (a) ..... 8.0 cm
- Magnet weight ..... 721 g
- Total weight ..... 2.44 kg

22 cm Carbon-Aramid woofer

## FW220



■ This model offers thick bass and a transparent sound. Its frequency response requires the addition of a tweeter, only.



Unit: mm

### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 25 Hz
- Reproduction frequency response .....  $f_0 \sim 5\text{ kHz}$
- Output sound pressure level ..... 91 dB/W(1 m)
- Input ..... 120 W(Mus.)
- $m_0$  ..... 54.9 g
- $Q_s$  ..... 0.28
- Effective vibration radius (a) ..... 9.5 cm
- Magnet weight ..... 1410 g
- Total weight ..... 4.22 kg

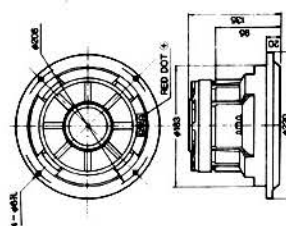
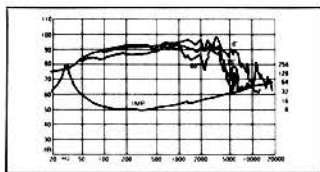
## SLE Series

20 cm edgeless woofer

### SLE24W



- A fast response bass module and therefore the most natural sound reproduced by woofers.



#### Specifications

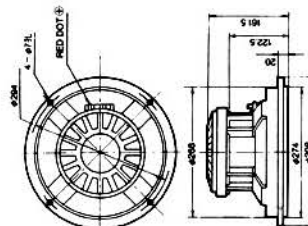
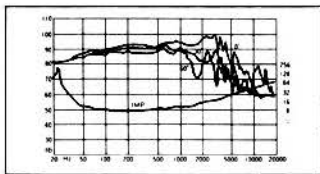
- Impedance ..... 8Ω
- Min. resonance frequency ..... 30 Hz
- Reproduction frequency response .....  $f_o \sim 5$  kHz
- Output sound pressure level ..... 90 dB/W (1 m)
- Input ..... 100 W (Mus.)
- $m_o$  ..... 30 g
- $Q_o$  ..... 0.35
- Effective vibration radius (a) ..... 8.6 cm
- Magnet weight ..... 1090 g
- Total weight ..... 3.85 kg

30 cm edgeless woofer

### SLE34W



- A long stroke but still quick response type of bass, for high end combinations e. g. with RP (RP is a trademark of Fostex Corp., Tokyo) speakers.



#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 22 Hz
- Reproduction frequency response .....  $f_o \sim 4.5$  kHz
- Output sound pressure level ..... 93 dB/W (1 m)
- Input ..... 160 W (Mus.)
- $m_o$  ..... 68 g
- $Q_o$  ..... 0.3
- Effective vibration radius (a) ..... 12.7 cm
- Magnet weight ..... 1821 g
- Total weight ..... 7 kg

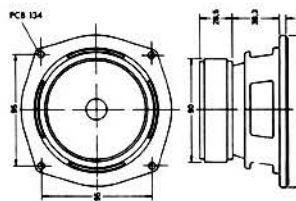
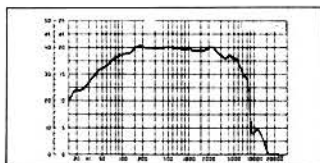
## TC Series

13 cm twin coil woofer (Bextrene)

### TC130



- Surprisingly strong bass for smallest two-way combinations and book-shelf speakers.



#### Specifications

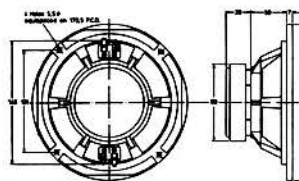
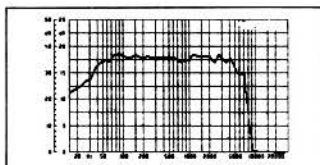
- Impedance ..... 8+8Ω
- Min. resonance frequency ..... 40 Hz
- Reproduction frequency response .....  $f_o \sim 4$  kHz
- Output sound pressure level ..... 88 dB/W (1 m)
- Input ..... 80 W (Mus.)
- $m_o$  ..... 11.5 g
- $Q_o$  ..... 0.21
- Effective vibration radius (a) ..... 5 cm
- Magnet weight ..... 440 g
- Total weight ..... 1.4 kg

17 cm twin coil woofer (Cobex)

### TC170



- In combination with the TT25 a test winner in internationally acknowledge HiFi-magazines.



#### Specifications

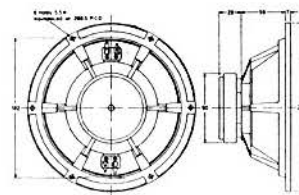
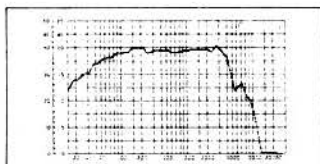
- Impedance ..... 8+8Ω
- Min. resonance frequency ..... 32 Hz
- Reproduction frequency response .....  $f_o \sim 3.5$  kHz
- Output sound pressure level ..... 91 dB/W (1 m)
- Input ..... 120 W (Mus.)
- $m_o$  ..... 21 g
- $Q_o$  ..... 0.21
- Effective vibration radius (a) ..... 6.6 cm
- Magnet weight ..... 440 g
- Total weight ..... 1.6 kg

20 cm twin coil woofer (Bextrene)

### TC200



- A serious competition to 25 mm and 30 mm woofers in high-grade two and three-way combinations.



#### Specifications

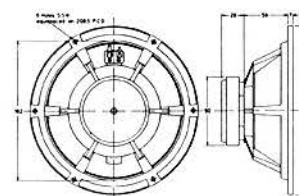
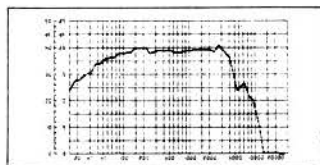
- Impedance ..... 8+8Ω
- Min. resonance frequency ..... 27 Hz
- Reproduction frequency response .....  $f_o \sim 3.5$  kHz
- Output sound pressure level ..... 93 dB/W (1 m)
- Input ..... 120 W (Mus.)
- $m_o$  ..... 23 g
- $Q_o$  ..... 0.27
- Effective vibration radius (a) ..... 8.25 cm
- Magnet weight ..... 440 g
- Total weight ..... 1.6 kg

20 cm (Bextrene)

### SC200



- In slim columns even two SC200 may be used.



#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 29 Hz
- Reproduction frequency response .....  $f_o \sim 3.5$  kHz
- Output sound pressure level ..... 91 dB/W (1 m)
- Input ..... 120 W (Mus.)
- $m_o$  ..... 15.3 g
- $Q_o$  ..... 0.37
- Effective vibration radius (a) ..... 8.25 cm
- Magnet weight ..... 440 g
- Total weight ..... 1.6 kg

# Mid Range

Upgrading the mid and high frequency response of a speaker system is like upgrading the entire sound system. Therefore ACR offers numerous mid and mid-high types of speaker units.

The **FS165** is a cone-type mid-range speaker that, with its flat frequency response, renders superb sound quality.

The **FS50D/80D** are dome-type mid-range speakers, which easily provide optimal mid and mid-high range with good directivity and natural sound.

The **FS21RP** (RP is a trademark of Fostex Corp., Tokyo) operates on the magnetostatic principle that offers the same excellence in sound definition as

electrostatic units without the hassles of the latter and better efficiency. RP stands for Regulated Phase, a patented technology which has been developed by FOSTEX engineers over the past ten years. This unique transducing design has produced a family of loudspeakers and microphones that exhibit extremely low distortion, excellent transient response and wide dynamic range.

The **TT Series** are skull caps made of titanium with ferrofluid coils manufactured as one single piece. The light but rigid diaphragm ensures high resolution.

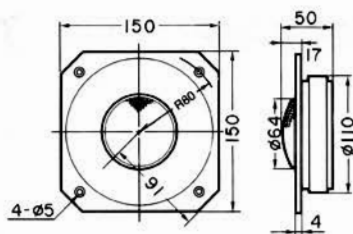
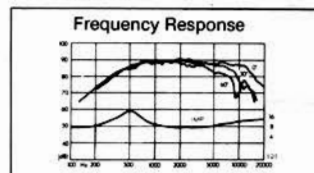
## FS Series

Dome mid-range speaker

### FS50D



- The lightweight, very-sturdy diaphragm reproduces superb mid-range tones.



Unit: mm

#### Specifications

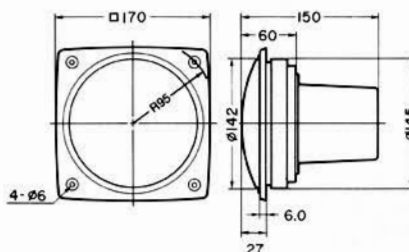
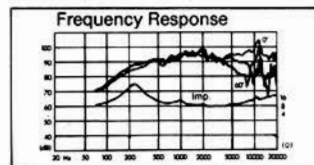
- Impedance ..... 8Ω
- Min. resonance frequency ..... 500Hz
- Reproduction frequency response ..... f<sub>s</sub>~15kHz
- Output sound pressure level ..... 90dB/W(1m)
- Input ..... 80W(Mus.)
- Magnet weight ..... 600g
- Total weight ..... 1.6kg
- Diaphragm diameter ..... 38mm
- Recommended cross-over frequency ..... 600Hz or more
- Baffle opening dimensions ..... Ø138mm

Dome mid-range speaker

### FS80D



- The large diaphragm, made of special light alloy, provides high efficiency and high power output.



Unit: mm

#### Specifications

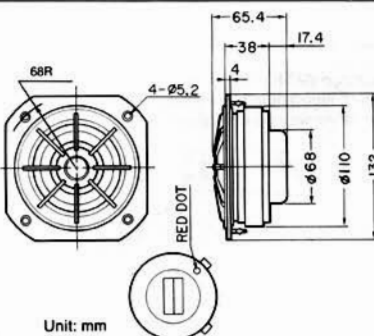
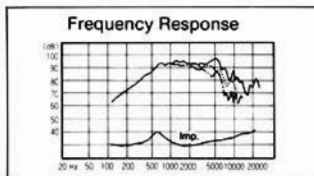
- Impedance ..... 8Ω
- Min. resonance frequency ..... 240Hz
- Reproduction frequency response ..... f<sub>s</sub>~20kHz
- Output sound pressure level ..... 97dB/W(1m)
- Input ..... 100W(Mus.)
- Magnet weight ..... 1,089g
- Total weight ..... 3.5kg
- Diaphragm diameter ..... 65mm
- Recommended cross-over frequency ..... 500Hz more than
- Baffle opening dimensions ..... Ø147mm

Dome Midrange

### FS32D



- Mid range dome speaker unit for soft mid range sound reproduction.



Unit: mm

#### Specifications

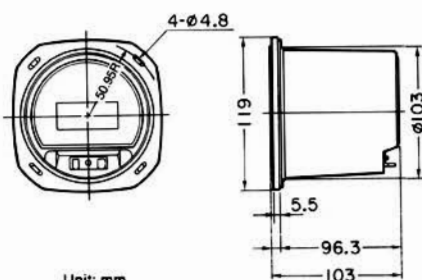
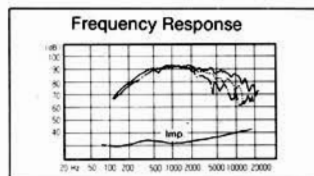
- Impedance ..... 8Ω
- Min. resonance frequency ..... 630Hz
- Reproduction frequency response ..... 1.2kHz~8kHz
- Output sound pressure level ..... 93.5dB/W(1m)
- Input ..... 60W(Mus.)
- Magnet weight ..... 567.5g
- Total weight ..... 1.53kg
- Diaphragm diameter ..... 38mm
- Recommended cross-over frequency ..... 500Hz or more
- Baffle opening dimensions ..... Ø136mm

11cm cone Midrange

### FS112



- Mid range cone speaker unit for smooth mid range sound reproduction.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 720Hz
- Reproduction frequency response ..... 720Hz~8kHz
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 90W(Mus.)
- Magnet weight ..... 226.2g
- Total weight ..... 0.92kg
- Diaphragm diameter ..... 65mm
- Recommended cross-over frequency ..... 500Hz more than
- Baffle opening dimensions ..... Ø119mm

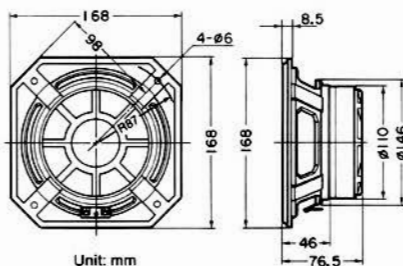
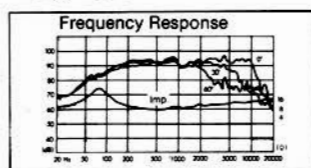


16cm cone mid-range speaker

## FS165



■ The special mold edge allows the speaker to be used also as a mid-range woofer.



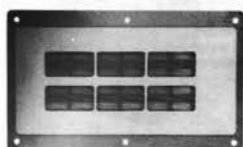
Unit: mm

### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 75Hz
- Reproduction frequency response ..... f<sub>0</sub>~12kHz
- Output sound pressure level ..... 94dB/W(1m)
- Input ..... 40W(Mus.)
- Magnet weight ..... 600g
- Total weight ..... 1.82kg
- Recommended cross-over frequency ..... 300Hz or more
- Baffle opening dimensions ..... ø151mm

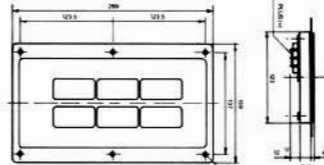
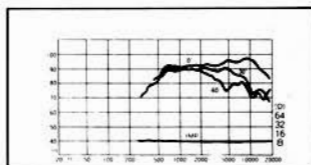
RP midrange unit

## FS21RP



(RP is a trademark of Fostex Corp., Tokyo)

As mentioned above the unique RP-System renders a superb, highly efficient, high definition and absolutely natural sound reproduction. Thanks to its absolutely linear impedance the FS21RP is easy to handle.



Unit: mm

## RP Midrange

### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 0.6~15 kHz
- Output sound pressure level ..... 92 dB/W(1 m)
- Input ..... 150 W (Mus.)
- Magnet weight ..... 500 g
- Total weight ..... 1.86 kg

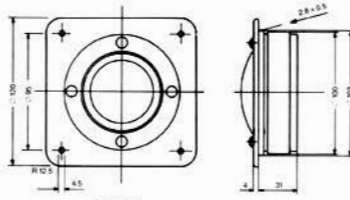
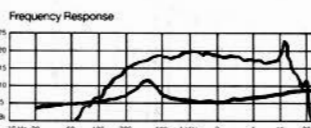


95 mm Titan dome midrange

## TT50



■ All TT's have ultra-light domes made of titanium. Top resolution and outstanding price/performance ratio.



Unit: mm

## TT Series

### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 0.4~15 kHz
- Output sound pressure level ..... 92 dB/W(1 m)
- Input ..... 150 W (Mus.)
- Magnet weight ..... 500 g
- Total weight ..... 1.86 kg

# Tweeter

Tweeters can either be employed in complete speaker systems or as an additional component for existing systems thus enhancing the dynamics and liveliness of any standard speaker.

The **FT2RP** (RP is a trademark of Fostex Corp., Tokyo) tweeter uses the RP (Regular-Phase) system developed by FOSTEX. RP stands for Regulated Phase, a patented technology which has been developed by FOSTEX engineers over the past ten years. This unique transducer design has produced a family of loudspeakers and microphones that exhibit extremely low distortion, excellent transient response and wide dynamic range.

The **FT25D/55D** are dome tweeters with excellent directivity, superb frequency response and a natural sound.

The **FT15H** horn tweeter features sharp sound and high efficiency, and can be combined with other units without trouble.

The **FT50H/65H/66H/96H** are horn type super tweeters with high performance that make them ideal for use as additional tweeters.

Our range also includes the **FT17H/FT30H** compact size horn tweeters and the **FT700H** wide-range tweeter which belongs to our P.A. Series. Despite their high-quality they are competitively priced.

The **TT Series** are skull-caps made of titanium with ferrofluid-cooled coils made of one piece. The light but still rigid diaphragm ensures above-average resolution.

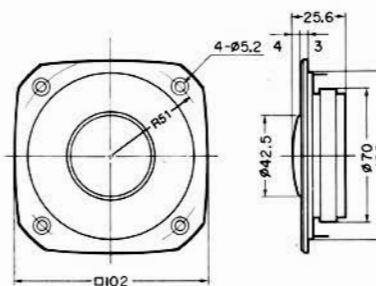
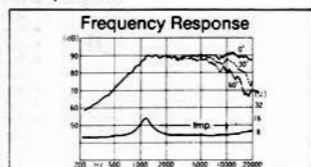
## FT Series

Dome tweeter

## FT25D



■ The dome-type diaphragm has a small diameter of 20mm but offers good directivity and wide sound dispersion.



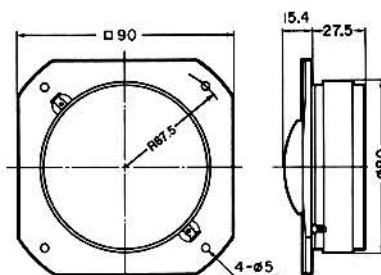
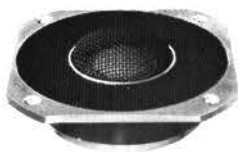
Unit: mm

### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 2kHz~30kHz
- Output sound pressure level ..... 90dB/W(1m)
- Input ..... 40W(Mus.)
- Recommended cross-over frequency ..... 3kHz
- Magnet weight ..... 120g
- Total weight ..... 415g
- Baffle opening dimensions ..... ø90mm



## FT55D



Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 800Hz~25kHz
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 70W(Mus.)
- Recommended cross-over frequency ..... 1kHz
- Magnet weight ..... 330g
- Total weight ..... 850g

**FT15H**

**Frequency Response**

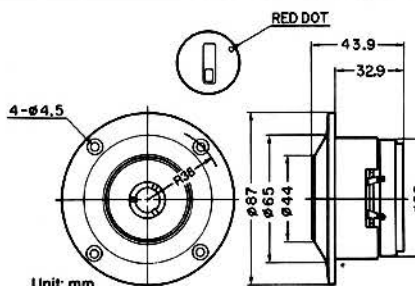
(dB)

100  
90  
80  
70  
60  
50  
40

200 Hz 1000 2000 5000 10000 20000 50000 100000 200000

imp.

100  
64  
32  
16  
8  
4



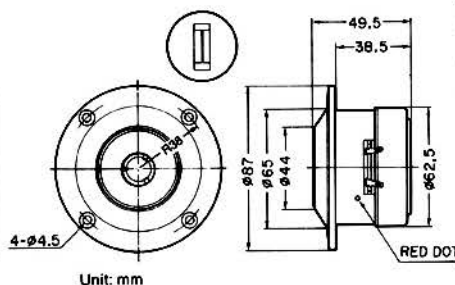
Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 5kHz~30kHz
- Output sound pressure level ..... 98dB/W(1m)
- Input ..... 30W(Mus.)
- Cutoff frequency ..... 2.6kHz
- Recommended cross-over frequency ..... 5kHz
- Magnet weight ..... 100g
- Total weight ..... 300g

**FT17H**

**Frequency Response**

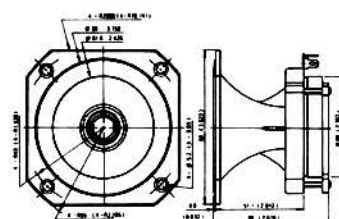
The graph plots Frequency Response in dB (y-axis, 40 to 100) against Frequency in Hz (x-axis, 100 to 2000). A single curve labeled 'imp.' shows a peak of approximately 95 dB at 1000 Hz, with a roll-off at higher frequencies.



Unit: mm

- Impedance ..... 8Ω
- Reproduction  
frequency response .... 5–40 kHz
- Output sound pressure  
level ..... 96 dB/W (1 m)
- Input ..... 50 W (Mus.)
- Magnet weight ..... 99.1 g
- Total weight ..... 0.49 kg

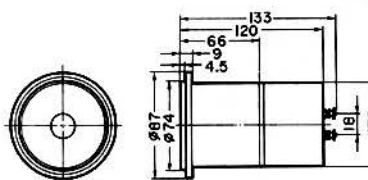
# FT30H



Unit: mm

- Impedance ..... 8Ω
- Reproduction  
frequency response ..... 5-20 kHz
- Output sound pressure  
level ..... 100dB/W(1m)
- Input ..... 100W (Mus.)
- Magnet weight ..... 99.1 g
- Total weight ..... 0.43 kg

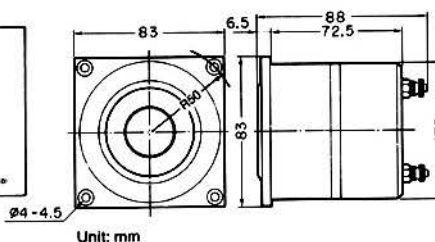
# FT65H



Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 2.5kHz~25kHz
- Output sound pressure level ..... 108dB/W(1m)
- Input ..... 50W(Mus.)
- Cutoff frequency ..... 3.9kHz
- Recommended cross-over frequency ..... 3.5kHz or more
- Magnet weight ..... 135g
- Total weight ..... 1,480g
- Baffle opening dimensions ..... φ71mm

## FT66H



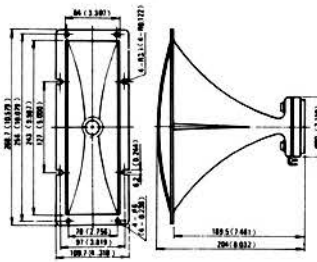
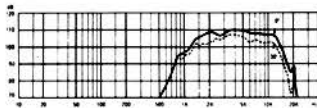
Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 2.5kHz~22kHz
- Output sound pressure level ..... 105dB/W(1m)
- Input ..... 70W(Mus.)
- Cutoff frequency ..... 3.3kHz
- Recommended crossover frequency ..... 3.5kHz or more
- Magnet weight ..... 100g
- Total weight ..... 1,150g
- Baffle opening dimensions ..... φ76mm

## Horn tweeter FT700



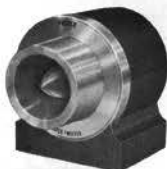
- This makes up a powerful two-way system when combined with a larger full range or bass-mid-range speaker unit.



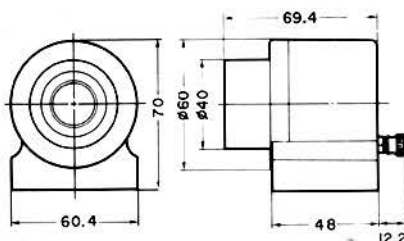
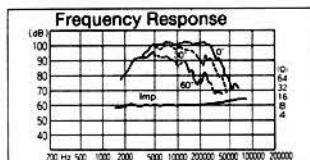
### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 3–14 kHz
- Output sound pressure level ..... 108dB/W(1m)
- Input ..... 120W(Mus.)
- Magnet weight ..... 226.2 g
- Total weight ..... 1.62 kg

## Horn Super-Tweeter FT50H



- The horn is made of aluminum alloy, and has a small opening providing excellent directivity even in ultra-high frequency range.



Unit: mm

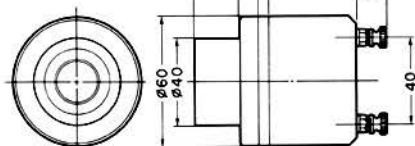
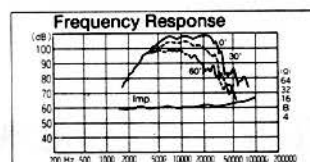
### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 5kHz–35kHz
- Output sound pressure level ..... 102dB/W(1m)
- Input ..... 50W(Mus.)
- Cutoff frequency ..... 3.60kHz
- Recommended cross-over frequency ..... 7kHz or more
- Magnet weight ..... 92g
- Total weight ..... 420g

## Horn Super-Tweeter FT90H



- The super-lightweight, ring-type diaphragm helps extend the frequency response to ultra-high frequencies.



Unit: mm

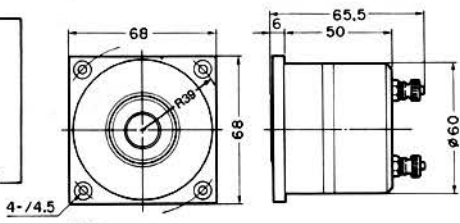
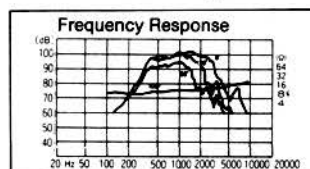
### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 5kHz–35kHz
- Output sound pressure level ..... 106dB/W(1m)
- Input ..... 50W(Mus.)
- Cutoff frequency ..... 3.6kHz
- Recommended cross-over frequency ..... 7kHz or more
- Magnet weight ..... 100g
- Total weight ..... 720g
- Baffle opening dimensions ..... ϕ61mm

## Horn Super-Tweeter FT96H



- The high-performance magnetic circuit uses the ALNICO magnet.



Unit: mm

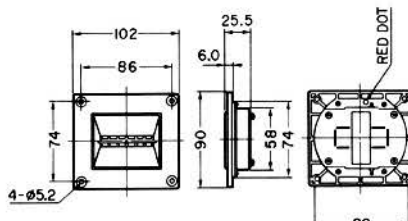
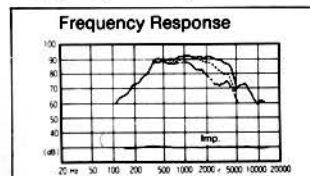
### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 4kHz–33kHz
- Output sound pressure level ..... 100dB/W(1m)
- Input ..... 50W(Mus.)
- Cutoff frequency ..... 3.9kHz
- Recommended cross-over frequency ..... 8.0kHz or more
- Magnet weight ..... 34g
- Total weight ..... 600g
- Baffle opening dimensions ..... ϕ61mm

## RP tweeter FT2RP



- Printed ribbon tweeter for high frequency sound reproduction.



Unit: mm

### Specifications

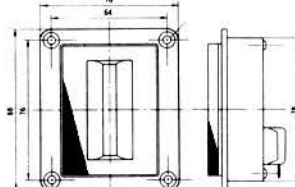
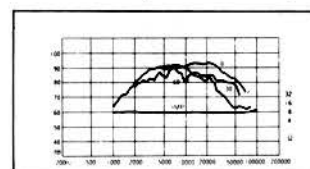
- Impedance ..... 8Ω
- Reproduction frequency response ..... 6kHz–40kHz
- Output sound pressure level ..... 92dB/W(1m)
- Input ..... 60W(Mus.)
- Cutoff frequency ..... 3.60kHz
- Recommended cross-over frequency ..... 7kHz or more
- Magnet weight ..... 92g
- Total weight ..... 242g



## RP tweeter FT7RP



- (RP is a trademark of Fostex Corp., Tokyo)  
Transmission ranges up to 45 kHz. Very good omnidirectional characteristics. RP stands for Regulated Phase, a patented technology which has been developed by FOSTEX engineers over the past ten years. This unique transducer design has produced a family of loudspeakers and microphones that exhibit extremely low distortion, excellent transient response and wide dynamic range.



### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response ..... 3–45 kHz
- Output sound pressure level ..... 93 dB/W (1 m)
- Input ..... 80 W (Mus.)
- Total weight ..... 0.155 kg

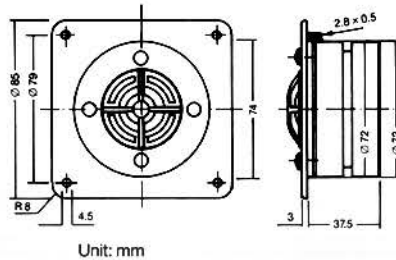
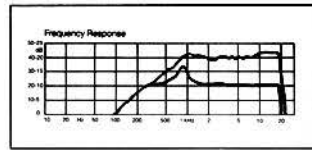


25 mm Titan dome tweeter

## TT25



■ (Titanium dome tweeter) The TT25 can be used already at lower frequencies and is therefore especially well suited for two-way combinations. Its high output power results from a double magnet.



### Specifications

- Impedance ..... 8Ω
- Reproduction frequency response .... 2.8–32 kHz
- Output sound pressure level ..... 91 dB/W(1 m)
- Input ..... 100 W(Mus.)
- Total weight ..... 0.76 kg

# Woofer Cone Transducer

ACR Laboratory Series Woofers are high-performance, high-efficiency, highly reliable speaker units designed and developed for professionals.

The **L Series** woofers are indispensable for providing dense saturated low frequency reproduction. With the light but highly sturdy cone paper material, high-level inputs can be accepted with a wide margin. The magnetic circuit is designed symmetrically with respect to the voice coil to minimize distortion in the mid and low frequencies. The voice coil is wound edgewise around glassfibre reinforced polyamid for excellent heat resistance.

The **L569** and **L469** are high-power models based on double-dumper mechanisms, using a heat sink with the L569 and an inside double-dumper with the L469. These speakers will demonstrate their full performance in horn-load or bass-reflex type enclosures. Select the one that suits the application best, for stage, public address, studio monitoring, disco, etc.

The **PA Series** are high-capacity woofers for public address systems and are of an outstanding efficiency. After all the PA38 is used in the "ACR-Eckhorn".

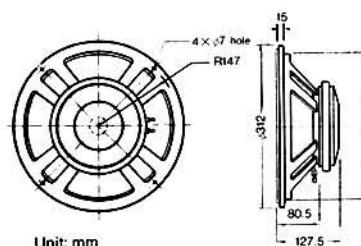
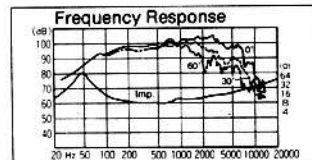
## F Series

30cm cone-type, full-range unit

## F346



■ One single unit can be used as a wide-range speaker as well as a woofer in a system.



### Specifications

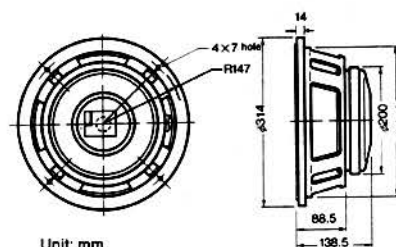
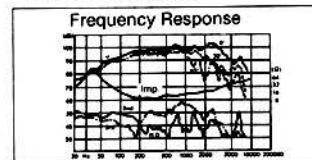
- Impedance ..... 8Ω
- Min. resonance frequency ..... 50 Hz
- Reproduction frequency response ..... f<sub>0</sub>–7 kHz
- Output sound pressure level ..... 98 dB/W(1 m)
- Input ..... 100 W(Mus.)
- m<sub>0</sub> ..... 41 g
- Q<sub>0</sub> ..... 0.4
- Effective vibration radius(a) ..... 13 cm
- Magnet weight ..... 1,281 g
- Total weight ..... 6.7 kg

30cm cone-type woofer

## L362



■ The magnetic circuit is designed symmetrically with respect to the voice coil, minimizing distortion in the mid and low ranges.



### Specifications

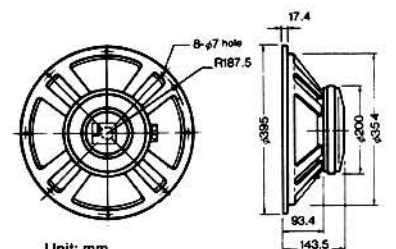
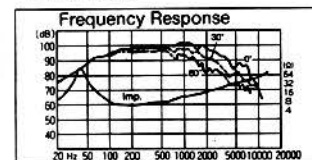
- Impedance ..... 8Ω
- Min. resonance frequency ..... 35 Hz
- Reproduction frequency response ..... f<sub>0</sub>–5 kHz
- Output sound pressure level ..... 98 dB/W(1 m)
- Input ..... 300 W(Mus.)
- m<sub>0</sub> ..... 55 g
- Q<sub>0</sub> ..... 0.21
- Effective vibration radius(a) ..... 13.05 cm
- Magnet weight ..... 2,010 g
- Total weight ..... 9.8 kg

40cm cone-type woofer

## L467



■ High-performance, high-efficiency unit designed for professional applications.



### Specifications

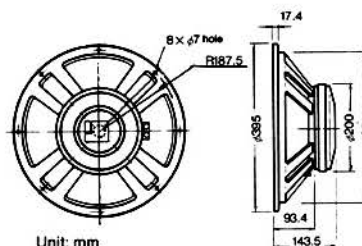
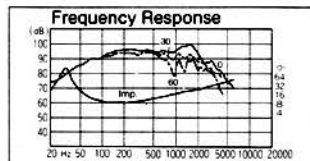
- Impedance ..... 8Ω
- Min. resonance frequency ..... 40 Hz
- Reproduction frequency response ..... f<sub>0</sub>–3.5 kHz
- Output sound pressure level ..... 100 dB/W(1 m)
- Input ..... 300 W(Mus.)
- m<sub>0</sub> ..... 73 g
- Q<sub>0</sub> ..... 0.34
- Effective vibration radius(a) ..... 16.85 cm
- Magnet weight ..... 2,010 g
- Total weight ..... 9.4 kg

40cm cone-type woofer

## L469



■ Inside double-dumper mechanism for high power output.



Unit: mm

### Specifications

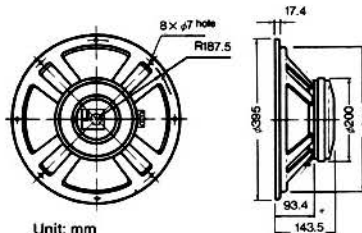
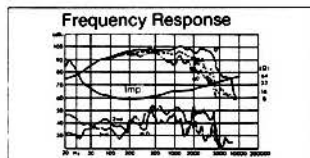
- Impedance ..... 8Ω
- Min. resonance frequency ..... 30Hz
- Reproduction frequency response .....  $f_0 \sim 2\text{kHz}$
- Output sound pressure level ..... 97dB/W(1m)
- Input ..... 400W(Mus.)
- $m_0$  ..... 123g
- $Q_0$  ..... 0.27
- Effective vibration radius(a) ..... 16.85cm
- Magnet weight ..... 2.010g
- Total weight ..... 9.4kg

40cm cone-type woofer

## L470



■ High reliability that is suitable for use in professional audio equipment system.



Unit: mm

### Specifications

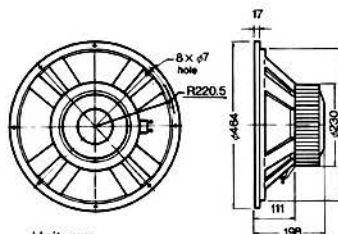
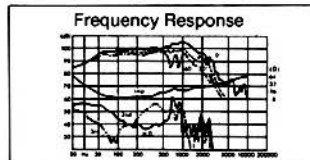
- Impedance ..... 8Ω
- Min. resonance frequency ..... 25Hz
- Reproduction frequency response .....  $f_0 \sim 3.5\text{kHz}$
- Output sound pressure level ..... 99dB/W(1m)
- Input ..... 150W(Mus.)
- $m_0$  ..... 100g
- $Q_0$  ..... 0.21
- Effective vibration radius(a) ..... 16.85cm
- Magnet weight ..... 2.010g
- Total weight ..... 9.4kg

46cm cone-type woofer

## L569



■ Double-dumper mechanism with heat sink offers high power output.



Unit: mm

### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 30Hz
- Reproduction frequency response .....  $f_0 \sim 2\text{kHz}$
- Output sound pressure level ..... 99dB/W(1m)
- Input ..... 500W(Mus.)
- $m_0$  ..... 117g
- $Q_0$  ..... 0.28
- Effective vibration radius(a) ..... 20.15cm
- Magnet weight ..... 2.010g
- Total weight ..... 12.2kg

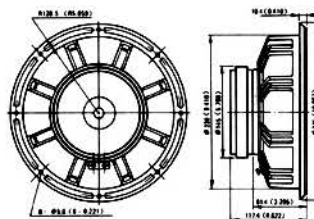
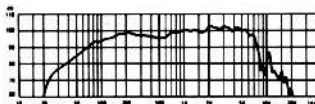
## PA Series

25 cm woofer

## PA25



■ Extremely high efficiency in horn systems.



### Specifications

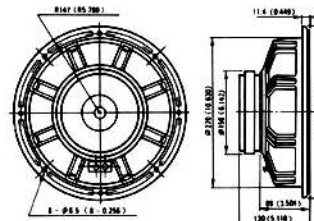
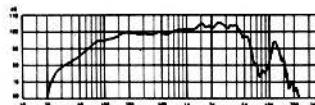
- Impedance ..... 8Ω
- Min. resonance frequency ..... 60Hz
- Reproduction frequency response .....  $f_0 \sim 7\text{kHz}$
- Output sound pressure level ..... 97 dB/W(1 m)
- Input ..... 100W(Mus.)
- $m_0$  ..... 17.6g
- $Q_0$  ..... 0.43
- Effective vibration radius (a) ..... 10.5 cm
- Magnet weight ..... 1067 g
- Total weight ..... 3.765 kg

30 cm woofer

## PA30



■ Hard suspension woofer for professionals, guitar and stage-monitors or powerful sound systems.



### Specifications

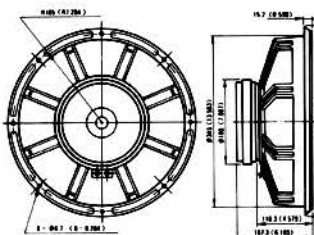
- Impedance ..... 8Ω
- Min. resonance frequency ..... 60 Hz
- Reproduction frequency response .....  $f_0 \sim 5\text{kHz}$
- Output sound pressure level ..... 99 dB/W(1 m)
- Input ..... 150W(Mus.)
- $m_0$  ..... 36 g
- $Q_0$  ..... 0.40
- Effective vibration radius (a) ..... 13 cm
- Magnet weight ..... 1409 g
- Total weight ..... 4.8 kg

38 cm woofer

## PA38



■ Reliable and strong woofer for large public address systems.



### Specifications

- Impedance ..... 8Ω
- Min. resonance frequency ..... 40 Hz
- Reproduction frequency response .....  $f_0 \sim 4\text{kHz}$
- Output sound pressure level ..... 101 dB/W(1 m)
- Input ..... 180W(Mus.)
- $m_0$  ..... 77.5 g
- $Q_0$  ..... 0.35
- Effective vibration radius (a) ..... 16.5 cm
- Magnet weight ..... 1821 g
- Total weight ..... 7.8 kg



# Horn Driver

Our Laboratory Series horn drivers were designed to cover a wide range from mid to high frequencies, with a high efficiency, high performance and crisp sound. The powerful magnetic circuitry uses alnico or ferrite magnets. The diaphragms are either metallic, made of aluminium or duraluminium, or plastic made of phenolic resin. Each of them is made by a special molding method for light weight and high strength. The drivers having a throat diameter of 25.4 mm are of a wide-range type covering even the range assigned for tweeters, and the drivers with a throat diameter of 50 mm are high-power models. Select the drivers that suit the sound you want to make, according to the horn units to be used together.

To make their operations more safer and convenient, all these horn drivers are designed to facilitate servicing or replacement even in case of diaphragm troubles, etc.

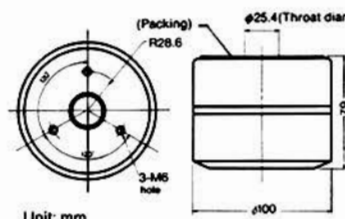
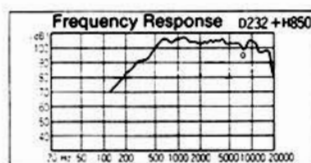
## D Series

Horn driver with a throat diameter of 25.4mm

### D232



■ Driver designed for high cost efficiency and high fidelity.



Unit: mm

#### Specifications

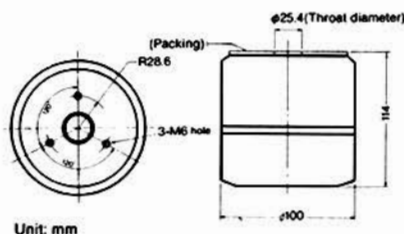
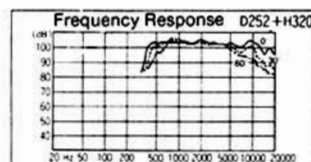
- Impedance ..... 8Ω
- Throat (Opening) ..... 25.4mm
- Reproduction frequency response ..... 650Hz~18kHz
- Recommend cross-over frequency: 1kHz
- Output sound pressure level ..... 104dB/W(1m)
- Input ..... 50W(Mus.)
- Voice coil diameter ..... 40mm
- Magnet weight ..... 330g
- Total weight ..... 1.4kg

Horn driver with a throat diameter of 25.4mm

### D252



■ Designed for high fidelity, using a powerful magnetic circuit using an alnico magnet.



Unit: mm

#### Specifications

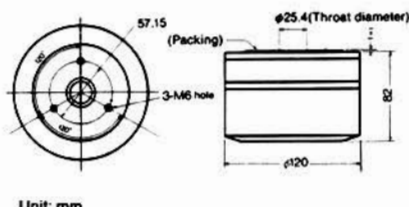
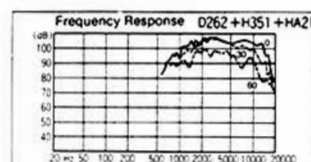
- Impedance ..... 8Ω
- Throat (Opening) ..... 25.4mm
- Reproduction frequency response ..... 650Hz~20kHz
- Recommend cross-over frequency: 1kHz
- Output sound pressure level ..... 105dB/W(1m)
- Input ..... 50W(Mus.)
- Voice coil diameter ..... 40mm
- Magnet weight ..... 650g
- Total weight ..... 3.3kg

Horn driver with a throat diameter of 25.4mm

### D262



■ Wide-range type driver that covers a wide range including that conventionally assigned for tweeters.



Unit: mm

#### Specifications

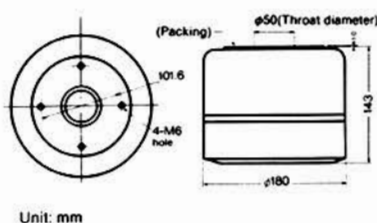
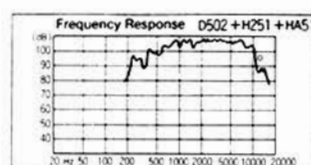
- Impedance ..... 8Ω
- Throat (Opening) ..... 25.4mm
- Reproduction frequency response ..... 800Hz~15kHz
- Recommend cross-over frequency: 800Hz
- Output sound pressure level ..... 104dB/W(1m)
- Input ..... 60W(Mus.)
- Voice coil diameter ..... 50mm
- Magnet weight ..... 850g
- Total weight ..... 2.32kg

Horn driver with a throat diameter of 50mm

### D502



■ A powerful, big unit which provides high power output from the throat having a diameter of 50mm.



Unit: mm

#### Specifications

- Impedance ..... 8Ω
- Throat (Opening) ..... 50mm
- Reproduction frequency response ..... 500Hz~10kHz
- Recommend cross-over frequency: 500Hz
- Output sound pressure level ..... 108dB/W(1m)
- Input ..... 80W(Mus.)
- Voice coil diameter ..... 100mm
- Magnet weight ..... 3,100g
- Total weight ..... 13kg

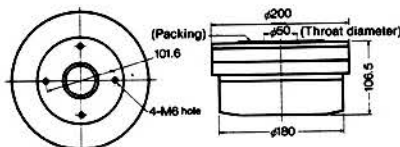
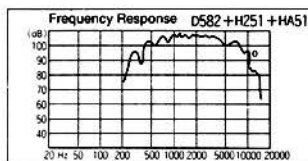


Horn driver with a throat diameter of 50mm

## D582



■ The diaphragm of this driver is made by a special molding technique which gives it light weight and high rigidity.



Unit: mm

### Specifications

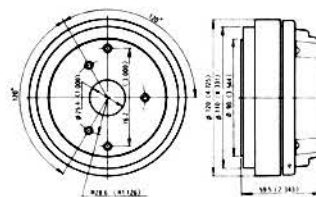
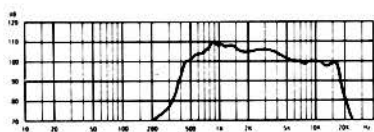
- Impedance ..... 8Ω
- Throat (Opening) ..... 50mm
- Reproduction frequency response ..... 500Hz~10kHz
- Recommended cross-over frequency: ..... 500Hz
- Output sound pressure level ..... 106dB/W(1m)
- Input ..... 80W(Mus.)
- Voice coil diameter ..... 100mm
- Magnet weight ..... 4,020g
- Total weight ..... 9.2kg

Horn driver with a throat diameter of 25.4 mm

## D400



■ Driver designed for maximum cost efficiency and high fidelity.



### Specifications

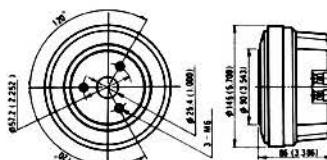
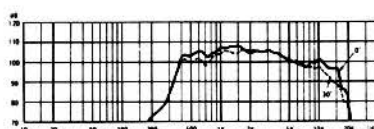
- Impedance ..... 8Ω
- Throat (Opening) ..... 25.4 mm
- Reproduction frequency response ..... 0.8 - 16 kHz
- Recommended cross-over frequency ..... 1000 Hz
- Output sound pressure level ..... 104.5 dB/W (1 m)
- Input ..... 40W (Mus.)
- Voice coil diameter ..... 40 mm
- Magnet weight ..... 848.2 g
- Total weight ..... 2.4 kg

Horn driver with a throat diameter of 25.4 mm

## D450



■ A well-balanced sound pattern for powerful systems.



### Specifications

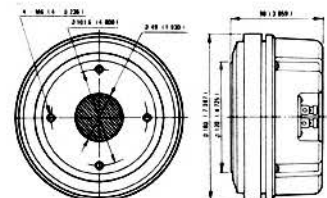
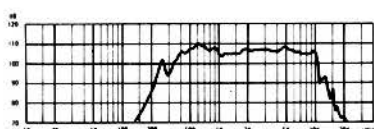
- Impedance ..... 8Ω
- Throat (Opening) ..... 25.4 mm
- Reproduction frequency response ..... 0.5 - 16 kHz
- Recommended cross-over frequency ..... 1000 Hz
- Output sound pressure level ..... 105 dB/W (1 m)
- Input ..... 40W (Mus.)
- Voice coil diameter ..... 40 mm
- Magnet weight ..... 1067 g
- Total weight ..... 3.5 kg

Horn driver with a throat diameter of 50 mm

## D800



■ For low frequencies and high capacity.



### Specifications

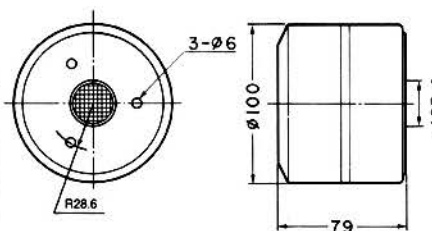
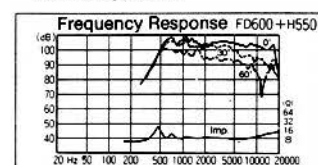
- Impedance ..... 8Ω
- Throat (Opening) ..... 49 mm
- Reproduction frequency response ..... 0.3 - 10 kHz
- Recommended cross-over frequency ..... 500 Hz
- Output sound pressure level ..... 106 dB/W (1 m)
- Input ..... 45W (Mus.)
- Voice coil diameter ..... 80 mm
- Magnet weight ..... 1820 g
- Total weight ..... 6.4 kg

Horn driver

## FD600



■ A highly cost efficient wide range horn driver incorporating the advanced technology of our Laboratory Series.



Unit: mm

### Specifications

- Impedance ..... 8 Ohm
- Reproduction frequency response ..... 0.8 - 18 kHz
- Output sound pressure level ..... 104 dB/W (1 m)
- Input ..... 50W (Mus.)
- Total weight ..... 1.4 kg
- Throat diameter ..... 25.4 mm
- Recommended cross-over frequency ..... 800 Hz or more

## FD Series

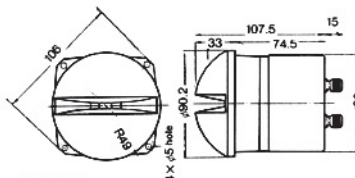


# Horn Tweeter

The **T850/950** are designed for public address systems because of their high power handling capacity and safety.

## T Series

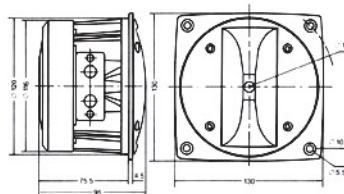
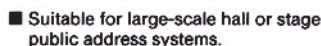
# T825



Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 2kHz~20kHz
- Recommended cross-over frequency ..... 4kHz
- Output sound pressure level ..... 102dB/W(1m)
- Input ..... 50W(Mus.)
- Voice coil diameter ..... 20mm
- Magnet weight ..... 240g
- Total weight ..... 2.05kg

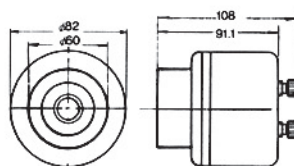
# T850



Unit: mm

- Impedance ..... 8Ω
- Reproduction  
frequency response ..... 2.5–19 kHz
- Output sound pressure  
level ..... 105 dB/W (1 m)
- Input ..... 50 W (Mus.)
- Magnet weight ..... 540 g
- Total weight ..... 2.25 kg

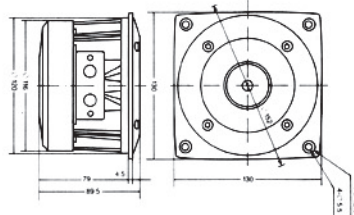
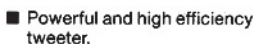
# T925



Unit: mm

- Impedance ..... 8Ω
- Reproduction frequency response ..... 5kHz~40kHz
- Recommended cross-over frequency ..... 7kHz
- Output sound pressure level ..... 108dB/W(1m)
- Input ..... 50W(Mus.)
- Voice coil diameter ..... 20mm
- Magnet weight ..... 240g
- Total weight ..... 1.78kg

## T950



400 500

- Impedance ..... 8Ω
- Reproduction  
frequency response .... 2-20 kHz
- Output sound pressure  
level ..... 110 dB/W (1 m)
- Input ..... 50 W (Mus.)
- Magnet weight ..... 540 g
- Total weight ..... 2.25 kg

# Horn Throat

The matching of driver and horn units is a very delicate subject. Our wide range of horn units have been developed to make full use of the characteristics of the top-class horn drivers in our Laboratory Series. The **H Series** include sectoral and straight horn units made of light weight aluminum alloy or wood. Each model was designed for a different cut-off frequency and dispersion angle, providing a wide selection to match the crossover frequencies of different speaker systems and the range of sound field reproduction. Throat adapters are also available for joining driver and horn units. They should be selected in accordance with the driver's throat diameter.

ACR horn speakers – are for every corner of the stage, hall or disco, or anywhere where professionals can be found. All our horns are designed not to discolour original sounds and remain absolutely neutral because their respective resonance frequencies lie below their frequency response range.

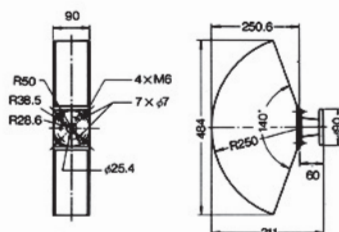
## H Series

Radial wooden horn

### H425



■ Designed especially for HiFi use.



#### Specifications

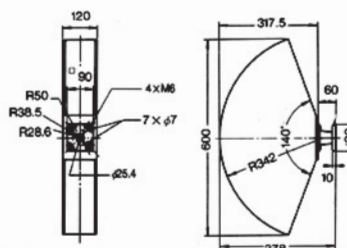
- Cutoff frequency ..... 440 Hz
- Horizontal radiation angle ..... 140 Grade
- Material ..... massiv wood
- Total weight ..... 3 kg

Radial wooden horn

### H325



■ This model matches perfectly with the characteristics of Laboratory Series horn drivers.



#### Specifications

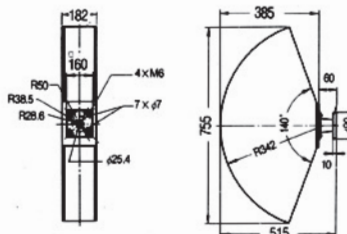
- Cutoff frequency ..... 340 Hz
- Horizontal radiation angle ..... 140 Grade
- Material ..... massiv wood
- Total weight ..... 4,5 kg

Radial wooden horn

### H220



■ A parallel plywood horn unit, with a cut-off frequency of 250 Hz.

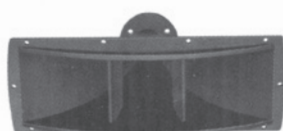


#### Specifications

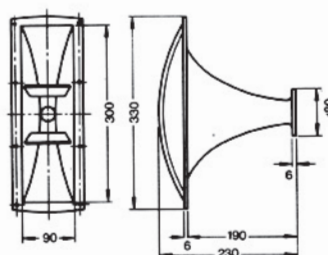
- Cutoff frequency ..... 235 Hz
- Horizontal radiation angle ..... 140 Grade
- Material ..... massiv wood
- Total weight ..... 7 kg

Sectoral horn unit

### H550



■ A sectoral horn unit cast out of light alloy, with a cutoff frequency of 600 Hz.



#### Specifications

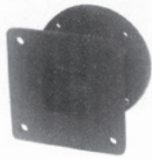
- Throat diameter ..... 25.4mm
- Cutoff frequency ..... 600Hz
- Horizontal radiation angle ..... 120°
- Material ..... Aluminum
- Total weight ..... 1.6kg

Unit: mm

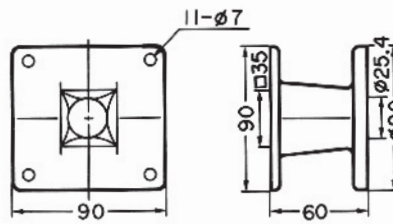


## HA Series

### 1" throat HA20



- Aluminium throat with an internal diameter of 25.4 mm.



Unit: mm

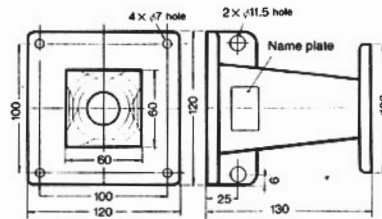
#### Specifications

- Throat diameter ..... 25.4mm
- Material ..... Aluminum
- Total weight ..... 380g

### 1" throat HA21



- The throat, made of light alloy, connects the driver and horn units. The throat diameter is 25.4 mm.



Unit: mm

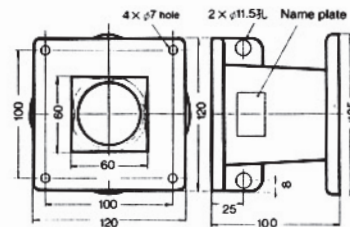
#### Specifications

- Throat diameter ..... 25.4mm
- Material ..... Aluminum
- Total weight ..... 1kg

### 2" throat HA51



- Made of aluminium. The throat diameter is 50 mm.



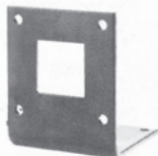
Unit: mm

#### Specifications

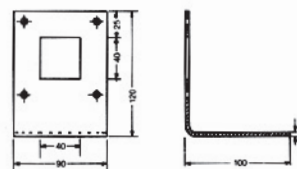
- Throat diameter ..... 50mm
- Material ..... Aluminum
- Total weight ..... 1.1kg

## HW Series

### Mounting device HW20



- L-angle piece for mounting of H425/325.

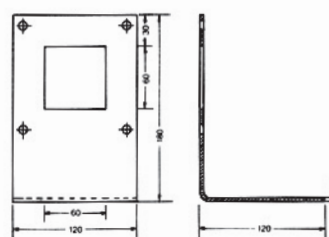


Unit: mm

### Mounting device HW50



- L-angle piece for mounting of H220.



Unit: mm

## Thiele-Small Parameters

	FE 206Σ	RW 162	RW 202	RW 252	RW 302	FP 163	FP 203	FP 253N	FW 100	FW 120	FW 160	FW 180	FW 200	FW 220	FW 250	FW 305	FW 405	FW 505	L 362	L 467	L 469	L 470	L 569	TC 130	TC 170	TC 200	SC 200		
Free-Air Resonance Frequency	Fs (Hz)	45	40	30	27	25	55	40	37	45	53	30	33	25	29	23	25	19	20	35	40	30	25	30	40	32	27	29	
DC Resistance of Voice Coil	Re (Ω)	13.5	6.8	6.3	6.7	6.7	7.0	7.2	7.2	3.5	6.8	3.2	6.5	6.5	6.6	6.6	6.8	6.8	7.5	6.8	6.8	6.8	6.8	6+6	6+6	6+6	6.9		
Electro-Magnetic Q at ts	Qes	0.22	0.38	0.32	0.30	0.25	0.26	0.28	0.45	0.32	0.34	0.23	0.41	0.20	0.20	0.23	0.34	0.41	0.29	0.43	0.22	0.34	0.28	0.21	0.30	0.24	0.25	0.29	0.41
Mechanical Q at ts	Qms	3.2	4.7	7.91	4.89	10.91	8.94	8.58	9.03	12.8	10.95	4.72	7.74	7.3	8.12	9.5	3.8	5.1	11.8	6.7	5.2	11.0	8.2	5.9	4.2	1.65	1.6	4.19	3.63
Total Q at ts $\frac{QES \times QMS}{QES + QMS}$	Qts	0.2	0.35	0.30	0.28	0.25	0.25	0.27	0.73	0.31	0.33	0.22	0.39	0.19	0.19	0.22	0.31	0.38	0.28	0.4	0.21	0.35	0.27	0.21	0.28	0.22	0.21	0.27	0.37
Volume of Air Having Same Acoustic Compliance as Driver Suspension	Vas (l)	64	21	49	150	233	30	81	141	6.2	7.7	34	51.8	88	76	150	290	564	715	860	153	245	259	457	560	13	30	97.2	126.6
Effective Diaphragm Area	SD(m²)	0.021	0.128	0.206	0.343	0.463	0.013	0.021	0.033	0.005	0.067	0.013	0.201	0.021	0.284	0.035	0.053	0.089	0.13	0.054	0.089	0.089	0.128	0.078	0.137	0.214	0.214	0.214	
Peak Linear Displacement of Diaphragm	Xmax mm	1.5	1.55	3.65	3.5	3.5	0.7	2.0	1.9	3.5	2.8	5.8	6.2	6.0	4.8	4.5	9.4	4.3	8.5	4.2	4.2	4.0	4.2	4.0	5.0	6.0	6.5	6.0	
Peak Displacement Volume of Diaphragm (SD X MAX)	Vd (cm³)	30.9	19.9	75.2	120	162	9.3	4.2	6.3	17.5	18.3	75.4	123.7	126	134.7	158	500	384	1100	224	374	356	374	510	-	-	-	-	
Half-Space Reference Efficiency	%	2.8	0.44	0.61	0.81	1.32	1.25	2.0	2.0	0.16	0.32	0.32	0.43	0.79	0.91	1.0	2.0	1.06	2.5	2.5	4	6	3.5	5	0.3	0.4	0.64	0.73	
Thermally Limited Maximum Input Power	Pe(W)	80	60	60	90	100	80	100	120	50	80	100	100	100	120	100	125	200	500	300	300	400	300	500	80	100	120	120	



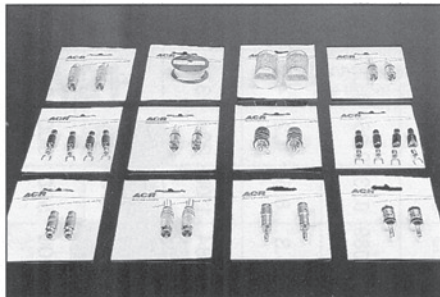
# ACR Accessories – Attention to Detail

Besides loudspeakers of all kinds, ACR carries a wide range of useful accessories at competitive prices. ACR also offers numerous enclosure-kits for loudspeakers.

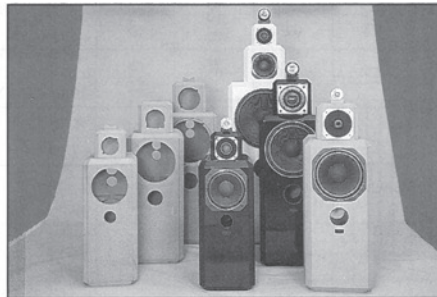
**ACR-cabinets** are available in MDF raw (a high-density wood type material) completely assembled, in egg-shell finishes of any colour, in piano varnish, or almost any other veneer and, of course, there are our complete speaker-kits.

**Plugs, speaker-terminals, baffle-fasteners, L-pads** are available prepacked, as are **coils, cement-resistors** and **universal PCB's**. For our speaker-kits we sell complete **frequency-crossover-kits** with cable assembly, screws, allen keys, assembly instructions, duct pipe, speaker-terminals and L-pads.

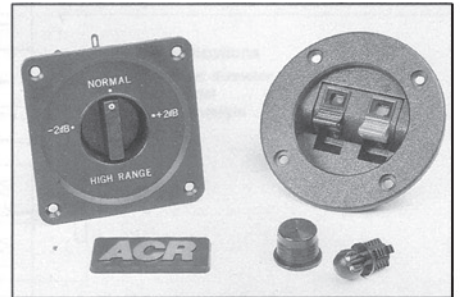
Also famous are the highly flexible **ACR-loud-speaker cables** which come in 1,5 mm<sup>2</sup>, 2,5 mm<sup>2</sup>, 4 mm<sup>2</sup>, 6 mm<sup>2</sup> and 10 mm<sup>2</sup> thickness. Ask for our special catalogs on accessories and/or our full colour catalogs on our loudspeaker-kits.



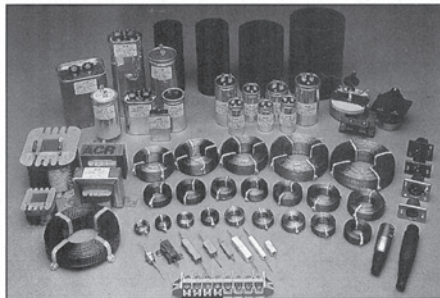
ACR-accessories, plugs



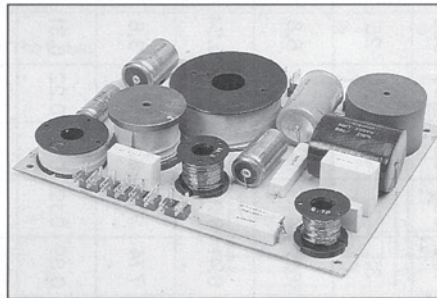
ACR speaker cabinets (e. g. ACR-Cubicline)



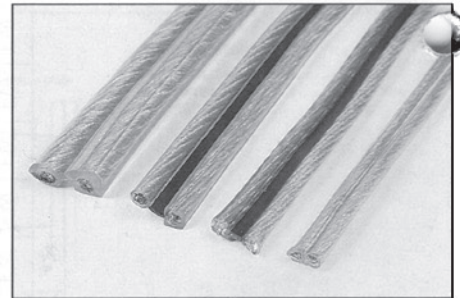
Speaker-terminals, baffle-fasteners, L-pads



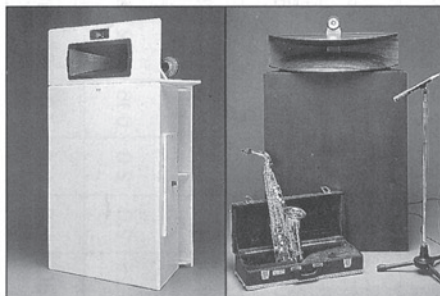
coils, cement-resistors, capacitors, universal PCB's



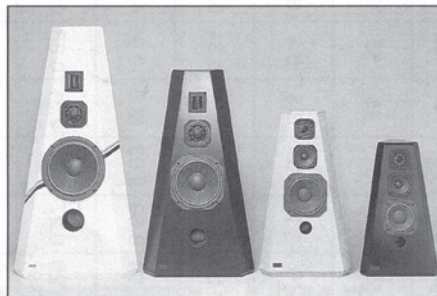
ACR frequency-crossovers



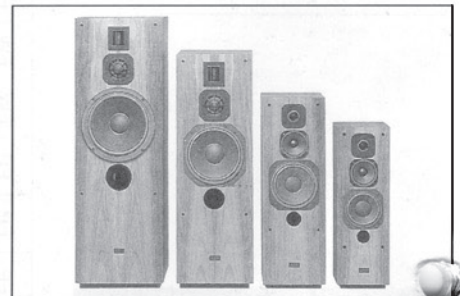
ACR-loudspeaker cables



ACR-Eckhorn



ACR-Newline



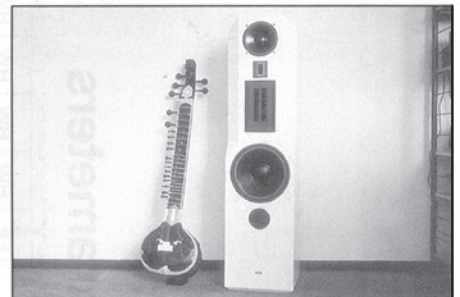
ACR-Skyline



ACR-Technoline



ACR-Piccolo/Pan/Cello/Cembalo



ACR-Isostatic