

Pioneer *sound.vision.soul*

High-end
Car Audio
2007



Contents



Pure digital car audio	4
High-end car audio	20
High-quality car audio	24
Features and specifications	27

Car audio without compromise

Perfection in car audio has finally arrived. Pioneer's dedication to creating true original sound — where every signal is expressed in its purest form — has resulted in the finest entertainment systems ever made for the car. Advanced techniques, superior materials and the strictest standards mean the most natural and lifelike sound. No compromises whatsoever: only pure audio perfection.

If you appreciate the finest and demand the best, look to Pioneer.

Pure digital car audio: Optical Digital Reference (ODR) System & RS speakers



Purist audiophiles and professional sound quality competitors choose Pioneer's unparalleled Optical Digital Reference (ODR) system for one reason: perfect in-car sound quality. The essence of the system is an optical digital connection between the CD tuner and amplifier(s), which ensures the most accurate transmission of the audio signal. So the sound remains as pure as possible, as long as possible: until the signal is passed on to the speakers. With the ODR system there is no deterioration in sound quality from D/A or A/D conversion, no noise typical of analogue or coaxial connections, and it is unaffected by electrical noise within the vehicle. The result is beautifully clear and vivid audio, completely free of distortion. Additionally, the high-precision DSP offers total control of the sound stage, to further achieve ideal acoustics in the cabin.

The ODR system is only complete with Pioneer's individually handcrafted RS speakers. Specifically designed for the ODR system, only these legendary high-end speakers can reach the very highest level of sound performance.

Now you can achieve pure and natural sound reproduction, with all the subtle details intact ... the soul of music.

The soul of sound perfection





RS-D7R11 SYSTEM CONTROL CD TUNER

Pioneer's revolutionary first-class RS-D7R11 System Control CD Tuner brings true sound perfection to life. It combines top-of-the-range technologies and the most select materials, featuring specially designed master clock circuits for even greater sound quality. Designed for intelligent and easy system control, this superior headunit connects with the impressive RS-A9 Digital Amplifier or the RS-P90 Digital Preamplifier. It is this state-of-the-art combination that makes up Pioneer's much-admired Optical Digital Reference system. This system is able to reproduce music as close as possible to the original source — like the studio master tape. Thanks to the optical digital transmission, music signals are transferred precisely from the control unit to the amplifier. Finally, every nuance can be heard. Not only does this headunit sound stunning, it also looks luxurious with a deep black hairline aluminium finish.

Sound master clock circuits curb distortion

The RS-D7RII incorporates two ultra-precise sound master clock circuits, which thoroughly eliminate jitter. One clock circuit is dedicated to the SRC (Sampling Rate Converter), DIT (Digital Interface Transmitter) and other digital signal processing circuits, while the second is designated for the CD mechanism. This improvement ensures maximum accuracy of the master clock, not only for digital signal reading but also for transmission. More than ever, music is reproduced with crystal clarity.



Clock circuit board

Highly accurate CD mechanism for pure signal reading

Developed exclusively for use with the RS-A9 and the RS-P90, this CD mechanism is the best quality possible. Every detail was considered to ensure that the music signal read from the CD is completely accurate, with virtually no vibration or noise to affect the signal. The quality of the whole system depends on it. The high-precision data pick-up has the capability to read the utmost subtlest music signals; even after hours of continuous reproduction and high heat, reliability is maintained thanks to a stable hologram technique and laser diode. The chassis is copper-plated to avoid magnetic induction noise. The clamper is made of high-performance damping material (M2052 damping alloy), which prevents degradation of the digital signal by minimising the pick-up control current caused by disc vibration. An enhanced high torque spindle motor stabilises the sound quality more quickly, if revolution changes during start-up or external influences affect playback. All these improvements contribute to a highly stable and pure digital audio signal with reproduction of all the fine details.



High-quality CD mechanism

Specially selected, high-quality acoustic parts

Only the highest quality parts were chosen for the RS-D7RII, specially selected through listening trials. A 70 μm thin copper film substrate — twice as thick as a conventional one — results in lower impedance and larger current capacity for all circuit blocks and CD mechanisms. The custom condenser also ensures larger capacity, as well as a higher sound quality. A high-purity OFC (Oxygen-Free Copper) power cable and a highly efficient and temperature-stable amorphous choking coil accomplish a full sound quality.



Acoustic Condensers

Superb user interface with OEL display and remote controller

The RS-D7RII features a dazzling white OEL display. Its smart functionality lets you control and confirm operating information at a glance. This sophisticated interface also offers comprehensive control, quick display response, and high contrast and brightness even in direct sunlight.

The wireless remote controller has been designed for maximum functionality and easy use with the system. The remote slides open to reveal number keys, and soft keys on the headunit display appear to aid guidance of all functions. Thanks to the twin cross control keys, the headunit and the remote controller can simultaneously operate different functions: CD tracks can be changed via the cross key of the main unit, while the remote controller is used to adjust the equaliser or network.



Disc Title Memory display

Separate power supply systems eliminate interference

There are 7 power supply systems — 3 for the CD mechanism/digital audio section and 4 for the control/display/tuner mechanisms. The two system groups are separated to eliminate signal interference between the audio system and the control mechanism. As a result, the purity of the digital signal is preserved. The influence of power fluctuation is minimised, as the power systems drive with extreme stability. A large capacity power supply condenser is equipped with a specially chosen back-up power line, which further ensures high sound quality.

Reduce noise with Display Off mode

For those who insist on absolute audio perfection, the Display Off mode is available to eliminate the slightest noise created by the OEL display's power conversion circuits. In this way, the audio signal remains pure and unaffected by noise, and unprecedented low distortion is realised.

Powerful and centralised system control

The RS-D7RII facilitates state-of-the-art control over each unit of the entire system. Firstly, excellent functionality and fully centralised operation of the digital preamplifier and digital amplifiers is guaranteed. This ensures utmost control of the music signal, transmitted from the CD transport to the preamp via the optical digital transmission system. The unit also enables excellent control of DVD functions, such as for the XDV-P6 multi-DVD player. A multi-CD player, TV tuner and DAB tuner can be controlled as well. For the ultimate in convenience, add on the optional Bluetooth® adapter (CD-BTB200) to enjoy wireless phone communication. A totally integrated system is now possible.

A luxurious fascia design

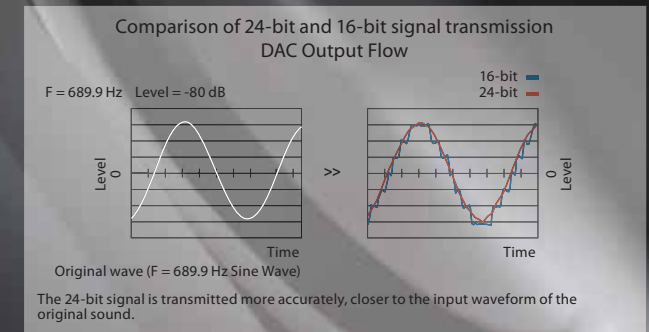
The RS-D7RII will bring a touch of class to upscale car interiors. The design has been renewed with a rich black aluminium fascia and a fine hairline finish. A brushed 'spinning' effect is applied to the volume knob and cross key, giving it a further distinguished look. The bright white OEL display contrasts beautifully with the dark aluminium. What's more, you have the choice of white or red for the LED button illumination — for a perfect match to your car interior.



Red LED button illumination

More natural sound with Hi-bit conversion

Unfortunately, some of the micro-elements are lost with the 16-bit CD audio signal. Hi-bit conversion re-quantises the 16-bit digital data from a CD into 24 bits; consequently, the resolution is enhanced, offering an impressive S/N ratio and a wider dynamic range. This technology serves to restore the lost elements and reproduce a more nuanced, natural sound closer to the original performance. The hi-bit system transmits the 24-bit digital audio signal to digital processors of the RS-A9 or RS-P90, so there is absolutely no distortion or deterioration of the waveform — and pure audio quality is maintained.



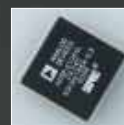


RS-A9 DIGITAL INTEGRATED AMPLIFIER

With its digital signal processing, equaliser and network control functions, Pioneer's RS-A9 Digital Integrated Amplifier really is a cut above the rest. These high-performance functions put you in total control of your sound stage. With this smart unit, you can finally create a perfectly fine-tuned system in your car. An optical digital input allows the amp to connect digitally to the RS-D7Rll System Control CD Tuner, preserving the highest quality of the audio signal and forming a pure digital system. The unit also includes 3 digital outputs so that you can easily combine it with one or more additional RS-A7 Digital Power Amplifiers to drive the speakers with the utmost sonic purity. It is suited especially for tweeters and midrange speakers, bringing out the clear and smooth tone of delicate strings. This amplifier's thoroughly engineered design and specialised parts further ensure high-quality sound and a true digital signal. Now you can enjoy the same class of music you get from your high-end home audio unit whilst on the move.

Powerful 32-bit floating-point SHARC Digital Signal Processors

The digital network of the RS-A9 amplifier features 3 ultra-high-performance 32-bit floating-point SHARC digital signal processors (DSP). Three sets of DSP were necessary to implement the independent left-channel signal processing and right-channel signal processing, and the advanced operation coefficient processing. The capacity of these DSPs is several times that of conventional ones, which was needed to support the FIR filter. Moreover, through the use of a 32-bit floating-point DSP, the small signal truncating effects of fixed-point DSPs are avoided, thereby significantly improving the dynamic range and signal-to-noise ratio.



SHARC Digital
Signal Processor

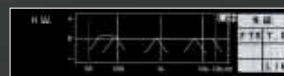
FIR filter

A FIR filter has been integrated into the RS-A9 amplifier as a signal processing function for the crossover network and graphic equaliser. As a result the digital sound stage controls and equalisation are based on highly accurate processing, to achieve the ideal listening environment in the cabin. Although a FIR (Finite Impulse Response) filter has various advantages over a conventional IIR (Infinite Impulse Response) filter, such as excellent phase and time response characteristics, it requires a larger DSP capacity — hence, the three 32-bit floating-point SHARC digital signal processors (DSP). FIR filters also have the advantage of more accurate and efficient calculation methods than IIR filters.

This amplifier also uses a sufficient number of FIR taps (memory or filtering capacity), so there is less ripple and more stopband attenuation.

L/R independent 4-way digital crossover network

The left/right independent 4-way (low, mid, high, subwoofer) digital crossover network is indispensable for the ultimate tuning of a system. The RS-A9 uses digital controls to obtain the ideal settings of the cut-off frequency, slope and phase for each band. Settings can also be manually adjusted while you listen to the music, and confirmed in real time on the display. The built-in crossover network enhances the flexibility of the adjustment and allows for the most precise sound tuning.



Crossover Network display

Linear phase and minimum delay

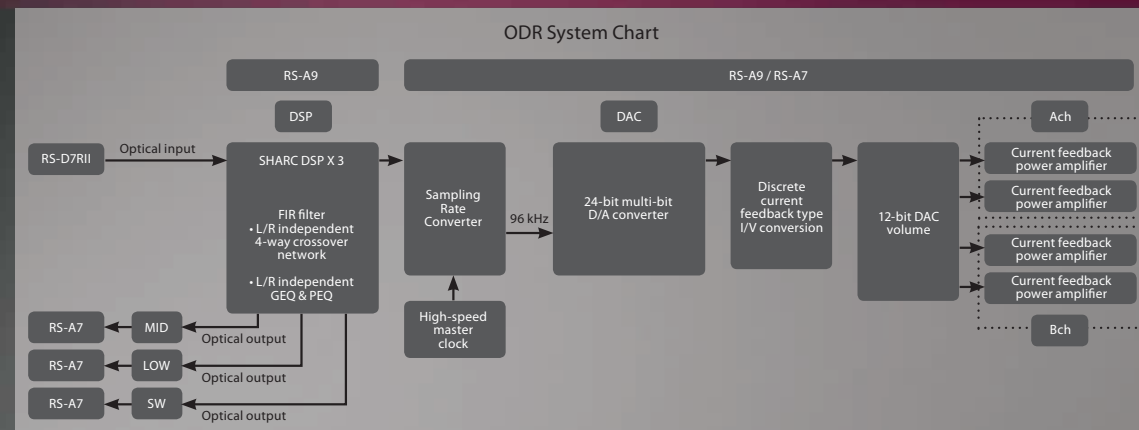
In the RS-A9 amplifier's FIR filter, two types of response characteristics, linear phase and minimum delay, can be chosen.

In linear phase, the delay through the filter is the same at all frequencies, so there is no phase distortion. At the crossing point of a crossover network, the exact phase characteristic is acquired as a direct wave from the speaker, also when time alignment is used. This results in a more natural sound stage in the cabin.

Regarding time response characteristics, if the signal crosses at low-pass, linear phase results in a pre-echo and a delay of about 0.2 seconds between the FIR filter input and output.

With minimum delay, there is no pre-echo or straight phase delay; however, there is phase rotation and surges at the crossing point of a crossover network.

Therefore, linear phase is recommended for systems when there is no crossover on the low frequency. Minimum delay has the advantage of reduced delay, so better synchronisation of images and sound is realised, useful for audio-visual systems.



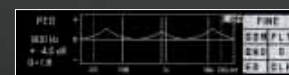
Full Balanced Pure Digital System

These amplifiers preserve the digital signal received from the RS-D7RII control CD tuner with the utmost purity — thanks to the optical digital connection from the CD tuner to the RS-A9, and then if connected, to one or more RS-A7 units.

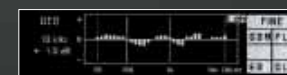
If the amplifier is used in bridge connection, it will become a full balanced pure digital system. When the D/A converter of one channel operates in reverse, the circuit composition is perfectly balanced from digital output to speaker output. Common mode noise is sharply diminished and high S/N and high dynamic range can be realised.

L/R independent 31-band digital graphic equaliser and L/R independent 3-band digital parametric equaliser

The imperfect acoustic conditions of the cabin — irregular shape, narrow space, reflection of interior materials — can cause peaks and dips in the frequency. Often dips occur in the middle range while peaks hit around 200 Hz and 2 kHz. The RS-A9 uses a high-performance left/right independent 31-band digital graphic equaliser and a left/right independent 3-band digital parametric equaliser. Both equaliser functions allow precise adjustment of the frequency range from 20 Hz to 20 kHz (1/3 octave) and sound pressure level by 0.5 dB steps. Two preset and three user memory positions are available in order to store favourite settings. The fine adjustments realise a flatter frequency and therefore improved acoustic properties for superlative smooth sound.

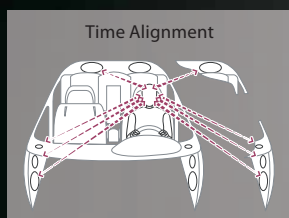
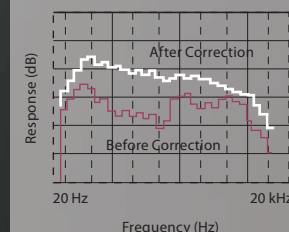


3-band Parametric Equaliser display



31-band Graphic Equaliser display

Example of Adjustment using 31-band Graphic Equaliser



Time Alignment

Time Alignment

The RS-A9's Time Alignment function adjusts the speaker sound output timing so that the sound from each speaker reaches the listener at the exact same time. The sound output can be adjusted in 7.7 mm steps, based on the distance between the listener and each speaker unit. This assures clear sound positioning to create the ideal sound stage. Then, the Position Fine Tuning function automatically adjusts the output timing and level from each speaker based on the number and the position of the people in the cabin. You can have your sound exactly the way you like it, whatever your positioning.



Time Alignment display

RS-A7 DIGITAL POWER AMPLIFIER

The RS-A7 is a true high-performance Digital Power Amplifier. Using Class AB amplification, it's huge on power and on high-quality sound. You'll just love what you hear. The amplifier can be digitally connected to the RS-A9 Digital Integrated Amplifier using its optical digital inputs, to ensure that you maintain the utmost quality of the audio signal from the RS-D7RII System Control CD Tuner. With no conversion to analogue necessary, you don't lose any of the digital signal from the original music source, so the real expression of the music can be reproduced precisely. Its high-performance circuit allows for a stable power supply. You'll be blown away by its enormous capacity for a subwoofer or low channel output. It's sound at full-blast. And with loads of cool features and the latest technologies, this amplifier is the perfect answer to pure listening pleasure.

24-bit multi-bit D/A converters

High-performance 24-bit multi-bit D/A converters from the Burr-Brown Corporation are used for the 96 kHz sampling frequency. Arranged in Sign-Magnitude conversion mode, they basically eliminate zero-cross distortion and offer low distortion and wide dynamic range. Combine this with the 8 times oversampling digital filter and the result is unparalleled sonic excellence.



24-bit multi-bit
D/A converter

L/R independent power supply

A separate DC-DC converter, equivalent to a conventional 4-channel amplifier, has been implemented for both the right and left channels in the RS-A9 and RS-A7. The power supply capacity was doubled as a result. Moreover, the direct construction design minimises the distance between the power supply circuit and the amplifier circuit, and the parts are arranged to eliminate signal interference and power supply noise between circuits. In this way, a more direct and extremely pure signal route is realised, for a more clean and fresh sound.



L/R independent power
supply

Current feedback type power amplifier with discrete I/V conversion circuit

In order to realise a high through rate, wide range, and low distortion, current feedback type power amplifiers were adopted for the RS-A9 and RS-A7. Music can therefore be reproduced with a higher resolution and higher speed. These amplifiers also feature an I/V conversion circuit with a discrete composition for more flexibility. This type of circuit was needed to transform the stair-shape current waveform of a DAC output into voltage, and to achieve a short settling time and a gentle rectangular wave response. The amplifier circuit was designed with the aid of computer simulation and fine-tuned by a series of listening tests, for the optimal tone quality.

12-bit DAC volume

Although strict listening tests and measurements were carried out on many types of high-grade electronic VR IC, few gave a satisfactory performance and sufficient tone quality. With the RS-A9 and RS-A7, a carefully selected external operational amplifier is used for the buffer amplifier — a wide use DAC —, which meets Pioneer's high standard of tone quality and performance. The 12-bit DAC volume has 60 steps for the utmost convenience.



High sampling frequency: Sampling Rate Converter

A built-in sampling rate converter (SRC) circuit converts the 44.1 kHz digital output of a CD to 96 kHz. The sound expression is expanded, and muddy sound typical of an operational amplifier is eliminated. Moreover, the digital output signal of the sampling rate converter is reclocked by a very precise master clock.



Sampling Rate
Converter

High-speed master clock

Not only is it important that the data is read precisely, but also that the time axis is accurate. Both are essential to reproduce the exact waveform. The RS-A9 and RS-A7 use a high-precision master clock circuit, which eliminates the influence of jitter as much as possible. The use of a crystal oscillator and elaborate clock adjustment by hand contribute to the highly accurate master clock signal. Compared to conventional circuits, jitter is reduced by 50 %. Distortion of the time axis is therefore completely eliminated to reproduce refined and subtle sound, clear and crisp as you've never heard before.

High-quality sound design

Only the highest quality parts were chosen for these amplifiers. And audiophiles will truly appreciate the results. The power amplifier is firmly supported by a sub heat sink and a copper-plated steel plate. There is virtually no current distortion or vibration affecting the chassis. The copper plate is also shielded to reduce the influence of radiation. The heat sink is very efficient at dissipating heat flow; operation is very stable even at full power, so there is very little resonance. A black coating was used for the PCB to eliminate the effects of noise caused by dispersed light from the chassis. The power supply uses non-magnetic brass screws and washers for the finishing touch.



High-performance 32-bit floating-point digital signal processors

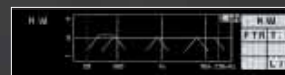
The RS-P90 incorporates three ultra-high-performance 32-bit floating-point SHARC digital signal processors, which are used for the left channel, right channel and coefficient operations. This enables highly accurate filtering and equalisation processing, ideal for the ODR system.



SHARC Digital Signal Processors

L/R independent 4-way digital crossover network with FIR filter

The RS-P90 uses a highly accurate FIR filter for the crossover network, in order to achieve sophisticated network adjustments. The cut-off slope can be set between -6 and -72 dB/oct., and the sound pressure level can be adjusted by 0.5 dB steps. When in linear phase, there is no phase distortion, so sound quality and sound positioning are not affected. This results in a more natural acoustic field. Each channel's output timing can be adjusted in 7.7 mm steps*, and five settings can be saved in memory. Conventional minimum delay phase is available as well.

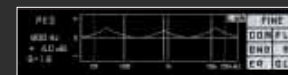


Crossover Network display

* 1.54 cm steps for the subwoofer

More adjustment freedom with graphic equaliser and parametric equaliser

In addition to the 1/3 octave 31-band graphic equaliser, the RS-P90 includes a 3-band parametric equaliser. This combination enables advanced and accurate fine-tuning easily and quickly. Both equalisers can switch between left/right independent and left/right common. Their functioning is tied to the crossover network, so they can also switch between linear phase and minimum delay phase.



3-band Parametric Equaliser display



RS-P90 UNIVERSAL DIGITAL PREAMPLIFIER

With Pioneer's innovative RS-P90 Universal Digital Preamplifier, there's no limit to what you can achieve. This highly developed preamplifier offers you total control of your sound stage. With similar digital signal processing, equaliser and network control functions to the acclaimed RS-A9 Digital Amplifier, the RS-P90 reproduces clear and vivid sound indistinguishable from the original. Hook up this magnificent preamplifier via optical digital input to the RS-D7RII System Control CD Tuner, and create your own pure digital system that safeguards the precision of the audio signal. Add in one or more RS-A7 Digital Amplifiers, or your own choice analogue amplifier, to drive the speakers with enhanced sonic purity and preserve the distinctive sound character. Stunningly designed inside and out and using only first-class audio components, the RS-P90 opens up a world of opportunity to craft a unique digital and analogue audio experience.

Sound master clock circuits eliminate the slightest jitter

Specially designed high-precision master clock circuits are built into the RS-P90, one for the DSP and one for the SRC/DAC. Jitter is significantly reduced — 50 % compared to conventional models — not only when the digital signal is received, but also at the time of transmission.

192 kHz sampling rate converter (SRC)

The CD's 44.1 kHz digital signal is upsampled to 192 kHz by the SRC. By shifting aliasing noise to a higher range, the low pass filter circuitry can be simplified, dramatically improving sonic purity.

L/R independent 12-bit DAC volume

A 12-bit DAC from Analog Devices Inc. is used for the volume circuit, which provides even better sound quality and gives a wide dynamic range. The volume can be accurately adjusted, with 60 steps. Furthermore, due to the fully balanced transmission using two DAC circuits for each channel, the influence of radiation noise and common mode noise is sharply diminished.

Flexible installation design

With this preamp, the top panel can be removed and rotated in four directions. The aesthetic of the unit is fully maintained, while allowing optimal positioning for connection to an amplifier. This way, the shortest connection — and higher sound quality — can be achieved.

Leading 24-bit advanced segment D/A converters from Burr-Brown

After repeated listening tests, Burr-Brown Corporation's high-performance 24-bit advanced segment D/A converters were chosen for this system. Four converters are used independently for each of the High, Mid, Low and Subwoofer frequencies. Their superior advantage is an overwhelming dynamic range and low cross distortion.



Four D/A converters

The benchmark for high-quality audio

In the pursuit of the ideal sound — natural and accurate reproduction of the input sound signal —, Pioneer went back to the very basics of speaker design. For four years, Pioneer's top engineers analysed hundreds of different materials and structures and considered every detail. Their aim was to enhance transient response, produce wide-ranging and linear sound over a broad spectrum and eliminate all unnecessary vibration. The result was well worth waiting for. Every speaker is crafted by skilled hands to an accuracy of 1/100 mm, far exceeding the standards of conventional speakers. These luxurious units produce 'genuine' high-quality sound. Reproduction of music is so precise that you can hear not only the emotions of the music, but that of the musicians too.



TS-T01RS 1-3/8" (3.5 CM) SUPER WIDE-RANGE TWEETER

This super wide-range tweeter is ready for high-resolution audio formats, such as DVD-Audio. Offering an extended wide range, it ensures the true reproduction of high frequencies, as well as replicating the exact harmonic elements of instruments. It not only guarantees accurate high-quality audio but imbues every sound with a rich texture too. This has been achieved by the design of an asymmetric dual arc-ring diaphragm, 35 mm in diameter. Made of lightweight and high-rigid titanium formed into a 20 µm thin foil, this diaphragm is responsible for the crystal-clear reproduction of the audible spectrum — up to 48 kHz! The diaphragm's surface is coated with processed ion plating to eliminate distortion. The innovative brass equaliser with mirror-finish surface has been developed and precisely machined to provide a virtually distortion-free sound reproduction. Every component of this outstanding tweeter is made from low-resonance materials: the highly rigid zinc die-cast frame, brass screws and a resonance-resistant tungsten holder.

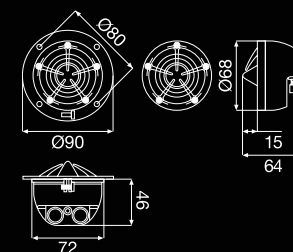
Ion-plated titanium
dual arc-ring diaphragm



Brass equaliser

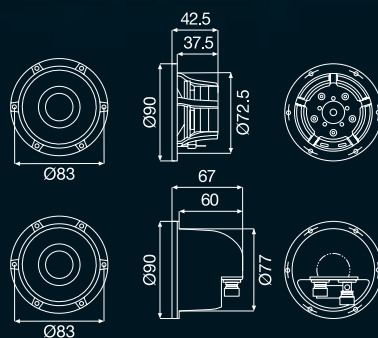


Spherical zinc
die-cast frame





TS-S01RS 3" (7.7 CM) MIDRANGE



This midrange speaker is part of a perfect multi-system. After thorough analysis, superior technology was developed specifically for this speaker to achieve the most natural and accurate sound reproduction. The pulp-based composite cone with reinforcing ribs is complemented by a titanium centre cap. Coated with DLC (Diamond Like Carbon), the cap surface is harder, which improves high-range frequency reproduction. A corrugated edge was also specially created to support the cone and absorb vibration more efficiently. With its rigid zinc die-cast back chamber, tweeters and mid-bass speakers can be connected more smoothly, no matter what the installation conditions, and solid midrange sounds are reproduced. When the chamber is not used, wide-range sound comparable to a mid-bass speaker can be achieved. This speaker features an ultra-strong neodymium magnet; a heavy zinc full-basket frame supports the magnetic circuit for receiving maximum power from the source. Its unique structure and material enable high rigidity, low resonance and no influence on cone movement. The resonance-resistant tungsten holder is jointed to the frame at 5 points to eliminate any resonance.



DLC (Diamond Like Carbon)
coated titanium centre cap



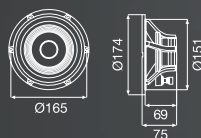
Zinc die-cast back chamber



Gold-plated binding post-screw
terminals

TS-M01RS 6-3/4" (17 CM) MID-BASS DRIVER

This mid-bass driver has been skilfully crafted to extend the wide-range comparable to that of full-range speakers, yet with faithful reproduction of the overall sound spectrum. Numerous trials and meticulous selection of materials went into creating the pulp-based composite cone, and the resulting sound quality is ideal. Reinforced with ribs, the cone enhances the highest resonant frequency and eliminates all distortion. The centre cap is constructed from another specially developed pulp material, improving sound properties at the upper range and suppressing resonance from the magnetic circuit. The magnetic circuit itself uses an ultra-strong neodymium magnet and is supported by a heavy zinc full-basket frame, which reduces unnecessary reaction and resonance. Finally, a resonance-resistant tungsten holder eliminates resonance between the damper and the frame.



Pulp-based composite cone with reinforced ribs



Full-basket structure 5-spoke zinc die-cast frame

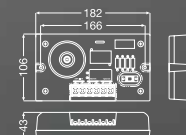


Resonance-resistant structure tungsten damper holder with 5 points support



UD-N01RS 2-WAY PASSIVE CROSSOVER NETWORK

Designed exclusively for the TS-T01RS and TS-M01RS in combination with the PRS series, this crossover network comprises first-rate acoustic elements including a large hollow coil and a high-quality condenser. The 70 µm copper film substrate decreases impedance, which reduces noise and increases current capacity. Resonance has been cleverly eliminated too by mixing high-rigid tungsten into the case material.





Centre cap integrated pulp-based composite cone

Opening at the back side

Shallow design aluminium die-cast frame / Ø140 mm
large-sized heat-resistant voice coil

TS-W01RS 10" (25 CM) SUBWOOFER

Enjoy the clean reproduction of sounds even at the very low frequencies with this high-grade subwoofer. Its cone, made of a lightweight, high-rigid pulp composite with carefully selected materials, combines with the centre cap to offer unprecedented high-quality reproduction of sounds as low as 50 Hz and even lower. The specially designed butyl rubber edge guarantees superb and accurate vibration response; a large voice coil provides highly efficient vibration of the whole cone without flexure; and the 12 large-sized ultra-strong neodymium magnets in the magnetic circuit create powerful and precise motion. By maximising the opening at the back, back pressure balance is easily controlled so that even the heaviest of bass can be reproduced exactly. Its high-rigid aluminium die-cast frame offers high damping properties. All this comes in an attractive, ultra-thin package that is extremely easy to install.







Team Pioneer — It's the inside that counts

Team Pioneer represents the crème de la crème of Europe's high-quality car audio competition scene. This elite group of car audio specialists insists on the very best equipment to successfully compete in the industry's most demanding national and international quality sound challenges. And that's why their first — and only — choice is Pioneer. With Pioneer's revolutionary Optical Digital Reference (ODR) system and high-end RS speakers, Team Pioneer members achieve superlative, best-in-class audio performance. Whilst this highest-quality equipment is important to their success, it is not the sole winning factor. Each member of Team Pioneer has fine-tuned his car to create the most ideal sound environment. Their expert installation skills ensure that not one aspect of the car's interior — wiring, placement of equipment, premium quality materials — has been overlooked in their quest for sonic perfection. That's why, although the car's exterior is already stunning, it's the inside that really counts.

TEAM
pioneer





Team Pioneer and ODR — A successful combination

High-quality sound competitions are all about the quality of the sound — and the music — not about being the loudest or most powerful. These events provide the ideal opportunity for Team Pioneer to show just how remarkable Pioneer's ODR system and RS speakers really are. The high standards expected at the European Mobile Media Association (EMMA) events are without a doubt what make it the highlight of the audio competition year. And it's here that Team Pioneer has proven exactly what puts them at the top of the class. Throughout the year, Team Pioneer has achieved outstanding results at a number of national and international events, a trend that is likely to be strengthened in the future. You too can share in Team Pioneer's success. Visit the dedicated Team Pioneer pages on Pioneer's website and follow their pursuit for sonic perfection. Find out more about how they design and refine their in-car sound. Track their accomplishments as they compete across Europe via video footage, photographs and first-hand reports.


www.pioneer.eu



www.emmanet.com




www.iasca.com



High-end car audio: Pioneer Reference Series (PRS)

Repeatedly selected by competitors on the high-quality sound circuit for its outstanding audio reproduction and sophisticated design, the Pioneer Reference Series (PRS) is firmly standing the test of time. Using only the best components and materials, the high-end PRS system enjoys the reputation of a proven high performer. Cleverly engineered for high-class audio, it boasts many of the exceptional features as the Optical Digital Reference (ODR) system. Precise audio quality is assured with digital transfer from the advanced CD tuner to the complementary preamplifier. Signal transfer to all components remains clear and crisp. With the digital preamp/equaliser, you can fine-tune the sound to suit your individual preference. Improved sound imaging adds real depth to the experience and acoustics can be perfectly balanced, whatever the vehicle's interior characteristics. With exceptional PRS amps and state-of-the-art speakers, you can create a prime in-car audio system.

Experience the supreme sonic clarity of PRS, with its extraordinary real sound reproduction.



A rarity of real reproduction



DEX-P90RS COMPONENT CD RDS TUNER

When prestigious design merges with technical élan, the DEX-P90RS emerges on top. The striking-white OEL display and aluminium front make a certain style statement on the outside, while on the inside, 16-bit digital CD data is directly transferred by top-of-the-line 24-bit multi-bit D/A converters, with minimum distortion and the natural sound expression intact. You will especially appreciate the high-quality parts, ultra-precise mechanisms and high-performance construction. Pair up optically with the DEQ-P90 for an unrivalled audio system, with DSP and network functions. Three RCA pre-outs allow you to expand your system further. This brilliant component will give you an unforgettable listening experience.

DEQ-P90 DIGITAL PREAMP/EQUALISER

Designed to enhance the DEX-P90RS to perfection with every sonic detail intact, this digital signal processor balances incoming and outgoing signals to match the interior acoustics of your particular automobile. With complete control of the signal processing and networking, you can optimise the parametric equaliser and Sound Field Control to create your own preferred sound field.



PRS-A700 4-CHANNEL BRIDGEABLE POWER AMPLIFIER

4 x 100 W (2 x 300 W) Max.

Engineered with excellence, PRS amps are designed to deliver pure and powerful distortion-free sound. They're loaded with audiophile grade components and high-performance technologies — like separate left and right channels, independent left and right power supplies and gain control. This means that these amps operate with maximum separation and control, and minimum distortion. In short, superb sound quality. These are the ultimate amps to drive your PRS system with utmost intensity and clarity.



PRS-A500 2-CHANNEL BRIDGEABLE POWER AMPLIFIER

2 x 200 W (1 x 600 W) Max.

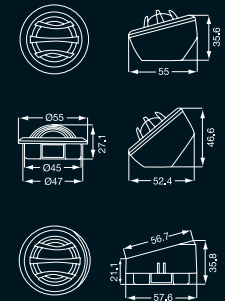




TS-T031PRS 1-1/8" (2.8 CM) TWEETER

With an extended low-frequency response, this tweeter improves the overall imaging of your audio system. A 28 mm ultra lightweight soft dome diaphragm ensures higher sound imaging without harshness, while the combined main magnet/cancelling magnet makes transient response faster and more precise. In addition, the carefully tuned aluminium flange and back cabinet further extend the crossover frequency.

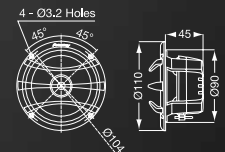
200 W Max.



TS-S101PRS 4" (10 CM) MID-HIGH RANGE DRIVER

This mid-high range driver was designed to reproduce brilliant audio quality at high power input. Its dual-layer cone is made of an Aramid fibre skin and a lightweight pulp-based cone, which gives rich and natural sound without any unwanted resonance. The large-sized cone can handle a wider low frequency response, and as a result, reproduces low and mid-range sounds beautifully. This cone is further complemented by a micro fibre surround, which has a lower mechanical resistance resulting in a smoother excursion.

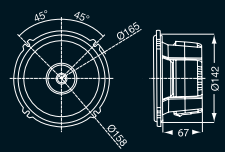
60 W Max.



TS-M171PRS 6-3/4" (17 CM) MID-BASS DRIVER

Constructed on an aluminium die-cast chassis, the TS-M171PRS combines a 17 cm 3-layer Aramid fibre with IMPP™ composite cone woofer and a micro fibre surround. The latter ensures great audio quality at high power input thanks to its lighter, smoother design and its lower mechanical resistance. All this results in quality bass with good linearity, great accuracy and low distortion.

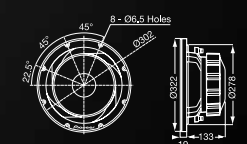
200 W Max.




TS-W12PRS 12" (30 CM) DUAL VOICE COIL SUBWOOFER

This powerful subwoofer is equipped with a Voice Coil Cooling System (VCCS™) and a giant magnetic circuit that keep the subwoofer cool, so that the sound stays natural. There's also a dual-layer long voice coil (2 x 4 ohm) which, combined with the extremely light KEVLAR® brand fibre composite cone, results in a very strong moving force.

1200 W Max.





High-quality car audio: Pioneer Reference Series (PRS)

This Pioneer Reference Series (PRS) system is the best in its class for impressive natural sound quality — a true and powerful in-car audio experience. An award-winning CD tuner tops the bill, which enables you to create a pure sound stage in your car. Incorporating a high-performance DSP and state-of-the-art equaliser features, it's got what you need to optimise the sound image and frequency response, right at your fingertips. Under your guidance, this CD tuner delivers crystal-clear sounds with minimal noise, adjusted to your liking. An ideal match for this headunit is a PRS amplifier, featuring ICEpower® technology for impressive digital sound reproduction. These amps are smaller in size, but are able to produce excellent full-range audio quality. They're very well suited for high-end sound reproduction. Finish off with PRS separate 2-way speakers and you'll be sure of a superb audio experience every time. Opt for this PRS system and outperform the competition by far.

With this quality car audio system, the natural beauty of the music shines through.



The song of superlative sound



DEH-P88RS COMPONENT CD RDS TUNER

With its refined appearance and many high-quality audio features from the ODR system, it is no wonder that the DEH-P88RS was bestowed a prestigious EISA award. Nothing short of pure sound imaging is its goal, so this headunit is outfitted with a high-performance DSP, 16-band equalisation, a time alignment system and digital low pass and high pass filters. Sound settings can be precisely fine-tuned to your preference. The DEH-P88RS also incorporates Burr-Brown 24-bit advanced segment-type D/A converters. The final outcome is crystal audio quality with extremely low noise, certain to please audiophiles. For a full-fledged audio experience, connect PRS amplifiers and speakers via the 3 RCA pre-outs, even hook up your iPod® with Pioneer's optional iPod® adapter (CD-IB100 II). Finally, its super-stylish design makes it a superb addition to your car!

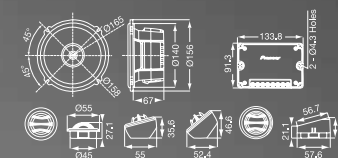


"This was once thought impossible: most of the features refined in the top-notch ODR system, all squeezed into a standard DIN housing, including state-of-the-art DSP with multi-band equalizer, fully-programmable crossover and a sophisticated time correction system. ...Pioneer also took care of...making "affordable high-end" a reality."
— EISA



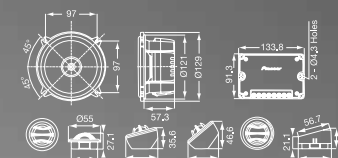
TS-C171PRS 6-3/4" (17 CM) SEPARATE 2-WAY SPEAKER SYSTEM

200 W Max.



TS-C131PRS 5-1/8" (13 CM) SEPARATE 2-WAY SPEAKER SYSTEM

150 W Max.



These super high-quality speaker systems contain precision-engineered mid-bass drivers, tweeters and a crossover network, all designed to bring you new levels of sound perfection. The 3-layer Aramid fibre with IMPP™ composite cone woofer with an ultra lightweight soft dome diaphragm tweeter reproduces accurate high notes while the passive crossover network guarantees an optimal distribution of low and high frequencies from the amplifier to the mid-bass drivers and tweeters.



PRS-D1100M MONO CHANNEL CLASS-D AMPLIFIER

1 x 800 W (1 x 1200 W) Max.

With Pioneer's sleekly designed Class-D amplifier, digitally amplified audio is at its finest — not just because of the supreme power and high-level efficiency. This amplifier generates up to 1200 W of distinct audio, making it a perfect choice to drive a powerful performance from a substantial subwoofer or additional speakers, with no distortion. The effect can be maximised even further by hooking up additional amplifiers in a 'master-slave' set-up. The PRS-D1100M 'master' answers your every command and the 'slave' amps automatically follow suit.



Control panel under removable bonnet

PRS-D410 4-CHANNEL CLASS-FD AMPLIFIER

4 x 150 W (2 x 600 W) Max.

PRS-D210 2-CHANNEL CLASS-FD AMPLIFIER

2 x 300 W (1 x 1200 W) Max.

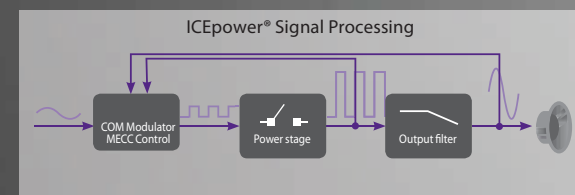
Why choose between quantity and quality when you can have it all in one smart, power-packed unit. By featuring ICEpower® technology with its undisputed efficiency, these PRS Class-FD (Full Range Class-D) amplifiers are able to deliver both high-power output and crystal-clear audio. Distortion is eliminated by reprocessing the amplified output signal a second time. ICEpower® technology also means that the amps can be compact in size — making them easy to install — while remaining huge on power and performance. Their black chic look adds a final touch of class.



ice power

ICEpower® — PURE DIGITAL POWER

The ICEpower® digital amplifier technology offers an answer to the disadvantages of conventional Class-D amplifiers, which are prone to distortion. By combining the unique Controlled Oscillation Modulation (COM) and the Multivariable Enhanced Cascade Control (MECC) system, ICEpower® technology leads to a considerable increase in efficiency and less distortion than conventional Class-D technology. Initially, the analogue signal is turned into a Pulse Width Modulated (PWM) signal by the COM. After the power stage and the output filter, the signals are fed back to the MECC system where they are compared to the original input signal and any differences are compensated for, thus suppressing the distortion introduced in the power stage and output filter. As a result, ICEpower® digital amplifier technology results in cutting-edge audio performance, which combines power with the greatest purity and clarity.



Features and specifications

RS-D7RII SYSTEM CONTROL CD RDS TUNER

- Tuner**
- RDS (PI, PS, AF, TP/TA), PTY (Search and Alarm), News Interrupt feature and Radio Text
 - High-speed PLL ARC 5 synthesiser tuner with BSA (Best TP Station Auto Search), BSM (Best Stations Memory) and PNS (Pulse Noise Suppressor)
 - 24 station presets
- CD Player**
- High-quality CD mechanism with copper-plated chassis
 - Hi-bit conversion
 - Digital Direct
 - Fast forward/reverse
 - Track Search/Scan/Repeat
 - Track/Manual search
 - Random Play
 - Last Position Memory
 - Disc Title Memory
- CD Text
 - CD-R/CD-RW playback with Skip Play
- Audio**
- IP-Bus input/output
 - Optical input/output
- General**
- Full audio control of RS-A9 Digital Integrated Amplifier or RS-P90 Universal Digital Preamplifier
 - Multi-CD Control with Disc Title Memory, List Search and CD Text
 - Bluetooth* adapter ready (optional CD-BTB200)
 - Source TV Control
 - DAB Tuner Control
 - Source DVD Control
 - External Unit Control via IP-Bus (2 units)
 - AUX-In (with optional CD-RB20)
 - Slide-type Remote Control

- Digital Clock
- OEL white-colour display illumination
- Dual LED button illumination (white/red)
- Display Off mode
- Rotary volume
- High-quality auto-flap mechanism (motor driven)
- Removable front panel with safety warning beep
- Cellular telephone auto muting
- Flexible angle installation (0 – 60 °)
- OFC (Oxygen-Free Copper) power cables
- Copper-plated chassis
- Aluminium finished front panel

DEX-P90RS COMPONENT CD RDS TUNER

- Tuner**
- RDS (PI, PS, AF, TP/TA), PTY (Search and Alarm), News Interrupt feature and Radio Text
 - High-speed PLL ARC 5 synthesiser tuner with BSA (Best TP Station Auto Search), BSM (Best Stations Memory) and PNS (Pulse Noise Suppressor)
 - 24 station presets
- CD Player**
- 24-bit D/A converter with 8 times oversampling digital filter
 - High-quality CD mechanism
 - Hi-bit conversion
 - Fast forward/reverse
 - Track Search/Scan/Repeat
 - Track/Manual search
 - Random Play
 - Last Position Memory
 - Disc Title Memory
- CD Text
 - CD-R/CD-RW playback with Skip Play
- Audio**
- Separate Bass/Treble
 - Source Level Adjuster
 - Fader
 - 3 Gold-plated RCA pre-outs (Front + Rear + Non Fading)
 - High Voltage output
 - IP-Bus input/output
 - Optical digital input/output
- General**
- Full audio control of DEQ-P90 Digital Preamp/Equaliser
 - Multi-CD Control with Disc Title Memory and CD Text
 - Source TV Control
 - DAB Tuner Control
- Source DVD Control
 - External Unit Control via IP-Bus (2 units)
 - AUX-In (with optional CD-RB20)
 - Slide-type Remote Control
 - Digital Clock
 - OEL white display illumination
 - Display Off mode
 - Auto-flap mechanism
 - Removable front panel with safety warning beep
 - Cellular telephone auto muting
 - Flexible angle installation (0 – 60 °)
 - Copper-plated chassis
 - Aluminium finished front panel

RS-P90 UNIVERSAL DIGITAL PREAMPLIFIER

- 3 ultra-high-performance 32-bit floating-point SHARC Digital Signal Processors (DSP)
 - FIR Filter
 - Linear phase and minimum delay phase
 - 31-band L/R independent graphic equaliser (1/3 oct) with level control (0.5 step, ± 12 dB)
 - 3-band L/R independent parametric equaliser (1/3 oct) with level control (0.5 step, ± 12 dB)
 - 4-way independent L/R crossover network (High, Mid, Low, Subwoofer)
 - Crossover frequency: 20 Hz – 20 kHz (1/3 oct)
 - High: LPF: 8 – 20 kHz; HPF: 1.6 – 20 kHz
 - Mid: LPF: 2 – 20 kHz; HPF: 160 Hz – 10 kHz
 - Low: LPF: 250 Hz – 10 kHz; HPF: 25 – 250 Hz
 - Subwoofer: LPF: 40 – 250 Hz; HPF: 20 – 100 Hz
 - Slope: 0°, -6, -12, -18, -24, -36, -48, -72 dB/oct
- Phase: Normal/Reverse
 - Level: High/Mid/Low: 0 – 24 dB (0.5 dB step); Subwoofer: +10 – 24 dB (0.5 dB step)
 - Mute
 - Time Alignment for clear sound focus
 - Listening Position selector (FR/FL/F/OFF)
 - Time/distance: High/Mid/Low: 0 – 192.5 cm (0.77 cm step); Subwoofer: 0 – 385 cm (1.54 cm step)
 - Level: 0 – 30 dB (1.0 dB step)
 - Burr-Brown 24-bit advanced segment D/A converters
 - High-performance 8 times oversampling digital filter
 - Two ultra precise sound master clock circuits
 - Upsampling (44.1 kHz \rightarrow 192 kHz) by SRC (Sampling Rate Converter)
 - Optical input for digital connection with RS-D7RII System Control CD RDS Tuner
- High Voltage output
 - Gold-plated 8-channel RCA output (High/Mid/Low/Subwoofer)
 - Parametric Bass/Treble
 - Bass: 63, 100, 160, 250 Hz (± 12 dB)
 - Treble: 4, 6.3, 10, 12.5 kHz (± 12 dB)
 - Electronic (DAC) Volume: 60 steps
 - Digital compression
 - Gold-plated, non-magnetic power screw terminal
 - Copper-plated chassis
 - Top panel can be fixed in four directions
 - Installation kit

* Not available for HPF of high mode.

DEQ-P90 DIGITAL PREAMP/EQUALISER

- 31-band L/R independent graphic equaliser (1/3 oct) with level control (0.5 step, ± 12 dB)
 - 4-way independent L/R crossover network (High, Mid, Low, Subwoofer)
 - Crossover frequency: 20 Hz – 20 kHz (1/3 oct)
 - High: LPF: 8 – 20 kHz; HPF: 1.6 – 20 kHz
 - Mid: LPF: 2 – 20 kHz; HPF: 200 Hz – 10 kHz
 - Low: LPF: 250 Hz – 10 kHz; HPF: 25 – 250 Hz
 - Subwoofer: LPF: 25 – 250 Hz; HPF: 20 – 100 Hz
 - Slope: 0°, -6, -12, -18, -24, -30, -36 dB/oct
 - Phase: Normal/Reverse
 - Level: +10 – 24 dB
 - Mute
 - Time Alignment for clear sound focus
 - Listening Position selector (FR/FL/F/OFF)
 - 24-bit Burr-Brown D/A converters
 - High-performance 8 times oversampling digital filter
 - Optical digital input for connection with DEX-P90RS
 - High Voltage output
- Gold-plated 8-channel RCA output (High/Mid/Low/Subwoofer)
 - Parametric Bass/Treble
 - Electronic Volume
 - Gold-plated power screw terminals
 - Copper-plated chassis
 - Installation kit

* Not available for HPF of high mode.

RS-A9 DIGITAL INTEGRATED AMPLIFIER

- DSP/Network/Equaliser features**
(See amplifier charts on next page for RS-A9 amplifier features and specifications)
- 3 ultra-high-performance 32-bit floating-point SHARC Digital Signal Processors (DSP)
 - FIR Filter
 - Linear phase and minimum delay phase
 - L/R independent power supply and amplifier circuit
 - 31-band L/R independent graphic equaliser (1/3 oct) with level control (0.5 step, ± 12 dB)
 - 3-band L/R independent parametric equaliser (1/3 oct) with level control (0.5 step, ± 12 dB)
 - 4-way independent L/R crossover network (High, Mid, Low, Subwoofer)
 - Crossover frequency: 20 Hz – 20 kHz (1/3 oct)
 - High: LPF: 8 – 20 kHz; HPF: 1.6 – 20 kHz
 - Mid: LPF: 2 – 20 kHz; HPF: 160 Hz – 10 kHz
- Low: LPF: 250 Hz – 10 kHz; HPF: 25 – 250 Hz
 - Subwoofer: LPF: 40 – 250 Hz; HPF: 20 – 100 Hz
 - Slope: 0°, -6, -12, -18, -24, -36, -48, -72 dB/oct
 - Phase: Normal/Reverse
 - Level: High/Mid/Low: 0 – 24 dB (0.5 dB step); Subwoofer: +10 – 24 dB (0.5 dB step)
 - Mute
 - Time Alignment for clear sound focus
 - Listening Position selector (FR/FL/F/OFF)
 - Time/distance: 0 – 192.5 cm (0.77 cm step)
 - Level: 0 – 30 dB (0.5 dB step)
 - 24-bit multi-bit Burr-Brown D/A converters
 - High-performance 8 times oversampling digital filter
 - Ultra precise sound master clock circuit
 - Upsampling (44.1 kHz \rightarrow 96 kHz) by SRC (Sampling Rate Converter)
- Optical input for digital connection with RS-D7RII System Control CD RDS Tuner
 - 3 Optical outputs (Mid/Low/Subwoofer) for digital connection with RS-A7 Digital Power Amplifiers
 - Parametric Bass/Treble
 - Bass: 63, 100, 160, 250 Hz (± 12 dB)
 - Treble: 4, 6.3, 10, 12.5 kHz (± 12 dB)
 - Electronic (DAC) Volume: 60 steps
 - Non-magnetic power terminal and speaker terminal
 - Copper-plated chassis

* Not available for HPF of high mode.

DEH-P88RS COMPONENT CD RDS TUNER

- Tuner**
- RDS (PI, PS, AF, TP/TA), PTY (Search and Alarm), News Interrupt feature and Radio Text
 - High-speed PLL ARC 5 synthesiser tuner with BSA (Best TP Station Auto Search), BSM (Best Stations Memory) and PNS (Pulse Noise Suppressor)
 - D4Q+ digital AM/FM tuner
 - 24 station presets
- CD Player**
- 1-bit D/A converter with 8 times oversampling digital filter
 - High-quality CD mechanism
 - Fast forward/reverse
 - Track Search/Scan/Repeat
 - Track/Manual search
 - Random Play
 - Last Position Memory
 - Disc Title Memory
 - CD Text
 - CD-R/CD-RW playback with Skip Play
 - MP3/WMA/WAV/AAC CD playback
- Audio**
- MOSFET 50 W x 4 amplifier
 - High-performance DSP
 - 16-band L/R independent graphic equaliser
 - ASL (Auto Sound Leveliser)
 - Auto Time Alignment and Equaliser (2-way and 3-way)
 - Standard/3-way network mode
 - Adjustable crossover frequency and slope
 - Burr-Brown 24-bit advanced segment D/A converters
 - Separate Bass/Treble
 - Source Level Adjuster
 - Fader
 - 3 Gold-plated RCA pre-outs (Front + Rear + SW or Non Fading)
 - High Voltage output
 - IP-Bus input/output
- General**
- iPod* adapter ready (optional CD-IB100 II)
 - Multi-CD Control with Disc Title Memory and CD Text
- Source TV Control
 - DAB Tuner Control
 - Source DVD Control
 - AV Source Control
 - External Unit Control via IP-Bus (2 units)
 - AUX-In (with optional CD-RB20)
 - Card-type Remote Control
 - Digital Clock
 - OEL white display illumination
 - Display Off mode
 - Rotary volume
 - High-quality auto-flap mechanism (motor driven)
 - Removable front panel with safety warning beep
 - Cellular telephone auto muting
 - Flexible angle installation (0 – 60 °)
 - Copper-plated chassis
 - Aluminium finished front panel

AMPLIFIERS FEATURES	RS-A9	RS-A7	PRS-A700	PRS-A500	PRS-D1100M	PRS-D410	PRS-D210
Circuit type	Current Feedback/Class AB	Current Feedback/Class AB	Current Feedback/Class AB	Current Feedback/Class AB	Class D MOSFET	Class FD (ICEpower®) MOSFET	Class FD (ICEpower®) MOSFET
Max. output power	4 x 100 W 2 x 300 W	4 x 100 W 2 x 300 W	4 x 100 W 2 x 300 W	2 x 200 W 1 x 600 W	1 x 800 W (4 Ω) 1 x 1200 W (2 Ω)	4 x 150 W (4 Ω) 2 x 600 W (2 Ω)	2 x 300 W (4 Ω) 1 x 1200 W (4 Ω)
LPF/HPF Network	Integrated DSP		40 – 120 Hz (-12 dB/oct)	40 – 120 Hz (-12 dB/oct)	40 – 240 Hz (-18 dB/oct) (no HPF)	40 – 500 Hz (-12 dB/oct)	40 – 500 Hz (-12 dB/oct)
Subsonic filter					20 Hz (-18 dB/oct)		
Bass Boost					50 Hz, 0/6/9/12 dB Remote		50 Hz, 0/6/9/12 dB Remote
Input level/gain control (L/R INDEPENDENT)			• (200 mV – 6.5 V)	• (200 mV – 6.5 V)	RCA (400 mV – 6.5 V) (Low) SP (1.6 V – 26 V) (High) Switchable	RCA (400 mV – 6.5 V) (Low) SP (1.6 V – 26 V) (High) Switchable	RCA (400 mV – 6.5 V) (Low) SP (1.6 V – 26 V) (High) Switchable
PWM (L/R INDEPENDENT) regulated MOSFET power supply			•	•			
High voltage input capability			• (200 mV – 6.5 V)	• (200 mV – 6.5 V)	• (400 mV – 6.5 V)	• (400 mV – 6.5 V)	• (400 mV – 6.5 V)
Load impedance capability (Bridged)	2 – 8 Ω	2 – 8 Ω	2 – 8 Ω (4 – 8 Ω)	2 – 8 Ω (4 – 8 Ω)	1 – 8 Ω (≥ 2 Ω) (external)	2 – 8 Ω (≥ 4 Ω)	2 – 8 Ω (≥ 4 Ω)
24-bit multi-bit Burr-Brown D/A converter	•	•					
8x oversampling digital filter	• (96 kHz input)	• (96 kHz input)					
Optical digital input / output	1/3	2/–					
IP-Bus input / output	1/1	1/1					
Analogue SP	4 ch (HIGH, MID/LOW)/ 2 ch Bridge (HIGH)	4 ch (MID/LOW/SW) 2 ch Bridge					
DAC volume	• (60 step)	• (60 step)					
TA Volume	•	•					
Gold-plated RCA input / output			2/–	1/–	1/–	2/1	1/1
Gold-plated screw-type speaker terminals	• non-magnetic type	• non-magnetic type	•	•	•	•	•
Large gold-plated power/ground terminals (screw type)	• non-magnetic type	• non-magnetic type	•	•	•	•	•
High-performance balanced Isolator circuit			•	•			
MOSFET output section			•	•	•	•	•
Sampling frequency	44.1 kHz	44.1 kHz					
Mode selector	Address: Master Only Channel Select (H-H/H-M/H-L)	Address: 2 – 4 Mode: 3 position (MID/LOW/SW)					
Power indicator	•	•	•	•	•	•	•
Installation kit	•	•					

AMPLIFIERS SPECIFICATIONS	RS-A9 / RS-A7	PRS-A700	PRS-A500	PRS-D1100M	PRS-D410	PRS-D210
DIN output power (DIN 45324, +B = 14.4 V)		4 x 70 W or 2 x 210 W (4 Ω)	2 x 140 W or 1 x 500 W (4 Ω)			
Continuous output power (RMS) watts 14.4 V	(20 Hz – 20 kHz/4 Ω) (20 Hz – 20 kHz/2 Ω) (100 kHz/2 Ω) (100 kHz/1 Ω) (20 Hz – 240 Hz/4 Ω) (1 kHz/2 Ω) (Bridged 4 Ω)	4 x 50 W (0.02 %) 4 x 75 W (0.02 %)	4 x 50 W (0.08 %) 4 x 75 W (0.8 %)	2 x 100 W (0.08 %) 2 x 150 W (0.8 %)	4 x 75 W (0.08 %)	2 x 150 W (0.08 %)
Frequency Response (Hz)	(+0 dB, -1 dB) (+0 dB, -3 dB)	2 x 150 W	2 x 150 W	1 x 300 W	4 X 150 W (0.8 %) 2 x 300 W	2 x 300 W 1 x 600 W
Distortion (%)		< 0.002 (1 kHz/4 Ω)	0.003 (1 kHz/4 Ω)	0.003 (1 kHz/4 Ω)	< 0.03 (100 Hz/4 Ω)	< 0.005 (1 kHz/4 Ω)
S/N Ratio (dB)		105	> 108	> 108	> 92	> 100
Separation (dB)	(100 Hz – 10 kHz) (1 kHz)	> 80	> 70	> 70	60 70	60 70
Max. Current consumption (A/4 Ω)		31.0	28.0	25.0	39.0	25.8
Chassis Size (W x H x D mm)		330 x 71 x 585	300 x 63 x 330	300 x 63 x 330	304 x 56 x 195	304 x 56 x 195
Unit Weight (kg)		13.0	5.8	5.8	2.8	2.8

Each RS speaker is individually handcrafted by skilled speaker professionals, so it is necessary to measure each speaker's performance one by one. Therefore, you will find the exact parameters, specific to each individual speaker, enclosed in the speaker package. RS speakers are created with the highest quality standards and make it possible to achieve true sound perfection.

TS-T01RS 3.5 CM SUPER WIDE-RANGE TWEETER

- Ø35 mm ion-plated titanium dual arc-ring diaphragm
- Large neodymium magnet
- Heat-resistant aluminium ribbon voice coil
- Brass equaliser
- Spherical zinc die-cast frame
- Resonance-resistant structure tungsten holder
- Gold-plated binding post-screw terminals
- Maximum input power: 120 W
- Nominal input power: 50 W
- 1,200 – 48,000 Hz, 95 dB (1 W/1 m)
- Impedance: 6 Ω
- Unit weight: 0.6 kg
- Dimensions: Ø68 x 64 (D) mm
- Cutout hole: Ø72 mm (with aluminium fitting bracket)
- Mounting depth: 46 mm (with aluminium fitting bracket)
- Aluminium fitting brackets included

TS-S01RS 7.7 CM MIDRANGE

- Pulp-based composite cone with reinforced ribs
- DLC (Diamond Like Carbon) coated titanium centre cap
- Corrugated design cloth surround with damping material
- Large neodymium magnet
- Heat-resistant copper ribbon voice coil
- Full-basket structure 5-spoke zinc die-cast frame
- Resonance-resistant structure tungsten damper holder with 5 points support
- Zinc die-cast back chamber
- Gold-plated binding post-screw terminals
- Maximum input power: 50 W¹ / 60 W² (f_c = 800 Hz, -12 dB)
- Nominal input power: 15 W
- 70 – 24,000 Hz¹ / 160 – 24,000 Hz², 86 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 0.5 kg
- Dimensions: Ø90 x 42 (D) mm¹ / Ø90 x 67 (D) mm²
- Cutout hole: Ø72.5 mm¹ / Ø77 mm²
- Mounting depth: 37.5 mm¹ / 60 mm²
- 1 Unit alone
- 2 With back chamber

TS-M01RS 17 CM MID-BASS DRIVER

- Pulp-based composite cone with reinforced ribs
- Corrugated design Conex surround with new damping material
- Large neodymium magnet
- Heat-resistant copper ribbon voice coil
- Full-basket structure 5-spoke zinc die-cast frame
- Resonance-resistant structure tungsten damper holder with 5 points support
- Gold-plated binding post-screw terminals
- Maximum input power: 120 W
- Nominal input power: 50 W
- 35 – 11,000 Hz, 89 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 1.6 kg
- Dimensions: Ø174 x 75 (D) mm
- Cutout hole: Ø151 mm
- Mounting depth: 69 mm

TS-W01RS 25 CM SUBWOOFER

- Centre cap integrated pulp-based composite cone
- Tapered thickness butyl rubber surround
- 12 large neodymium magnets
- Ø140 mm large-sized heat-resistant voice coil
- Aluminium die-cast frame
- Gold-plated binding post-screw terminals
- Shallow design
- Recommended enclosure volumes: 14 – 28 Litre
- Maximum input power: 300 W
- Nominal input power: 150 W
- 20 – 3,000 Hz, 86 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 6.6 kg
- Dimensions: Ø276 x 94 (D) mm
- Cutout hole: Ø238 mm
- Mounting depth: 75 mm

UD-N01RS 2-WAY PASSIVE CROSSOVER NETWORK

- High-quality condenser
- Large hollow coil
- 70 µm thick copper film substrate
- High-rigid tungsten-blend case material
- Crossover Frequency: 5,000 Hz
- Low Pass Filter (LPF): -12 dB/oct
- High Pass Filter (HPF): -12 dB/oct
- Load impedance
- Mid-Bass (TS-M01RS): 4 Ω
- Tweeter (TS-T01RS): 6 Ω
- Tweeter attenuation: 0 dB/-3 dB
- Unit weight: 0.8 kg
- Dimensions (W x H x D): 182 x 43 x 106 mm

TS-T031PRS 2.8 CM TWEETER

- Ø28 mm ultra lightweight soft dome diaphragm
- Aluminium flange & back cabinet
- High-powered magnetic circuit with double magnets
- Tweeter fitting kits included: surface mount slant spacer, flash mount adapter and invisible mount adapter
- Cut-off frequency: ≥2,000 Hz with -12 dB/oct High Pass Filter
- Maximum input power: 200 W
- Nominal input power: 50 W
- 1,200 – 32,000 Hz, 90 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 0.129 kg
- Dimensions: Ø55 x 27 (D) mm

TS-S101PRS 10 CM MID-HIGH RANGE DRIVER

- Ø10 cm dual-layer composite cone with Aramid fibre and pulp
- Micro fibre surround
- Aluminium phasing plug
- Aluminium die-cast chassis
- Neodymium magnet
- Removable magnet cover
- Removable aluminium die-cast protection bars
- Cut-off frequency: ≥250 Hz with -12 dB/oct High Pass Filter
- Maximum input power: 60 W
- Nominal input power: 15 W
- 60 – 30,000 Hz, 86 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 0.56 kg
- Dimensions: Ø110 x 52 (D) mm
- Cutout hole: Ø90 mm
- Mounting depth: 45 mm

TS-M171PRS 17 CM MID-BASS DRIVER

- Ø17 cm 3-layer Aramid fibre with IMPP™ composite cone woofer
- Micro fibre surround
- Aluminium phasing plug
- Aluminium die-cast chassis
- Double-stacked magnets
- Ring spacer included
- Aluminium die-cast spoke grille included
- Overhung thick plate
- Maximum input power: 200 W
- Nominal input power: 50 W
- 25 – 9,000 Hz, 88 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 2.08 kg
- Dimensions: Ø156 x 78 (D) mm
- Cutout hole: Ø140 mm
- Mounting depth: 67 mm

TS-W12PRS 30 CM DUAL VOICE COIL SUBWOOFER

- KEVLAR® brand fibre composite cone
- Dual-layer rolled urethane surround
- Dual 4 Ω voice coil design (2 or 8 Ω)
- 2 Ω rated (parallel wired)
- 8 Ω rated (series wired)
- VCCS™ (Voice Coil Cooling System)
- 4-spoke aluminium die-cast frame
- Gold-plated binding post-screw terminals
- Recommended enclosure volumes: 28 Litre ±10 %
- Maximum input power: 1200 W
- Nominal input power: 300 W
- 15 – 2,000 Hz, 92 dB (1 W/1 m)
- Unit weight: 11.9 kg
- Dimensions: Ø322 x 152 (D) mm
- Cutout hole: Ø278 mm
- Mounting depth: 133 mm

TS-C171PRS 17 CM SEPARATE 2-WAY SPEAKER SYSTEM

- Ø17 cm 3-layer Aramid fibre with IMPP™ composite cone woofer
- Ø28 mm soft dome tweeter
- Passive crossover network
- Tweeter fitting kits included: surface mount slant spacer, flash mount adapter and invisible mount adapter
- mount slant spacer, flash mount adapter and invisible mount adapter
- Maximum input power: 200 W
- Nominal input power: 50 W
- 25 – 32,000 Hz, 88 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 2.65 kg

TS-C131PRS 13 CM SEPARATE 2-WAY SPEAKER SYSTEM

- Ø13 cm 3-layer Aramid fibre with IMPP™ composite cone woofer
- Ø28 mm soft dome tweeter
- Passive crossover network
- Tweeter fitting kits included: surface mount slant spacer, flash mount adapter and invisible mount adapter
- Maximum input power: 150 W
- Nominal input power: 30 W
- 35 – 32,000 Hz, 88 dB (1 W/1 m)
- Impedance: 4 Ω
- Unit weight: 2.05 kg

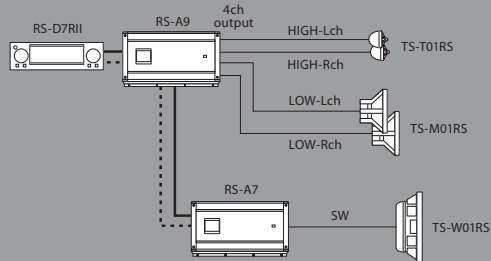
iPod® is a trademark of Apple Computers, Inc., registered in the U.S. and other countries. ICEpower® is a registered trademark of Bang & Olufsen ICEpower a/s. DuPont and/or DU PONT-TORAY CO., LTD. produce KEVLAR® brand fiber. DuPont™ and KEVLAR® are trademarks and registered trademarks of DuPont or its affiliates and are used under license by Pioneer. The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Pioneer is under license. Other trademarks and trade names are those of their respective owners.

Disclaimer: Features and specifications of the products described or illustrated in this brochure are correct at the time of printing but could change as production changes might occur. This brochure may contain typographical errors and the colours of the depicted products may deviate slightly from reality. Consult your Pioneer dealer to ensure that actual features and specifications match your requirements. This brochure may contain references to products that may or will not be available in your country.

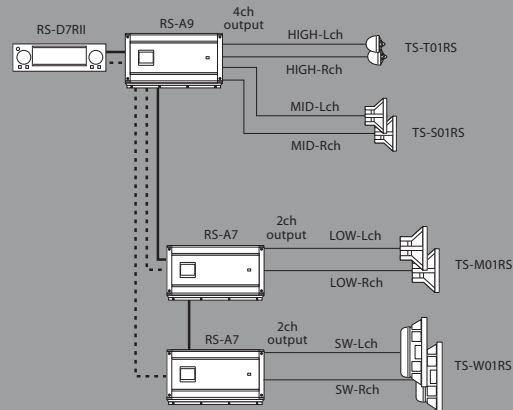
Recommended System Set-ups

You can design various systems with the ODR components, high-end RS speakers and/or PRS units, from a simple 2-way system to a full-fledged 4-way system. The ODR Full Balanced System (RS-A9 and three RS-A7's) is the perfect balanced system from the digital output in the circuit of the amplifier, delivering the utmost high-quality sound.

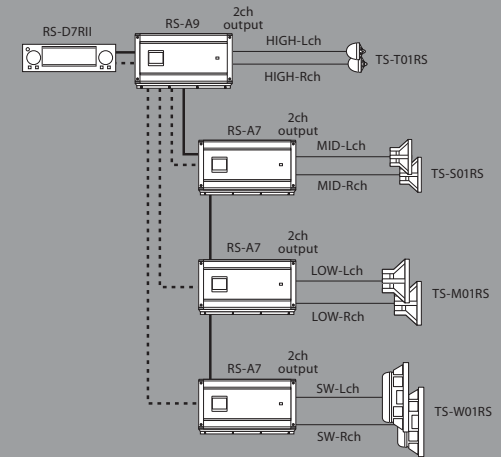
ODR & RS — 3-way System



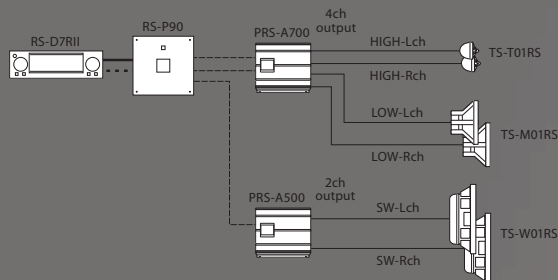
ODR & RS — 4-way System



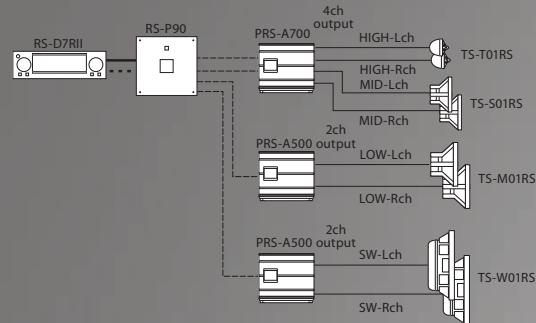
ODR & RS — 4-way Full Balanced System



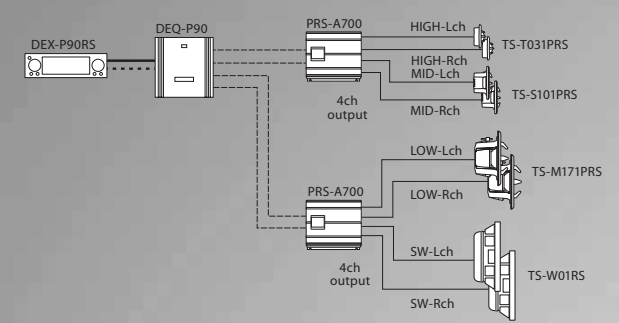
ODR, PRS & RS — 3-way System



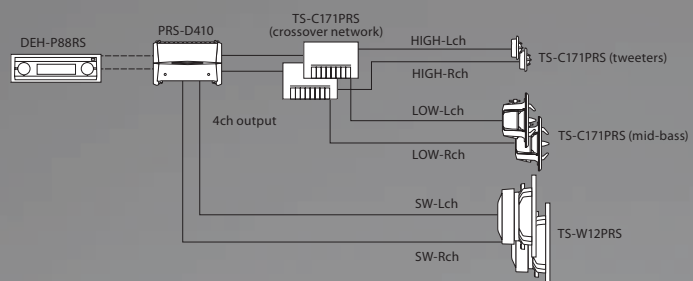
ODR, PRS & RS — 4-way System



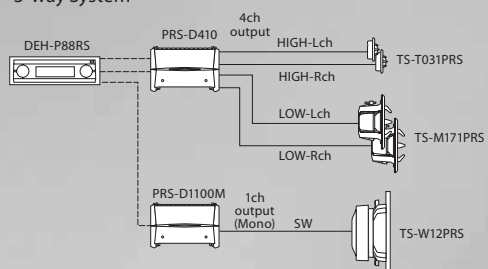
PRS & RS — 4-way System



PRS — 2-way System



PRS — 3-way System



- Optical Line
- IP-Bus Line
- RCA Line
- Speaker Line

www.pioneer.eu
www.pioneer.co.uk

07-C-HQLEAFLET-EN
Printed in Belgium