

hi
fi
marantz®
81



Marantz means more than advanced technology

Since the dawn of history, man has tried to make music. Primitive instruments are to be found in museums the world over, which mark man's musical progress from such early attempts to imitate the sounds of nature with the Pan Pipes, to the development of early concert instruments such as the pedal harpsichord and the forte-piano.

Furtunate for us, man has never been content to stand still, and even today, musical instruments of all kinds are still being developed and improved. So too, are the electronic instruments which we know as 'Hi-Fi' - undergoing a similar process of development, in order to reproduce even more faithfully the sounds made by musical instruments.

Marantz, one of the worlds leaders in Hi-Fi development has, over the years, been instrumental in the introduction of many unique ideas which have sprung from continuous research designed to attain perfection in sound reproduction.

Marantz means respect for music

The entire Marantz range shown in this brochure is living proof of this respect.

Some of the more revolutionary ideas which Marantz have

perfected have not been visually or dramatically spectacular. Many of these have represented very big advances in electronics and are buried deep in the circuitry, and of interest only to Engineers - but the audible subjective results have been acclaimed by music lovers everywhere.

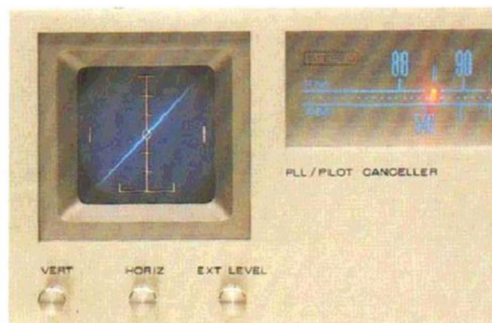
A really spectacular example of Marantz technological brilliance is the Tuning Oscilloscope fitted to the Marantz top-of-the range Tuners. This device provides continuous monitoring of signal strength as well as indicating channel separation together with the presence of multipath distortion and other factors detrimental to first class radio reception.

Since the advent of Computer technology, Marantz has been swift to take advantage of the benefits offered by the use of integrated circuits, solid state components and

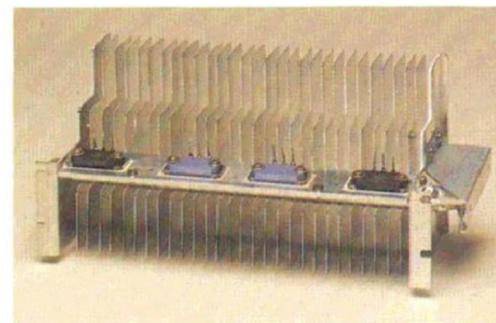
micro-processors to improve the reliability, performance and ease of operation of equipment right across the range.

Marantz research has brought further benefits to music lovers by the introduction of Parametric Tuning - a type of circuitry which permits the tuning of weak or distant FM stations, which muting circuits of conventional design would arbitrarily cancel out. Marantz was among the first to introduce the 2-speed Cassette Deck. This system allows the user to switch from the standard speed of 4.75cm/s (1.7/8 i.p.s.) to 9.5 cm/s (3.3/4 i.p.s.) which, at the turn of a knob, dramatically improves frequency response, dynamic range and the handling of transients. When the new metal formulation tape is used, recording quality equal to that of open reel recorders is possible.

Marantz Amplifiers - the heart of any system - are designed not only to embody the most up-to-date ideas in the field of electronic technology as far as the elimination of unwanted noise and distortion is concerned, but Marantz design



Unrivalled tuning accuracy with the front panel — mounted oscilloscope display



Power transistors mounted on heat-loop.

teams never forget that the prime function of the Amplifier is to reproduce music as faithfully as possible. That is why Marantz top-of-the-range Amplifiers operate on DC configuration and have high speed transistors which give excellent transient response and some are fitted with the unique Marantz heat-loop cooling system necessary for continuous high-power operation.

Marantz remains among the leaders in the continuous search for technical perfection, motivated now, as we have been over the years, by our love and respect for music and our desire to present it in it's purest form to people of discernment everywhere.

Take for instance the built-in graphic equalizer on the PM 710 DC. It has centre frequencies at 50 Hz, 200 Hz, 800 Hz, 3,2 kHz and 12,8 kHz in each channel.

All Marantz Amplifiers and Receiver units are designed to deal with the continually varying performance characteristics of loudspeakers whose impedance constantly fluctuates. The components of the

output stages of Marantz amplifiers and receivers are selected for their capacity to react to the extreme conditions of operation which they undergo when impedance drops sharply, without triggering safety circuits whenever this occurs. In this way reproduction quality remains unimpaired.

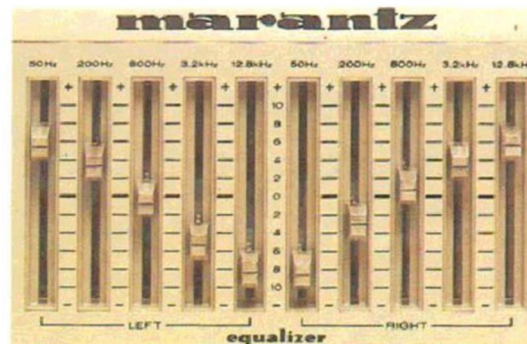
As a music lover, you may one day choose to fit a moving-coil cartridge to your turntable. There is little doubt that the moving-coil offers quality of reproduction. It does on the other hand suffer from the disadvantage of very low output.

The upper range of the 1981 series of Marantz amplifiers, however have a built-in pre-amplifier should you wish to use a moving coil cartridge.

New Marantz Turntables are equipped with a highly rigid straightline tone arm, which reduces tracking error distortion in the critical, middle and inner grooves. These tone arms can be

fitted with most modern high compliance Cartridges. High quality loudspeaker design requires special care and knowledge. At Marantz our Engineers have both the electronic and mechanical know-how required for the job. They have completely redesigned the electronic crossover circuitry so that each transducer only operates in the range of frequencies it is capable of reproducing over a 180° listening angle. This is the only sure way of obtaining true hifi sound in every corner of the room. By the use of extremely rigid cones Marantz is able to effect a tremendous improvement in the mechanical performance of it's transducers. In addition, the 'Precision' series Speakers are equipped with protection circuits, which make it impossible to overload the Speakers.

Specifications alone cannot prove the superiority of a range of hi-fi equipment. The proof of the superiority of Marantz is the thousands of satisfied music lovers world-wide who use Marantz equipment.



Left

EQUALIZER

Right



Marantz highly rigid straight line tone arm.

Integrated amplifiers

The integrated amplifier - a finely balanced combination of a preamplifier with a power amplifier - is the heart of any Hi-Fi system. Our Engineers were the first to bring TIM - transient intermodulation distortion - down below critical levels, with one hundredth part of the negative feedback required to eliminate harmonic distortion from conventional amplifier designs.

Linearity is the all important factor in an audio amplifier. Our amplifiers use a circuit configuration based on the SEPP (Single Ended Push - Pull) format, plus the use of highly linear power transistors.

Marantz tackled the problem of crossover

distortion long ago and found out that a non-crossover distortion amplifier can be made in class AB, provided it is given sufficient bias, and thermal compensation to guarantee that crossover distortion will not occur during the amplifier's warm up. On all amplifiers, special care is given to the RIAA phono equalizer and to the RIAA curve tolerance, by the use of carefully selected components. Input signals are fed into the amplifier via the shortest path possible, so that the wiring has a minimal affect on quality. Heat dissipation devices are designed so that amplifiers operated within the SOA (Safe Operation Area) under any conditions.

Top range models are fitted with direct current (DC) Amplifiers to ensure true low frequency reproduction almost down to 0 Hz without phase shift. The damping factor is also greatly improved.

Most Marantz integrated amplifiers are fitted with separate bass, mid-range and treble controls, while some units incorporate separate left and right graphic controls with five positions for each channel. All Marantz integrated amplifiers are equipped with a 20 Hz subsonic filter with a minimum of a 6 dB/Oct slope. Some models are also fitted with a high filter.

For the really sophisticated music lover, all top-range models are fitted with an additional input for moving-coil cartridges.

All power ratings are quoted RMS at rated THD, both channels driven into 8 ohms.

PM 710 DC 2 × 85 WATTS RMS

- DC amplification.
- Separate left and right five band graphic equalizer (50 Hz, 200 Hz, 800 Hz, 3.2 kHz, 12.8 kHz) with equalizer defeat.
- LED bar peak indicators - 12 dB/Oct high and low filters.
- Tape 1 and 2 monitors - mono switch - loudness - 41 step detented volume control - independent tape copy selector.
- Newly developed heat loop for stable high power operation.
- Output stage with power EBT (emitter ballast transistor) high speed units.

- Phono equalizer with wide dynamic range using FET's.
- Special pre-amplifier for moving coil cartridge.

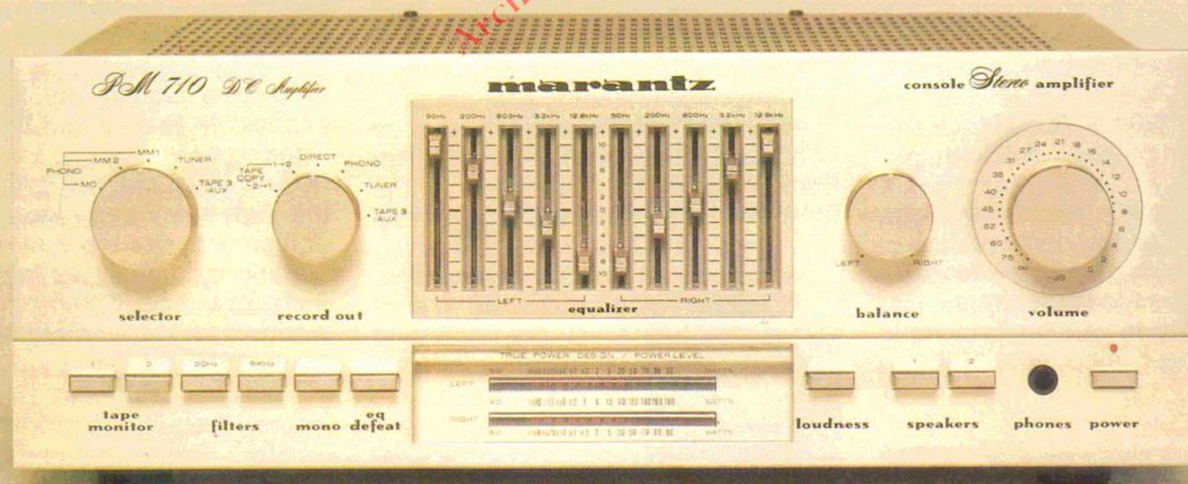
Connections: Tuner - Phono 1 MM and 2 MM with phono 2 MC input - tape 3/Aux - tape 1 and 2 monitor - 2 speaker systems.

PM 510 DC 2 × 65 WATTS RMS

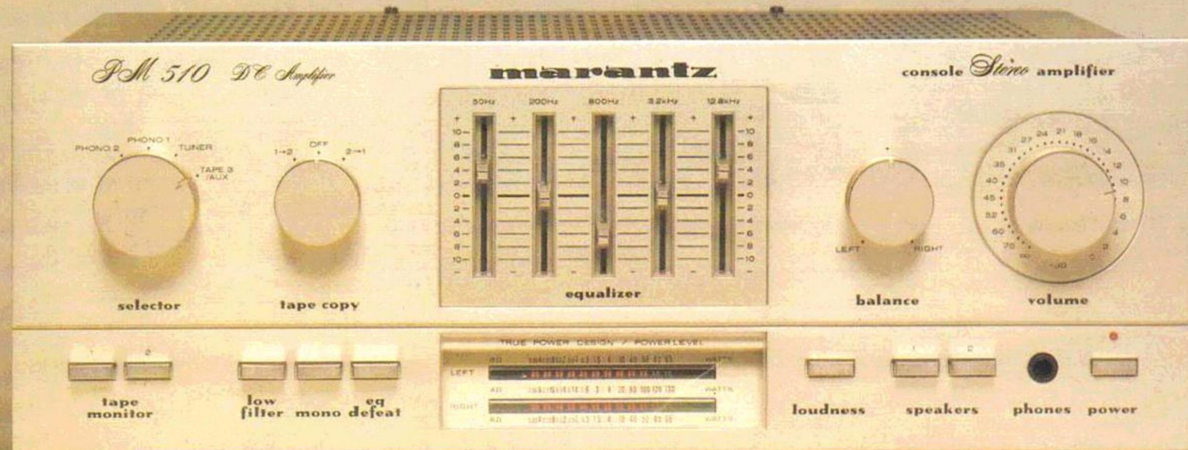
- DC amplification.
- Five band graphic equalizer (50 Hz, 200 Hz, 800 Hz, 3.2 kHz, 12.8 kHz) with equalizer defeat.
- LED bar peak indicators - 12 dB/Oct low filter - tape 1 and 2 monitors - tape copy function in both directions - mono switch - loudness compensation - 41 step detented volume control.
- Final stage using SEPP configuration - special skived - fin heat sinks for higher efficiency.
- Phono equalizer with wide dynamic range using FETs.

Connections: Tuner - phono 1 MM and 2 MM - tape 1 and 2 monitor - tape 3/Aux - 2 speaker systems.

PM 710 DC



PM 510 DC



PM 410**2 × 47 WATTS RMS**

Bass, mid and treble tone controls - left and right LED power meters - 6 dB/Oct low filter - loudness compensation - tape monitor - tape 2 to tape 1 copy - Mic/source mixing - 41 step detented volume control.

Connections: Tuner - phono 1 MM and 2 MM - Mic - tape 2/Aux - tape 1 monitor - 2 speaker systems.

PM 350**2 × 38 WATTS RMS**

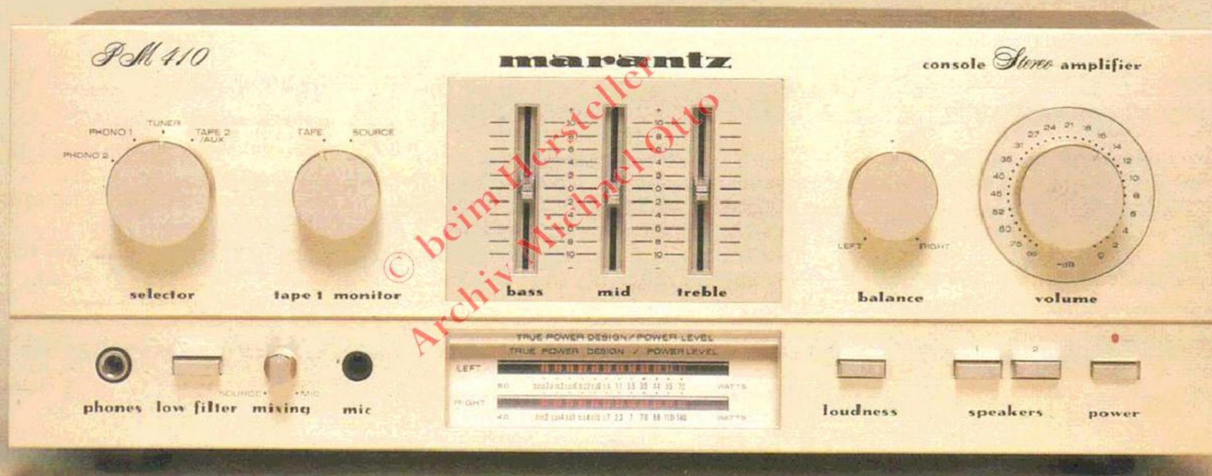
Bass, mid and treble tone controls - left and right LED power meters - 6 dB/Oct low filter - loudness compensation - tape monitor - tape 2 to tape 1 copy - 41 step detented volume control.

Connections: Tuner - phono MM - tape 2/Aux - tape 1 monitor - 2 speaker systems.

PM 310**2 × 25 WATTS RMS**

Bass and treble tone controls - left and right LED power meters - loudness compensation - tape monitor - 6 dB/Oct low filter - tape 2 to tape 1 copy - 41 step detented volume control.

Connections: Tuner - phono MM - tape 2/Aux - tape 1 monitor.

PM 410**PM 350**
PM 310

Tuners

The quality of high-frequency reception depends on the accuracy with which a number of parameters can be held under fine control. This is not easy task, as Marantz were well aware when we decided that all our efforts would be concentrated on designing such high technology tuners that they would match the pre-conditions required for optimum reception quality.

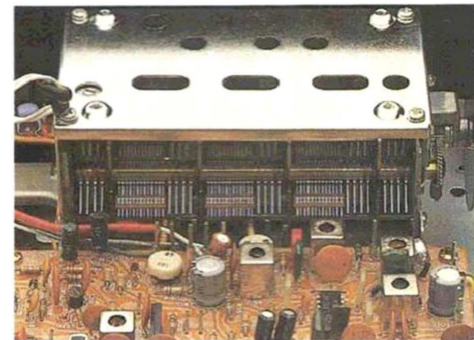
Thus, Marantz pioneered the front panel mounted tuning oscilloscope, improving the accuracy of signal strength monitoring tenfold and also furnishing such invaluable data as multipath signal distortion, stereo channel separation, phase error, rumble and acoustic-feedback levels.

The exceptional reception performance of Marantz Tuners is due to the use of a hypersensitive RF front end fitted with MOSFET dual gate transistors for handling even the most heavily modulated radio frequency signals with ideal linearity. In the IF section, an equally advanced device improves group delay characteristics. This further enhances selectivity and rejects unwanted signals very effectively.

Our use of an advanced IC of the PLL (Phase Locked Loop) configuration in the FM stereo MPX (Multiplex) section ensures wide FM stereo channel separation even when environmental conditions vary widely. The Marantz parametric tuning circuit permits you to tune in weak or distant FM broadcasts that ordinary muting circuits arbitrarily cancel



Phase locked loop demodulator and saw filter.



Front end.

out, at the same time muting interstation tuning noise. The secret is our method of setting the muting level based on a combined signal, part from the RF (Signal Strength) and part from the quadrature detector (DC offset voltage).

Some manufacturers have even gone so far as to use 8 tuned stages to combat the effects of an alternate channel on usable signals.

However, there is more to it than just the number of gangs that determine the front end capabilities. Our engineers have found that careful design of the mixer stage can be far more helpful in alleviating alternate channel noise due to the simple fact that even a large number of gangs can provide limited amounts of alternation in the stop band. Add to that the tracking problems associated with an 8 gang front end and it becomes easy to understand why Marantz top of the line Tuners use 5 gang front end.

ST 610

0.9 μ V SENSITIVITY

3 stage FM tuning capacitor - tuning oscilloscope for optimising signal information - gyro touch tuning knob.

- Pilot frequency rejection circuit.

LW version available as model ST 610L.

ST 610

© beim Hersteller
Archiv Michael Otto



ST 510 COMPUTUNER™ 0.85 μ V FM SENSITIVITY

Quartz locked frequency synthesized tuner.

An advanced microprocessor works in conjunction with a quartz crystal and phase lock loop circuit to accurately and instantaneously tune the unit.

- Electronic station search; automatic frequency scanning up and down until the device locks on the next station.

- 14 electronic memory presets (7 AM, 7 FM).
- Selectable FM IF bandwidth.
- Multipath detection circuit and indicator.
- Stereo/mono switch.
- Memory back up in case of power failure.
- LED signal strength display.

ST 450 0.9 μ V FM SENSITIVITY

4 stage FM tuning capacitor - precise station tuning system with digital readout and servo lock - LED signal strength and tuning indication - pilot frequency rejection circuit - FM muting - stereo/mono.

LW version also available as model ST 450L.

ST 310 1.0 μ V FM SENSITIVITY

3 stage FM tuning capacitor - precise station tuning system with LED's - LED signal strength indication - FM muting - stereo/mono - pilot frequency rejection circuit.

LW version also available as model ST 310L.

ST 510



ST 450



ST 310



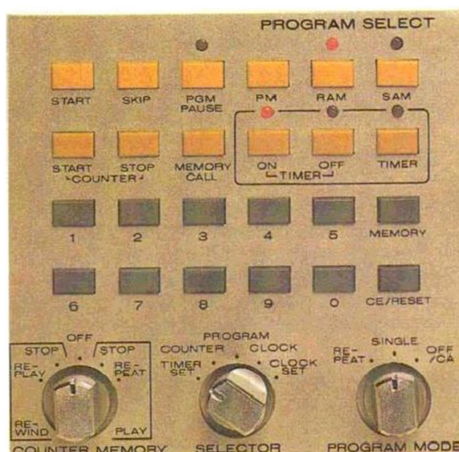
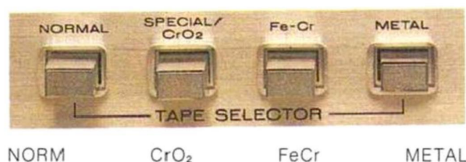
Cassette Decks

Marantz have introduced features which are virtually unique.

Most of our new decks are fitted with a new feature pioneered by Marantz, the second speed. The units are equipped with a speed selector (4.75 or 9.5 cm/s) to change the speed of the tape run at the turn of a knob. With the already wide frequency response of the Marantz decks at standard speed, the faster speed delivers extended frequency response, increased dynamic range and transient response.

In addition to that, the recently introduced metal tapes are compatible for use with a great number of our cassette decks and offer improvement in signal to noise and dynamic range over previous tape formulations. The combinations of these features make Marantz cassette decks hard to beat for flexibility, economy and performance. Marantz engineers are not concerned with innovation for its own sake, but more with improvements in convenience and ease of use. On Marantz decks you will find features such as Compuskip™ which automatically seeks another blank space between recordings, record mute to eliminate unwanted sections of the recording, memory rewind, soft touch tape transport, LED peak recording meters and many others.

For example, the 'intelligent chip' - a microprocessor, has been incorporated in the Marantz SD 9020 and SD 8020. Again, to



Marantz SD 9020 and SD 8020 COMPUDECK™.

improve convenience in that it can perform a number of useful functions at the touch of a button. The microprocessor can, for instance, play selected portions of the tape, start and stop the machine at a given time or repeat play ad infinitum.

It is a masterpiece of advanced engineering design and operational versatility.

SD 9020

CompuDeck™

Three head. Two speed deck with metal tape and soft touch mechanism. Microprocessor functions.

- Wow and flutter (WRMS) 0.05 % at 4.75 cm/s.
- Frequency response (Metal) 25 Hz - 20 kHz (4.75 cm/s); 20 Hz - 25 kHz (9.5 cm/s).
- 3 Head System with combi-sensust alloy head.
- Double dolby* noise reduction system.
- The COMPUDECK™ provides four primary functions: counter - clock - timer - programmable replay.

a) Counter: The microprocessor allows you to play any selected portion of the tape between two counter positions. You can repeat the track thus selected, or move to another by simply pushing the skip button.

b) Timer: The microprocessor with its accurate built-in clock, allows you to program your deck for playback or recording at any time of the day, even when you are absent.

c) Programmable replay function: The microprocessor allows you to program your deck to search for tracks in any order you wish (sequential or non sequential up to 19 tracks) and to repeat them as many times as you like. Remaining features are the same for both SD 9020 and SD 8020.

SD 9020



SD 8020



SD 8020

Compudeck™

Two speed deck with metal tape and soft touch mechanism.

Microprocessor functions.

- Wow and flutter (WRMS) 0.05 % at 4.75 cm/s.
 - Frequency response (Metal) 25 Hz - 18.5 kHz (4.75 cm/s); 20 Hz - 23.5 kHz (9.5 cm/s).
 - Sendust alloy record playback head.
 - Tape selector for standard, CrO₂, FeCr and metal tapes.
 - Fine bias control.
 - Record mute.
 - Memory Rewind.
 - Peak LED bar record & playback meters.
 - Dolby* noise reduction system.
 - Direct load mechanism.
 - Automatic tape tensioner.
 - Mic/line mixing facility.
 - Multiplex filter.
 - Dual motor drive system (DC servo, one for Rec/playback and one for take up).
 - Timer stand-by.
 - Output level control.
 - Dual gap erase head for superior erase performance.
- Computer features same as SD 9020.

SD 6020

Two speed cassette deck with metal tape and soft touch mechanism.

- Wow and flutter (WRMS) 0.05 % at 4.75 cm/s.
- Frequency response (Metal): 25 Hz - 18.5 kHz (4.75 cm/s); 20 Hz - 23.5 kHz (9.5 cm/s).
- Sendust alloy record playback head.
- Tape selector for standard, CrO₂, FeCr and metal tapes.
- Fine bias control.
- Record mute.
- Memory Rewind.
- Peak LED bar record & playback meters.
- Dolby* noise reduction system.
- Direct load mechanism.
- Automatic tape tensioner.
- Mic/line mixing facility.
- Multiplex filter.
- Dual motor drive system (DC servo, one for Rec/playback and one for take up).
- Timer stand-by.
- Output level control.
- Dual gap erase head for superior erase performance.

SD 6020 R

Identical to the model SD 6020 except front panel dimensions (466 × 146 mm) for matching receivers.

SD 4020

Two speed deck with 3 heads and metal tape.

- Wow and flutter (WRMS) 0.06 % at 4.75 cm/s.
- Frequency response (Metal): 30 Hz - 18 kHz (at 4.75 cm/s); 25 Hz - 20 kHz (at 9.5 cm/s).
- 3 head system with combi sendust alloy head.
- Mic/line mixing facility.
- Double Dolby* noise reduction system.
- Peak LED bar record and playback meters.
- Tape selector for standard, CrO₂, FeCr and metal tapes.
- Compuskip™.
- DC servo motor.
- Total shut-off.
- Multiplex filter.
- Dual gap erase head for superior erase performance.

*Dolby is the registered trade mark of Dolby Laboratories Inc.

SD 6020



SD 4020



SD 3020

Two speed deck with metal tape.

- Wow and flutter (WRMS) 0.08 % at 4.75 cm/s.
- Frequency response (Metal): 35 Hz - 17.5 kHz (at 4.75 cm/s); 30 Hz - 19 kHz (at 9.5 cm/s).
- Super Hard Metal Alloy record, playback head.
- Tape selector for standard, CrO₂, FeCr and metal tapes.
- Compuskip™.
- Peak LED bar record and playback meters.
- Dolby® noise reduction system.
- DC servo motor.
- Total shut-off.
- Multiplex filter.
- Dual gap erase head for superior erase performance.

SD 1020

Two speed deck with metal tape.

- Wow and flutter (WRMS) 0.08 % at 4.75 cm/s.
- Frequency response (Metal): 35 Hz - 17.5 kHz (at 4.75 cm/s); 30 Hz - 19 kHz (at 9.5 cm/s).
- Tape selector for standard, CrO₂, FeCr and metal tapes.
- Super Hard Metal Alloy record, playback head.
- Multiplex filter.
- Dolby® noise reduction system.
- DC servo motor.
- Total shut-off.
- Dual gap erase head for superior erase performance.

SD 1010

Metal tape cassette deck.

- Wow and flutter (WRMS) 0.08 % at 4.75 cm/s.
- Frequency response (Metal): 35 Hz - 17 kHz (at 4.75 cm/s).
- Tape selector for standard, CrO₂, FeCr and Metal tapes.
- Super Hard Metal Alloy record/playback head.
- Other features same as SD 1020.

SD 1010 R

Identical to model SD 1010 except front panel dimensions (466 x 146 mm) to match receivers.

SD 1002

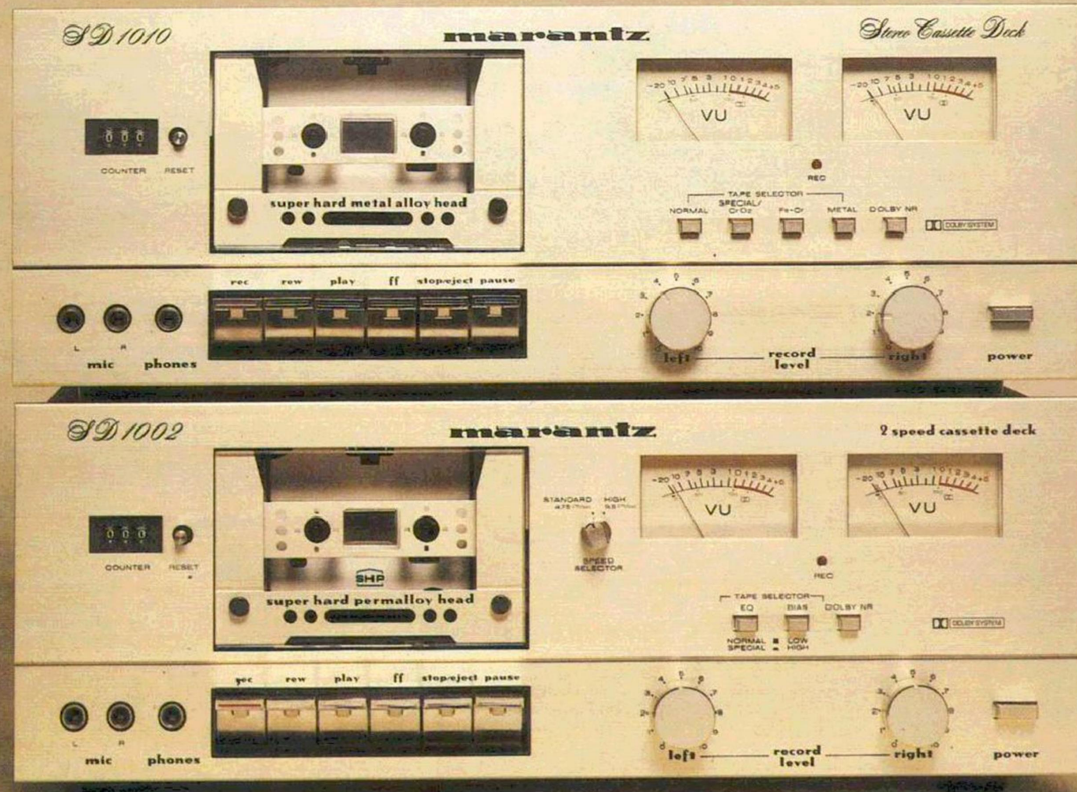
Two speed cassette deck.

- Wow and flutter (WRMS) 0.08 % at 4.75 cm/s.
- Frequency response (FeCr): 35 Hz - 16 kHz (at 4.75 cm/s); 30 Hz - 17 kHz (at 9.5 cm/s).
- Superhard permalloy record/playback head.
- Tape selector for standard CrO₂ and FeCr tapes.
- Multiplex filter incorporated.
- Dolby® noise reduction system.
- DC servo motor.
- Total shut off.
- Dual gap erase head for superior erase performance.

SD 3020
SD 1020



SD 1010
SD 1002



*Dolby is the registered trade mark of Dolby Laboratories Inc.

Receivers

The design of a high performance receiver which combines a tuner pre-amplifier and power amplifier in the same unit poses problems to the designer, which involve interference affecting the operation of the various components and circuits. These problems posed a challenge in the solving of which, Marantz engineers applied the very same care and ingenuity to the design of these combined units as they did when designing our individual units. The result is that each Marantz receiver is a beautiful balanced combination of three units, each of which is a Hi-Fi unit in its own right. The dual toroidal power supply and massive cooling capacity built into our top-of-the-range ensures optimum performance. The power amplifier sections of the Marantz receivers feature full complementary symmetrical output stages and the top models have DC amplification. The output signal is a perfect

replica of the input signal. The musical benefits of DC amplification are bass response, with little frequency roll off. The superior quieting sensitivity of Marantz receivers is largely due to the use of dual gate MOSFET RF amplifier and mixer stages. MOSFET devices deliver extremely linear operation and wide dynamic range, providing low RF intermodulation distortion, excellent rejection of spurious signals and high resistance to RF overloads. Our receivers use 6 dB/octave filters (20 Hz for the low filter 8 kHz for the high filter) and offer a variety of possibilities in accurate recording with the tape monitors, in tape copying and in room equalization using the 3 zone tone control. Marantz receivers are a balance of versatility and convenience of use. With the illuminated pointer you can tune in accurately even in the dark and the power LED meters on the more sophisticated models give you a precise indication of the peak power delivered by your receiver.

- All power ratings are quoted RMS at rated THD, both channels driven into 8 ohms.

SR 8010 DC
 2 x 80 WATTS.
 0.85 μ V FM SENSITIVITY.

Digital quartz synthesized receiver with electronic memory presets. The quartz lock COMPUTUNER™ on the SR 8010 DC enables you to lock in on the frequency you want with no drift. It will search automatically for the next station (up and down) and lock onto it. It has 14 electronic memory presets (7 AM - 7 FM) with memory back up in case of power failure. LED power meters - LED tuning meter/multipath indicator - bass, mid and treble tone controls - 6 dB/Oct high and low filters - 2 tape monitors - independent record selector - multipath indication - vacuum fluorescent frequency display - DC power stage-PLL FM stereo demodulator with pilot canceller - Dual gate MOSFET tuner front end.

SR 8010 DC



SR 7000 G

2 × 110 WATTS.

0.9 μV FM SENSITIVITY.

Dual tuning indicator - LED power meters - gyro touch tuning - 6 dB/Oct low and high filters - loudness compensation - 2 tape monitors - independant recording selector - bass, mid and treble tone controls - FM muting - DC power stage - PLL FM stereo demodulator with pilot canceller - MOSFET tuner front end.

Connections: Phono - 2 tape monitors - tape 3/Aux - 2 speaker systems.

SR 6010 DC

2 × 80 WATTS.

0.9 μV FM SENSITIVITY.

Dual tuning indicator - LED power meters - gyro touch tuning - 6 dB/Oct low and high filters - loudness compensation - 2 tape monitors - independant recording selector - bass, mid and treble tone controls - FM muting - DC power stage - PLL FM stereo demodulator with pilot canceller - MOSFET tuner front end.

Connections: Phono - 2 tape monitors - tape 3/Aux - 2 speaker systems.

SR 4010

2 × 55 WATTS.

0.9 μV FM SENSITIVITY.

Dual tuning indicator - LED Power meters - gyro touch tuning - 6 dB/Oct low filter - loudness compensation - tape copy function - 2 tape monitors - bass, mid and treble tone controls - FM muting - PLL FM stereo demodulator - MOSFET tuner front end.

Connections: Phono - 2 tape monitors - tape 3/Aux - 2 speaker systems.

LW version also available, model SR 4010L.

SR 7000 G**SR 6010 DC
SR 4010**

1.0 μ V FM SENSITIVITY.

LW version also available, model SR 2010L.

1.1 μV FM SENSITIVITY.

LW version also available, model SR 1010L.

1.2 μV FM SENSITIVITY.

Connections: Phono - tape 1
monitor - tape 2/Aux - 2 speaker
systems.



Marantz Exclusives

This brings us to two examples of supreme Marantz technology. These two systems incorporate all the technology and features which make Marantz systems demonstrably superior. Each component has been carefully selected for perfect compatibility and integration with every other component. Marantz brings you two systems whose incomparable sound quality is matched only by their fine appearance and design. These systems feature all that is best in Marantz technology and are worthy of auditioning by even the most demanding hi-fi fan or music lover.

SD 7
ST 7
SC 7
SM 7



ST-7 Stereo Tuner 0.75 μ V FM SENSITIVITY

- Low noise dual-gate MOSFET sensitive FM front end.
- Dual IF circuit in FM for first class selectivity and distortion parameters by use of LC filters and newly developed SAW (Surface Acoustic Wave) filter.
- 400 Hz record level calibration oscillator.
- Five stage FM capacitor - Quartz locked gyro-touch tuning - Touch controlled electronic tuning - SAW filter for superior linearity - FM IF bandwidth selector - Pilot frequency rejection circuit - Multiplex noise filter - Adjustable muting - Audio level control - Tuning oscilloscope.

SM7 Stereo Power Amplifier 2 $\times$ 190 WATTS

- Powerful low-TIM performance. We combat TIM (Transient Intermodulation distortion) in the SM7 in several effective ways. We use DC configuration throughout and we have reviewed and improved every circuit part. We use high speed power transistors created to our specifications and still more important, we improved open-loop response to enable us to use a lower amount of negative feedback thereby reducing the more ordinary forms of distortion.
- Low noise/high output amplifier configuration. The input of the Marantz SM7 is formed of a differential DUAL FET with matched thermal characteristics. Next is a dual FET differential amp, an emitter/follower buffer and a 3 stage Darlington-connected output, ending in a parallel push-pull circuit. This latter circuit is formed of an array of EBTs (Emitter - Ballast - Transistor) with superb performance characteristics, both in high power output and high speed switching.
- Separate power supplies. Left and right channels receive power from separate supplies. The predriver and power output sections each have their own transformer. To further assure a constant energy supply a quartet of massive 15,000 μ F capacitors are used. The SM 7 delivers its full rated output over long hours of operation without strain.
- Precision peak power meters.
- Error-Free Energy Sensor Power Protection. A SOA (Safe Operating Area) detection protection circuit goes into operation the instant any output current/voltage reaches a level beyond the prescribed SOA.
- Individual left and right channel gain controls.
- Sub-panel push buttons for speaker systems 1 and 2.
- Direct speaker output without switches.

SC-7 Stereo Control Console

- Low TIM (Transient Intermodulation Distortion) design and control versatility. Like the SM-7 power amp the SC-7 features design parts specifically created to combat transient intermodulation distortion.
- Low Noise/Low-distortion phono Equalizer.
- The input is a cascade differential formed of low-noise FETS, followed by a complete push-pull amp and Darlington-connected SEPP output. The entire phono equalizer circuit in the Marantz SC-7 is DC for low distortion, low-TIM performance and better transient response.

Pre-Preamplifier for MC cartridges. The built-in pre-amp is DC using low noise FETS at the input. S/N ratio is extremely good thanks to low-impedance negative feedback circuitry.

Other features are: 41 step attenuator - 20 dB audio muting - separate left and right graphic controls for bass, mid range and treble with adjustable turnover frequencies - Tone defeat - Low and high filters. Flexible tape copying - Independent record selector allowing simultaneous recording of one input while listening to another. Variable cartridge impedance selector for moving coil or moving magnet type cartridges.

Connections: Phono 1 MM/MC - Phono 2 MM - tuner - tape 1 and 2 monitor - Aux - 2 Preamp outputs Oscilloscope out.

SD-7

Two speed. Three head deck with metal tape and soft touch mechanism. Microprocessor functions.

Wow and flutter (WRMS) 0.05 % at 4.75 cm/s. Frequency response (metal) 25 Hz - 20 kHz (4.75 cm/s); 20 Hz - 25 kHz (9.5 cm/s). This compudeck is equipped with a microprocessor to allow you to program the machine in three basic ways. The unit is programmed with a calculator type keyboard where operations are keyed in a logical sequence.

(a) Counter function

The microprocessor allows you to play any selected portion of the tape between two counter positions. You can repeat that portion or move on to another one by simply pushing the skip function.

(b) Timer function

The microprocessor with its accurate incorporated clock allows you to program your deck for playback or recording at any time of the day, even when you are absent.

(c) Programmable replay function

The microprocessor allows you to program your deck to search for songs in any order you wish (sequential or non sequential up to 19 songs) and to repeat them as many times as you like.

- Two speed operation: audio engineers demonstrated long ago that increasing tape speed significantly improve high

frequency response and dynamic range. With the already wide frequency response of the SD-7 at standard speed, the faster speed delivers exceptional reproduction quality in distortion, frequency and dynamics.

- Dual motor drive: a smooth consistent tape transport system is essential to high quality sound reproduction. That is why we use a highly refined, heavy duty DC servo motor and independent reel motor.

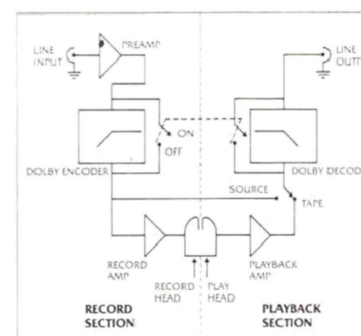
- Sendust alloy R/P head: although it has been used in professional applications for several years, sendust alloy is just now beginning to appear in decks engineered for consumer use. It has received wide spread acclaim from professionals and audiophiles alike for its superior electrical characteristics and longer life expectancy.

- Three head configuration with double dolby *: Marantz utilizes a unitized housing for the record and playback heads. Because the gaps on both heads must be permanently aligned to prevent drastic high frequency roll-off. The single housing guarantees top performance and reliability. The benefit of three head configuration is its ability to provide tape/source monitoring while you record.

- Dual gap erase head for superior erase performance.

- Individual tape selectors and adjustable bias control: the SD-7 provides individual tape selectors (EQ/bias) for all three standard tape formulations plus one for

today's new metal tape. For additional accuracy Marantz has included a bias control that can be adjusted to compensate for the slight variations in bias requirements that exist between tapes of various manufacturers.



The Double-Dolby Systems enables you to listen to the decoded playback signal for accurate evaluation of recording quality.

ST 8
PM 8

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Archiv Michael

ST-8 Stereo Tuner

Same performance features as on model ST-7. Supplied in deluxe walnut cabinet, gold anodized finish.

PM-8 Stereo Console Amplifier

Performance features as on models SC7 and SM7. Supplied in deluxe walnut cabinet, gold anodized finish.



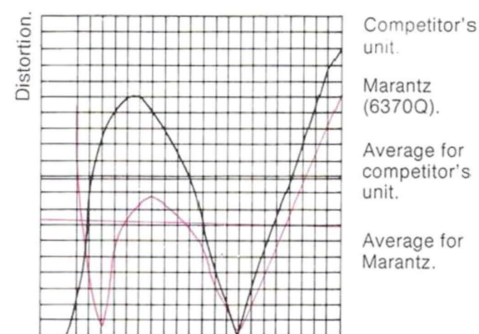
* Dolby is the registered trade mark of Dolby Laboratories Inc.

Turntables

The turntable has always been a critical link in any Hi-Fi system. In the design of a turntable, the audio engineer is faced with complex problems in the realm of high-precision mechanical engineering rather than those connected with purely electronic components. This is why the very design of the turntable has been continually called into question by leading design engineers. They have, for example, fitted our turntables with direct drive, while also incorporating quartz governed, phase locked loop speed control together with digital speed display. Our turntables use DC brushless, slotless, non cogging drive design motors to virtually eliminate rumble. The light, highly rigid straight-line tonearm embodies special low-distortion tracking geometry developed by exhaustive computer

simulation studies. Length of arm and headshell offset angles have been carefully computed for minimum average tracking error across the entire phono disc. Straight-line design means greater rigidity along the arm's longitudinal axis, for freedom from torsional resonance. The counter-weight assembly is acoustically decoupled from the rest of the arm with elastomeric bush. Tonearm cueing is viscous damped to gently "float" the stylus onto the record. An adjustable antiskate control accommodates varying cartridge tracking forces. The headshell is detachable for ease of cartridge change. The dynamically balanced die-cast aluminium platter ensures flutter free rotation of the record and the full contact rubber mat, made of high density rubber will absorb even the slightest platter resonance. All Marantz turntables are equipped with magnetically coupled semi automatic functions and are fitted with resilient mountings. On all direct drive units the controls are fully accessible with the dust cover closed.

Minimum recording radius - RIAA standard
Normal minimum recording radius



The design of the Marantz tone arm reduces tracking error distortion by more than 30 % in critical areas of the disc.



Digital Speed Display.

6370 Q

Wow and flutter: 0.02 % - direct drive DC servo motor and quartz lock circuitry - LED speed control and digital display showing actual speed or percent variation from nominal speed - automatic arm stop and return - controls accessible with dust cover closed - professional type tone arm with special oil damping system - laterally balanced arm fitted with counterweight and adjustable anti-skating device - dynamically balanced platter - resilient anti-shock suspension - separate motor for tone arm lift and return.



6025 CT

Wow and flutter: 0.07 % - belt drive - A.C. synchronous motor - automatic stop and arm return - precision, S-configuration tone arm - "reject" control for manual arm lift during play - anti-shock suspension - cartridge included.

6025 CT



TT 6000



TT 6000

Wow and flutter: 0.025 % - quartz locked servo controlled direct drive - extra light straight configuration tone arm with minimal tracking error - automatic operation with disc diameter selection - fully automatic tone arm function - separate motor for tone arm lift and return - all controls accessible with dust cover closed - adjustable counter-weight and anti-skating devices - dynamically balanced aluminium platter - efficient acoustic insulation with anti-shock resilient suspension.

TT 4000



TT 4000

Wow and flutter: 0.025 % - servo controlled direct drive unit with quartz locked servo control - extra light straight configuration tone arm with minimal tracking error - semi-automatic operation with automatic arm lift, return and stop at end of record - controls accessible with dust cover closed - adjustable counterweight and anti-skate device - dynamically balanced aluminium platter - efficient acoustic insulation - anti-shock suspension.

TT 4000 CT

Version with magnetic cartridge included.

TT 2000



TT 2000

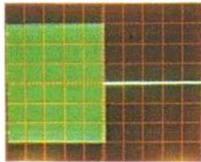
Wow and flutter: 0.03 % - electronic direct servo control with stroboscopic fine speed adjustment.

- Extra light straight configuration tone arm with minimal tracking error - semi-automatic operation with automatic arm left, return & stop at end of record - controls accessible with dust cover closed.
- Adjustable counterweight & antiskate device - dynamically balanced aluminium platter - efficient acoustic insulation - anti-shock suspension.

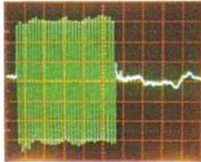
TT 2000 CT

Version with magnetic cartridge included.

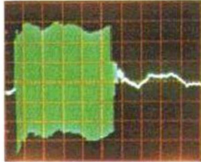
Speakers



Original signal



Marantz cone



Traditional cone design

We design our speakers from the sound up

As any Marantz speaker engineer will tell you, speaker design is largely a matter of balance; an optimum combination of cone, voice coil, magnet assembly, crossover and enclosure to achieve a specified level of performance. Developing that balance for each speaker requires expertise, extensive design and testing facilities and, most of all, experience. Marantz has all three.

In fact, we are one of a handful of speaker manufacturers who actually design our own speakers. Inside and out. What we do not manufacture ourselves, we design, specify and subject to rigorous quality control. So each Marantz speaker system is tailored to its best potential of transient and frequency response, efficiency, wide dispersion and low distortion. And because the components that go into each Marantz system are precisely designed and closely controlled, the high level of performance you have come to expect can be maintained.

Speaker performance and the rigid cone

As a speaker cone moves back and forth during performance, it undergoes more stress than a light aeroplane pulling out of dive. If the cone bends radically out of shape under this stress, you hear the results as transient distortion. Logically then, the more rigid the cone, the better the transient performance. Marantz woofer cones are rigid enough to

withstand 100 Gs of pressure without breaking up. The audible benefits are impressive: tight low frequency response, uncoloured sound quality and a degree of instrumental definition, impossible from a normal cone. All Marantz speakers use cones constructed of ten different fibrous materials, combined

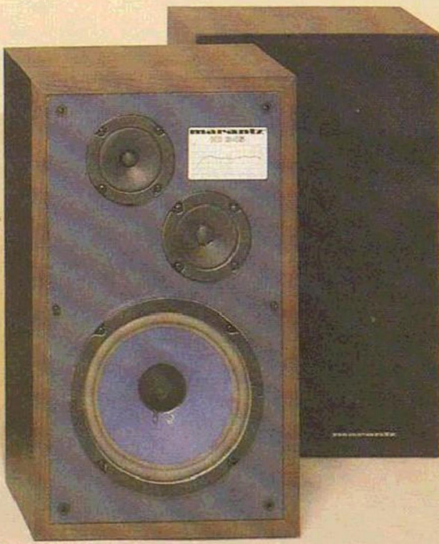
with special dyes, moulded under heat and pressure to specified weight and shape, and then impregnated with an extremely hard finish. The superior structural strength of Marantz cones enables them to move as a physical unit under tremendous accelerations - the ideal piston-like motion that contributes to uniform

MODEL	HD 545	HD 445	HD 345	SP 245	SP 235	SP 225	
Frequency Response	40-20	45-20	50-20	50-18.5	55-18.5	60-18	Hz-kHz
Efficiency (SPL/W/M/1 kHz)	92	91	88	87	87	86	dB
Power Handling Capacity	60	55	50	45	40	30	W
Transducers							
Woofer	20	20	20	20	20	20	cm
Midrange	12	12	7.5	—	—	—	cm
Tweeter	2.5	2.5	6.5	6.5	6.5	6.5	cm
Crossover Frequencies	1/4.5	2/8	2/8	3.5	3.5	3	kHz
Level Controls							
Midrange	x						
Tweeter	x						
Nominal Impedance	8	8	8	8	8	8	Ohms
Dimensions							
Width	286	286	286	286	286	256	mm
Height	486	486	486	486	486	361	mm
Depth	216	216	216	216	216	178	mm
Type of System	Infinite baffle	Infinite baffle	Infinite baffle	Infinite baffle	Infinite baffle	Infinite baffle	

HD 545

HD 445

HD 345



frequency response and lack of coloration. Round the outside edge of the cone is a half-roll foam compliance that allows the long linear movement necessary to achieve good bass response. The foam absorbs sound energy travelling through the cone that could produce cone break-up.

The mid-range: why, what and how

Music is made up of many combinations of frequencies which, if combined through a single transducer, produce additional unwanted frequencies - intermodulation distortion.

By dividing the audio spectrum into two or three individual bands and designing transducers to reproduce a limited range of frequencies intermodulation distortion can be dramatically reduced.

In Marantz speakers, the all-important mid-range frequencies are reproduced by a 5 inch cone transducer whose characteristics are such that it blends precisely with both woofer and tweeter elements.

As in the woofer, the cone is exceptionally rigid to ensure linear response characteristics with minimum coloration. The entire mid-range unit is sealed in its own enclosure so vibrations produced by the woofer cannot interfere with mid-range reproduction.

The Marantz low mass, wide dispersion dome tweeter

As the high end of the frequency spectrum our speakers use an extremely lightweight special cloth dome. Its uncommonly broad dispersion characteristics produce an ideally balanced speaker system with a stable stereo image throughout the listening area. And, since what you hear is determined by reflected as well as direct sound, broad dispersion means Marantz speakers will exhibit a consistent energy level through the full frequency range.

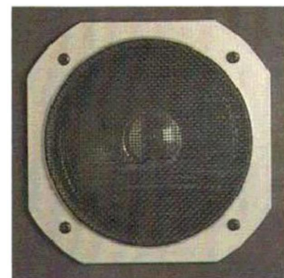
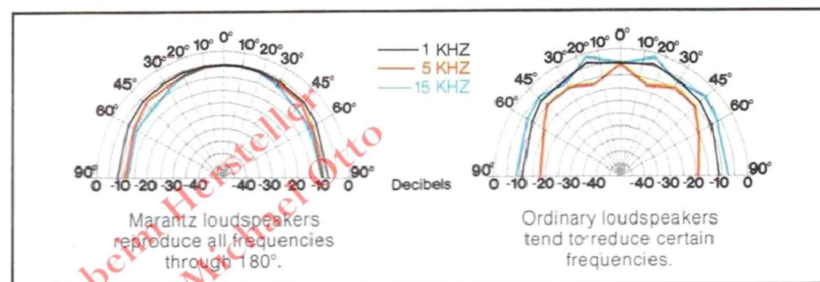
The diaphragm's low mass combined with high degree of rigidity, ensures exceptionally smooth, linear response with non of the high end peaks that can produce harshness or edginess. Coupled to the dome is an unusually powerfull ceramic magnet, which creates immense flux density to provide excellent transient response.

The result is a transducer capable of accurately reproducing high transients with exceptional clarity and tonal definition.



Wide dispersion

Unlike ordinary speakers, which tend to concentrate certain frequencies in narrow channels, and oblige you to be directly in front of them to get the full benefit of sound, Marantz speakers reproduce all frequencies through a listening angle of 180°.



SP 245

SP 235

SP 225



Precision Series : Marantz exclusives

MODEL	P 1230	P 1030	P 830	
Frequency Response	30-22	35-22	40-22	Hz-kHz
Efficiency (SPL/W/M/1 kHz)	94	92	90	dB
Power Handling Capacity	200	150	100	W
Transducers				
Woofer	30	25	20	cm
Midrange	12	12	12	cm
Tweeter	2.5	2.5	2.5	cm
Crossover Frequencies	1.5/7.5	1.5/7.5	1.5/7.5	kHz
Level Controls				
Midrange	x	x	x	
Tweeter	x	x	x	
Nominal Impedance	4-8	4-8	4-8	Ohms
Dimensions				
Width	400	320	292	mm
Height	762	660	570	mm
Depth	323	273	273	mm
Type of System	Bass reflex	Bass reflex	Bass reflex	

P 1230

P 1030

P 830



Stored energy

Stored energy is the continued vibration of a loudspeakers radiating element after the driving force has stopped. Its effect audibly is to cause sounds to run together - a smearing of the sound.

To combat this, Marantz engineers use extremely rigid cones and linear polyester film domes tightly coupled to their voice coils, to create homogenous rigid structures. These are coupled to massive powerful magnet assemblies to create transducers that move in a smooth piston like motion, without cone break-up or flexing. This results in precise, sharp instrument definition.

Automatic overload protection with LED indicator

The unique automatic overload protection system with LED indicator makes the precision series loudspeakers virtually indestructible. This device senses both voltage and current, enabling it to protect against excessive power levels and, more importantly, against clipping distortion. The vast majority of loudspeakers damaged are the result of clipping distortion... not excessive power. The LED turns on as the signal to the speaker is interrupted. When the dangerous condition has passed, the signal is allowed to flow again and the LED is extinguished automatically.

Crossover network

The crossover designs in the precision series speakers includes conjugate networks. These are impedance compensating networks to compensate for the reactive characteristics of the individual drivers in the loudspeakers. The conjugate network provides a pure resistive load to each crossover stage, ensuring the consistent predictable separation of frequencies at the precise points the design engineers intended.

Preassembled Systems

Marantz is the first to offer complete preassembled 'off-the-shelf' take-away systems eliminating the task of assembling the units into the rack and connecting together. All you have to do is to buy the system and plug it in connecting the speakers of course, and you are ready to listen.

MR 60 (L)

Complete system 2 x 55 W RMS, THD 0,03 %, 20 Hz to 20 kHz, 8 ohms including :
PM 500, amplifier with 5 band equalizer.
ST 400 (L), tuner with digital readout (LW optional).
SD 3000, cassette deck.
TT 4000 CT, DD quartz lock turntable with cartridge.
2 x HD 540 (or HD 545) 3 way speaker system with level controls.
(Speakers supplied may vary in certain markets.)

MR 60 B

Complete system 2 x 55 W RMS, THD 0,03 %, 20 Hz to 20 kHz, 8 ohms including :
PM 500, amplifier with 5 band equalizer.
ST 400, tuner with digital readout.
SD 3000, cassette deck.
TT 4000 CT, DD quartz lock turntable with cartridge.
AT 5, digital timer.
2 x HD 540 (or HD 545) 3 way speaker system with level controls.
(Speakers supplied may vary in certain markets.)

MR 60 L



MR 50 (L)

Complete system 2 x 55 W RMS,
THD 0.03 %, 20 Hz to 20 kHz,
8 ohms including :
PM 500, amplifier with 5 band
equalizer.
ST 400 (L), tuner with digital
readout (LW optional).
SD 4000, metal tape cassette deck
with 3 heads.
TT 4000 CT, DD quartz lock
turntable with cartridge.
2 x HD 540 (or HD 545) 3 way
speaker system with level
controls.
(Speakers supplied may vary in
certain markets.)

MR 50



MR 40 (L)

Complete system 2 x 45 W RMS,
THD 0.05 %, 20 Hz to 20 kHz,
8 ohms including :
PM 400, amplifier.
ST 400 (L), tuner with digital
readout (LW optional).
SD 3000, cassette deck.
TT 2000 CT, DD turntable with
cartridge.
2 x HD 440 (or HD 445) 3 way
speaker system.
(Speakers supplied may vary in
certain markets.)

MR 40

MR 40 B

Complete system 2 x 45 W RMS,
THD 0,05 %, 20 Hz to 20 kHz,
8 ohms including :
PM 400 amplifier.
ST 400 tuner with digital readout.
SD 3000, cassette deck.
TT 2000 CT, DD turntable with
cartridge.
AT 5, digital timer.
2 x HD 540 (or HD 545) 3 way
speaker system with level
controls.
(Speaker supplied may vary in
certain markets.)



MR 25



MR 25 (L)

Complete system 2 x 30 W RM
THD 0.05 %, 20 Hz to 20 kHz,
8 ohms including :
PM 250, amplifier.
ST 300 (L), tuner (LW optional)
SD 3000, cassette deck.
TT 2000 CT, DD turntable with
cartridge.
2 x 4 G/3 (or HD 345) 3 way
speaker system.
(Speaker supplied may vary in
certain markets.)

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MR 20



MR 20 (L)

Complete system 2 x 25 W RM
THD 0.3 %, 20 Hz to 20 kHz,
8 ohms including :
PM 200, amplifier.
ST 300 (L), tuner (LW optional)
SD 1000, cassette deck.
TT 2000 CT, DD turntable with
cartridge.
2 x 4 G/C (or SP-235) 2 way
speaker system.
(Speakers supplied may vary in
certain markets.)

Portable Music Systems

PMS 7000/PMS 7004

Marantz exclusive portable system, with detachable speakers, to give you Hi-Fi sound wherever you go.

Available in MW/FM or MW/FM/LW/SW.

The centre unit consists of a tuner, preamplifier, cassette deck. The amplifiers are built into the Speakers (PMS 7000).

The Tuner:

Tuning is easy with the inertia-moving pointer control. A signal strength meter indicates whether you are enjoying optimum receiving conditions. The PLL FM demodulator ensures lowest distortion and best separation.

The Preamplifier:

Input selector for phono (MM), tape and Aux inputs with RCA phono connectors in the rear. Other features are bass and treble tone controls, FM muting, loudness and stereo/mono switch. It also includes a mic/mixing facility. The unit is equipped with 2 highly sensitive electret microphones built in, with inputs for external mics also provided, together with a headphone output jack.

The Tape Deck:

Front loading system with damped door. Tape selection for normal CrO₂ and FeCr tapes. Dolby* noise reduction system. Cue and review.

The Speakers:

2 way systems with 20 cm woofer and 6 cm tweeter. The amplifier incorporated into each speaker provides a powerful 10 watts of music (PMS 7000).

Power Source:

Can be used with 8 x 'D' 'HP2" size cells, 2 x RBD1 rechargeable battery packs, external 12V DC source or can be connected to the AC mains.

* Dolby is the registered trade mark of Dolby Laboratories Inc.

PMS 7000



Special components

EQ 10



AT 5



GRAPHIC STEREO EQUALIZER EQ 10

To equalize your system to your listening room or to tailor the music to your liking, 10 octave frequency range (30 Hz, 60 Hz, 120 Hz, 240 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz).

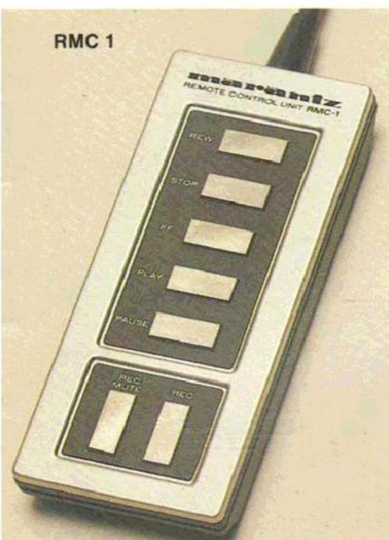
Tape EQ recording function to equalize your tapes to your liking, EQ defeat switch for instant comparison between original sound and equalized sound.

AUDIO TIMER AT 5

24-hour programmable timer. Can be used with any system to switch it on and off at any time of the day when you are absent. It can also serve as a clock.

Accessories

RMC 1



REMOTE CONTROL RMC-1

For use with SD 6020, SD 6020 R, SD 8020, SD 9020 and SD 7.

RACK HANDLES RHA 8

Rack handle for use with components for rack mounting. For all models with front panel dimensions of 416 x 146 mm.

RA-6

Rack adaptor for mounting. EQ 10 and ST 510 in a rack.

RA-5

Rack adaptor for mounting. AT 5 in a rack.

HP 24

HP 25



STEREO HEADPHONES

HP-24:

Dynamic velocity, frequency range 20 Hz-20 kHz. Weight 190 g.

HP-25:

Dynamic velocity, frequency range 20 Hz-22 kHz. Weight 170 g.

CARTRIDGES

E 9000 II

Frequency response: 15 Hz - 45 KHz. Channel separation: 27 dB (20 Hz - 10 KHz). Tracking force: 0.75 - 1.5 g. Stylus: 5 x 18 μ nude mounted elliptic diamond.

E 8000 II

Frequency response 18 Hz - 23 KHz. Channel separation 25 dB (20 Hz - 10 KHz). Tracking force 1 - 2 g. Stylus: 5 x 18 μ nude mounted elliptic diamond.

E 5000 II

Frequency response: 18 Hz - 22 KHz. Channel separation: 25 dB (20 Hz - 10 KHz). Tracking force: 1.25 - 2.5 g. Stylus: 8 x 18 μ nude mounted elliptic diamond.

E 5000 II

E 8000 II

E 9000 II



MR 700

The MR 700 is a low level rack elegantly constructed and having a black and silver finish.

It comes complete with 3 pairs of rack handles suitable for models with front panel dimensions of 416 x 146 mm. In addition to this it is possible to mount one model of front panel dimensions 416 x 73 mm and one of 416 x 44.5 mm. Using the optional RA6 and RA5 adaptors.

MR 715

The MR 715 is designed to complement the models having front panel dimensions 466 x 146 mm.

It is ideal for use when space is limited but despite its small size the appearance is one normally found on more expensive systems.

MR 625

The MR 625 is finished in wood and aluminium. It is designed to accept models having front panel widths of 466 mm. The turntable is fitted into the top of the rack and is protected by a smoked plexiglass cover.

MR 625



MR 700



MR 715



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Specifications

TUNERS

ST 310 (L) ST 450 (L) ST 510 ST 610 (L) ST 7 ST 8

FM STAGE (87.5 - 108 MHz)

Sensitivity							
DIN mono (S/N 26 dB 75 Ω)	1	0.9	0.85	0.9	0.75	0.75	μ V
DIN stereo (S/N 46 dB 75 Ω)	30	20	18	20	16	16	μ V
Selectivity adjacent channel 98 MHz	65	70	70/45	70	75/45	75/45	dB
Image frequency rejection	55	70	80	70	125	125	dB
Intermed. frequency rejection	80	88	100	100	125	125	dB
Spurious response	85	90	100	98	125	125	dB
AM suppression	46	55	59	59	60	60	dB
Signal/noise ratio DIN							
Unweighted mono	70	73	75	73	78	78	dB
stereo	63	65	68	65	69	69	dB
Weighted mono	73	76	78	76	80	80	dB
stereo	66	70	72	70	72	72	dB
Pilot frequency rejection 19 kHz	60	65	69	70	70	70	dB
Carrier frequency rejection 38 kHz	65	68	70	70	75	75	dB
Total harmonic distortion mono (N/W)	0.2	0.17	0.2/0.15	0.17	0.10/0.07	0.10/0.07	%
stereo (N/W)	0.35	0.2	0.3/0.2	0.2	0.2/0.15	0.2/0.15	%
Frequency response (30 Hz - 15 kHz)	+0/-1	+0/-1	+0/-0.4	+0/-0.4	+0.2/-1	+0.2/-1	dB
Stereo separation	43	45	45/48	45	50/55	50/55	dB
Channel balance	0.3	0.2	0.2	0.2	0.2	0.2	dB

MW STAGE (525 - 1605 kHz)

Sensitivity (S/N 20 dB 30% mod. 1 MHz)	10	10	10	10	5	5	μ V
Selectivity 1 MHz $\pm$ 9 kHz	30	35	39	35	45	45	dB
Image rejection at 1 MHz	45	45	47	45	80	80	dB
Interm. frequency rejection at 1 MHz	40	45	45	45	70	70	dB
Signal/noise ratio at 1 MHz	55	55	55	55	60	60	dB
Total harmonic distortion at 1 MHz	0.4	0.3	0.3	0.3	0.2	0.2	%

LW STAGE (150 - 350 kHz)

Sensitivity (S/N 20 dB 30% mod. 250 kHz)	90	90	—	90	—	—	μ V
Image rejection at 250 kHz	30	36	—	36	—	—	dB
Interm. frequency rejection at 250 kHz	60	65	—	65	—	—	dB
Signal/noise ratio at 250 kHz	48	50	—	50	—	—	dB
Dimensions Width	416	416	416	416	416	416	mm
Height	73	73	73	146	146	146	mm
Depth	194	194	300	300	302	302	mm
Net weight	2.9	3.2	4	8.5	9	9	kg
Walnut cabinet	—	—	—	—	—	Yes	

INTEGRATED AMPLIFIERS

	PM 310	PM 350	PM 410	PM 510 DC	PM 710 DC	PM 8
Power output rating per channel						
4 Ω DIN	33	51	64	95	110	320
4 Ω RMS	30	48	54	90	100	270
8 Ω DIN	28	40	50	70	85	200
8 Ω RMS	25	38	47	65	80	190
Total harmonic distortion at RMS 8 Ω	0.3	0.05	0.04	0.03	0.03	0.03
Intermodulation distortion	0.3	0.04	0.04	0.03	0.03	0.03
Damping factor 8 Ω (1 kHz)	50	60	70	80	85	100
MAIN IN sensitivity	—	—	—	—	—	1.5
MAIN IN impedance	—	—	—	—	—	30
Frequency response	—	—	—	—	—	DC 100
S/N ratio MAIN IN	—	—	—	—	—	125
M.M. CARTRIDGE INPUT						
Frequency response (RIAA)	± 1	± 1	± 0.5	± 0.3	± 0.25	± 0.2
S/N ratio	74	77	77	88	88	90
Input impedance	47	47	47	47	47	1/100/27/47
Input capacity	250	250	250	220	220	200
Input sensitivity	2.8	2.8	2.8	1.8	1.8	2
Equivalent noise at input	0.5	0.5	0.5	0.4	0.3	0.24
Dynamic range	93	100	109	112	112	125
MOVING COIL CARTRIDGE INPUT						
Input sensitivity	—	—	—	—	250	200
Input impedance	—	—	—	—	100	10/47/100/220
MIC. INPUT						
Input impedance	—	—	47	—	—	—
Input sensitivity	—	—	1.8	—	—	—
AUX. INPUT						
Input impedance	25	25	25	25	25	40
Input sensitivity	150	150	150	150	150	150
Frequency response	15-50	10-60	10-65	5-70	5-75	5-100
S/N ratio	96	98	98	98	98	105
OUTPUT VOLTAGE						
Tape out	415	415	415	415	415	415
Preamp output	--	--	--	--	--	1.5
OUTPUT IMPEDANCE						
Tape out	220	220	220	220	220	250
Preamp output	--	--	--	--	--	100
Dimensions						
Width	416	416	416	416	416	416
Height	73	73	146	146	146	146
Depth	302	302	243	330	330	437
Net weight	4.8	6.5	7	8.5	9.5	26
Walnut cabinet						Yes

PREAMPLIFIER

	SC 7	
M.M. CARTRIDGE INPUT		
Frequency response (RIAA)	± 0.2	dB
S/N ratio	90	dB
Input impedance	1/100/27/47	kΩ
Input capacity	200	pF
Input sensitivity	2	mV
Input equivalent noise	0.24	μV
Dynamic range	120	dB
MOVING COIL CARTRIDGE INPUT		
Input impedance	10/47/100/220	Ω
Input sensitivity	200	μV
AUX. INPUT		
Input impedance	40	kΩ
Input sensitivity	150	mV
Frequency response	4 - 120	Hz-kHz
S/N ratio	100	dB
OUTPUT VOLTAGE		
Record output	150	mV
Preamp output	1.5	V
OUTPUT IMPEDANCE		
Record output	250	Ω
Preamp output	100	Ω
Dimensions		
Width	416	mm
Height	146	mm
Depth	244	mm
Net weight	10	kg

POWER AMPLIFIER

	SM 7	
Power output rating per channel		
4 Ω DIN	330	W
4 Ω RMS	275	W
8 Ω DIN	210	W
8 Ω RMS	190	W
Total harmonic distortion at RMS 8 Ω	0.03	%
Intermodulation distortion	0.03	%
Damping factor 8 Ω (1 kHz)	125	
MAIN IN sensitivity for rated output	1.5	V
MAIN IN impedance	30	kΩ
Frequency response	DC 100	KHz-kHz
MAIN IN S/N ratio	125	dB
Dimensions		
Width	416	mm
Height	146	mm
Depth	332	mm
Net weight	22	kg

CASSETTE DECKS

	SD 1002	SD 1010 R SD 1010	SD 1020	SD 3020	SD 4020	SD 6020 R SD 6020	SD 8020	SD 9020	SD 7	
Loading system	Front	Front	Front	Front	Front	Direct	Direct	Direct	Direct	
Motor(s) and type	DC Servo	DC Servo	DC Servo	DC Servo	DC Servo	2 DC Servo	2 DC Servo	2 DC Servo	2 DC Servo	
Tape speed(s)	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	4.75/9.5	cm / s
Number of heads	2	2	2	2	3	2	2	3	3	
Peak indication system	2 x VU	2 x VU	2 x VU	2 x LED	2 x LED	2 x LED	2 x LED	2 x LED	2 x LED	
Frequency response w/o Dolby										
4.75 cm/s Normal	35-14	35-14	35-14	35-15	35-15.5	25-16	25-16	25-17	25-17	Hz-kHz
Cr 02	35-15	35-15	35-15	35-16	30-16.5	25-17	25-17	25-17.5	25-18	Hz-kHz
Fe Cr	35-16	35-16	35-16	35-16.5	30-17	25-17.5	25-17.5	25-18	25-18.5	Hz-kHz
Metal	—	35-17	35-17	35-17.5	30-18	25-18.5	25-18.5	25-20	25-20	Hz-kHz
9.5 cm/s Normal	30-15	—	30-15	30-16	25-17.5	20-20	20-20	20-21	20-21	Hz-kHz
Cr 02	30-16	—	30-16	30-17	25-18	20-21	20-21	20-23	20-23	Hz-kHz
Fe Cr	30-17	—	30-17	30-18	25-18.5	20-22	20-22	20-23.5	20-23.5	Hz-kHz
Metal	—	—	30-18	30-19	25-20	20-23.5	20-23.5	20-25	20-25	Hz-kHz
Signal to Noise ratio (Cr 02)										
4.75 cm/s Dolby	62	63	63	64	66	68	68	69	69	dB
4.75 cm/s without Dolby	54	55	55	56	58	59	59	60	60	dB
9.5 cm/s Dolby	65	—	66	67	69	70	71	72	72	dB
9.5 cm/s without Dolby	57	—	58	59	61	62	63	63	63	dB
Wow and flutter										
4.75 cm/s DIN WEIGHTED	0.15	0.15	0.15	0.13	0.11	0.10	0.09	0.08	0.08	%
WRMS	0.08	0.08	0.08	0.08	0.06	0.05	0.05	0.05	0.05	%
9.5 cm/s DIN WEIGHTED	0.12	—	0.12	0.10	0.08	0.07	0.06	0.06	0.06	%
WRMS	0.06	—	0.06	0.06	0.04	0.03	0.03	0.03	0.03	%
Outputs										
Line Level/Imped	650/2.5	650/2.5	650/2.5	650/2.5	650/2.5	650/1.2	650/1.2	650/1.2	650/1.2	mV/kΩ
Headphone Level/Imped	43/100	43/100	43/100	43/100	43/100	43/150	43/150	43/150	43/150	mV/kΩ
Inputs level at 0 VU										
Line sensitivity/Imped	15/110	15/110	15/110	15/110	30/35	30/35	30/35	30/35	30/35	mV/kΩ
MIC sensitivity/Imped	0.15/8.2	0.15/8.2	0.15/8.2	0.15/8.2	0.15/6.8	0.15/6.8	0.15/6.8	0.15/6.8	0.15/6.8	mV/kΩ
Dimensions										
Width	416	416	416	416	416	416	416	416	416	mm
Height	146	146	146	146	146	146	146	146	146	mm
Depth	239	239	239	239	243	243	243	243	243	mm
Net weight	6	6	6.4	6.6	6	8	9	9.5	9.5	kg

TURNTABLES

	6025 CT	TT 2000	TT 4000	TT 6000	6370 Q	
Drive	Belt	Direct	Direct	Direct	Direct	
Motor type	Synchro	DC Servo	DC Servo	DC Servo	DC Servo	
Speeds	33 1/3 - 45	33 1/3 - 45	33 1/3 - 45	33 1/3 - 45	33 1/3 - 45	T / m
Wow and flutter NAB	0.07	0.03	0.025	0.025	0.02	%
DIN 45 507	0.09	0.06	0.05	0.05	0.04	%
Rumble NAB	60	65	65	65	70	dB
DIN	65	72	72	72	75	dB
Dimensions						
Width	454	446	446	446	474	mm
Height	130	142	142	140	147	mm
Depth	354	394	394	397	381	mm
Net weight	4.8	9	10	11	12.5	kg

RECEIVERS

	SR 810	SR 1010	SR 2010	SR 4010	SR 6010 DC	SR 8010 DC	SR 7000 G
AMPLIFIER STAGE							
Rated output per channel							
DIN 4 Ω	28	33	54	80	110	110	140 W
RMS 4 Ω	25	30	48	70	100	100	130 W
DIN 8 Ω	23	28	44	60	85	85	120 W
RMS 8 Ω	20	25	40	55	80	80	110 W
Total Harmonic distortion at RMS 8 Ω	0.3	0.1	0.05	0.03	0.03	0.03	0.03 %
Damping factor 8 Ω (1 kHz)	40	50	55	60	65	65	65
PREAMP STAGE							
Frequency response							
Phono (RIAA)	± 1	± 1	± 1	± 1	± 0.5	± 0.5	± 0.5 dB
Aux (± 1 dB)	20 - 35	15 - 40	10 - 55	10 - 60	8 - 65	8 - 65	8 - 65 Hz / kHz
Signal / Noise ratio							
Phono	65	68	70	70	75	75	75 dB
Aux	96	96	98	98	98	98	98 dB
Input sensitivity / Imp.							
Phono	2.7 / 47	2.7 / 47	2.7 / 47	2.7 / 47	2.7 / 47	2.7 / 47	2.7 / 47 mV / kΩ
Auxiliary	160 / 20	160 / 20	160 / 20	160 / 20	160 / 20	160 / 20	160 / 20 mV / kΩ
FM STAGE (87.5 - 108 MHz)							
Sensitivity							
DIN Mono (S / N 26 dB 75 Ω)	1.2	1.1	1	0.9	0.9	0.85	0.8 μV
DIN Stereo (S / N 46 dB 75 Ω)	30	30	30	21.5	20	19	20 μV
Selectivity / adjacent channel 98 MHz	55	65	65	68	70	70	70 dB
Signal / Noise ratio 98 MHz							
Unweighted mono	65	65	65	65	70	75	70 dB
stereo	58	58	58	58	65	67	65 dB
Weighted mono	68	72	72	72	74	76	74 dB
stereo	62	65	65	65	68	70	68 dB
MW stage 525 - 1605 kHz							
Sensitivity (20 dB S / N 30 % mod. 1 MHz)							
10	10	10	10	10	10	10	10 μV
Selectivity							
24	26	26	28	32	35	32	32 dB
LW stage (150 - 350 kHz)							
Sensitivity (20 dB S / N 30 % 250 kHz)							
100	100	100	100	—	—	—	— μV
GENERAL DATA							
Width	466	466	466	466	466	466	466 mm
Height	140	140	140	140	140	140	140 mm
Depth	323	323	323	353	353	353	353 mm
Net Weight	6	6.8	8	10	11.3	10.5	11.5 kg

PORTABLES MUSIC SYSTEMS

PMS 7000 PMS 7004		
TUNER SECTION		
Wave bands PMS 7000	AM / FM	
PMS 7004	AM / FM / LW / SW	
Stereo separation	≥ 30	dB
AMPLIFIER SECTION		
Output power	10 W	W
TAPE SECTION		
Playback frequency response		
CrO2 tape	40-13	Hz-kHz
Playback S / N with Dolby	56	dB
Playback S / N without Dolby	48	dB
Wow and flutter WTD	0.09	%
Dimensions (W x H x D)	792 x 317 x 150	mm
Net Weight	11.7	kg

SPECIAL COMPONENT

EQ 10		
Rated output	1	V
Total harmonic distortion at rated output, 20 Hz to 20 kHz	0.005	%
Intermodulation distortion at rated output, SMPTE method	0.005	%
Sensitivity for rated output		
Line in	1100	mV
Tape in	1100	mV
Frequency response ± 1.0 dB	10-30	Hz-kHz
Signal-to-noise ratio (ref. to rated output, "A" weighted at 1 kHz)	110	dB
Input impedance (Line in)	110	kΩ
Output impedance (Line Out)	3.5	kΩ
Power requirements	110 ~ 120/ 220 ~ 240 V, 50 Hz	
Power consumption	8.5	W
Dimensions (W x H x D)	416 x 73 x 191	
Net Weight	3	kg

Specifications are subject to change without prior notice.
Certain models may not be available in every country.

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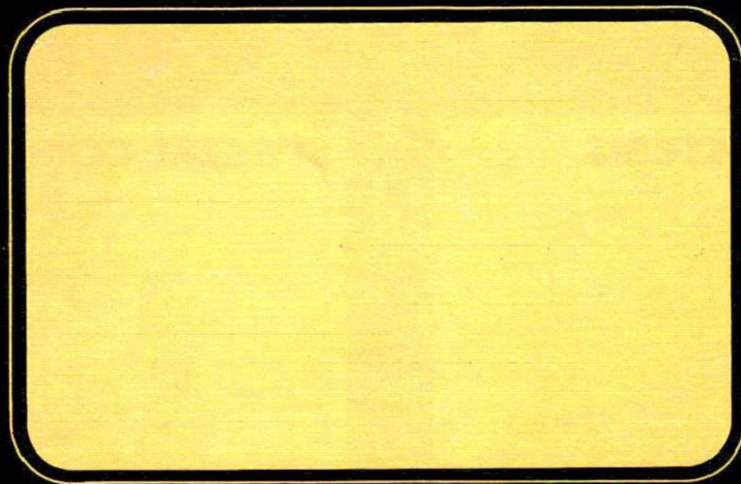
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