

TIME DOMAIN AUDIO SYSTEM





The ECLIPSE TD concept

The concept of the ECLIPSE TD is to reach across time to reproduce the artist's skill

What brings enjoyment when we listen to music? It is the sharing of the composer's feelings embodied within a complex score. It is the emotional thrill evoked by the musical technique of a skilled artist. It is the serenity induced by listening to sensuous vocals or to the quality of an instrument's timbre. A quality music recording brings out the additional pleasure of offering that sense of actually being present with the artist in the concert hall or recording studio. The ECLIPSE TD series delivers this "total musical enjoyment" by reproducing the acoustic "ingredients" of the music with its original sonic character and purity, free from any exaggerated "flavouring" added by the speakers.

How can we recreate sound with fidelity to the artist, without adulterating acoustic integrity? The answer is through "waveform-faithful reproduction". Because speakers physically resonate in sympathy with the sound; the traditional emphasis of speaker development has focused upon flattening the frequency characteristics or providing a wider range of frequencies or a higher output power. But this can cause the design to stray from the Hi-Fi concept (= high fidelity waveform reproduction) that it is the true definition of a good speaker. Our quest for the ultimate Hi-Fi is grounded in a back-to-basics approach that recognises that sound consists of vibrations in air "waveforms", and that when speakers reproduce sound they should be faithful to these waveforms.

With numerous positive testimonials from renowned musicians and sound engineers, the ECLIPSE TD series is now used widely at concerts and for recordings. Artists recognise that the sounds produced by this system faithfully portray their work. This is a consequence of the technology in the ECLIPSE TD series being free from the artificial sonic characteristics inherent in conventional speakers.



Shu Tomioka

Simon Rhodes

Senior Recording Engineer, Abbey Road Studios, London, winner of the Grammy Awards in 2 categories in 2001

These speakers don't shout at you. They just gently open your ears to a whole new world of appreciation.

At the beginning of many sounds there is a brief burst of activity before the sound settles down.

Our microphones, mixing consoles and tape machines pick it up, but our traditional loudspeakers do not react quickly enough to reproduce it.

As a result, much of the colour that is being shaped in the studio is not being faithfully recreated in our homes.

These speakers, however, are so responsive this lost detail has at last started to be revealed.

As a consequence I find that their reproduction of certain instruments is the best I've ever heard.



Simon Osborne

Mixer / Engineer, awarded the Grammy Awards in 1999 for Sting's "Brand New Day"

These speakers sound as fantastic as they look. The stereo image is one of the best I have heard.

Sound isn't localised to the speakers but appears evenly between them.

Klaus Hiemann

Balance Engineer, nominated for the Grammy Awards in 3 categories in 2002

These speakers are not "one of the best" nearfield monitors I ever listened to, but probably "the best".

Brian Eno

Musician / Producer / Artist, 5 times winner of the Grammy Awards

ECLIPSE TD speakers are very accurate in getting close to the real sound image and the actual positioning of each instrument.

Randy Brecker

Jazz Trumpeter, 3 times winner of the Grammy Awards

I liked the warmth and full spectrum quality of the sound. Plus they really look TOO COOL!



Klaus Hiemann



Simon Osborne



Brian Eno



Randy Brecker

The ECLIPSE TD technology

The ultimate Hi-Fi sound in pursuit of true artistry From stereo to multi-channel; the joy of listening to music enters a new era

The artistry of music is formed from the thoughts and feelings of composers; the translation of their compositions into performances by artists; the distinctive sounds of each instrument and the exquisite harmonies woven together from numerous musical notes.

By adopting Time Domain theory, which recognises that all phonic signatures must be preserved in the time axis and thus seeks to realise a faithful reproduction of the waveform, the ECLIPSE TD series reproduces the music in its original form and preserves the artistry in its entirety. We can now bring to you the full joy of music appreciation; the joy that you felt in the concert hall.

Accurate air compression with highest possible impulse response

Reproduction of the details and the natural character of instruments

Conventional speakers emphasise flat amplitude-frequency response; wide frequency bandwidth and high output power, whereas the ECLIPSE TD series incorporates Time Domain theory and so has a design which is focused upon the time characteristic waveforms of sounds. In doing so the ECLIPSE TD series realises the ultimate in Hi-Fi sound by creating an accurate and truthful reproduction of these waveforms.

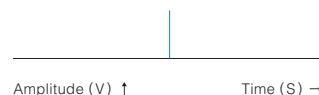
The Impulse Response is a measure of the degree of waveform accuracy and is measured by comparing the output of a speaker to the original impulse signals that are applied at the input. Such a comparison measures and demonstrates the uniqueness of the speaker characteristics that primarily affect sound reproduction. The closer the output impulse response is to the impulse at the input; the more closely the speaker reproduces every input signal with accurate frequency characteristics as well as precise phase characteristics that are approaching theoretically ideal values. Such an ideal performance is far from easy to create. Not only is it necessary for the drive-unit to follow and reproduce the input signal at extremely rapid speed without any deviation, but to do so without adding anything new to the sound; additions that would colour and distort the sound. Once these colourations have been eliminated, the finest recorded sounds are reproduced in minute detail and it becomes possible to hear the composer's message in its entirety. It is almost as though an image seen through a camera lens suddenly comes into tight focus. This clarity of sound also accelerates the accents and articulation of the musical notes, thereby allowing the subtle techniques of the artist to be reproduced in full. For example, the speed of finger work and the expression of inflections in the sound are audible for the first time. It is said that the voices and musical sounds of skilled artists are able to travel the furthest. This is because these sounds are the result of accurate and spontaneous air compression and it takes longer for a highly compressed air mass to dissipate within the surrounding lower air pressure.

Often when people wish to test the solidity and composition of materials they tap them hard and then listen to the resulting sound. The sound heard when tapping materials is the sound of highly compressed air, and this sound allows the quality of the material to be recognised. With a piano, the sound produced by the impact of the hammers on the strings is said to be the sound that describes the quality of the piano in terms of articulation and tone. In order to accurately reproduce all the sounds created by a musical instrument, it is first necessary to eliminate any sounds and errors created by the speaker drive-unit which can compete with and change the speed of a highly skilled artist's finger movements. Therefore we know that if a speaker has good impulse response, it can accurately compress the air mass with nothing added or removed, so allowing the listener to hear the unaltered natural sound of instruments as played by the artist.

 N.B. 'Time Domain' audio theory was originally developed by Hiroyuki Yoshii, President of Time Domain Corporation.

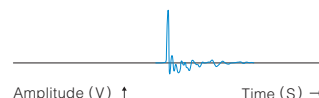
■ Impulse

The term Impulse refers to signals of all frequencies of the same level and the same phase. In theory, the amplitude is infinitely great and the time difference is infinitely small. (This is expressed by a single line on the diagram for convenience.)

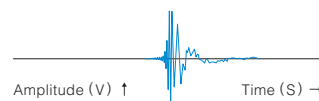


■ Impulse Response Comparison

● TD712z



● Conventional multi-way speakers



Compared to the TD712z, the original impulse response waveform in multi-way speakers decays poorly showing unwanted sounds heard long after the original signal has ended. Since this waveform is a representation of all reproduced sounds, it is obvious that this speaker cannot reproduce the authentic sound of the instruments if the impulse response waveform decays in such an unnatural way.

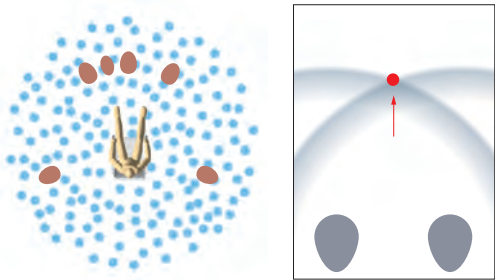
The speaker vanish... leaving pure sound

Recreating 360°seamless spherical and omni-dimensional wave terrain

Recorded sound contains not only primary sound information, such as an instrument's tone and harmonics, but also the reverberations created by the positional relationship of players in a concert hall, as well as spatial information such as, the sound effects created in movies. This is often called the ambient sound.

In general, the inaccurate characteristics of conventional speakers smudge and blur this vital spatial information. The ECLIPSE TD series, with its excellent impulse response, provides a remarkably convincing reproduction of these ambient sounds. In the uncompromising search for 'pure audio' and the development of stereo sources such as SACD and DVD-Audio, together with multi-channel surround sound; the arrival of the TD712z offers a new sound revolution.

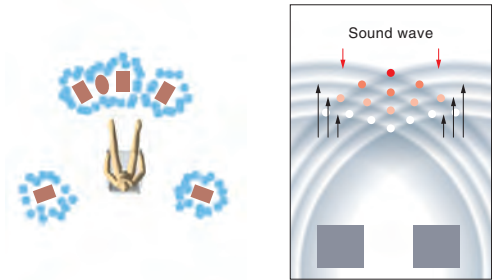
■ Sound Image of the ECLIPSE TD series



Exceptionally sharp and real because the sound image focus is only on the sound wave.

With the superior impulse response of the ECLIPSE TD series, and its uncanny ability to connect coherent sound images and precisely reproduced spatial information, the listener can forget the speakers are there and can feel as though they are transported to the time and place of the original recording.

■ Sound Image of conventional speakers with inferior impulse response



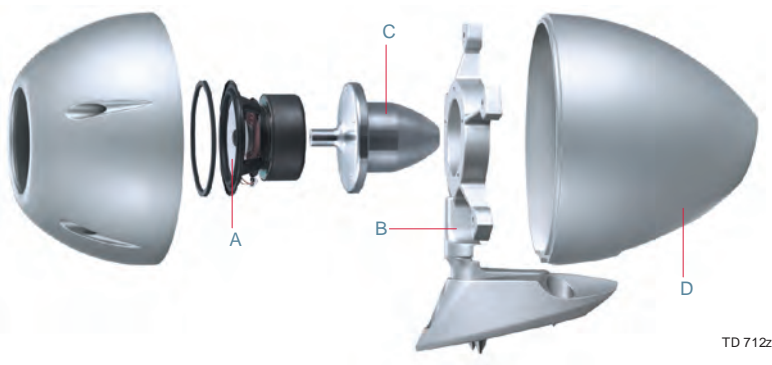
Enclosure vibration and incidental sounds pile up to make the sound image fuzzy.

When the impulse response deteriorates in an uncontrolled manner and the sound images become blurred; the speakers start to dominate the music. In this situation the listener becomes far too aware of the existence of the speakers and this awareness becomes a distraction from the pure enjoyment of the music.

*Diagram showing when each impulse is input

ECLIPSE TD's design construction offers superior quality through "Time Domain" theory

ECLIPSE TD's unique innovations turn Time Domain theory into reality. The traditional notions of speaker construction have been overturned by eliminating, so far as is possible, the vibrations of the speaker's body and the reflected sounds that corrupt waveform-faithful reproduction. This technology features the use of a single small-diameter drive-unit that functions to the maximum power level. The radical construction of these speakers eliminates undesirable vibrations and reflected sounds, and its unique shape and form ensures a close to perfect impulse response. Such performance is unobtainable following conventional audio theory. With its sophisticated reproduction technology ECLIPSE TD offers the ultimate in Hi-Fi, and it does this with true functional elegance.



A .Single Small-diameter Drive-unit

A single small-diameter drive-unit achieves accurate impulse response reproduction; ensuring the rapid rise and fall of sonic pulses, thereby realizing reproduction with only minimal acoustic flaws.

B .Diffusion Stay

Direct contact between the drive-unit and the enclosure causes undesirable vibrations to pass from one to the other. Such contact is avoided by this support, which extends outward from the centre of the system and allows for a unique near-floating form of construction.

C .High Mass Anchor

A substantial conical ground anchor is connected to the magnet at the rear of the drive-unit. This anchor mass loads the drive-unit diaphragm to ensure that it moves in such a way as to minimise energy loss when reproducing sound.

D .Eggshell Construction

The rigid egg-shaped enclosure diffuses stress created during the reproduction of sound. It also eliminates unwanted resonances generated by sound reflections inside the enclosure and by the diffracted standing waves from the baffle surfaces. Both these problems are found with conventional box-shaped speakers.



The ultimate in waveform-faithful reproduction Exceptional reproduction of ambient “space”

The best in the series, with all-round optimal balance

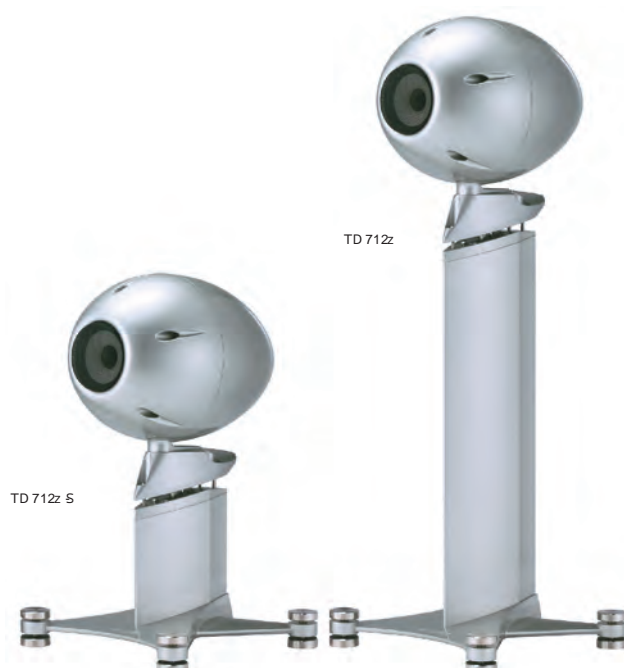
The unique achievement of the ECLIPSE TD series in audio reproduction is its “waveform-faithful reproduction”, whose benefits are recognised by many renowned artists, sound engineers and audio journalists. The construction forms used are based upon analysis of accumulated data and technological experience. Embodying an all-round optimal balance for sound quality, this is a speaker system that is simply perfect for a contemporary lifestyle.

Taking fidelity reproduction of waveforms to the master-class level

With a reduction of around 10% in the mass of the drive-unit's oscillation, and an increase of around 20% in the magnetic flux density of the motor system; the drive-unit motion is absolutely precise. Damping performance (to reduce undesirable residual vibrations) is further enhanced by the use of zinc casting for the diffusion support, a material with a specific gravity three times that of aluminum. The head-unit's base - a key element ensuring waveform-faithful reproduction - employs spiked insulators which provide efficient performance in the lower frequencies, and are easy to install. These features improve the impulse response - a direct indicator of waveform-faithful reproduction performance - by some 10% compared to the ECLIPSE TD's sister model, the 512. Furthermore, the high-frequency performance range now extends up to 20 kHz. In achieving accurate high frequency reproduction without the need for a separate tweeter, the TD712z has no equal.

Integrated construction supporting quality sound reproduction and sympathetic to listening environments

The integrated stand design maximises the TD712z's performance whilst offering a functional elegance for stylish interiors, be that an audio room, living space or a commercial facility. What's more, the angle of the speaker unit is adjustable - another feature of this high-end speaker. A short-stand (type TD712z-S) for use with a home theatre screen is also available; providing versatility - from stereo to multichannel to home theatre.



TD 712z

TD 712z S

TD712 z

TD712z Speaker

Maximum Dimensions: W347 x H988 x D384
Mass (per speaker): 32kg

TD712 z-S

TD712z-S Speaker (Short)

Maximum Dimensions: W347 x H600 x D384
Mass (per speaker): 21.5kg

Speaker

Unit: Ø12cm Full Range
Input Resistance(Rating / Max.): 35W / 70W
Impedance: 6
Efficiency / Sensitivity: 83.5dB / W-m
Reproducible Frequency Band: 40Hz-20kHz (-10dB)



Genesis of the renowned ECLIPSE TD series

Setting new standards for high fidelity

To reproduce distortion-free sound and the artistry of the performers' skills from recorded sound sources, it was necessary to achieve maximum high fidelity. That quest became a reality with the 512, a speaker incorporating a technology and construction that emerged from our encounter with Time Domain theory. Since its launch it has enjoyed acclaim from renowned artists, sound engineers and audio journalists. In May 2002 the UK's popular consumer audio magazine, *WHAT HI-FI?* awarded the 512 its highest-ranking "Five Stars" in an overall evaluation of high-end price range speakers - the first time a Japanese manufacturer had received this acknowledgement. The 512 was setting standards for true hi-fidelity.

Single small-diameter drive-unit for waveform-faithful reproduction

A single drive-unit with a diaphragm diameter of 12 cm is ideal for achieving faithful reproduction of waveforms. The small diameter drive-unit gives an excellent impulse response, making it capable of waveform-faithful reproduction, something unobtainable by larger diameter speakers. It encompasses the superior phase characteristics of point sound sources; clearly defined audio image localisation, and the natural propagation of sound. The 512 gives tight, crisp and vivid sound reproduction in both the high frequency range and, with astonishing strength, in the low frequency range.

Same "waveform-faithful" design approach extends to the amplifier

Our attention to waveform-faithful reproduction does not stop with the speakers. The design approach of abolishing undesirable "flavouring" in the audio signals is applied comprehensively to the "A502" amp and the "D2" stands. To prevent undesirable vibrations caused by electro-phonic stress and standing waves, the amplifier's relatively small conical aluminium body shell is heavy. Furthermore, the amp has a minimalistic 'back-to-basics' design configuration, without tone controls or equalisers that can disrupt phase characteristics.



512 512 Speaker

Unit: Ø12cm Full Range
Input Resistance (Rating / Max.): 30W / 60W
Impedance: 6
Efficiency / Sensitivity: 81.5dB / W-m
Reproducible Frequency Band: 40Hz-17kHz (-10dB)
Maximum Dimensions: W286 x H372 x D364mm
Mass (per speaker): 14.2kg
Antimagnetism: Yes



A502 A502 Amplifier

Rated Output: 30W x 2ch (T.H.D. = 1%)
Input Impedance: 10k
Input Sensitivity: 265mVrms
Load Impedance: 6 min.
Reproducible Frequency Characteristics: 10Hz-100kHz (-3dB)
Harmonic Distortion: 0.05% max. (at 1kHz, 1/2 rated output)
Power Consumption: 42W
Maximum Dimensions:
Body: W184 x H195 x D167mm
Power Supply: W215 x H97 x D187mm
Mass: Body: 2.6kg Power Supply: 3.3kg



D2 D2 Speaker Stand for 512

Material: Steel
Weight: 28kg (per stand)
Maximum Dimensions: W350 x H700 x D325mm



Improving lifestyles with high quality sound

The intimate enjoyment of quality music

The enjoyment of music shouldn't just be restricted to audiophiles. We believe everyone should be able to enjoy quality sound whether using a portable or personal device, PC or television. This belief has given rise to our 508 series, which reproduces a sound quality you wouldn't imagine possible from its size and appearance.

Performance inheriting the 512's genes

The 508 series boasts performance at the level of the 512 that you would hardly believe from its compact size – with just an 8 cm (in diameter) drive-unit. Placed on top of a desk or at a bedside, it adds spice to a stylish interior. Using multiple 508 speakers in combination brings out the quality contained in multichannel programmes, making for a realistic home theatre sound not experienced in a movie theatre. The overall effect will amaze you.

Choosing a personalised line-up for various lifestyles

The line-up comprises the "508" single speakers and the "508PA" speaker set with dedicated amp, offering the user a choice for both stereo and multichannel. The speakers come in three colours - dark blue, white and silver. The special "D3" stand supports tight bass sounds and its slim design adds quality to a lifestyle interior.



Prime White

508 **508_{WH}** 508 Speaker

Unit: Ø8cm Full Range
Input Resistance (Rating / Max.): 12W / 24W
Impedance: 8
Efficiency / Sensitivity: 79.5dB / W-m
Reproducible Frequency Band: 55Hz-20kHz (-10dB)
Maximum Dimensions: W191 x H235 x D221mm
Mass (per speaker): 2.3kg
Antimagnetism: Yes



LIMITED EDITION
Power Silver

508_{PA} **508_{PAS}**

508PA System (2 x 508 Speaker + 1 x Amplifier)

Speaker

Unit: Ø8cm Full Range
Input Resistance (Rating / Max.): 12W / 24W
Impedance: 8
Efficiency / Sensitivity: 79.5dB / W-m
Reproducible Frequency Band: 55Hz-20kHz (-10dB)
Maximum Dimensions: W191 x H235 x D221mm
Mass (per speaker): 2.3kg
Antimagnetism: Yes

Amplifier

Rated Output: 12W x 2ch (T.H.D. = 1%)
Input Impedance: 10k
Input Sensitivity: 200mVrms
Load Impedance: 8 min.
Reproducible Frequency Characteristics: 10Hz-100kHz (-3dB)
Harmonic Distortion: 0.05% max. (at 1kHz, 1/2 rated output)
Power Consumption: 20W
Maximum Dimensions:
Body: W159 x H158 x D142mm AC Adapter: W131 x H69 x D93mm
Mass: Body: 1.5kg AC Adapter: 1.6kg

D3

D3 Speaker Stand for 508

Material: Steel
Weight: 7kg (per stand)
Maximum Dimensions: W280 x H866 x D280mm





A touch of style and class - the Lulét series

Designed for space

Stylish design sound systems demand the ultimate sound quality. The ECLIPSE TD series incorporates Time Domain technology in a compact size with 6.5 cm diameter drive-unit speakers that can sit in the palm of your hand. While maintaining high fidelity design standards, these speakers offer both flexibility and an exceptional sound quality not normally associated with such small systems. Use them to create a special interior environment through highly defined quality sound. They will give free rein to your individuality.

Convenience is also a pleasure

Like our other models, the Lulét can be used with other audio equipment. They are easily connected to MD, CD or hard disk type portable audio, as well as to televisions and computers. The tripod-style legs enable them to be mounted on walls or ceilings. These speakers offer exceptional quality sound for living room audio systems, desktops and other personal equipment. They come in three colours: silver, black or white.

Wide-range products for a variety of environments

The Lulét configuration comprises the "307PA" speaker system with stereo amp, and is equipped with a subwoofer output, the "307" speakers and the "D5" stand. A compact 2.1 channel system with 316SW subwoofer provides high-end audio quality.



307_{BK} 307_{SV} 307_{WH} Lulét

307 Speaker

Unit: Ø6.5cm Full Range
Input Resistance (Rating / Max.): 12W / 24W
Impedance: 8
Efficiency / Sensitivity: 80dB / W-m
Reproducible Frequency Band: 120Hz-20kHz (-10dB)
Maximum Dimensions: W120 x H162 x D160mm
Mass (per speaker): 1.2kg
Antimagnetism: Yes



307_{PABK} 307_{PASV} 307_{PAWH} Lulét

307PA System (2 x 307 Speaker + 1 x Amplifier)

Speaker

Unit: Ø6.5cm Full Range
Input Resistance (Rating / Max.): 12W / 24W
Impedance: 8
Efficiency / Sensitivity: 80dB / W-m
Reproducible Frequency Band: 120Hz-20kHz (-10dB)
Maximum Dimensions: W120 x H162 x D160mm
Mass (per speaker): 1.2kg
Antimagnetism: Yes

Amplifier

Rated Output: 12W x 2ch (T.H.D. = 1%)
Input Impedance: 10k
Input Sensitivity: 180mVrms
Load Impedance: 8
Reproducible Frequency Characteristics: 20Hz-100kHz (±3dB)
Cut-off Frequency: 120Hz (-12dB)
Harmonic Distortion: 0.05% max. (at 1kHz, 2/3 rated output)
Power Consumption: 19W
Maximum Dimensions:
Body: W144 x H150 x D148mm AC Adapter: W131 x H69 x D93mm
Mass: Body: 1.5kg AC Adapter: 1.6kg



D5 Lulét

D5 Speaker Stand for 307

Material: Aluminium / Zinc
Weight: 2.3kg (per stand)
Maximum Dimensions: W315 x H915 x D275mm

316SW





High-speed subwoofer to support the bottom end of the lower frequency range

Time Domain theory alters the subwoofer concept

Subwoofers are indispensable for multichannel, home theatre and similar systems. But the larger the diameter of its drive-unit, the more blurred the bass sound becomes and the poorer the sense of speed; both of which impair the sound quality. By using Time Domain theory, the 316SW resolves this problem, and delivers crisp and fast bass sound. This marks a clear departure from the power emphasised in conventional subwoofers, and is ideal for users seeking precision in the bass sound.

All at high speed

To heighten the transient response performance, the subwoofer is made from a small-diameter lightweight drive-unit. It makes use of the compression of air by passive loading to obtain greater acceleration, whilst employing double voice coils. These features allow a much higher sound pressure level to be achieved. The cavity is formed from die-cast aluminum that limits the drive-unit's rear air pressure, and, by incorporating an irregular cylindrical shape into the enclosure body only minimal standing wave resonances are created.

High performance right across the range

The 316SW is an ideal match for the Lulét series amp since it is equipped with a high-pass filter to control low-frequencies. The 316SW can also be used with a 2.1 channel system offering high-end audio performance. Equipped with RCA input terminals it can also be connected to existing AV amps. In combination with the 508 speakers, the 316SW forms a multichannel system with imposing sound space reproduction and high-speed bass sound that will transform your idea of audio performance.


316
SW

316SW Subwoofer

Unit: Ø16cm (double voice-coil)
 Rated Output: 30W x 2
 Efficiency / Sensitivity: 80.5dB / W-m
 Reproducible Frequency Band: 40Hz-200Hz (-10dB)
 Crossover: 40Hz-200Hz (changeable)
 Phase Changes: 0 / 180°
 Harmonic Distortion: 0.05% max. (at 100Hz, 1 / 2 rated output)
 Line Input: Stereo 1 (analogue)
 Line Output: Stereo 1 (analogue / through)
 Power Consumption: 46W
 Maximum Dimensions: W236 x H354 x D301mm
 Mass: 19kg
 Antimagnetism: Yes

Testimonials from renowned artists and engineers, technical data,
where to hear & where to buy and further information on ECLIPSE TD can be found at

<<http://www.eclipse-td.com>>

- Standards and images in this catalogue may be subject to revision without prior notice.
- Product colours may differ from those published.
- The sensation of presence at original recording can only be achieved so long as the music software reflects the recorded conditions;
including microphone settings, mixing, editing and mastering.
- Cooperation with photo session by
THE WESTIN AWAJI ISLAND <http://www.westin-awaji.com> Awaji Yumebutai <http://www.yumebutai.co.jp/>

FOR FURTHER INFORMATION (UK & EU)

Eclipse TD (UK) Ltd

LOE House

159 Broadhurst Gardens London NW6 3AU

Tel: +44 (0)20 7328 4499 Fax: +44 (0)20 7624 6384

E-mail: info@eclipse-td.co.uk

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