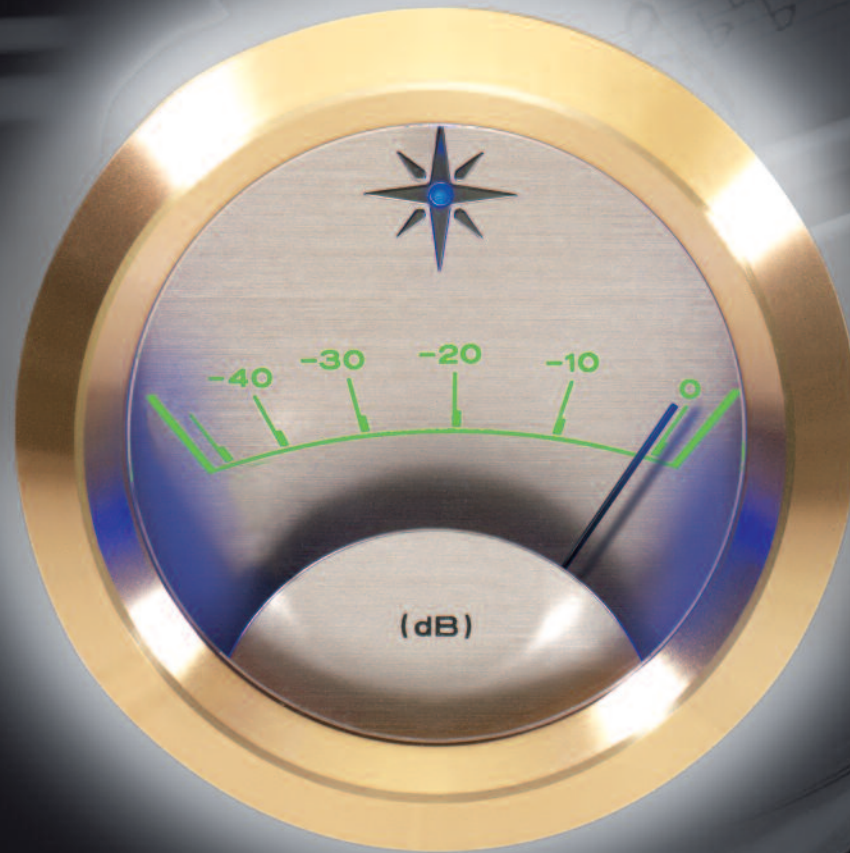


The ultimate gauge of a fine audio experience ...

the reference series



marantz®

reference:

re-f-rn(t)s, noun:

“A product or group of products considered to be superior; a standard-setting achievement that others may seek to emulate.”

The audio components you'll soon encounter in these pages define both a pursuit and a celebration.

The pursuit, as it has always been for Marantz, is the recreation of music in the home. The celebration is an amalgam of science, intuition, and experience in the service of the music we cherish.

Quite simply, these Reference Series products are the best we know how to make. From virtually inaudible nuance to thundering crescendo, each one conveys more than an artist's intellectual exploration of his or her genre. It conveys the emotional underpinnings as well. And lets you listen through the equipment into the heart of the creative process.

Marantz Reference. Nothing short of revelatory.



Components that bring music to life!

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marantz®

The Marantz Tradition

The name Marantz is, if anything, more prominent today than when Saul B. Marantz founded the company in 1953.

Even in those early days, perhaps no one - and no company - was as recognized for the passionate pursuit of high quality sound reproduction.

If any one thing stood out from the beginning, it was Saul's insistence that good industrial design was as important as superior performance. Arresting cosmetics, he knew, would play an essential role in bringing electronics out of the garages and basements and into the living rooms of music lovers everywhere.

Indeed, Saul's early training was in the graphic arts even though his interest in electronics began while he was very young. As it did for many, service in World War II gave him the opportunity to enlarge his hobbyist's knowledge.

Music, long a part of his life, took on an even more important role after he returned to New York City from the Pacific Theater. Marantz joined the New York Society of Classical Guitar where he became both a serious student of the instrument and a close friend of guitar *maestro* Andrés Segovia.

This combination of design sensibility, knowledge of electronics, love for music, and an uncanny ability to envision better ways to reproduce music in the home eventually led to the development of the "Audio Console," a unique preamplifier, and to the founding of the Marantz Company.

Supported by a growing engineering team led by the now-legendary Sidney Smith, and staffed by such luminaries as Dick Sequerra, Mitch Cotter, and many others, Marantz soon gained an international reputation for outstanding performance and cosmetic sophistication.

Many products, especially the Model 7 preamplifier and the Model 9 monaural power amplifier, were nothing short of revolutionary. In fact, they are icons still, and their superb performance and timeless elegance continue to influence our most capable designs.

The current Marantz Reference Series is the best contemporary expression of these long-held strengths. If ever the word "inspiration" has meaning, you'll find it in this Reference collection.

Marantz Reference. The highest reward you can offer your auditory sense... and your aesthetic expectations.

SC-7S2

Stereo Control Amplifier

A singular integration of performance, functionality, and design, the SC-7S2 thoroughly updates the concept of a stereo preamplifier. Although it traces its sonic heritage to the distinctive voice of the original Marantz Model 7, the SC-7S2 is not tied to even the best of past technology. A significant improvement over the acclaimed SC-7S1, the S2 version incorporates a full roster of technical refinements to enhance your perception of even the most complex musical compositions.

Simultaneously, the SC-7S2 avoids any aura of techno-intimidation. Instead of an often confusing array of knobs and switches, it spaces Input Select, Power, and Volume across a finely-finished champagne front panel. An aluminum-topped remote control adds critical but less-often-used functions such as input trim and display intensity to tailor the SC-7S2 to your preferences.

In its quest for musical accuracy, Marantz gifted the SC-7S2 with refinements that define advanced audio circuitry. These include a sophisticated power supply based on a toroidal transformer for reduced spurious noise. Further refinements contribute to the SC-7S2's extraordinary frequency response and channel separation.

Isolated inputs eliminate unwanted interactions. All signal paths, including the critical volume control section, are fully balanced to minimize noise. In fact, the volume control benefits from multiple microprocessors that eliminate distracting clicks when changing volume settings.

Together, the microprocessors and an array of HDAM modules form an incredibly precise attenuation circuit with easily repeatable 0.5 dB steps throughout its entire range to insure proper channel balance at any listening level.

Of even greater importance is the inclusion of the SA version of Marantz's proprietary HDAM® (Hyper Dynamic Amplifier Module) circuitry. These modules insure accurate and distortion-free audio signal transfer from one stage to the next.

Although the SC-7S2 is devoutly two-channel, it acknowledges the multi-channel world with our Floating Control Bus System (F.C.B.S.) that lets you control multiple SC-7S2s simultaneously for full Reference-level performance.

A copper-plated aluminum chassis with a double layered bottom plate, provides exceptional stability as well as isolation from external noise sources.

The SC-7S2 Control Amplifier is an enduring testament to the synergy of today's technologies, meticulous implementation, and exquisite cosmetic design. It is a reference in every sense of the word.

"Good design is a renaissance attitude that combines technology, cognitive science, human need, and beauty to produce something that the world didn't know it was missing." - Paola Antonelli, Architect and Museum Curator

At the heart of audio perfection...



subtly nuanced, yet powerfully accurate.

MA-9S2

Monaural Power Amplifier

If the SC-7S2 is the flexible control center for the finest audio systems, the MA-9S2 power amplifier melds acute sonic responsiveness with brute force to precisely control even the most difficult loudspeaker.

One specification will make this clear. The MA-9S2 develops an impressive 300 watts continuous output into a typical speaker. Even when coupled to a high quality, low impedance speaker, one that quickly taxes conventional amplifiers due to extremely low electrical resistance, power output doubles to 600 watts! Rather than power for power's sake, this is simply the intelligent application of engineering expertise. It insures that you will enjoy music's finest details without limitation.

In this, the MA-9S2 conforms to the tradition of the original Model 9 and the more recent MA-9S1. Both provided a unique combination of high resolution and high power. The MA-9S2, however, surpasses both to meet the challenge of today's most demanding sources.

In mapping the MA-9S2's development strategy, Marantz engineers focused on several performance areas: better instantaneous current delivery, full-scale use of current-feedback design, and fully balanced audio circuitry. Although these may seem esoteric to non-engineers, they form the platform for music reproduction beyond conventional expectation.

Connectivity also played an important role. The MA-9S2 features both single-ended and balanced input connectors and dual sets of precision WBT speaker terminals to accommodate your choice of speaker cables. There's a heavy duty detachable AC cord to help installation in a custom cabinet if you so desire.

But the MA-9S2's stunning fascia may well argue against this. The elegantly smooth front panel is finished in restrained champagne gold. Highlighting this are four elements, one of them a remarkably accurate power meter. Thus, the MA-9S2 complements décors ranging from Italian rococo to Scandinavian. And complements your sonic expectations with the finest sound available.

Thus, the MA-9S2 is another example of Marantz's dedication to continual advancement guided by the traditions of its illustrious past.

It is a true reference in every way.



"Without music life would be a mistake."

- Friedrich Wilhelm Nietzsche, Philosopher/Philologist

SC-11S1

Stereo Control Amplifier

The SC-11S1 stereo control amplifier focuses a wealth of new circuitry on reproducing music's finest moments. It is a preamplifier that is both totally new and classically Marantz.

Today's musical sources demand ultra-wide frequency response and superior channel separation for convincing musicality. Although aimed primarily at stereo reproduction, the SC-11S1's F.C.B.S (Floating Control Bus System) allows easy expansion and operation for those who enjoy the many forms of multi-channel material. At the same time, the SC-11S1 honors legacy sources like the LP with a phono stage incorporating a newly developed Marantz-proprietary circuit.

Parts quality reflects our premium-only philosophy. For example, the SC-11S1 incorporates the newest SA3 version of Marantz's acclaimed Hyper Dynamic Amplifier Module (HDAM®). This high speed circuit defines the SC-11S1's ability to accurately track rapidly changing audio signals.

The phono equalizer is yet another example of Marantz innovation. Conventional designs often impart a different – and disconcerting – sonic characteristic to low and high frequencies. Marantz engineers designed a circuit that eliminates those sonic discontinuities. The result is extremely accurate and convincing phono reproduction with the cartridge of your choice.

The SC-11S1's volume control exhibits exceptional accuracy and no audible "stepping" noises. The controller lets you select exact volume settings easily and is unaffected by aging or temperature variations.

The SC-11S1's fully independent headphone output adds a new measure of clarity to personal listening. The front panel display provides information on input selection and level among other parameters. You can turn the display off for distraction-free listening. The aluminum-faced remote accesses a selectable subsonic filter, tone, and level trim, and balance adjustments so you can choose the best combination for your tastes and source materials.

All active circuitry draws on a high-precision linear power supply based on an aluminum-encased toroidal transformer that far surpasses conventional noise-free requirements. The chassis itself is also heavy-duty and features a new aluminum top plate for resonance control.

There's a natural fluidity to everything you'll hear through this remarkable preamplifier. It adheres to Marantz tradition but sets new standards in long-term listenability. It is, after all, a Marantz Reference component.

For the sake of music . . .



"The more technology becomes complicated inside, the more it has to be simple outside." - Derrick De Kerckhove, Author and former director, the

McLuhan Program in Culture & Technology at the University of Toronto

and our demanding love of it.

SM-11S1

Stereo Power Amplifier

Many early Marantz power amplifiers produced comparatively modest power. In that light, the SM-11S1 – with its 110 watt per channel power rating – holds to this tradition. But Marantz tradition also mandates innovation. And so the SM-11S1's output doubles to 220 continuous watts per channel when delivering power to low impedance speakers. A "bridging" circuit lets you configure the SM-11S1 as a monaural amplifier delivering 420 watts. In any mode, the SM-11S1 generates truly exceptional control and delineation of the most complex sources.

But brute force without finesse serves no real purpose for the sonically sophisticated. To that end, Marantz engineered many new techniques. At the circuit board level, precise signal path positioning minimizes channel interference for superior ambience reproduction and soundstaging.

The SM-11S1 also boasts the newest SA3 version of Marantz's Hyper Dynamic Amplifier Module (HDAM®) technology so it instantaneously responds to any signal. And the SM-11S1, as do all Marantz Reference components, resists the kind of destructive interaction with loudspeakers that can degrade audible performance.

The high-current power supply boasts a toroidal transformer fully as large as that used in our flagship MA-9S2 monaural power amplifier. Configured for stereo use, this transformer feeds innovative power supply circuits that allow the SM-11S1 to perform optimally under even the most demanding conditions.

Of course, the SM-11S1's high quality parts – even the precision WBT speaker cable terminals – were chosen only after extensive listening tests to determine their positive contributions to overall sound quality.

The SM-11S1 benefits from more easily observed qualities also. It accepts balanced XLR inputs and easily switches between stereo and bridged-mono modes. A remote power turn-on circuit lets you activate the amplifier from a preamplifier or surround processor. And the front panel digital power meter monitors output with magnetic sensors that do not interfere with the audio signal.

The subtly-curved front panel echoes the SM-11S1's internal sophistication with a substantial yet décor-conscious design equally at home in a custom cabinet or on an open shelf.

Performance. Design. Appearance. The SM-11S1 is a Reference in every way.



"Music is what feelings sound like."
- Author Unknown

PM-11S2

Stereo Integrated Amplifier

A styling exercise worthy of Saul Marantz himself, the PM-11S2 integrated amplifier is stunningly functional with performance directly traceable to the cost-no-object SC-7S2 preamplifier and MA-9S2 monaural power amplifier. It is a prime example of the axiom that ultimate finesse often begins with brute over-engineering.

The power supply, for example, features a massive toroidal transformer. Completely covered by an aluminum case and supported by other equally sophisticated components, it provides high instantaneous current capability and quicker response than conventional circuit elements.

The preamplifier section features fully balanced circuitry with liberal applications of Marantz's newest SA3 version of its proprietary Hyper Dynamic Amplifier Module (HDAM®). Sonically, they help provide the silken response so prized by audiophiles.

Buffered inputs virtually eliminate unwanted interactions between source components and the PM-11S2. This is a critical consideration in light of the PM-11S2's wide variety of balanced and single-ended line-level inputs. The precision phono stage, increasingly rare in any component, is optimized for both moving magnet and moving coil cartridges.

The PM-11S2 benefits from a new high-precision digital volume control augmented by more HDAM® devices. It provides easily repeatable and noise-free gain changes.

On the amplifier side, the PM-11S2 evidences a meticulous level of attention. Each channel echoes the MA-9S2's two stage design to provide the force needed to control virtually any loudspeaker.

The end result? With the ability to "double down" power into low impedance speakers, the PM-11S2 often surpasses the control capability of so-called "super amps."

The rigid copper-plated chassis provides a firm foundation for all internal components. Two sets of WBT speaker terminals and front panel A/B speaker switching add a rare level of convenience. And our proprietary Floating Control Bus System (F.C.B.S.) synchronizes up to four PM-11S2s for multi-channel applications.

The front panel is as advanced as the circuitry behind it. Indirect blue LEDs display status with a décor-friendly elegance. The display, a "zero noise" LCD, exacts no performance penalty as it keeps you informed about the PM-11S2's operation.

The Marantz PM-11S2. Simplicity. Flexibility. And aural capability beyond your expectations.

Ultimate simplicity . . .



"Style is engineering that gives you freedom."

- Chris Bangle, Automotive designer

unequaled listenability.

PM-15S1

Stereo Integrated Amplifier

The PM-15S1 integrated amplifier brings Reference-level performance to those who treasure simplicity as well as sonic accuracy. From its champagne front panel to its heavy-duty speaker connectors, the PM-15S1 adds Marantz quality to every note in your music collection.

This is technology with a purpose – to let you hear everything better than you thought possible.

The all-important power supply begins with a “choke” input to remove extraneous noise from your AC line that might otherwise impact the sound. The massive hybrid ring-core transformer provides accurate voltages for various circuit segments. Marantz engineers chose these, and many other parts, only after extensive evaluation in the listening room as well as the lab.

The preamplifier section includes a sophisticated current feedback phono stage for exceptionally accurate LP reproduction. All-analog tone controls assure even purists with their benevolent effectiveness. Multiple SA2 versions of Marantz’s proprietary Hyper Dynamic Amplifier Modules (HDAM®) smooth the signal transition from preamp to power amp.

The PM-15S1’s power amplifier benefits from dual mono construction. Except for a common chassis, power cord, and transformer, each channel is totally independent to preserve every aspect of imaging. Internal configuration includes circuit boards with wide signal traces and heavy-gauge wiring for maximum signal transfer.

Marantz’s Floating Control Bus System (F.C.B.S.) lets you synchronize up to four PM-15S1s for multi-channel music reproduction.

A double-layer plate forms the chassis’ rigid base. A “Zero Noise” LCD display keeps you in touch with operating conditions while leaving sound quality untouched. And an aluminum-topped remote control lets you apportion power to precisely fit your mood, your room, and the demands of your loudspeakers.

In sum, the PM-15S1 is a carefully crafted expression of the finest in Marantz’s long and honored tradition of excellence. It can form the heart of an exceptional stereo music system now and easily adapt to multi-channel demands. That’s true flexibility – and one of the most important benefits of owning the best.



“Music washes away from the soul the dust of everyday life”
- Berthold Auerbach, Novelist

SA-7S1

Stereo Super Audio CD Player

Although most people think of the Marantz heritage as one based on preamplifiers and power amplifiers, Marantz was the first company in the world to announce a Compact Disc player! Since that groundbreaking event, Marantz has led the way in offering advanced digital playback with an unwavering focus on sound quality. The SA-7S1, unabashedly designed for the finest two-channel music reproduction possible, continues that tradition.

Capable of playing CDs, CD-Rs, CD-RWs, and stereo Super Audio CDs, the SA-7S1 combines several significant technical accomplishments to advance your musical enjoyment.

As are other Reference products, the SA-7S1's circuitry is housed in a double-layer, copper shielded chassis for dimensional stability and thorough isolation from external interferences.

The power supply includes a high-capacity toroidal transformer entirely shielded by a silicon steel plate and a copper-plated case. This keeps magnetic radiation from affecting internal circuitry.

The disc transport itself is a Marantz-designed example of exceptional metal crafting. The mechanism sits in a case of extruded aluminum while the disc drawer is cast to exacting tolerances. Servo and signal processing circuits are situated on a four layer glass epoxy board mounted close to the transport.

A Marantz-developed digital filter/noise shaper with user-selectable characteristics (including digital phase inversion) operates on new proprietary algorithms. Independent D/A converters process either PCM information from a CD or DSD data streams from Super Audio CDs. A high-accuracy master clock insures precise timing for extreme clarity.

A unique Digital Isolator completely separates ground connections between digital and analog circuitry for optimal isolation. After this, two D/A converters, each composed of four separate processors, provide 24-bit resolution for both PCM and DSD signals.

Analog circuitry follows the Marantz maxim of proven quality enhanced with the best contemporary technology. Fully balanced circuits benefit from multiple Hyper Dynamic Amplifier Module (HDAM®) modules in critical sections. The output buffer amps are HDAM SA2, chosen for their outstanding speed and timbral accuracy.

Aesthetically, the SA-7S1 evidences the typical care that has always distinguished Marantz products. The clean yet functional design is another manifestation of our desire to meld sound quality and superior appearance. The SA-7S1 is indeed a Reference. And indeed a Marantz.

From creation in the studio . . .



"If a composer could say what he had to say in words he would not bother trying to say it in music." - Gustav Mahler, Composer

to revelation in the home.

SA-11S2

Stereo Super Audio CD Player

In defining the SA-11S2, Marantz engineers drew on their experience in designing the standard-setting SA-7S1. And this positions the SA-11S2 Super Audio CD player as one that leads directly toward the emotional underpinnings of all music.

This link begins with a transport module housed in extruded aluminum and resting on a thick aluminum base. It provides a firm platform for exceptional resonance suppression. The result? A more accurate data stream and greater musical enjoyment.

The digital signal processor (DSP) uses Marantz-proprietary technologies such as Phase Error Compensation, as well as oversampling and noise shaping, to condition the signal. You can even tailor filter functions to best match a disc for exceptionally smooth and revealing sound from CDs, CD-Rs, and CD-RWs.

Critical digital-to-analog conversion for both CDs and Super Audio CDs benefits from a highly versatile Seiko microprocessor that offers several selectable modes for optimum high-resolution reproduction.

Yes, the SA-11S2's digital section is sophisticated. However, it's the analog circuits that provide the crucial link from a disc to the rest of your system. For these, we drew on decades of experience in crafting a fully balanced analog stage featuring our exclusive Hyper Dynamic Amplifier Module (HDAM®) circuits to insure the highest response speed and accuracy. Other quality parts include metal film resistors and mica capacitors, all chosen only after extensive listening tests proved their sonic superiority. Even the circuit boards feature signal paths fully twice as wide as usual for minimal signal interference.

The SA-11S2's segmented power supply includes an over-sized copper-encased toroidal transformer. Separate power blocks minimize any interference between digital circuitry, analog section, display drivers, and servo controls.

As befits a Reference component, other enhancements include a multi-layer chassis with a 5 mm thick aluminum cover for superior rigidity, an aluminum-topped full function remote control, and a 20-track music calendar.

Thus, the SA-11S2 stands as a reference disc player in every way. And that is just what a Marantz should be.



"Music has been my playmate, my lover, and my crying towel."

- Buffy Sainte-Marie, Folk Musician

SA-15S2

Stereo Super Audio CD Player

The SA-15S2 single disc Super Audio CD player carries the Reference Series tradition another step forward.

The performance begins with a new power supply designed around a large, double-shielded toroid transformer. This makes sure that the SA-15S2 is free from magnetic interference and noise.

A new mechanism with a Xyron disc tray reduces resonances so the digital circuitry processes more accurate data which, in turn, translates into more coherent and pleasing sound. Because the SA-15S2 handles MP3 and WMA encoded CD-R/RWs too, every audio disc in your library will benefit from the new mechanism.

We've optimized the new high bit/high speed microprocessors for both Super Audio CDs and CDs. And Marantz engineers took advantage of new capabilities to let you select digital filter characteristics that complement both your music selections and your tastes.

In addition, the SA-15S2 provides a digital output to give you the option of using an outboard processor. If you opt for the player's analog circuitry, you can disable the digital output for even better signal purity.

Configured with liberal use of both original and SA2 versions of Marantz's proprietary Hyper Dynamic Amplifier Module (HDAM®), the SA-15S2's analog section is far more than just a textbook example of fine design.

If you have another PCM digital source and would like to take advantage of the SA-15S2's sound quality, there's an optical digital input that will connect your source to the SA-15S2's circuitry.

Additional touches include solid copper "Zero Impedance" ground plates for low noise operation and superior channel separation, machined brass analog output terminals, and a high-current, discrete component headphone amplifier. The SA-15S2's front panel "Zero Noise" LCD display adds no radiation of its own to the audio signal.

The SA-15S2's front panel exhibits traditional Marantz Reference standards. Finished in sophisticated champagne, it defines a décor-friendly design aesthetic.

And, of course, the SA-15S2 is built for long-term accuracy and enjoyment. In both appearance and performance, it belongs in the finest music systems. Including yours.

From digital to analog . . .



Marantz Reference is the solution.

TT-15S1

Vinyl Disc Player

For analog lovers who treasure the vinyl experience, Marantz presents the TT-15S1 Vinyl Disc Player, turntable/arm/cartridge combination.

Designed by Marantz and Germany's Clearaudio, the TT-15S1 answers the need for an LP playback system that is both an economical alternative to the growing number of "cost-no-object" turntables and a significant performance improvement over so-called "affordable" models. Whichever way you view this Reference product, you'll be thrilled with its clarity, resolution, and easy set-up.

The turntable itself consists of a high-density and low-resonance acrylic platter and plinth (or base) supported by three large aluminum feet.

The motor, an oversized AC asynchronous design, uses a rotating magnetic field to guard against the sudden "pulses" common to DC motors. The motor is thoroughly isolated from the turntable's body by silicone "O" rings and a machined polymer pulley that turns the silicone belt. The platter shaft itself is hardened steel and rides on a ceramic bearing for long-term accuracy and reliability.

The anodized aluminum straight-line tone arm features a tight-tolerance set-screw mount and a magnetic anti-skating adjustment for precise groove tracking. Adjusting VTA (vertical tracking angle), often a difficult task with arm/cartridge combinations, is easy and straightforward. The cartridge shell is customized for the supplied phono cartridge for no-fuss alignment.

The cartridge itself, a moving magnet design based on Clearaudio's critically acclaimed Ebony Virtuoso, provides even, non-fatiguing frequency response across the audio spectrum as well as a convincing stereo image. Optimal tracking weight is 2 grams but the fully adjustable counterweight makes for easy variation when needed.

As a final touch, Souther Engineering's "Clever Clamp" keeps your LPs firmly in contact with the platter for better damping and more open sound.

In short, the Marantz Reference TT-15S1 Vinyl Disc Player is an ideal source component for unreformed – and unashamed – vinylholics.



"Style impresses, true beauty expresses."

- Chris Pacione - Design consultant, technology researcher, educator

technology highlights:

HDAM® (Hyper Dynamic Amplifier Module)

Used in Control Amplifiers, Power Amplifiers, Integrated Amplifiers, and Super Audio CD players.

HDAM is a Marantz-proprietary development that combines the short signal path advantages of IC (integrated circuit) and opamp (operational amplifier) design with the superior sound quality of discrete circuit elements. Different implementations of HDAM design serve the needs of control and power amplifiers, disc players, etc.

Although there are performance differences between HDAM, HDAM-SA, HDAM-SA2, and HDAM-SA3, these differences are important only as they apply to a particular circuit. For example, an HDAM-SA3 may be less ideal for a specific application than an HDAM-SA2.

In addition to performance, an HDAM's size is important. Some HDAM designs are smaller than certain circuits.

As always with Marantz, and especially for the Reference Series, rest assured that our engineers choose the parts best able to preserve the sonic details of your favorite sources.

Current Feedback

Used in Control Amplifiers, Power Amplifiers and Integrated Amplifiers.

Current feedback circuits usually exhibit faster rise and fall times and higher slew rates than their voltage feedback cousins. (Think of rise and fall times as an automobile's acceleration and braking capabilities respectively. Slew rate is analogous to a car's cornering ability.)

As you might expect, a current feedback amplifier is better able to track music's rapid changes and thus sound more natural.

This is particularly noticeable when using current feedback in a phono equalizer circuit. Here, Marantz's consistent current feedback technology eliminates the sonic discontinuities that often mar the perceived performance of voltage feedback designs.

Balanced (or differential) Audio Circuitry

Used in Control Amplifiers, Power Amplifiers, Integrated Amplifiers, and Super Audio CD players.

This term refers to circuit basic configuration or topology. A balanced or differential circuit doubles signal paths throughout the component by providing one conventional and one phase-inverted path for each channel in addition to a ground link. This virtually eliminates a destructive phenomenon called common-mode noise that often obscures low-level musical detail.

Don't assume that every component with XLR (three conductor) connectors has differential circuitry. Some components use conventional circuits with phase inverters at the inputs and outputs only. These designs don't present the same level of sonic sophistication as do true differential circuits.

Multiple Layer Chassis Construction

Used in Control Amplifiers, Power Amplifiers, Integrated Amplifiers, and Super Audio CD players.

A component's chassis, the framework that holds every internal part in place, is critically important for proper functioning and long-term reliability.

A chassis provides dimensional stability so internal parts remain in exact alignment for the life of the component. Steel and extruded aluminum, often layered for extreme rigidity, provide that platform. A chassis must also shield internal circuitry from the effects of RF (radio frequency) and EM (electromagnetic) interferences. That's why we use precisely milled copper

for some chassis elements and copper coating on others. And a chassis must isolate internal circuitry from vibration's destructive influences. Mass provides protection, and our engineers make sure that every Reference Series component is virtually immune to both external and internal oscillations.

Power Supplies

Used in Control Amplifiers, Power Amplifiers, Integrated Amplifiers, and Super Audio CD players.

This is the heart of any electronic component. It provides the proper operating voltage and current for every circuit. The power supply in all Marantz Reference Series components is a linear supply as opposed to a switching supply as we believe linear designs are better for sound reproduction.

Reference Series power supplies begin with a massive toroidal (or toroid) transformer that produces very little stray radiation as it breaks down 120 volt AC to the lower voltages needed by individual circuits. Specifically chosen high-grade rectifiers (which convert AC to DC) and storage capacitors (which convert DC pulses to steady DC current) complete the supply. As a result, every circuit operates optimally.

F.C.B.S. (Floating Control Bus System)

Used in Control Amplifiers and Integrated Amplifiers.

Reference Series components satisfy demanding audiophiles who seek the finest in stereo music reproduction. However, some music lovers enjoy a multi-channel perspective. F.C.B.S. provides the ability to synchronize multiple control amplifiers or integrated amplifiers to simultaneously respond to volume adjustments and source selections. Thus, F.C.B.S. preserves the sonic purity of your two-channel system and expands it to multi-channel sources when desired.

High Resolution Linear Volume Control

Used in Control Amplifiers and Integrated Amplifiers.

We use a dedicated combination of precision microcontrollers and HDAM modules to create a full-differential high-current variable volume control (SC-7S2, SC-11S1, and PM-11S1). This circuit preserves the sonic virtues of balanced operation throughout a Reference Series component and adds superb accuracy over the control's entire range. The benefits include the ability to easily and precisely repeat any volume setting.

Disc Transports

Used in Super Audio CD Players.

The disc transport provides the only mechanical link between the disc itself and a player's circuitry. For that reason, we use only the most advanced transports for our Reference Series players. In addition to extruded aluminum disc trays in some models, we developed a substance called Xyron, a composite of rigid-rod chain molecules that exhibit high tensile strength and an ideal modulus of elasticity. Whether of machined aluminum or Xyron, Marantz Reference Series disc drawers provide extraordinary isolation from the micro-vibration inherent in any disc mechanism and the minute rotation variations these vibrations might produce.

specifications:

Music aficionados tend to ignore this page. The reason? Even spectacular specifications are no guarantee that a component will sound good.

That's one reason we use the most accurate instrumentation available today – our ears – to evaluate critical internal parts before we use them in our Reference Series components.

But we don't ignore specifications either. That's why we offer an abbreviated list of important parameters for your perusal on this page.

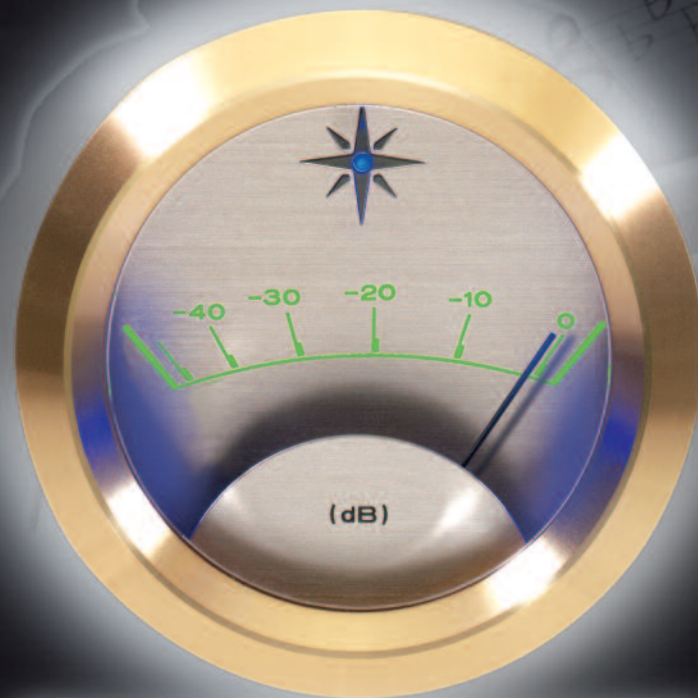
The technically curious will find complete specifications at www.marantz.com. We invite you to visit.

AMPLIFIER SPECIFICATIONS:	INPUTS	OUTPUTS	FREQUENCY RESPONSE	TOTAL HARMONIC DISTORTION	SIGNAL-TO-NOISE RATIO:	CONTINUOUS POWER PER CHANNEL INTO 8 OHMS	CONTINUOUS POWER PER CHANNEL INTO 4 OHMS
SC-7S2 Stereo Control Amplifier:	Line level: 1 balanced via XLR, 4 unbalanced via RCA F.C.B.S.: 1 via mini-DIN	Main: 1 balanced XLR, 2 unbalanced via RCA Recording: 1 unbalanced via RCA F.C.B.S.: 1 via mini-DIN	8 Hz – 150 kHz (+0, -3 dB)	Balanced: 0.0015%, Unbalanced: 0.003%	Balanced: 105 dB, Unbalanced: 108 dB	N/A	N/A
SC-11S1 Stereo Control Amplifier:	Line level: 2 balanced via XLR, 5 unbalanced via RCA Phono (MM/MC): 1 via RCA F.C.B.S.: via mini-DIN	Main: 1 balanced XLR, 1 unbalanced via RCA - Recording: 2 unbalanced via RCA - Headphone: 1 via 3/4" phone plug - F.C.B.S.: 1 via mini-DIN	8 Hz – 150 kHz (+0, -3 dB)	Balanced: 0.002%, Unbalanced: 0.003%	Balanced: 98 dB, Unbalanced: 99 dB	N/A	N/A
MA-9S2 Monaural Power Amplifier:	Balanced: 1 via XLR, Unbalanced: 2 via RCA	Speaker terminals: 2 via WBT connectors	5 Hz – 150 kHz (+0, -3 dB)	0.01%	123 dB	Continuous Power into 8 Ohms: 300 watts	Continuous Power into 4 Ohms: 600 watts
SM-11S1 Stereo Power Amplifier:	Balanced: 1 via XLR, Unbalanced: 1 via RCA DC trigger: 1 via 1/8" (3.5 mm) mini-plug	Speaker terminals: 2 pair via WBT connectors	5 Hz – 120 kHz	0.02%	101 dB	Continuous Power per Channel into 8 Ohms: 110 watts Bridged mode: 420 watts continuous power	Continuous Power per Channel into 4 Ohms: 220 watts
PM-11S2 Stereo Integrated Amplifier:	Line level: 1 balanced via XLR, 5 unbalanced via RCA Phono (MC/MM): 1 via RCA F.C.B.S.: 1 via mini-DIN	Preamplifier: 1 unbalanced via RCA - Recording: 2 unbalanced via RCA Headphone: 1 via 3/4" phone plug F.C.B.S.: 1 via mini-DIN, Speaker: 2 pair via WBT connectors	5 Hz – 120 kHz (+/-3 dB)	0.01%	Balanced: 95 dB, Unbalanced: 96 dB	Continuous Power per Channel into 8 Ohms: 100 watts	Continuous Power per Channel into 4 Ohms: 200 watts
PM-15S1 Stereo Integrated Amplifier:	Line level: 5 unbalanced via RCA Phono (MC/MM): 1 via RCA F.C.B.S.: 1 via mini-DIN	Preamplifier: 1 unbalanced via RCA Recording: 2 unbalanced via RCA Headphone: 1 via " phone plug F.C.B.S.: 1 via mini-DIN	5 Hz – 100 kHz (+/-3 dB)	0.05%	Unbalanced: 90 dB	Continuous Power per Channel into 8 Ohms: 80 watts	Continuous Power per Channel into 4 Ohms: 120 watts

SUPER AUDIO CD SPECIFICATIONS:	DISC CAPACITY	DISC FORMATS	INPUTS	OUTPUTS	FREQUENCY RESPONSE	TOTAL HARMONIC DISTORTION	DYNAMIC RANGE
SA-7S1 Stereo Super Audio CD Player:	1	Super Audio CD (stereo), CD (stereo), CD-R (stereo), CD-RW (stereo)	Disc tray only	Analog: 1 balanced via XLR, 1 unbalanced via RCA Digital: 1 coaxial via RCA, 1 optical via Toslink	SuperAudio CD: 2 Hz – 50 kHz (-3 dB) CD: 2 Hz – 20 kHz	SuperAudio CD: 0.0009% CD: 0.002%	SuperAudio CD: 114 dB CD: 100 dB
SA-11S2 Stereo Super Audio CD Player:	1	Super Audio CD (stereo), CD (stereo), CD-R (stereo), CD-RW (stereo)	Disc tray only	Analog: 1 balanced via XLR, 1 unbalanced via RCA Digital: 1 coaxial via RCA, 1 optical via Toslink	SuperAudio CD: 2 Hz – 50 kHz (-3 dB) CD: 2 Hz – 20 kHz	SUPER AUDIO CD: 0.0009% CD: 0.002%	SuperAudio CD: 114 dB CD: 100 dB
SA-15S2 Stereo Super Audio CD Player:	1	Super Audio CD (stereo), CD (stereo), CD-R (stereo), CD-RW (stereo)	Disc tray only	Analog: 1 unbalanced via RCA Digital: 1 coaxial via RCA, 1 optical via Toslink	SuperAudio CD: 2 Hz – 50 kHz (-3 dB) CD: 2 Hz – 20 kHz	SUPER AUDIO CD: 0.002% CD: 0.002%	SuperAudio CD: 111 dB CD: 100dB

VINYL DISC PLAYER SPECIFICATIONS:	SPEEDS	MOTOR TYPE	CARTRIDGE	TRACKING WEIGHT
TT-15S1 Vinyl Disc Player:	2 (33 1/3, 45 rpm)	Non-servo AC	MM (included)	2 grams optimum

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*All specifications, dimensions and weights are subject to change without notice.

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