
Celestion Ditton 332
Celestion

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Introduction

Celestion Ditton 332 – a three-way loudspeaker system of the highest quality, offering reproduction to match. A combination of the most up-to-date design techniques and technology, together with Celestion's proven and unequalled experience has resulted in this superb instrument.
The handsome exterior of the cabinet is complemented by a grille of specially developed fabric.
Utilising Celestion drive units with a bass unit specifically designed and manufactured for it, the Ditton 332 also features fuse protection for the treble unit, to prevent damage in overload conditions.
When used in pairs, asymmetrical positioning of the mid range and treble drive units on the front baffle improves the directional characteristics of the loudspeakers.
To help you obtain the very high standard of reproduction of which the Ditton 332 is capable, we suggest that you read carefully the information which follows:

Amplifier Requirements

The basic requirement of an amplifier in any high fidelity system is that sufficient power be available for the loudspeaker to produce the necessary loudness in the listening room with minimal distortion, and without fear of causing loudspeaker damage. The final choice of amplifier power will depend on a number of variables, including the size and shape of the room and also the amount of soft furnishing and decor. As a guide, a recommended range of amplifier powers is given in the specifications.
An understanding of the two major causes of loudspeaker failure will assist in the selection of the most suitable amplifier.
The two most common causes of failure due to misuse are described separately below but can occur together.

Mechanical

Each of the individual drive units in the system has been designed with a diaphragm capable of a given excursion, and damage can result if this is exceeded. For example in the bass unit this can occur if the bass and/or volume controls are used to excess, or the loudness control used at high listening levels. In these circumstances there will be a dramatic rise in audible distortion: such overload can be avoided by careful use of the amplifier controls.
In some cases subsonic signals, e.g., from a warped record, can cause excessive excursion of the bass unit and in this case the use of a low frequency (rumble) filter is recommended.

Thermal

Thermal failure is caused by overheating drive unit voice coils beyond their design capability. Such failure can be caused in treble units by using an amplifier with an inadequate power reserve, which can, if the volume control is used to excess cause the amplifier to 'clip' the output signal.
This creates very large amounts of high frequency distortion which will cause overheating and failure. When such a condition occurs the high frequencies will sound distorted – this can be avoided by careful use of the amplifier controls. Bear in mind that it is quite common to reach the maximum output of the amplifier before the volume control is turned to its 'maximum' setting.
The loudspeaker power ratings shown in the specifications are given in two forms based on extensive laboratory and field trials.

Continuous Sine Wave Rating

The continuous sine wave input voltage fed to the loudspeaker system at any frequency within the stated band for which no mechanical or thermal degradation occurs, during a period of ten minutes.

Maximum Rated Power

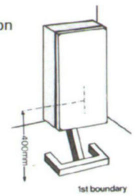
The maximum peak power that is recommended for safe operation with normal programme material (in conditions that the amplifier is producing a clean signal – not clipping).

Loudspeaker Positioning

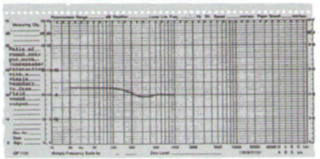
To assist you in choosing a suitable position the next section explains the effect various configurations have on the loudspeaker output.
Ideally the speakers should be placed approximately 8-10 feet (2.5-3.0 metres) apart and because of the interaction of the loudspeakers and the room, it is advisable to experiment with various locations.
Your Celestion system has been designed to radiate into half space *(2π steradians) and this condition is achieved when the sound source (centre of the bass unit) is approximately 400mm from a single boundary (the floor).
*(HALF SPACE can be defined as half of spherical space which is bounded by an infinitely large plane. The loudspeaker faces into either half from the centre of the dividing plane).

The following three conditions show how the various boundaries affect the power output from a loudspeaker in anechoic conditions. (An anechoic condition being one in which all energy is transmitted and dissipated without reflection.)
The first case has a single boundary below the loudspeaker at 400mm from the sound source.

Loudspeaker position



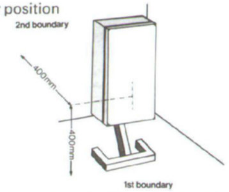
Loudspeaker interaction with one boundary (1) shown as a function of relative power output with frequency.



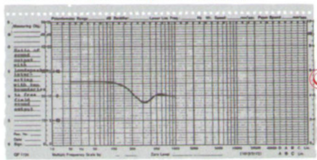
Frequency Hz

In this condition the power output from the loudspeaker is corrected into 2π steradians. Moving the loudspeaker close to a wall, so that the sound source is an equal distance from the floor and wall, will increase the low frequency output as shown below.

Loudspeaker position



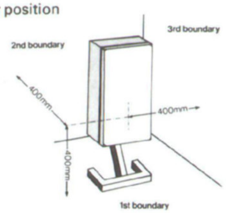
Loudspeaker interaction with two boundaries (2) shown as a function of relative power output with frequency.



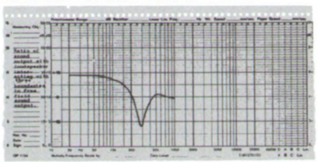
Frequency Hz

However, if we now place the loudspeaker an equal distance from two walls and the floor we will have a situation in which a considerable amount of bass boost is produced but at the expense of a severe loss of information in the lower mid range. It should be explained that this is not a loss in total energy or power output but a subjective effect due to the infuence of the boundaries on how the total energy is dispersed.

Loudspeaker position



Loudspeaker interaction with three boundaries (3) shown as a function of relative power output with frequency.



Frequency Hz

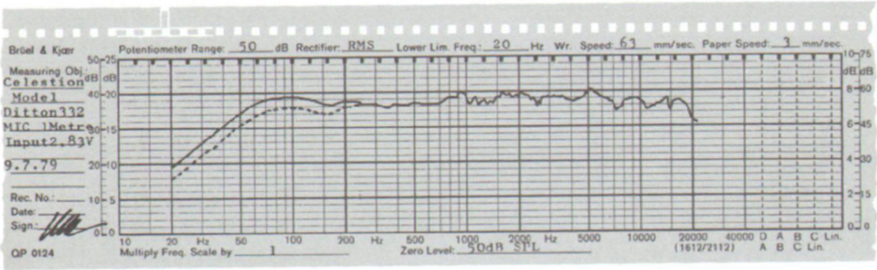
These three cases clearly show how important the location of your loudspeaker can be. The loudspeaker has been designed to radiate into 2π steradians (half space) and in the first case this condition has been achieved by positioning the sound source (bass unit) off the floor and away from any walls.
If the loudspeaker is now placed near to a wall, as shown in the second example, there is a 3dB increase in bass output with an accompanying small loss of lower mid-range (200-500Hz) as illustrated in the second curve. This situation is usually quite acceptable in a normal domestic environment.
Placing the loudspeaker in the corner of a room equidistant from all the boundaries, as shown in the third curve, should always be avoided. However, a corner location can be made acceptable by positioning the loudspeaker so that it is an unequal distance (but at least 400mm) from each boundary.
Having seen that the near-field anechoic on-axis response has been modified by the presence of the floor and wall boundaries, a few comments about what we hear in the listening room and how to optimize the system follow.
If we assume that the room is totally free of any reflections then we will tend to hear a bass-heavy sound with a loss at the frequency of cancellation (285 Hz in this example), due to interference of the reflecting wall.
Reality is much better than this highly qualified theoretical case. Small reflective surfaces and their random dispersions reduce the effect of the apparent bass of the anechoic case, the null being equally reduced. In short, the undesirable effects of boundary reflections are reduced by random reflections within the confines of a real listening environment.
As for the placement of the speaker, the smoothest response is generally achieved if the speaker is elevated to about 405 mm above the floor. (Centre of driver to floor). The driver should also be about 535 mm forward of the rear wall and 610 mm from the adjacent wall. These dimensions represent a good starting point, but should be modified to suit each users' particular requirements.
In summary, the boundaries of a real listening room modify the perceived on-axis response from ideal, but the design of the listening room can and should be made to minimize these effects.
These modifications are achieved by having the walls contribute both random dispersion and absorption. The absorption can be obtained from rugs, curtains and upholstered furniture, while the dispersion results from small randomly placed reflecting surfaces such as picture-frames and tables. These random dispersion effects will produce a more uniform sound field within the listening room, and give rise to a more musical environment.

Specification

Overall Dimensions
H 650 mm
W 356 mm
D 285 mm
Internal Volume
Bass internal volume 41.5 litres
MF box volume 4 litres
Net Weight Each
17 kg 37.5 lb.
Packed Weight Pair
38 kg. 84 lb.
Impedance
8 ohm (nominal)
Amplifier Requirements
20 to 100 watts
Frequency Response
50 Hz to 20 kHz ±3 dB into 2 π steradians (half space)
Crossover Frequencies
600 Hz; 4.5 kHz
Power Rating
1. Maximum rated power 100 watts programme.
2. Continuous sine wave rating:—
14 volts 20 Hz to 600 Hz
11 volts 600 Hz to 4.2 kHz
9 volts 4.5 kHz to 20 kHz
Sensitivity
2.8 watts pink noise – 90 dB 1 metre on axis
Finish
Available in: Oiled American Walnut, Elm, Black Ash

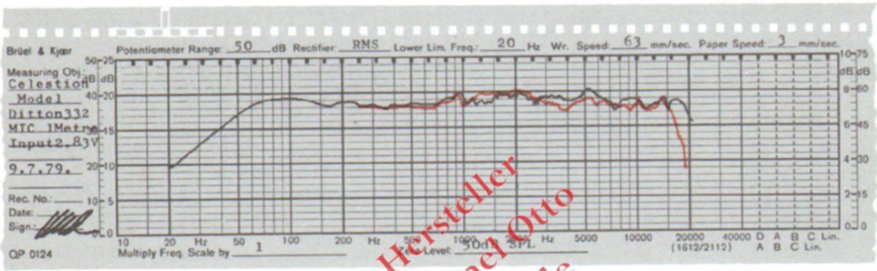
Performance Curves

On-axis amplitude response:



The on-axis response is taken in anechoic conditions down to 200Hz and then into 2π steradians (half space) down to 20Hz. The dotted curve shows the correction for the loudspeaker radiating into 4π steradians (full space).

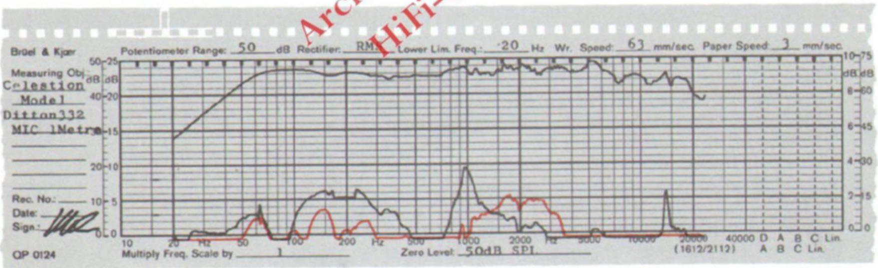
Off-axis amplitude response:



Taken at 30° off-axis (preferred direction). On-axis response is shown for reference.

Off-axis shown in red

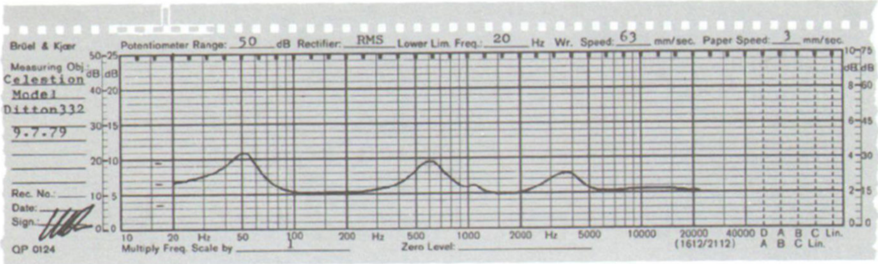
Harmonic distortion:



Second and third order harmonic distortion taken with loudspeaker producing 96dB SPL fundamental at 1 metre on axis.

Third order harmonic distortion shown in red

Impedance



Curve shows variation of impedance with frequency on logarithmic scales.

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Packed Weight Pair
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Crossover Frequencies
600 Hz ; 4.5 kHz
Power Rating
1. Maximum rated power 100 watts programme.
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9 volts 4.5 kHz to 20 kHz
Sensitivity
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Finish
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gültig ab 1.8.82

Ditton 332

Technische Daten
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System:	3 Weg geschlossen
Bestückung:	1 Kalottenhochton
	1 Konusmittelton
	1 Konus-Bass (Alu-Druckguss)
Übergangs-frequenz:	600 Hz - 4,5 KHz
Frequenz-bereich:	50 Hz - 20 KHz ± 3 dB
Belastbar-keit DIN:	100 Watt Sinus
Impedanz:	8 OHM
Abmessungen:	H x B x T
	650 x 356 x 285

Sonderpreis

Esche schwarz