

Product Review

Marantz PMD340 Pro CD

Reviewed by Gary A. Galo

Marantz PMD340 Compact Disc Player. Superscope Technologies, Inc., 2640 White Oak Circle, Aurora, IL 60504, (630) 820-4800, FAX (630) 820-8103, www.superscope-marantzpro.com. Price: \$789.

The PMD340 (Photo 1) is the top model of Marantz's current line of professional compact disc players. There are three models in the line, nearly identical in appearance. The PMD330 has unbalanced RCA analog outputs and an RCA S/PDIF digital output. The PMD331 and PMD340 add balanced XLR analog outputs, along with S/PDIF or XLR and Toslink optical digital outputs (Photo 2).

All models have a high-performance CD mechanism, but the PMD340 has a heavy-duty laser mechanism with die-cast metal parts to increase reliability under the most demanding professional conditions (Photo 3). All models include a pitch control with a $\pm 12\%$ range of adjustment in 0.1% increments (12% is a whole tone). Pitch is adjusted with a rocker switch on the PMD330; a rotating "pitch wheel" is used on the 331 and 340, both of which also incorporate a $\pm 8\%$ pitch bend, a feature sometimes used by DJs. A rack-mount front panel is standard on all three models.

All players feature built-in infrared remote-control receivers, along with RC5 remote connections on the rear panel. The previous-generation Marantz PMD321 and 320 required the purchase

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PHOTO 1: Front view of the Marantz PMD340. This solid, professional CD player has excellent operation feel and a variety of user-modifiable features.

of an external infrared receiver in order to operate with I/R remotes. You can still buy the outboard I/R receiver, which plugs into the RC5 jack, for installations in which the remote receiver needs to be placed in a location different from the CD player. The RC5 system allows several Marantz products to be daisy-chained with RCA cables and controlled by a single remote.

The Marantz RC1020DC hand-held I/R remote control is not supplied with any of their CD players—the remote control must be purchased separately. The PMD340 also has a 25-pin "D" connector on the rear panel—this is a GPI I/O control port, which allows fader start.

Other professional features shared by these new Marantz players include Auto Cue, adjustable Fade-In/Out, ad-

justable end-of-track monitor, and adjustable end-of-track warning. It is also possible to set up these players for automatic continuous play on power-up. Program Play, Random Play, and Repeat Play are also featured.

These are also the first CD players, professional or consumer, which will play CD-RW discs (as long as the discs have been properly finalized). All three models include variable-output headphone jacks. The displays also support the CD Text function. If the model number, PMD340, sounds familiar, it's because Marantz has recycled it—around 20 years ago the PMD340 was a portable cassette deck.

CIRCUIT DETAILS

Like its predecessors, the PMD320/321



PHOTO 2: Rear view of the PMD340. This top-of-the line player in Marantz's current professional series has three digital outputs, along with both balanced and unbalanced analog outputs.



PHOTO 3: Inside the PMD340. The high-performance mechanism incorporates a heavy-duty laser pickup, designed for the demands of the professional user. All ICs on the main PC board are surface-mount devices.

series (the PMD320 was reviewed in *AE* 4/98), Marantz has simplified the design by using a combination digital filter and D/A conversion chip. For this purpose, the new player features a Burr-Brown PCM1710 chip, which is one of the best combination chips currently available, incorporating an 8× oversampling digital filter, a delta-sigma DAC, and an analog voltage output (the I/V converter is built-in). The 1710 can accept either 16-bit or 20-bit word lengths.

The left and right voltage outputs of the PCM1710 feed a JRC NJM4560 dual op amp. A simple third-order analog filter is incorporated in the feedback loop of each channel of the 4560. The 4560 op amps are also used to provide the balanced analog outputs in the PMD340.

An NJM4556 dual op amp is used as the headphone amplifier. Electrolytic coupling capacitors are used throughout the analog signal paths. The ±15V supply rails for the analog circuitry are regulated by NJM78M15 and NJM79M15 three-terminal, 500mA IC regulators. The +5 and +6V digital supplies employ NJM7805 and NJM7806 IC regulators.

A Sony CXD2585Q decoder chip, which feeds the PCM1710, also provides the digital output signal. A TX176 Toslink transmitter and the pulse transformer for the RCA S/PDIF output are tied directly to the digital output line, without any buffering.

In the PMD340, the digital output line also feeds an SN75158 dual differential line driver (compatible with the EIA/TIA-422-B and ITU V.11 interface standards). The low-impedance differen-

tial outputs of the SN75158 feed a pulse transformer for the XLR digital output. The PMD340's digital outputs remain active when the pitch control is engaged.

Many of the new 96kHz/24-bit outboard D/A converters, such as The Parts Connection's DAC 2.6 and 3.0, will operate with variable-pitch CD transports without an external sampling rate converter. Some D/A

converters incorporating an additional low-jitter phase-locked loop may lose lock when used with variable-pitch transports. I am uncertain whether The Parts Connection's DAC 2.7 and 3.1 upgrades will function in this mode without an external sampling rate converter.

FEATURES

Marantz has made it possible for users to adapt the operation of the PMD340 to a wide variety of needs through a Preset menu that controls 21 different operational parameters. As shipped, the PMD340 seems to be set up with radio-station users and DJs in mind. Parameter No. 13 selects the operation that is performed after you load a disc into the tray—PAUSE is the factory default, allowing the immediate start of sound when you depress the PLAY button. But you can easily change this to STOP (probably most useful to consumers) or PLAY.

Another default keyed to radio-station and DJ use is the time display mode when the unit is powered up—the default is Trk REM, or time remaining on the track being played. You can change this to track elapsed time, disc remaining, disc elapsed, or disc total. Most consumers will prefer the track elapsed mode, but pressing the DISPLAY button on the front panel, or the remote, allows you to manually select any time mode, regardless of the Preset menu setting.

One feature I find particularly useful is No. 19, which selects whether or not to display a warning when a skip oc-

RADIO SHACK 15-1994 REMOTE

Reviewed by Gary A. Galo

Radio Shack 15-1994 6-in-1 Smart A/V Remote. Available at all Radio Shack stores, www.radioshack.com. \$39.95 (four AAA batteries not included).

Those in search of a basic “universal” remote may not need to look any farther than Radio Shack’s 15-1994 6-in-1 Smart A/V Remote. This remote will operate up to six different audio and video components, including VCR, television, CD player, and cable box or satellite receiver. The AUX 1 and AUX 2 buttons support other A/V accessories. A PLUG ‘n POWER button supports several brands of home-automation equipment. The device doesn’t support any DVD players.

Programming the remote is quite simple. Manufacturers’ codes for a variety of equipment are provided in the manual, and updated code charts are available on Radio Shack’s website. In many cases, several codes are included for each manufacturer. You will need to try each one until you find the one that allows the remote to operate with the model you own. I especially like Radio Shack’s generous return policy: If the remote doesn’t work with your equipment you can return it for a full refund, as long as you have saved the original box, packing, and manual.

The 15-1994 also has four “learning” buttons, called Smart Keys, which you can program to duplicate functions not supported by the normal array of buttons. In order to “teach” it new codes, point your original remote at the Radio Shack remote, “nose-to-nose.” You can program all four buttons for each of the components you use with the remote. In other words, you can program the four buttons for one set of VCR functions, and an entirely different set of CD player functions.

If you depress the backlight button, the keypad lights up in a soft blue tone for five seconds. Thereafter, each time you press any button on the remote, the keypad lights up, and stays lit for about five seconds. This consumes battery power, however. If you remove the batteries, the remote will remember all stored settings until you install new batteries.

The 15-1994 also supports a number of special operational features, including picture-in-picture and favorite channel scan. A sleep function and punch-through feature are also included. Punch-through allows you to control the volume of your television, for example, while using the remote with your VCR, without requiring you to alternately press TV and VCR device keys.

The 15-1994 remote is solidly built, and, with its suede-like finish and soft buttons, has an excellent operational feel (*Photo A*). One nice feature is the lack of directionality. You can point it nearly anywhere in the room, and it will operate your equipment. It makes a nice replacement for any remotes you have that are very directional.

There are many universal remotes on the market far more elaborate (and expensive) than the 15-1994. But for most essential functions on audio and video equipment, it will do quite nicely. I highly recommend this product.



PHOTO A: The Radio Shack 15-1994 6-in-1 Smart A/V Remote. Compatibility with a wide variety of equipment, lack of directionality, and four learning buttons make this inexpensive remote a winner.

curs on a defective CD. If the ALERT function is set to ON, any data loss resulting from the inability to track results in the word INTERRUPTION repeatedly flashing on the screen. The time and track information also freezes where the error occurred, so you can go back to the same point and try again (after cleaning the disc, for example). The player will attempt to continue playing the disc, even though the display remains locked in the ALERT mode. Pressing STOP restores normal operation of the player and display.

You can disable the digital outputs in the Preset menu. When the digital output is active, the pitch bend feature will not work. There are numerous additional Preset menu choices, affecting the auto-cue function, key lock, fade-in and fade-out time, end monitoring, and display language, among others. No. 21 allows you to return all presets to the factory defaults.

REMOTE CONTROL

The PMD340 is a pleasure to operate. The soft pushbuttons have a solid, firm feel and should withstand the day-in, day-out demands of professional use. My only operational quibble is with the optional remote control—the optical transmitter is too directional. You must point the remote control nearly straight at the player in order for it to function.

If you purchase the PMD340, I recommend against buying the Marantz remote. Instead, get yourself a Radio Shack 15-1994 6-in-1 Smart Remote (see sidebar). This “universal” remote has three programming codes for Marantz CD players—0157 works great with the PMD340, duplicating all essential functions of the Marantz remote.

In addition, it has four learning buttons, which you can program for other functions on the Marantz remote. I chose to duplicate the DISPLAY time and the DOOR open/close functions. But if you prefer to program the learning buttons on the Radio Shack remote, you will need to buy the Marantz remote anyway.

The Radio Shack remote is so non-directional that I can point it nearly anywhere in my listening room and still op-

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erate the Marantz player. Although the manual lists Marantz RC-5 remote control codes for operating the variable-pitch feature, the Marantz remote does not support this.

OPERATION

The new Marantz players have an intelligent keypad algorithm that eliminates the need for those clumsy “greater than 10” buttons found on most CD players. On a CD containing less than ten tracks, if you press “1” the player will immediately search for and play track 1. If the disc has more than ten tracks, when you press “1” the player will hold position for two seconds and wait for additional input—a “2” if track 12 is desired, for example. If there is no additional input, the player will begin playing track 1 after two seconds.

The players also have a programming function that allows you to program up to 20 tracks on a disc, in any order you choose. A cue function allows you to begin playback at any spot you desire in a given track.

Sonically, I found the PMD340 to be an improvement over the PMD320. The new player yields a cleaner, more transparent, and smoother sound than its predecessor. I suspect that this is due, in part, to the Burr-Brown PMC1710U filter/DAC chip. The improved sound may also be attributable to lower jitter.

Though a bit below audiophile standards for stand-alone players in this price range, the professional user is likely to find the PMD340 a sonically satisfying performer. Where audiophiles will find the PMD340 useful is as a transport. Used via its S/PDIF output, with a high-quality outboard D/A converter, the PMD340 can serve as the front end of a fine CD playback system.

I compared the performance of the PMD340 with both S/PDIF and AES/EBU digital interconnects, using The Parts Connection DAC-3 and DH Labs interconnect cables. Strangely, I found the sonic performance of the AES/EBU connection inferior to the S/PDIF—the detail, resolution, and soundstaging are better with the S/PDIF coax connection.

I recommend the S/PDIF connection if you use this player as a transport in a setup involving critical listening.

Among currently available CD players with variable pitch, the PMD340 is now a first choice for this application, either when used as a transport or a stand-alone player. The PMD340 is a well-built, solid performer, which should easily satisfy the demands of the professional user, and is highly recommended.

I should also mention that at The Crane School of Music/SUNY Potsdam, we purchased the PMD330 (the “bottom” model in this new series) for use as a transport with an NAD118 digital preamplifier. This is part of a new stereo system I assembled for our newly renovated lecture and recital hall. We are extremely pleased with the performance of the PMD330 in this application, and I expect it to hold up well for years to come.

Depending on the features you desire, and the price you wish to pay, the two lower models in the new Marantz line also deserve consideration. ❖