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Congratulations on selecting your new PRIMARE SPA23 4KVM AV Amplifier.
This user guide describes the features and explains how to set up the AV Amplifier for the best sound quality and ease of operation in order to allow for the most enjoyable reproduction of sound and image from all your sources.
For additional support and assistance please contact your local authorized Primare dealer, or visit our website at www.primare.net.
GETTING STARTED

1 UNPACK THE SPA23 4KVM

Your SPA23 4KVM is supplied with the following components:
• Mains cable.
• C24 remote control, including two button cells.
• Zone 2 remote control, including button cell.

If any of these items are missing please contact your supplier. We recommend you retain the packaging in case you need to transport the unit at a later date.

2 CONNECT A DISPLAY

Connect the HDMI 1 or HDMI 2 output from your SPA23 4KVM to your television or display HDMI input.

If your television includes an HDMI tuner output you can use the SPA23 to perform switching between the television tuner and your other video sources such as DVD or Blu-Ray. In this case connect the television tuner output to the HDMI input corresponding to your TV source. If your television does not provide a tuner output you will need to switch the television between its internal tuner and the external video input.

3 CONNECT TO SPEAKERS

The SPA23 can directly drive the five loudspeakers in a surround system. In addition it provides line-level outputs for seven full-frequency channels and one subwoofer.

If your surround system does not include a full set of speakers, the SPA23 will distribute the signals from these channels to the other channels as appropriate in your system.
• Connect the front, center, and surround loudspeaker outputs to the loudspeakers in your system.

If your system includes both side surround and back surround speakers:
• Reassign the LEFT and RIGHT FRONT channels to the additional surrounds, and use the analog FRONT LEFT and RIGHT outputs to connect to an additional A34.2 stereo power amplifier; see AUDIO SETTINGS, page 9.

If your system includes a subwoofer:
• Connect the SUB analog output to the audio input of the subwoofer.

4 CONNECT SOURCES

The SPA23 4KVM is supplied with nine standard sources already configured; see Selecting a source, page 8.

Alternatively you can configure up to 15 sources to use the particular combination of analog, digital, and video inputs you prefer; for more information see Input/Output, page 12.

5 CONNECT POWER

• Connect the SPA23 4KVM to a wall socket, using the supplied mains cable.
• Switch on the SPA23 4KVM, using the switch next to the power connector on the back panel.
• Press the button to switch on the SPA23 4KVM.

Phase
The phase of the AC supply can make a significant difference to the sound.

Ensure that the live pin of the AC power cable is connected to the left-hand pin of the power connector, viewed from the back panel:

6 CONFIGURE THE SPEAKERS

Before using the SPA23 4KVM you need to configure it to specify the combination of speakers you have in your surround system. For more information see SPEAKER SETTING, page 13.

You then need to set up the speaker levels and speaker distances, to ensure that the sound image is correctly focused at the listening position. For more information see LEVEL ADJUST, page 11, and SPEAKER DIST, page 11.

7 PLAY A SOURCE

• Use the SELECTOR control on the front panel or the and buttons on the remote control to select the source.
• Use the VOLUME control on the front panel or the + and buttons on the remote control to increase or decrease the volume.

For more information about playing sources see Selecting a source, page 8.
The following diagram explains the function of each of the connectors on the back panel:
FITTING THE BATTERIES

Before using the remote control you need to insert the two button cells supplied with the C24.

- Open the cover on the back of the remote control by pressing the tab gently:

- Insert the two batteries, positive side uppermost:

- Replace the cover and push until it clips into place.

Note: Replace only with 3V button cells type CR2025 or equivalent.

When disposing of old batteries please be considerate to the environment.
USING THE SPA23 4KVM

FRONT PANEL CONTROLS
Almost all the functions of the SPA23 4KVM Multi-Channel Processor can be accessed using the two front panel controls and four push buttons, and information about its operation is displayed on the front panel display:

Selector
Selects an input, or operates the setup menus

Menu
Selects the setup menu.

Select –
Selects the current menu option.

Level
Displays each setting and allows you to change them with the VOLUME control.

Mute/Standby
Press briefly to mute the sound.
Hold down to switch the SPA23 4KVM to standby.

Volume
Adjusts the volume.

FRONT PANEL DISPLAY
The front panel display shows:
- The processing mode; eg STEREO, or NO LOCK if there is no signal on a digital input.
- The current source; eg Blu-ray
- The volume; eg 41 or MUTE.

To blank the front panel display
Press the DIM button on the remote control.
The normal display will reappear while you adjust any settings.
Press the DIM button again to restore the display.

SWITCHING ON AND OFF
To switch on
- Use the switch on the back panel.
During normal operation you can leave the SPA23 4KVM switched on and in standby.

To switch to standby
- Hold down the button on the front panel or remote control.

To switch on from standby
- Press the button on the front panel or remote control.

SELECTING A SOURCE
The SPA23 4KVM allows you to define up to 15 sources. Each source can use one of the seven digital and ten analog inputs, and any source can be combined with one of the HDMI inputs. Alternatively, a multi-channel source, called EXT 7.1, can be defined using analog inputs 5 to 8.

When the SPA23 4KVM is first supplied the nine standard sources shown in the table below are already set up for you.

You can simply disable any of these sources that you do not need; see Input/Output, page 12. You can also change any source to use different inputs, or configure your own sources with any name you choose and using any particular inputs as appropriate for the source.

To select a source
- Turn the SELECTOR control on the front panel until the name of the source is shown on the front panel display.
- Alternatively, press the or buttons on the remote control to step between sources.

You can also select an input by pressing the input number on the remote control.

<table>
<thead>
<tr>
<th>Input</th>
<th>Source</th>
<th>Audio input</th>
<th>Video</th>
<th>2CH mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blu-ray</td>
<td>HDMI 1</td>
<td>HDMI 1</td>
<td>Stereo</td>
<td>Blu-Ray disc player</td>
</tr>
<tr>
<td>2</td>
<td>Sat</td>
<td>HDMI 2</td>
<td>HDMI 2</td>
<td>Stereo</td>
<td>Digital satellite receiver</td>
</tr>
<tr>
<td>3</td>
<td>Games</td>
<td>HDMI 3</td>
<td>HDMI 3</td>
<td>Stereo</td>
<td>Game console</td>
</tr>
<tr>
<td>4</td>
<td>PC</td>
<td>HDMI 4</td>
<td>HDMI 4</td>
<td>Stereo</td>
<td>Streaming server</td>
</tr>
<tr>
<td>5</td>
<td>DVB</td>
<td>HDMI 5</td>
<td>HDMI 5</td>
<td>Stereo</td>
<td>Digital television receiver</td>
</tr>
<tr>
<td>6</td>
<td>TV</td>
<td>HDMI 1 ARC</td>
<td>None</td>
<td>Stereo</td>
<td>Television</td>
</tr>
<tr>
<td>7</td>
<td>CD</td>
<td>Analog 1</td>
<td>None</td>
<td>Bypass</td>
<td>CD player</td>
</tr>
<tr>
<td>8</td>
<td>SACD</td>
<td>Ext 7.1</td>
<td>None</td>
<td>Bypass</td>
<td>SACD player</td>
</tr>
<tr>
<td>9</td>
<td>Tuner</td>
<td>Analog 2</td>
<td>None</td>
<td>Bypass</td>
<td>Radio tuner</td>
</tr>
</tbody>
</table>
CHANGING THE VOLUME
The SPA23 4KVM allows you to vary the volume from 0 (silence) to 99 (maximum volume).

To change the volume
- Rotate the VOLUME control on the front panel, or press the VOL + or VOL – buttons on the remote control.

The current volume setting is shown on the front panel display.

TO MUTE THE SOUND
- Press the button on the front panel or the MUTE button on the remote control.

To restore the sound to its original volume
- Press the or MUTE button again.

The sound is also restored to its original volume if you increase the volume.

CHANGING THE LEVELS
You can independently change the balance, center level, surround level, surround back level, and subwoofer level to alter the balance of sound in your surround system.

Changing the balance alters the level of both the left and right main loudspeakers to shift the position of the stereo image, keeping the overall level of the sound the same. The other adjustments change the level of the corresponding speaker(s) without affecting the remaining speakers in the surround system.

To change a level
- Press the button on the front panel, or the BAL/ST button on the remote control, until the display shows the level you want to change.

The first step allows you to change the balance of the main speakers:

- 0.0dB  L=R  0.0dB

Subsequent steps allow you to change the levels of the surround speakers:

- CENTER  0.0dB
- SUBWOOFER  0.0dB
- SURROUND  0.0dB
- SURR BACK  0.0dB

- Use the VOLUME control on the front panel, or the and buttons on the remote control, to adjust the value.

Each setting can be changed from -10.0dB to +10.0dB. After a short delay the display will revert to the normal display.

CHANGING THE LIPSYNC
You can change the AV Delay (lipsync) from the front panel to compensate for processing delay in some video displays. Choose the setting that gives correct lipsync.

To change the lipsync
- Press the button on the front panel, or the ST/BAL button on the remote control, until the display shows the current AV Delay:

- AV DELAY 0ms

- Use the VOLUME control on the front panel, or the and buttons on the remote control, to adjust the value.

The AV Delay can be changed from 0ms to 250ms. After a short delay the display will revert to the normal display.

CHOOSING THE SURROUND MODE
The surround mode determines how the sound is divided between the loudspeakers in your surround system. Each source is associated with a default surround mode, which will be used when you select that source, but you can choose a different surround mode for the source if you prefer.

For example, the standard surround mode for the DVB source is PLIIx Movie, since most TV broadcasts are Pro Logic encoded, but if you are watching a music concert you may prefer to choose the Stereo or Bypass surround modes, as these give a more natural sound when listening to music.

To change the surround mode
- Press the AUDIO button on the remote control to display the current surround mode.

- Press again to step between the available surround modes.

The options available depend on the source you are listening to.

Lossless sources
Blu-ray players provide three lossless audio formats: Dolby TrueHD, DTS-HD Master Audio, and Linear Pulse-Code Modulation (LPCM). These formats will all convey eight discrete channels (7.1) of lossless audio that exactly duplicate the original studio masters:

<table>
<thead>
<tr>
<th>Format</th>
<th>Variants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolby</td>
<td>Dolby Prologic Ilx, Dolby Digital EX, Plus, TrueHD</td>
</tr>
<tr>
<td>DTS</td>
<td>DTS-ES, DTS-NEO:6, DTS 96/24, DTS-HD Master Audio, DTS-HD High Resolution Audio</td>
</tr>
<tr>
<td>PCM</td>
<td>2ch-PCM, Multi-PCM, LPCM</td>
</tr>
</tbody>
</table>
Multi-channel sources
For Dolby Digital or DTS sources only the following option is available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO</td>
<td>Automatically detects an incoming digital signal and locks onto it.</td>
</tr>
</tbody>
</table>

The SPA23 4KVM automatically detects a Dolby Digital or DTS input and displays Dolby Digital on the front panel display.

If the Dolby Digital input only contains two channels, or it is a PCM signal, the default surround mode specified in the INPUT/OUTPUT menu is also displayed. For more information see Input/Output, page 12.

Two-channel sources
If you are listening to a conventional two-channel analog or digital source, such as a CD, the following options are available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BYPASS</td>
<td>The same signal to the front left and right, surround left and right, and surround back left and right loudspeakers, if connected and enabled.</td>
</tr>
<tr>
<td>STEREO</td>
<td>Conventional stereo, using just the main left and right loudspeakers.</td>
</tr>
<tr>
<td>PLIIX</td>
<td>Dolby’s updated Pro Logic decoder provides 7.1 channel surround sound from any two channel source, with stereo surround back channels and full frequency range.</td>
</tr>
<tr>
<td>PLIIX CINEMA</td>
<td>A variant of PLIIX optimised for movie soundtracks.</td>
</tr>
<tr>
<td>PLIIX MUSIC</td>
<td>A variant of PLIIX optimised for music sources.</td>
</tr>
</tbody>
</table>

ZONE 2
An additional audio output is provided to feed a second zone, such as a second room system.

RECORD OUTPUTS
The SPA23 4KVM allows you to make a recording of a digital source to the two digital record outputs, or of an analog source to the analog record output.

The SPA23 4KVM provides two digital record outputs, SPDIF and optical TOSlink, and one analog RCA record output.
**USING THE MENUS**

The **SETUP MENU** gives access to a series of menus which allow you to customize different aspects of the operation of the SPA23 4KVM.

**To display the SETUP MENU**
- Press \@ on the front panel or **SETUP** on the remote control.

**To display a menu**
- Use the **SELECTOR** control on the front panel or the \▲ or \▼ buttons on the remote control to highlight the menu on the **SETUP MENU** that you want to display.
- Press \< on the front panel, or **SELECT** or > on the remote control, to select it.

Selecting **SPEAKER SETTINGS** displays three submenus of speaker settings options:

See **Speaker Settings**, page 13, for details of these submenus.

Likewise, selecting **CONTROL SETTINGS** displays three submenus of control settings options:

See **Control Settings**, page 15, for details of these submenus.

**To change a setting**
- Use the **SELECTOR** on the front panel or the \▲ or \▼ buttons on the remote control to highlight the setting you want to change.
- Press \< on the front panel, or **SELECT** or > on the remote control, to display a list of the alternative values for the setting.
- Use the **SELECTOR** control on the front panel the \▲ or \▼ buttons on the remote control to step between the alternative values.
- Press \< on the front panel, or **SELECT** on the remote control, to select the highlighted setting.

Alternatively, press \@ on the front panel, or **RETURN** or > on the remote control, to return to the menu without changing the setting.

**To edit an input alias**
- Press **SELECT** to edit the name of the source.
- Use \▲ or \▼ to select a character.
- Use \▲ or \▼ to edit it.

You can use the number pad on the remote control to insert numbers, and **CLEAR** to delete a character.
- Finally press \< on the front panel or **SELECT** on the remote control to finish.

**To exit from the current menu**
- Press \@ on the front panel or **RETURN** on the remote control.

**To exit from the setup menus**
- Press **SETUP** on the remote control.

Exiting from the setup menus returns to normal operation of the SPA23 4KVM.
**INPUT/OUTPUT**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUT 1</td>
<td>The INPUT/OUTPUT menu allows you to configure any of the 15 inputs.</td>
</tr>
<tr>
<td>STATUS</td>
<td>Use the INPUT option to select the input you want to edit.</td>
</tr>
<tr>
<td>ALIAS</td>
<td>The menu then shows the current settings for that input and allows you to edit them.</td>
</tr>
<tr>
<td>AUDIO INPUT</td>
<td>Option Description</td>
</tr>
<tr>
<td>HDMI:</td>
<td>OUT 1 AUDIO: Set to TV to pass the HDMI audio to the TV, or SPA23 to get the SPA23 4KVM to process the audio.</td>
</tr>
<tr>
<td>2CH MODE</td>
<td>2CH MODE: The default surround mode for two-channel sources: BYPASS, STEREO, PLIIX MOVIE, PLIIX MUSIC, NEO6 CINEMA, NEO6 MUSIC, or PARTY.</td>
</tr>
<tr>
<td>VOLUME OFFSET</td>
<td>VOLUME OFFSET: Press ▲ or ▼ to vary the sensitivity of the source between -12.0dB to +12.0dB in 0.5dB steps.</td>
</tr>
<tr>
<td>TRIGGER 1-3</td>
<td>TRIGGER 1-3: Can be set to ON or OFF, to set the corresponding trigger, or --- to leave the value at its current setting. This setting is only active if INPUT S is set in the CONTROL menu; see Trigger settings, page 15.</td>
</tr>
</tbody>
</table>

**Option Description**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
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<tr>
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</tr>
<tr>
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</tr>
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</tr>
</tbody>
</table>
**SPAKER SETTINGS**

**SPAKER SETUP**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE</td>
<td>See below.</td>
</tr>
<tr>
<td>FRONT L+R</td>
<td>Select SMALL or LARGE to specify whether the front speakers can handle bass.</td>
</tr>
<tr>
<td>CENTER</td>
<td>Select NONE, SMALL, or LARGE to specify whether there is a center speaker in the system, and whether it is small or large.</td>
</tr>
<tr>
<td>SURROUND</td>
<td>Select NONE, SMALL, or LARGE to specify information about the surround speakers.</td>
</tr>
<tr>
<td>Surr BACK</td>
<td>Select NONE, 1/SMALL, 1/LARGE, 2/SMALL, or 2/LARGE to specify the number and size of the surround back speakers.</td>
</tr>
<tr>
<td>SUBWOOFER</td>
<td>Select OFF or ON to specify whether the layout should include a subwoofer.</td>
</tr>
<tr>
<td>LR+LFE XOVER</td>
<td>Allows you to define the crossover frequency (40Hz to 200Hz or DEFAULT) used for the LFE, CENTER, and Surr speakers.</td>
</tr>
</tbody>
</table>

The **SPAKER SETUP** menu allows you to set up the speakers:

- **MODE**
- **FRONT L+R**
- **CENTER**
- **SURROUND**
- **Surr BACK**
- **SUBWOOFER**
- **LR+LFE XOVER**
- **CENTER XOVER**
- **Surr XOVER**

Additional modes **DOLBY D**, **DTS**, and **OTHER** are available in order to alter the **GENERAL** settings of **SPAKER SETUP**, **LEVEL ADJUST**, and **SPAKER DIST** for Dolby Digital, DTS, and 2-channel sources respectively.

**SMALL** is the factory default setting for **CENTER**, **SURROUND**, and **Surr BACK** speakers as a precaution for systems using bass limited speakers at those positions. In most systems, using relatively full range speakers, the **LARGE** setting will result in superior performance.

For more detailed information, consult your authorized Primare dealer.

**LEVEL ADJUST**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE</td>
<td>LEVEL ADJUST</td>
</tr>
<tr>
<td>FRONT LEFT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>CENTER</td>
<td>0.0dB</td>
</tr>
<tr>
<td>FRONT RIGHT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>SURROUND RIGHT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>Surr BACK RIGHT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>Surr BACK LEFT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>SURROUND LEFT</td>
<td>0.0dB</td>
</tr>
<tr>
<td>SUBWOOFER</td>
<td>0.0dB</td>
</tr>
</tbody>
</table>

The **LEVEL ADJUST** menu allows you to adjust the levels so that the sound from each speaker is equally loud at the listening position.

- Highlight each of the speakers in turn; a white noise signal will be played through the speaker.
- Use the ▲ and ▼ buttons on the remote control to adjust the level.

For best results measure the level at the listening position using a Sound Pressure Level meter.
The **SPEAKER DIST** menu allows you to specify the distance of each speaker from the listening position, in feet or metres. The SPA23 4KVM will then add delays to each channel to ensure that the sound from each speaker reaches the listener at the same time.

You can also add an extra delay to the surround speakers to make the sound more spacious.

- Use the ▲ and ▼ buttons on the remote control to adjust the distance or delay.

In **GENERAL** mode you can adjust the distance between 0 and 20 feet (0 and 6m). Setting **DISTANCE UNITS** to **MS** shows the calculated delays and allows you to adjust them directly.

**Note**: Experimenting with adjusting both speaker gain and delay settings by ear to best suit the specific system installation can result in subtly improved system performance.
## CONTROL SETTINGS

### CONTROL

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSD TRANSPARENT</td>
<td>Set to YES to allow the video image to show through the background of the on-screen display, or NO to blank the video image when the on-screen display is displayed.</td>
</tr>
<tr>
<td>OSD POPUP</td>
<td>Determines what information is shown on the on-screen display when changing source. FULL shows the same information as the front panel display, SIMPLE shows just the source name, and OFF turns it off.</td>
</tr>
<tr>
<td>OSD POPUP TIME</td>
<td>Set to 1-10 sec to determine how long the on-screen display stays on the screen.</td>
</tr>
<tr>
<td>OSD POPUP POS</td>
<td>Position of on-screen display.</td>
</tr>
<tr>
<td>VFD BRIGHTNESS</td>
<td>1-3 to specify the front panel display brightness.</td>
</tr>
<tr>
<td>VFD DISPLAY TIME</td>
<td>If the front-panel display is blanked, sets the delay (1-10 sec) before the display is blanked after operating any control.</td>
</tr>
<tr>
<td>TRIGGER 1-3</td>
<td>Select FRONT to use an infra-red remote control pointer at the front panel, or BACK to control the SPA23 4KVM using the IR input on the back panel.</td>
</tr>
<tr>
<td>REMOTE SELECT *</td>
<td>Allows you to specify a delay of 0, 1, 2, or 5 secs before the trigger is activated.</td>
</tr>
</tbody>
</table>

### AUDIO SETTINGS

The **AUDIO SETTINGS** menu allows you to specify options affecting all audio outputs:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT AMP</td>
<td>The normal setting is FRONT for a 5.1 system. Alternatively, the BACK setting can be selected if you prefer to use a separate power amplifier for the front pair of speakers; or, in a 7.1 system, to have a separate power amplifier to power the front speakers and the front power amplifiers of the SPA23 power the Surround Back channels.</td>
</tr>
<tr>
<td>LATE NIGHT</td>
<td>Set to ON to apply dynamic range compression to the audio, to reduce loud transients for late night listening.</td>
</tr>
<tr>
<td>DOUBLE BASS</td>
<td>Set to ON to copy the bass from speakers specified as LARGE and send this to the subwoofer.</td>
</tr>
<tr>
<td>LFE LEVEL</td>
<td>Can be adjusted between 0.0dB and -10.0dB to reduce the LFE level.</td>
</tr>
</tbody>
</table>

*Note: After changing this option you will not be able to use the remote control to control the SPA23 4KVM. To reset this option operate the menus from the front panel.*
For each input the **ZONE 2 SETTINGS** menu allows you to specify an analog audio input to be output to the Zone 2 output.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUT</td>
<td>Select one of the 15 inputs to be configured.</td>
</tr>
<tr>
<td>AUDIO</td>
<td>Allows you to specify an analog audio input to be output to the Zone 2 output.</td>
</tr>
<tr>
<td>TRIGGER 1-3</td>
<td>Zone 2 trigger settings; see <em>Trigger settings</em> on this page.</td>
</tr>
<tr>
<td>VOLUME</td>
<td>Allows you to set the current Zone 2 volume (0 to 99).</td>
</tr>
<tr>
<td>VOLUME DEFAULT</td>
<td>Determines the default Zone 2 volume (0 to 99) when the SPA23 4KVM is turned on from standby.</td>
</tr>
</tbody>
</table>

The **MEMORY** menu allows you to save and recall the SPA23 4KVM settings, or restore the factory settings.

The default password is **1234**.

**Saving installer settings**

Once you have configured the SPA23 4KVM you can save the settings in a password-protected file, and then recall them at any time to restore it to your custom configuration.

- Select **SAVE INST. SETTINGS** from the **MEMORY** menu.
- Enter the password using the number keys (or A, V, <, and >) on the remote, then press @ on the front panel or SETUP on the remote control.

If you have successfully saved the settings you will be returned to the **MEMORY** menu.

**Recalling installer settings**

You can recall the installer settings at any time:

- On the **MEMORY** menu select **RECALL INST. SETTINGS**, then select **YES**

The SPA23 4KVM will restart with the new configuration.

**Changing the installer password**

To change the installer password:

- Highlight **CHANGE INST. PASSWORD**, then press < on the front panel or SELECT on the remote control.
- Enter the old password using the number keys (or A, V, <, and >) on the remote, then press @ on the front panel or SETUP on the remote control.

The screen will prompt **PLEASE ENTER YOUR NEW PASSWORD TWICE**.

- Enter the new password and press < on the front panel or SELECT on the remote control.
- Enter the new password again and press < on the front panel or SELECT on the remote control.

If you have successfully changed the password you will be returned to the **MEMORY** menu.
OUTPUTS
Loudspeaker outputs
Front (left and right)
Center, Sub, Surr (left and right)
Surr back (left and right)
Unbalanced analog outputs
Front (left and right)
Center, Sub
Surr (left and right)
Surr back (left and right)
Analog record output
1 RCA (left and right)
Zone2 output
1 RCA (left and right)
Digital outputs
1 RCA, 1 TOS-Link
Video outputs
2 HDMI, with assignable ARC

INPUTS
Analog inputs
2 balanced, 8 RCA, incl. 7.1 inputs
Digital inputs
1 balanced, 3 RCA, 3 TOS-Link.
Video Inputs
6 HDMI

DIGITAL
Frequency response
20Hz-20kHz ±0.2dB
THD and noise
0.005% @1kHz (AES17 filter)

ANALOG
THD
<0.005%, 20Hz-20kHz
Signal to noise ratio
-110dB

Frequency response
10Hz-100kHz, 1dB
Input impedance
47kΩ unbalanced
3kΩ balanced
Output impedance
47Ω unbalanced
47Ω balanced

POWER AMPLIFIERS
Output power
5 x 120W, 8Ω
Output power 1kHz, one channel driven
8Ω 150W THD+N <1%,
4Ω 300W THD+N <1%,
AP AUX0025 Filter
Output power 1kHz, all channels driven
120W 4/8Ω THD+N <0.1%
AP AUX0025 Filter
THD
<0.01% 20Hz-20kHz 1W 8Ω, AP AES17 Filter

Signal-to-noise
80dB, AP AES17 filter, ref 2.828Vrms.

Frequency response
20Hz-20kHz -0.2dB, 1W 8Ω

PROCESSING
Video
HDMI matrix switching with HDCP 2.2 and OSD
3D and 4K UHD pass-through:
24Hz 4.4.4
24/25/30Hz 4.4.4
50/60Hz 4.2.0

Modes
Stereo, Bypass, Party,
Dolby Prologic Ix Music,
Dolby Prologic Ix Movie,
DTS NEO:6 MUSIC

Decoding formats
Dolby Digital
Dolby Digital EX
Dolby Prologic II
Dolby Prologic Ix
Dolby EX
Dolby Plus
Dolby TrueHD
DTS
DTS ES
DTS Neo:6
DTS 96/24
DTS HD Master Audio
DTS HD High Res audio
MULTI/2 CH PCM/LPCM

Sampling rates
32KHz, 44.1KHz, 48KHz,
88.2KHz, 96KHz, 192KHz

CONTROL
1 IR Input
3 12V outputs (triggers),
1 RS232
RS232
The RS232 connector allows your dealer to upgrade the firmware on your SPA23 4KVM, or control the SPA23 4KVM as part of a multi-room system. Do not connect anything to this socket unless instructed by your dealer.

GENERAL
Power consumption
Operating: <60W.
Fully stabilized SMPS

Size
430 x 385 x 180mm (WxDxH)

Weight
12kg
These instructions help you get the best possible sound from your SPA23 4KVM.

BEST SOUND
The phase of the AC supply can make a significant difference to the sound.

Ensure that the live pin of the AC power cable is connected to the left-hand pin of the power connector, viewed from the back panel:

![Live Pin Diagram]

BURN-IN
Your Primare will sound best after an initial burn-in of approximately 48 hours.

You will notice a further smaller improvement in sound quality for at least another 3 days playing.

RS232
The RS232 input allows you to connect the SPA23 4KVM to a controller system. For more information please contact your authorized Primare dealer.

TRIGGER OUTPUTS
The Trigger outputs allow the SPA23 4KVM to control external equipment, such as power amplifiers, or a projector screen.

IR INPUT
The IR INPUT allows you to connect an IR repeater to the SPA23 4KVM, to allow it to be operated by the remote control if the front panel IR sensor is blocked, such as when the SPA23 4KVM is mounted in a cabinet.
**Safety compliance**
This product has been designed to meet the IEC 60065 international electrical safety standard.

**CAUTION**
**RISK OF ELECTRIC SHOCK DO NOT OPEN**

**ATTENTION**
**RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR**

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated ‘dangerous voltage’ within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**CAUTION:** To reduce the risk of electrical shock do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

**WARNING:** To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

**CAUTION:** In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions.

1. **Take heed of warnings & instructions**
You should read all the safety and operating instructions before operating this appliance. Retain this handbook for future reference and adhere to all warnings in the handbook or on the appliance.

2. **Water and moisture**
The presence of electricity near water can be dangerous. Do not use the appliance near water – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

3. **Object or liquid entry**
Take care that objects do not fall and liquids are not spilled into the enclosure through any openings. Liquid-filled objects such as vases should not be placed on the equipment.

4. **Ventilation**
Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm around the sides and top of the appliance to provide adequate ventilation.

5. **Heat**
Locate the appliance away from naked flames or heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

6. **Climate**
The appliance has been designed for use in moderate climates.

7. **Racks and stands**
Only use a rack or stand that is recommended for use with the appliance.

8. **Cleaning**
Unplug the unit from the mains supply before cleaning.

9. **Power sources**
This appliance must be connected to a mains socket outlet using the supplied power cord. To disconnect this apparatus from power, you must disconnect the power cord. Make sure the power cord is always easily accessible.

This is a Class 1 device and must be earthed.

The power switch is a single-pole switch. When the switch is in the ‘Off’ position, the appliance is not completely disconnected from the main power.

10. **Power-cord protection**
Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, and the point where they exit from the appliance.

11. **Grounding**
Ensure that the grounding means of the appliance is not defeated.

12. **Power lines**
Locate any outdoor antenna/aerial away from power lines.

13. **Non-use periods**
If the unit has a stand-by function, a small amount of current will continue to flow into the equipment in this mode. Unplug the power cord of the appliance from the outlet if left unused for a long period of time.

14. **Abnormal smell**
If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

15. **Servicing**
You should not attempt to service the appliance beyond that described in this handbook. All other servicing should be referred to qualified service personnel.

16. **Damage requiring service**
The appliance should be serviced by qualified service personnel when:

A. the power-supply cord or the plug has been damaged, or
B. objects have fallen, or liquid has spilled into the appliance, or
C. the appliance has been exposed to rain, or
D. the appliance does not appear to operate normally or exhibits a marked change in performance, or
E. the appliance has been dropped or the enclosure damaged.
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