



M O O N

ORION

*DVD / CD / VCD / CD-R / CD-RW / DVD-R / DVD+RW
Transport & Player*



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www.simaudio.com

**IMPORTANT: Please read this entire manual before using this product.
Installation and operating instructions inside.**

Congratulations!

Thank you for selecting the **MOON Orion** DVD Transport / Player as a part of your home-theater system. This DVD Transport / Player has been designed to offer state-of-the-art high-end performance in an elegant package, while retaining all the sonic hallmarks on which Simaudio has made its reputation. We have spared no effort to ensure that it is among the finest DVD players available. We have been building high performance audio equipment for over 20 years, and the know-how gained through our cumulative experience is an important reason why **MOON** components are so visually and musically satisfying.

Your new **MOON Orion** is capable of playing media formats other than just DVD; It will also play Video CD, Audio CD, CD-R, CD-RW, DVD-R and DVD+RW media. The **MOON Orion** is available with three (3) different options; The **MOON Orion-F** includes a Line Doubler; The **MOON Orion-A** includes a Digital-to- Analog converter for analog stereo output; The **MOON Orion-AF** includes both of these aforementioned options. The Line Doubler and Digital-to-Analog converter options are independently available and can be added at any time in the future as an “in-the-field” upgrade by your authorized **Simaudio Ltd.** dealer.

If you've selected the **MOON Orion-F** “Line Doubler” option, your new DVD Player is equipped with a high quality Faroudja DCDi™ Line Doubler with Progressive Scan Output. This feature enables you to get the best possible picture provided you have a Progressive Scan input available on your video equipment (i.e. TV, LCD or video projection unit). If you've selected **MOON Orion-A**, your new DVD Transport / Player is equipped with a high quality 2-channel 24-bit/192kHz Digital-to-Analog Converter. We've elected to offer the Digital-to-Analog converter as an option simply because a majority of customers only use the digital audio output on their DVD player (connecting it to the digital inputs of a multi-channel preamplifier/processor such as the **MOON 7.1 Attraction** or **MOON Stargate** with its own internal high-quality Digital-to-Analog converter). The end result is a more affordable DVD transport.

The **MOON Orion** is equipped with full-function bi-directional RS-232 port control and status for custom integration or automation. All information about the RS-232 codes is available upon request or in PDF file format from our website: www.simaudio.com.

The performance of your **Orion** will continue to improve during the first four weeks of use. This is the result of a “break-in” period required for the numerous high quality electronic parts used throughout this DVD Transport/ Player. Please read this manual thoroughly to acquaint yourself with this product's many features and menus prior to using it. We hope you enjoy using the **MOON Orion** DVD Transport / Player as much as the pride we have taken in creating this fine audio/video product. We understand the power and emotion of both motion pictures and music, and build our products with the goal of reproducing these elusive qualities.

Introduction

Your **MOON Orion** DVD Transport / Player incorporates many significant design features to achieve its “world class” level of performance. This is an abbreviated list of the more important features:

A hybrid analog / switch-mode power supply, with completely separate, fully regulated supplies for the drive mechanism, digital circuits and analog circuits. (7 stages of regulation in total).

An integral shield for the Switch-Mode Power supply, ensuring no high frequency noise will interfere with either the audio or video signals.

Support for both **NTSC** and **PAL** video formats.

A variety of audio formats supported include MPEG1 (Video CD), MPEG2 (DVD), Linear PCM Audio (CD), Dolby Digital® 5.1 (AC-3), Dolby Digital® Surround EX, DTS Digital Surround 5.1™ and DTS-ES™ 6.1.

10-bit oversampled video with active current-to-voltage converter and phase accurate analog filtering.

Optional Faroudja DCDi™ Line Doubler for high quality Progressive Scan Output.

Optional audiophile-grade 24-bit/192kHz digital-to-analog converter with 8X oversampling digital filter for 2 channel analog output.

SRS Labs TruSurround™ 3D surround software for optional 2-channel audio output.

A complete array of video connectors including a 21-pin SCART.

Rigid chassis construction to minimize the effects of external vibrations.

Accurate matching of the very finest high quality electronic components.

Pure copper circuit board tracings with extremely low impedance characteristics.

Designed to be **powered up at all times** for optimal performance.

Low operating temperature for a longer than normal life expectancy.


Unpacking and Warning!

The **MOON Orion** DVD Transport / Player should be removed from its box with care.

The following accessories should be included inside the box with your DVD Transport / Player:

- ✓ *AC power cable*
- ✓ *2 removeable vertically mounted silver aluminum removeable cheeks that cover the faceplate rack-mount holes*
- ✓ *Remote control with two 'AAA' batteries*
- ✓ *This owner's manual*
- ✓ *Warranty card (USA and Canada only)*

As soon as the DVD Transport / Player is safely removed from its box and placed down, perform a thorough physical inspection and report any physical damage to your dealer immediately. We suggest that you keep the original packaging, and that it should be stored in a safe, dry place in case you're required to transport the unit. The customized packaging is specially designed to protect the DVD Transport / Player from potential damage that can arise when shipping such a product.

WARNING!  To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. Do not attempt to "lift the ground" by removing the ground pin from the AC cable. Make sure that your household electrical wiring supports proper AC grounding techniques before plugging in this product. Keep the heat sinks and top cover free of dust to allow for proper heat dissipation. Never expose this product to extreme temperatures. Always connect the audio signal path cables prior to connecting the AC mains.

CAUTION! No user-serviceable parts inside. Do not remove top cover, as severe electrical shock may result.

IMPORTANT! Make sure that your local AC voltage complies with the unit's label. Damage caused by plugging this DVD Transport / Player into an AC receptacle of the wrong voltage will not be covered by warranty.

Installation Tips

The **MOON Orion** DVD Transport/ Player should be placed on a rigid surface to prevent any accidents such as falling over. It is highly recommended that it sits on its own dedicated shelf.

You should never place another component on top of this DVD Transport / Player. As well, you should avoid placing it near a heat source or inside a closed cabinet that is not well ventilated. This could compromise the **Orion's** performance and reliability.

In the event that you intend to place your **Orion** in a rack mount type installation, we've made the setup as user-friendly as possible. Simply remove each of the two (2) vertically mounted silver colored aluminum cheeks found on either side of the front faceplate using an SAE 1/8 inch allen key; You will find two (2) screws located on the rear of each side of the front faceplate which hold each aluminum cheek in place. When removing these screws, make sure to keep one hand on the aluminum cheek so that it won't fall and cause any damage. Once all four (4) screws have been removed, you will have exposed the four (4) rack mount holes and the **MOON Orion** will be ready for mounting in a three (3) rack space area. We recommend that you store the aluminum cheeks and their accompanying mounting screws in a safe place in the event that you require them in the future.

Finally, you should make all of your audio and video signal connections prior to making the AC connection between the **Orion** and the AC wall outlet.

Rear Panel Connections

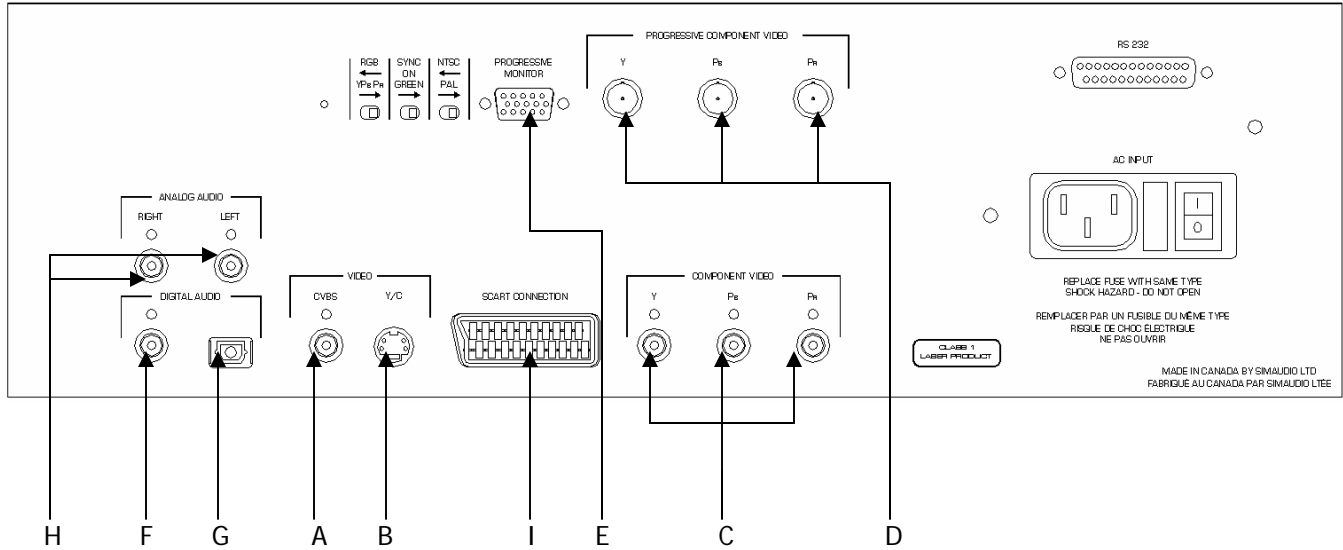


Figure 1: Rear panel of the MOON Orion DVD Transport / Player (shown w/ optional line doubler)

There are a variety of ways to connect your **MOON Orion** DVD Transport / Player to other audio and video components. Your choices will depend on both your needs, and the connections available on other equipment that you currently own. Your choices for audio connections and video connections are completely independent of each other; Alternatively, you can use the 21-pin Audio/Video SCART connector for both the audio & video connections in the event that your TV supports this format (mostly in European countries).

Once you've completed connecting all of your audio and video cables, connect the supplied AC power cable to the IEC receptacle, located on the rear panel. Alternatively, if you wish, you may use a dedicated high-performance AC cable designed for digital source components. Ensure that the AC wall outlet you use has a functioning ground. For the best possible performance, it is preferable that you plug your **Orion** directly into a dedicated AC outlet and avoid using an extension cord. We strongly recommend that the detachable power cord not come into physical contact with any of the audio or video cables running from your **Orion**. In the event that this can't be avoided, you should ensure that any cables coming into contact with each other are crossed at ninety degree angles to minimize the contact area.

The rear panel of the **MOON Orion** is similar to figure 1 at the top of this page. Each letter (A through I) corresponds to a different type of connection, all of which will be described on the next three pages.

Standard Video Connections

There are three ways to connect the **MOON Orion** DVD Transport / Player to your video equipment using standard video connections. They are presented here in order of increasing quality. For an **Orion-F** equipped with the optional **Faroudja DCDi™ Line Doubler**, you can jump to the 'Progressive Scan Video Connections' section on the next page. Remember that whatever connection type you decide to use, don't hesitate to use high quality video cables. Lesser quality cables can degrade the video quality.

For better image quality, we suggest that you connect your **Orion** directly to your TV or video projection unit. Certain home theater installations use a video switcher which often leads to some degradation of video signal quality. In these situations, we recommend that you use the switcher for all your video connections with the exception of the **Orion** DVD Transport / Player, connecting both the video switcher and the **Orion** directly to your TV's or video projection unit's separate inputs.

Also, each output is independently buffered so can you use more than one output at the same time if ever your setup requires such a connection.

A) Composite (CVBS)

This is the most common video connection. Nevertheless, you should use it only in the event that neither of the following two connections are available on your TV/video projection unit, as it provides the lowest video quality of those offered on the **Orion**.

B) S-Video (Y/C)

This connection offers high quality video reproduction and the advantage of using only one (1) video cable (S-Video type with a mini-DIN connector). It is a compromise between video image quality and the number of cables used.

C) Component Interlaced (YP_BP_R)

This connection offers the highest possible video reproduction quality with interlaced video equipment (i.e. non-Progressive Scan) and uses three RCA connectors. Connect the three outputs labeled Y, P_B and P_R to the corresponding inputs on your TV or video projection unit with component video cables.

Progressive Scan Video Connections

Available **ONLY** with the optional Faroudja DCDi™ Line-Doubler (Orion-F & Orion-AF)

The Progressive Scan connection offers the very best quality video reproduction. This connection can only be made to a TV or video projection unit that is 'Progressive Scan' ready. A Progressive video signal is non-interlaced and therefore, cannot work with regular component video inputs. You will find three (3) switches located on the back panel that control the settings for different components types (figure 2). They must be properly set for the Progressive Scan circuitry to function.

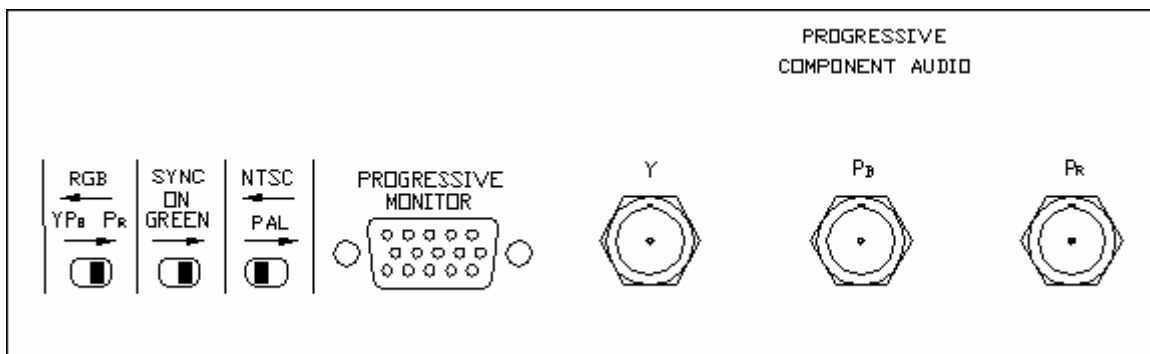


Figure 2: MOON Orion-F DVD Transport / Player Optional Progressive Scan Settings and Connectors

'**NTSC/PAL**' for Television Standard: American (NTSC) or European (PAL).

'**RGB/Y_P_BP_R**' for Colorspace: Depending upon the equipment you use, select the proper Colorspace, whether RGB (Red Blue Green) or Y_P_BP_R.

'**SYNC ON GREEN**' Allows you to remove the synchronization signal from the Green (or Y) output. This is only for equipment that requires separate horizontal and vertical sync. signals.

D) Progressive Component

This uses three (3) BNC type connectors. You should use video cables terminated with BNC connectors. In the event that these aren't available, you can also use video cables terminated with RCA connectors and RCA-to-BNC adaptors. Connect the three outputs labeled Y, P_B and P_R to the corresponding inputs on your video equipment. If you selected the RGB mode, Red is on P_R, Green is on Y and Blue is on P_B.

E) Progressive Monitor

The DB-15 connector labeled 'Progressive Monitor' provides RGB output with separate sync. when 'SYNC ON GREEN' is disabled. Applications include certain projectors and computer monitors.

Audio Connections

You can use either the analog audio outputs (if equipped), the digital audio outputs, or both depending on your system requirements. If you are using a digital surround processor, such as the **Moon Attraction** or the **Moon Stargate**, it is recommended that you to use a digital audio connection. If you want to use your **Moon Orion-A** or **Orion-AF** DVD Transport / Player with an analog stereo preamplifier or integrated amplifier, you must use an analog audio output connection. If you are not sure, ask your dealer for recommendations about your specific setup. Whatever the type of connection(s) you choose, don't hesitate to use high quality cables. Poor quality cables can degrade the overall sonic performance of your system.

F) Digital Audio Output (Electrical)

This output is on RCA type connector. You should use a 75Ω digital audio cable. This is the best of the two available digital audio connection with the **MOON Orion**.

G) Digital Audio Output (Optical)

This output is on a Toslink (EIAJ Standard) type connector, requiring a Toslink fiber optic digital audio cable. Use this type of connection if the component you're attempting to connect to the **MOON Orion** doesn't support the 'Electrical Digital Audio Output' previously described.

H) Analog Audio Output (Orion-A & AF)

This output is on RCA connectors, so you must have a pair of audio cables with RCA terminations.

I) SCART Audio/Video Connection (or Peritel Connection)

This output on a 21-pin SCART connector provides for both RGB and composite video connections, as well as an analog 2-channel (stereo) audio connection (**Orion-A & AF**) in a single SCART cable.

Front Panel Controls

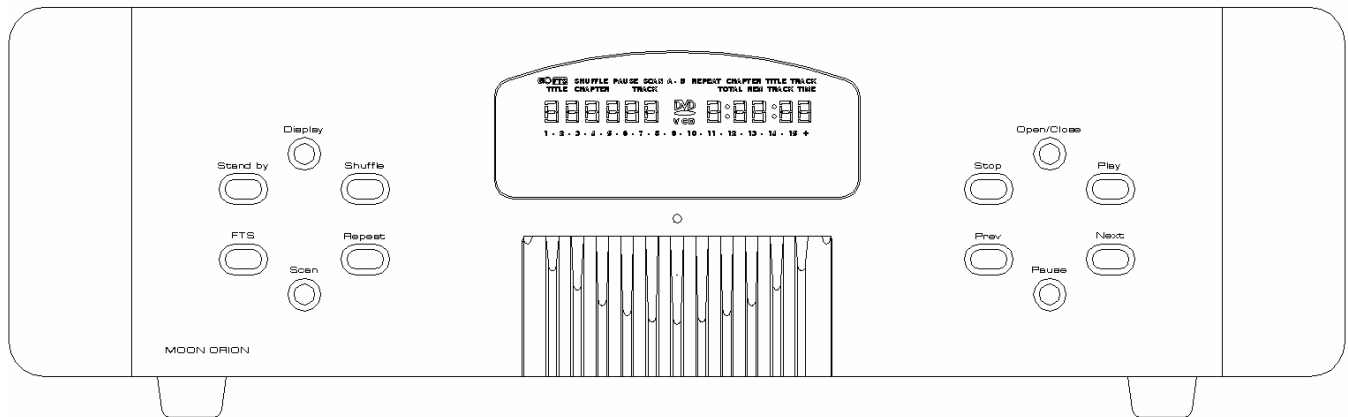


Figure 3: Front panel of MOON Orion DVD Transport / Player

Once you have completed all the necessary audio and video connections, and connected your **MOON Orion** DVD Transport / Player to an AC wall outlet, you can power up the unit by pressing the rocker switch, located on the back panel directly above the AC cable receptacle, to the '1' position. We recommend that you leave the rocker switch in this position at all times to maintain optimal performance. If you wish to turn off your **Orion**, you can switch it into Standby mode by pressing the 'Standby' button located on the left side of the front panel (Pressing the 'Power' button on the remote also puts this unit into Standby mode).

There are twelve (12) buttons located on the front panel of the **MOON Orion**. All but two (2) buttons are duplicated on the remote control:

The **DISPLAY** button turns the front panel digital display on or off. The performance of this unit might improve slightly with the display turned off. As well, you might also prefer the display off when watching a DVD-Video disc as it may be a distraction.

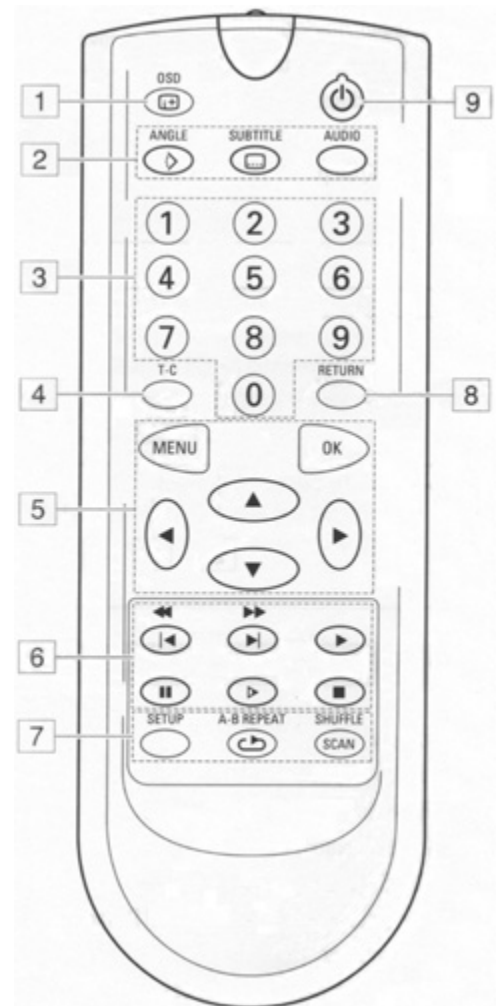
The **FTS** button turns the Favorite Track Selection mode on or off. Please refer to the section 'Favorite Track Selection' on page 15.

The following pages provide detailed instructions for remote control operation, playing DVD-Video discs and Audio CD's.

To insert a disc (video or audio), press the **OPEN/CLOSE** button located on the right side of the front panel, place the disc of your choice (label side up) in the drawer, and press the **OPEN/CLOSE** button again to close the drawer.

Remote Control Operation

1. **OSD** On screen display on /off
2. **ANGLE** Select DVD camera angle
SUBTITLE Subtitle on / off and language select
AUDIO Select the language of the audio tracks
3. **0 - 9** numerical keypad
4. **T- C** Title / chapter mode selector
5. **MENU** Select DVD defined menu
← ↑ → ↓ left, up, right, down cursor movement
OK acknowledge menu selection
6. **▶** Play
⏮ ⏭ Previous / Next chapter or track
⏪ ⏩* Back / Forward search
■ Stop
■* Open/Close the drawer
⏸ Pause
▶ slow motion (1/2, 1/4, 1/8 speed)
7. **SETUP** Select player setting menu (In stop mode only)
REPEAT* Repeat chapter, track, disc
A-B REPEAT Repeat selection
SCAN Scan on / off
SHUFFLE * Shuffle mode on /off
8. **RETURN** go back to previous menu step
9. **STANDBY** Standby / on



* These buttons perform a second function. You must press and hold the button for a full second for the DVD Transport / Player to acknowledge these secondary functions from remote. This remote control uses two AAA batteries (included). To install them, remove the small battery cover on the back, put the battery inside with respect to polarity(+,-) and then re-install the battery cover.

Playing a DVD Video Disc

Playing a DVD-Video

With the 'Autoplay' setting on, a DVD disc will start playing automatically when you close the drawer. With the 'Autoplay' setting off, press ► to start playing a DVD disc. Please refer to the section 'Settings Menu' on page 17 to turn 'Autoplay' on or off. Some DVD-Video discs are encoded with the 'Autoplay' feature and will start playing automatically regardless of the DVD Transport / Player's settings. As the disc plays, the **Orion's** front panel display will indicate the current title & chapter, and the elapsed playing time. To stop playing a DVD disc at any time, press ■.

The DVD disc may prompt you to select an item from a menu shown on the screen. Use the ← ↑ → ↓ buttons to highlight your selection, and then press the **OK** button.

Moving to another chapter

Briefly press ►► while a DVD disc is playing to jump forward to the next chapter. Briefly press ◀◀ while a DVD disc is playing to return to the beginning of the current chapter. Briefly pressing ◀◀ a second time will take you to the beginning of the previous chapter. For more information about chapters, refer to 'Checking the contents of DVD-Video Discs: On-Screen Menus' on the next page.

Search

To search forward or backward through the DVD disc at 4x (normal) speed, press ◀◀ or ►►. When the search begins the audio signal is muted. To search at higher speed (32x) press ◀◀ or ►► a second time. To decrease the search speed back to the 4x speed, press ◀◀ or ►► again. To terminate the search process, press ►, || or ■ as desired.

Freeze Frame and Frame-by-Frame

To get a freeze frame image (i.e. still picture), press || while the DVD disc is playing. To move forward to the next frame, press || again. To return to normal playing speed press ►.

Slow Motion

To play video in 'slow motion' mode press ▷ to play at 1/2 normal speed. Press ▷ again to play at 1/4 normal speed, and a third time to play at 1/8 normal speed. Pressing ▷ a fourth time will play at 1/2 normal speed. When the slow motion feature is engaged, the audio signal will be muted. To exit the 'slow motion' mode, press ►, || or ■ as desired.

A-B Repeat

To repeat or loop a sequence, briefly press the **A-B** button at your chosen starting point. An 'A' will appear on the **Orion's** front panel display. Briefly press the **A-B** button a second time at your chosen end point. An 'A-B' will appear on your display and the repeat/loop sequence will begin playing. To exit the sequence at any time, briefly press the **A-B** button again.

Playing a DVD Video Disc (cont'd)

Repeat Chapter / Title / Disc

To repeat the chapter that's currently playing, press and hold the **REPEAT** button for about 1 second. 'Repeat Chapter' appears on your display. To repeat the title that's currently playing, press **REPEAT** again for about 1 second. 'Repeat Title' will appear on the **Orion's** front panel display. To repeat the entire DVD disc, press **REPEAT** a third time for about 1 second. Repeat appears on the display. To exit from the 'Repeat' mode, press **REPEAT** a fourth time for about 1 second.

Subtitles

While a DVD disc is playing, you can turn the subtitles on by pressing the **SUBTITLE** button until the subtitles appear on your TV or video projection unit. To step through all of the language options, press **SUBTITLE** repeatedly. To turn the subtitles off, press and hold the **SUBTITLE** button again. Since subtitle information is read directly from the DVD disc, subtitles will appear only if the DVD disc you're playing is encoded with subtitles.

Camera Angle

If the DVD disc contains sequences recorded from different camera angles, the camera angle icon appears on your TV/video projection screen showing the number of camera angles available and the angle currently being shown. You can change the camera angle by pressing the **ANGLE** button. The camera angle icon will remain on your screen until you turn off the camera angle feature. To turn it off, simply press the **OSD** button.

Changing the audio language and channel configuration

Press the **AUDIO** button while a DVD disc is playing. Both the audio language icon and channel configuration icon will appear on your screen for 2 seconds. Press the **AUDIO** button repeatedly to step through all the different languages available on the DVD disc. Some DVD discs don't allow you to change the language while the disc is playing. In this case, go into the DVD disc's menu.

Checking the contents of DVD-Video discs: On-Screen Menus

Press the **MENU** button to activate the on-screen menu of the disc being played. It will appear on your TV/video projection unit screen. The menu lists all available options including subtitle, camera angles, audio language, chapters, and so on. The displayed menu may have multiple page presentation depending on the DVD disc. To navigate through the on-screen menu use the ← ↑ → ↓ buttons to highlight your selections and then press the **OK** button. At any point, you can return to the previous menu screen by simply pressing the **MENU** button for about 1 second.

Playing an Audio CD

Playing a disc

With 'Autoplay' setting on, a CD will start playing automatically when you close the drawer. With the 'Autoplay' setting off, press ► to start playing the CD. Please refer to the section 'Settings Menu' on page 17 to turn 'Autoplay' on or off. While the CD is playing, the **Orion's** front panel display will show the number of the current track and its elapsed playing time. As well, your TV/video projection unit's screen will show detailed information about the CD (i.e. total time, total number of tracks, elapsed and remaining time, etc.) To pause the CD press ||. To return to play press ►. To stop playing press ■.

Moving to another track

Briefly press ►► while a CD is playing to skip forward to next track. Briefly press ◀◀ while a CD is playing to return to the beginning of the current track. Briefly pressing ◀◀ a second time will take you to the beginning of the previous track.

Search

To search forward or backward through the CD at 4x (normal) speed, press ◀◀ or ►►. When the search begins the audio signal is partially muted. To search at higher speed (8x) press ◀◀ or ►► a second time. To decrease the search speed back to the 4x speed, press ◀◀ or ►► again. To terminate the search process, press ►, || or ■ as desired.

Shuffle

While a CD is playing, press and hold the **SHUFFLE** button for about 1 second. The playback order of the tracks will be randomly changed. To return to playing the tracks in the order that they appear on the CD, press and hold the **SHUFFLE** button again.

Repeat track/disc

To repeat the track that's currently playing, press the **REPEAT** button for about 1 second. 'Repeat Track' will appear on the **Orion's** front panel display. To repeat the entire disc, press the **REPEAT** button again for about 1 second. 'Repeat' will appear on the display. To exit the 'Repeat' mode, press the **REPEAT** button a third time for about 1 second.

A-B Repeat

To repeat or loop a sequence, briefly press the **A-B** button at your chosen starting point. An 'A' will appear on the **Orion's** front panel display. Briefly press the **A-B** button a second time at your chosen end point. An 'A-B' will appear your display and the repeat/loop sequence will begin playing. To exit the sequence at any time, briefly press the **A-B** button again.

FTS (Favorite Track Selection)

The 'FTS' system allows you to program the **MOON Orion** DVD Transport / Player to either include or exclude specifically selected tracks of an Audio CD for playback, similar to the usual programming mode of many CD players. The difference is that the **Orion** will memorize the 'FTS' program for a specific CD once it has been created. Next time you play that CD on the **Orion**, its 'FTS' will be recalled. The 'FTS' system uses the on-screen display, so you should have your TV or video projection unit turned on when creating a 'FTS program'. You can have a total of 100 FTS CD's. If you exceed this number, the least frequently played 'FTS program(s)' will automatically be deleted.

Playing an FTS program

When the 'Auto FTS' setting is on, play of the 'FTS program' starts immediately when the Transport / Player recognizes the CD. When the 'Auto FTS' setting is off, press the **FTS** button located on the **Orion's** front panel once the 'total tracks' and 'time' appear on the **Orion's** front panel display. Then press ►. Please refer to the section 'Settings Menu' on page 17 to turn 'Auto FTS' on or off.

Compiling an FTS program

Insert a CD but don't start playing it. 'FTS programs' can be compiled by either selecting the tracks you want to play (Selecting Tracks) or by excluding the tracks you don't want to play (Excluding tracks).

A) Select tracks

Press → so that the on-screen display selects the 'Favourite' mode. Use ← or → to move to the first track number you want to select. Then press ↑ and that track number will be added to the 'favourite grid'. Repeat the last two steps to add as many tracks that you want to include from the 'FTS program' of that CD. If you change your mind, you can de-select any track number by moving back to it and pressing ↓ as required. To clear all of your selections and start again, press ■.

B) Exclude tracks

Press ← so that the on-screen display selects the 'Exclusion' mode. Use ← or → to move to the first track number you want to exclude. Then press ↓, the track number will be added to the 'exclude grid'. Repeat the last two steps to add as many tracks that you want to exclude from the 'FTS program' of that CD. If you change your mind, you can re-include any track number by moving back to it and pressing ↑ as required. To clear all of your selections and start again, press ■.

Once you have completed creating your 'FTS program', press ► to start playing it. The 'FTS program' will be automatically memorized.

Settings Menu

Using the 'Settings Menu' you can customize your **MOON Orion** DVD Transport / Player's features to suit your own particular requirements and tastes. Please ensure that neither a DVD disc or CD is playing when you attempt to modify the following settings. Press the **SETUP** button on the remote control to launch the **Orion's** 'Settings Menu' onto your TV or video projection unit. Move to the function you want to change using ↓ or ↑, then use ← or → to scroll through the available options. To exit the 'Settings Menu', press the **SETUP** button again.

Audio

The movie soundtrack will be in the language you choose provided that it's available on the DVD disc. If not, the dialogue will revert to the first available (default) spoken language found on the DVD disc.

Subtitle

The subtitles will be in the language you choose provided that it's available on the DVD disc. If not, subtitles will revert to the first available (default) subtitle language found on the DVD disc.

Parental Control

Please refer to the section 'Parental Control' on page 19 for details.

TV Shape

The **Orion's** video output must be adapted to appear correctly on your TV or video projection unit. The factory default setting is 16:9 (wide screen). If you have a regular format TV (4:3), you can choose either 1) 'Letterbox' mode for a wide screen picture layout where a horizontal black bar will appear both above and below the picture frame or 2) 'Pan & Scan' for a full-height picture layout where side information is trimmed. In 'Pan & Scan' mode the picture moves (scans) horizontally to keep the main video information in the picture frame. 'Pan & Scan' must be available on the DVD disc for this mode to function on the **Orion**.

Autoplay

When a DVD disc is inserted into the **Orion** and the drawer is closed, it will automatically start to play. You can switch the setting to 'Off' if you prefer to start play manually. The factory default setting is 'On'.

Auto FTS

When a CD with an existing FTS program is inserted into the **Orion** and the drawer is closed, the FTS program automatically starts to play. You can switch the setting to 'Off' if you prefer to control FTS play manually. The factory default setting is 'On'.

Settings Menu (cont'd)

Digital Output

If you want to use a digital connection between your **MOON Orion** DVD Transport / Player and a digital home theater decoder such as the **MOON Stargate** or the **Moon Attraction**, change the setting to 'ALL'. With this setting, the output can be Dolby Digital®(AC-3), Dolby Digital® Surround EX, DTS Digital Surround™, DTS-ES™ 6.1, MPEG (VCD) or Linear PCM Digital Audio (CD) depending on the type of disc being played. If you want the Orion to output only regular PCM Digital Audio signal, then change the 'Digital Output' setting to 'PCM'. This way you can connect to a conventional stereo D to A converter. The factory default setting is 'Off' which means that there's no signal at the digital outputs.

Video Shift

Use this setting to customize the position of the picture frame on your TV or video projection unit by scrolling it left or right. The factory default setting is 'Center'.

OSD Language

This allows you to select the language for the text of the **MOON Orion's** on-screen display menus.

PBC

This setting applies only to Video CD's. This playback control setting allows you to access the menu of the Video CD, provided that it's available on the VCD when you push ►.

TruSurround 3D Sound™

A special 3D sound enhancement mode is available which produces virtual surround sound through a pair of stereo speakers. When you turn the 3D sound setting 'On', the analog stereo output of the **MOON Orion** will be specially encoded. If you want to use this mode, you must use the analog stereo output connection. This software for this enhancement is made available by SRS Labs, Inc. The factory default setting for this mode is 'Off'.

A Final Suggestion

After you have watched several DVD discs, you will notice that it is sometimes easier to use the menus provided by the software on the DVD discs (as opposed to the **Orion's** menus) to make your choices. You cannot use a menu feature found on the **Orion** that is not available on the DVD disc. For example, if you choose French as the language on the **Orion's** audio setting and it is not available on the DVD disc, you will still hear English as the audio language when you will play the DVD disc. Also note that some DVD discs have their own Autoplay, so even if the Autoplay setting of the **Orion** is not active, it might start playing automatically.

Parental Control

When activated, the 'Parental Control' allows access to only those DVD-Video discs that you previously authorized to be played on the **MOON Orion** DVD Transport / Player. To setup the 'Parental Control' you will have to create a 4-digit PIN (Personal Identification Number).

Activating Parental Control

Please ensure that the **Orion** is stopped. Press the **SETUP** button to activate the 'Settings Menu'. Move to the 'Parental Control' section using ↓ or ↑ . Press ← or → to change Parental Control to 'Active'. You will be asked to enter a 4-digit PIN code of your own choice, and then be asked to confirm your choice. Use the keypad on the remote. You will have to remember this PIN code as it must be entered to play any DVD-Video disc unless you have previously authorized the DVD disc as suitable for all ages. To de-activate 'Parental Control', repeat the above procedure. If you forget your PIN code, you can erase it when the **Orion** requests the PIN code by pressing ■ four times. The 'Parental Control' will then be automatically de-activated.

Authorizing discs

Insert the DVD disc you wish to authorize and close the drawer. The on-screen display will ask for your PIN code. Enter your 4-digit PIN code and press ■ . Select 'Parental Control' from the on-screen display by pressing → . Then the on-screen display will prompt you for your PIN code again. The DVD disc is now authorized, and will play without entering your 4-digit PIN code. To cancel your authorization, repeat the last two steps. You can have a total of fifty (50) authorized DVD discs. If you exceed this number, the least frequently played DVD disc(s) are automatically unauthorized.

Specifications

Media Formats	DVD (video), CD Audio (CD-DA), VCD, CD-R, CD-RW, DVD-R and DVD+RW
Video Formats	NTSC and PAL
Audio Formats	MPEG1 (VCD), MPEG2 (DVD), Linear PCM Digital Audio (CD), Dolby Digital® 5.1 (AC-3), Dolby Digital® Surround EX, Dolby Surround Pro Logic® II, DTS Digital Surround 5.1™ DTS-ES™ Surround 6.1™

Standard Video Outputs	Component Video (CVBS) w/ RCA Connector	Line output level	1.0Vp-p
	S-Video (Y/C) w/ 5-pin Mini-DIN Connector	Y output level C output level	1.0Vp-p 0.300Vp-p PAL 0.286Vp-p NTSC
	Component Video (Interlaced) w/ RCA Connectors	Y output level P _B output level P _R output level	1.0Vp-p 0.7Vp-p 0.7Vp-p
	SCART Connector 21-pin Audio/Video For Europe	RGB & Composite	

Progressive Video Outputs	Component Video w/ BNC Connectors	Y output level P _B output level P _R output level	1.0Vp-p 0.7Vp-p 0.7Vp-p
	RGB w/ DB15 connector	Vertical sync. Horizontal sync.	4.0Vp-p TTL 4.0Vp-p TTL

Single-Ended Analog Audio Outputs (RCA) .. 2.0V @ 50Ω
 Electrical Digital Audio Output (RCA) 0.5V @ 75Ω (S/PDIF)
 Optical Digital Audio Output (Toslink) 660nm wavelength

Specifications (cont'd)

Video Specifications

Horizontal Scan Frequency	31.5kHz (Progressive Scan)
Video Frequency Response	± 0.5 dB to 5.5MHz
Video Signal-To-Noise Ratio	> -58dB
Video Differential Phase	> 0.5°
Video Differential Gain	> 0.1dB
Supported Aspect Ratios	Anamorphic 16:9, Letterboxed 4:3 and Pan & Scan 4:3

DVD Linear Audio Specifications ¹ (Orion-A & Orion-AF only)

Frequency Response	0.7Hz - 44kHz
Signal-to-Noise Ratio	117dB
Dynamic Range	117dB
Channel Separation	113dB
THD + N	0.0006% @ 0dB _s

CD Audio Specifications ² (Orion-A & Orion-AF only)

Frequency Response	0.7Hz - 20kHz
Signal-to-Noise Ratio	117dB
Dynamic Range	117dB
Channel Separation	115dB
THD + N	0.0004% @ 0dB _s
Pass-band ripple	± 0.002 dB
Stop-band attenuation	< - 82dB

Other Relevant Information

Front Panel Display	VFD (Vacuum Fluorescent Display)
Remote Control	Full-Function
Rack mount size	3 spaces
Power Consumption at idle	12 Watts
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Fuse Replacement - 120V / 230V	4A short fast blow
Shipping Weight	26 lb / 12 Kg
Dimensions (W x H x D, inches)	19 x 6.5 x 14

Note 1: EIAJ, A-weighted, $f_s = 24$ -bit/96kHz

Note 2: EIAJ, A-weighted, $f_s = 16$ -bit/44.1kHz

Service and Warranty

(U.S.A and Canada only)

Please take the time to complete and mail the warranty card supplied with your **MOON Orion** DVD Transport / Player. This card is necessary to activate your full warranty, as well as allowing you to receive information on new products and services. Alternatively, you may visit our website **www.simaudio.com** and go to the "warranty registration" section where you can register on-line.

If you experience a problem with your **Orion**, contact your dealer first. Most often, problems are merely minor oversights that are easily solved, and this will save you both the time and the cost of shipping the **Orion** back to us. If your dealer is not able to diagnose the problem, please feel free to contact our service department. If required, service must be performed by a **Simaudio Ltd.** authorized center such as your national distributor. In order to prevent any damage during transport, the **Orion** must be packed with all of its original internal materials and shipped in the original box. Please keep your box and shipping materials.

MOON Orion DVD Transport / Players are guaranteed against defective materials and workmanship for a period of TWO (2) years, parts and labor, to the original owner, with the exception of the DVD drive mechanism. The Philips DVD drive is guaranteed for ONE (1) year, parts and labor to the original owner. Upon receiving your registration card (either by mail or via our on-line warranty registration), this warranty is immediately upgraded to FIVE (5) years, parts and labor, with the exception of the Philips DVD drive which is guaranteed for one (1) year, parts and labor. Additionally, your **Orion** must be purchased from an authorized **MOON** dealer to qualify for warranties. These warranties are voided in the case of accident, or if the unit was tampered with, somewhere other than at an authorized Simaudio service center. This warranty is valid only in Canada and USA. In other countries, the warranty conditions are defined and limited only by the local/national distributor.

Simaudio Ltd. limits its liability to the repair or replacement of the **MOON Orion** DVD Transport / Player. **Simaudio Ltd.** cannot be held responsible for any damages caused to any other equipment, whatever the circumstances and/or causes arising thereof.

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