constellation audio

Simply, Light Years Ahead.

Virgo III owner's manual

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION
To reduce risk of electric shock, do not remove any of the preamplifier's cover plates or screws. There are no user serviceable parts inside. Contact qualified service personnel.

WARNING
To reduce risk of fire or electric shock, do not expose this preamplifier to moisture, rain, or excessive humidity.

The lightning flash with arrowhead, 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 electrical shock to persons.

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

Thank you for purchasing the Constellation Audio Virgo III preamplifier. And prepare for a musical experience far beyond your expectations.

The Virgo III employs essentially the same revolutionary circuitry pioneered in our Altair preamp. Like the Altair, it's designed for simple operation. However, as with Altair, the unique design demands that certain aspects of setup and operation are necessarily a bit different from those of typical stereo preamps. By reading this manual before you operate the Virgo III, you assure that you get maximum performance from the preamp.

Contents

Before you install the Virgo III

Unpacking

Take care when you remove the Virgo III from its packaging. Because of its machined aluminum top chassis, it is heavier than the average preamp. Have an extra person nearby to help if you need it. You may wish to use gloves to protect your fingers.

Power supply setup

The Virgo III's separate power supply (bottom component in the picture above) must be connected to the Virgo III main chassis (top component in the picture above) as shown above before you plug the unit into a wall. Make sure the power switch on the power supply is in the off (O) position. The supplied cables are spiral-wrapped, gold-plated copper designed for aerospace use, and can handle up to 30 amps. Only these cables should be used between the power supply and the Virgo III.

Connect the Analog Right power cable from the supply to the Analog Right jack on the preamp, the Analog Left power cable from the supply to the Analog Left jack on the preamp, and the Control power cable from the supply to the Control power jack on the preamp. At this point you can plug the Virgo III power supply into the wall socket. Leave the master power switch off until you connect your other equipment to the Virgo III.

DO NOT remove the power cables while the unit is powered on. If you do happen to accidently pull one of them out, DO NOT plug it back in. Turn off the power supply using the hard switch on the rear panel, unplug the unit, then replace the cable. Failure to power down the unit before replacing a power cable can result in substantial damage to your Virgo III.

If you will be using the Constellation Audio Centaur or Hercules amplifiers (or any other high-powered amplifier), do not plug the Virgo III into the same AC socket or into any other outlet connected on that circuit. Constellation Audio amplifiers draw a great deal of power and could affect the Virgo III's performance if the amplifier(s) and preamp are plugged into the same electrical circuit or AC outlet.

When you connect or disconnect the AC cord, always grasp it by the plug, not by the cord itself. Pulling the plug out by the cord can damage the cord, the AC socket, and/or the Virgo III.

Installation notes

The Virgo III preamplifier uses passive cooling; there are no internal fans. While the Virgo III does not generate as much heat as an amplifier, it should still be located in an area with adequate ventilation.

There should be at least 6 in/15 cm of clearance between the sides and top of the preamp and the nearest wall or cabinet. If the Virgo III is installed in a cabinet or an equipment closet, ensure the cabinet/closet has adequate ventilation. Installation in an unventilated cabinet or closet may cause the Virgo III to overheat, significantly reducing its lifespan.

The Virgo III requires a room-temperature environment to operate properly. Ambient temperature should be about 70°F/21°C, plus or minus 10°F/5°C. Never install the Virgo III where it may be exposed to direct sunlight, and do not install it next to a room heater, radiator, air conditioner, etc.

Make sure that the Virgo III will not be exposed to moisture. Do not locate it in an area where it might be spilled on, and do not place it in a humid location (such as an unfinished basement).

Installing the Virgo III in a place where it will be exposed to direct sunlight or moisture, or where it will not have adequate ventilation, will void your warranty.

Amplifier

The Virgo III preamp is designed to be paired with any high-quality audio amplifier; ideally Constellation's own Centaur or Hercules amps. Both balanced (XLR) and unbalanced (RCA) connections are available. XLR will provide the highest quality/lowest noise signals, and should be used when possible.

Before making or changing any connection to the Virgo III, first turn off the master power on the back of the preamp and on the power amplifier.

Source components

The Virgo III preamp has eight analog audio inputs, four balanced (XLR) and four unbalanced (RCA), and can be used with any audio component with line-level analog outputs. As with the outputs mentioned above, an XLR connection will provide the highest quality signal, and should be used when possible. If you are using a record turntable, you will need to connect a high-quality phono preamplifier, such as the Constellation Audio Perseus or Orion, between the turntable and the Virgo III preamp.

In the event of malfunction

Do not under any circumstances open the chassis of the Virgo III. There are no user-serviceable parts inside. Opening the chassis can present a shock hazard even if the AC power is disconnected. Any alteration or modification of the Virgo III's internal parts or circuit will immediately void your warranty.

If your Virgo III does not function correctly, refer to the Troubleshooting section at the end of this manual. If you are still unable to resolve the problem, contact your Constellation Audio dealer.

If any liquid is spilled on the preamp, or if any metal object (such as a staple or a paper clip) is forced inside, immediately disconnect the AC power and contact your Constellation Audio dealer.

Source device and amplifier connections

1. XLR inputs
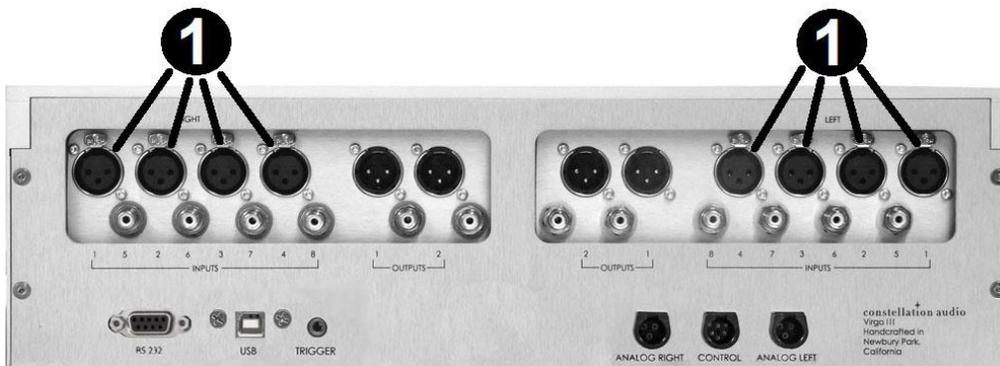
On the rear of the Virgo III preamp there are eight XLR inputs, four on each side. As you are looking at the rear panel, the left four XLR inputs are for the right channel, the right four inputs are for the left channel. Underneath each jack is the corresponding input number. Use of XLR connections is recommended for the best possible audio quality. To remove an XLR plug, push on the tab above the jack and pull the plug out.

IMPORTANT NOTE: To preserve true dual-mono operation, the Virgo III uses a symmetrical circuit layout. This configuration requires that the Virgo III's back panel connections be laid out a little differently from those on most preamps. For example, the left-channel connection for Input 1 is at the far right side of the back panel, and the right-channel connection is at the far left side. Connecting the cables in the usual side-by-side fashion will result in an incorrect installation and the mixing of sounds from different source devices.

2. RCA inputs
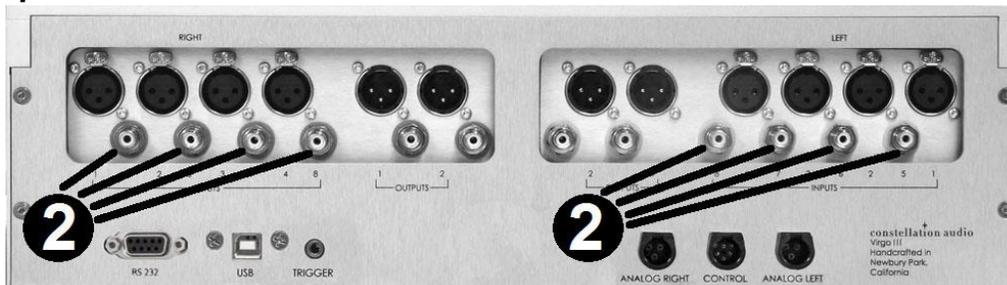
These unbalanced inputs are provided as a convenience for use with unbalanced signal sources. Whenever possible, we recommend using XLR connections instead. Connecting to an unbalanced source is handled in the same way an XLR balanced source.

IMPORTANT NOTE: To preserve true dual-mono operation, the Virgo III uses a symmetrical circuit layout. This configuration requires that the Virgo III's back panel connections be laid out differently than on most preamps. For example, the left-channel connection for Input 5 is at the far right side of the back panel, and the right-channel connection is at the far left side. Connecting the cables in the usual side-by-side fashion will result in the mixing of sounds from different source devices.

3. XLR outputs
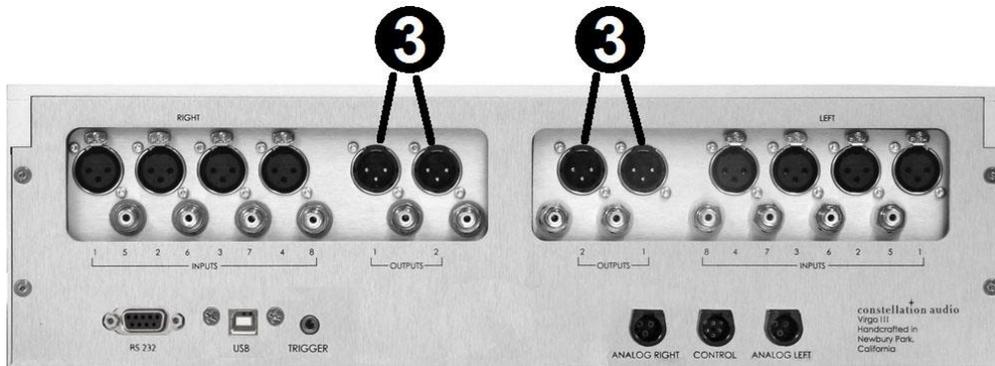
The inner six XLR connections on the rear of the Virgo III are outputs. The signal at these outputs is the same—it does not matter if you use output 1 or output 2. To remove an XLR plug, push on the tab on the connector body and pull the plug out.

Be sure to match the output to the correct channel on your amp. Looking at the back of the Virgo III, the outputs on the left side are for the right channel, the outputs on the right are for the left channel.

When XLR connections are used to connect the Virgo III with the Centaur, Hercules or Inspiration amplifiers, it creates the Constellation Link—an audio interface that is, in essence, perfectly balanced. The positive- and negative-going halves of the signal will exhibit near-zero difference except polarity.

4. RCA outputs
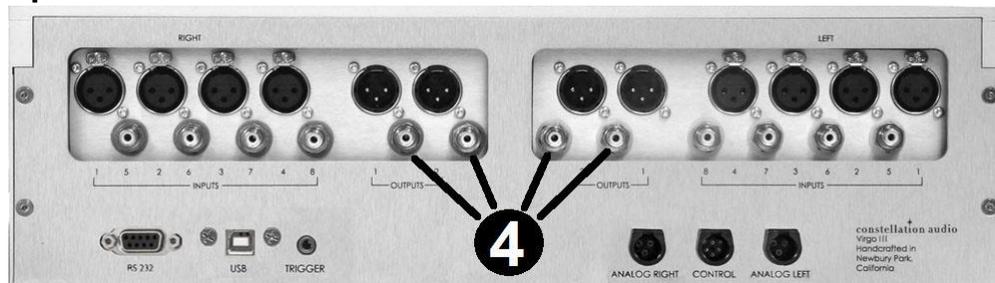
RCA unbalanced outputs are also supplied for amps and recording devices not equipped with XLR jacks. The signal at these outputs is the same—it does not matter if you use output 1 or output 2.

When connecting to an amplifier, be sure to match the output to the correct channel on your amp. As you are looking at the back of the Virgo III, the outputs on the left side are for the right channel, the outputs on the right are for the left channel. To remove an RCA plug, grasp it by the connector body and pull the plug out.

Other connections on the Virgo III

5. Power inputs
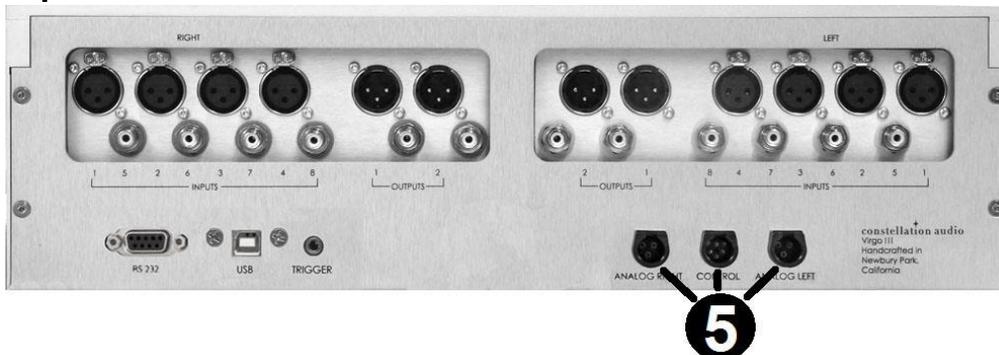
These connect to the power outputs of the Virgo III's power supply. The Virgo III includes special spiral-wrapped, gold-plated copper cables designed for aerospace use. Each cable is rated to handle 30 amps.

Each of these jacks mates with a matching jack on the power supply. Be sure to connect the Analog power jack on the preamp to the Analog power jack on the power supply, and the Control power jack on the preamp to the Control power jack on the power supply.

Before connecting these cables, switch off the Virgo III's power supply and disconnect it from the AC power. Failing to do this can damage the Virgo III or its power supply.

6. USB

This jack can interface the Virgo III with control systems such as those from AMX, Crestron and Control4, and also to update the Virgo III's firmware. For more information, contact your dealer.

7. Trigger

This 3.5mm input jack on the back panel allows the Virgo III to turn a connected device (such as a Constellation Audio amplifier) on and off automatically. When the Virgo III is powered up or in Standby mode, this jack emits a 12-volt DC signal. When the Virgo III is powered off entirely (by holding the front panel power button down for 5 seconds), the jack emits no signal. This jack will work with any device that can accept a standard 12-volt trigger signal.


8. RS-232

This connection can interface the Virgo III control systems such as those from AMX, Crestron and Control4. It can also be used to update the Virgo III's firmware. For more information, contact your dealer.

Power supply connections
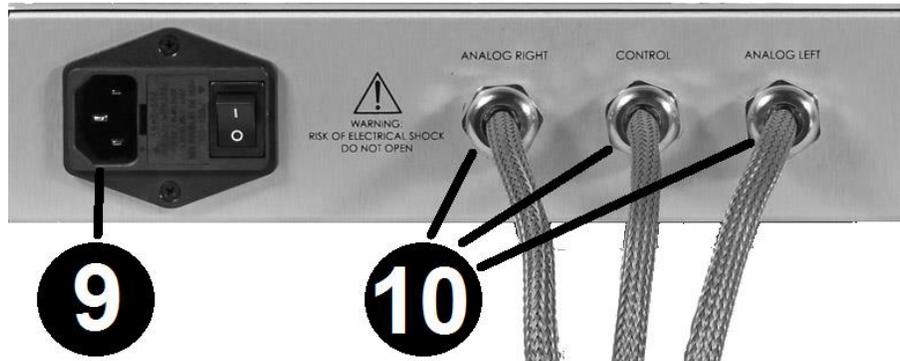
9. AC input

This AC input accepts standard 15-amp IEC-type power cords. You may use the high-quality power cord supplied with the Virgo III, or substitute an aftermarket power cord if you wish.

10. Power outputs

These cables connect to the power inputs of the Virgo III preamp. These are special spiral-wrapped, gold-plated copper cables designed for aerospace use. Each one is rated to handle 30 amps.

Each of these cables mates with a matching jack on the preamp. Be sure to connect the Analog Right power cable from the supply to the Analog Right jack on the preamp, the Analog Left power cable from the supply to the Analog Left jack on the preamp, and the Control power cable from the supply to the Control power jack on the preamp.

Before connecting these cables, switch off the power supply and disconnect it from the AC power. Failing to do this can damage the Virgo III or the power supply.

Controls / displays / indicators

11 – 17. Front panel controls

The front panel includes an LCD touchscreen and two knobs plus five buttons positioned underneath the display. These buttons allow you to control the Virgo III without its remote. The functions of the buttons are shown using icons on the Here are the functions of the buttons and knobs:

11. Balance

This knob adjusts left-to-right balance when an input screen is displayed—i.e., when an input is selected. Turn the knob counterclockwise to shift the balance to the left, clockwise to shift the balance to the right. An onscreen indicator will indicate if the balance is centered or how far it is shifted to one side or the other.

12. Volume

The volume control is always active when the Virgo III is powered up and the mute is deactivated. Note that the control is calibrated in negative decibels (-dB), reaching maximum volume at 0.0 dB and minimum at -99.0 dB. Thus, when you turn the volume up (clockwise), the number on the front display will decrease. When you turn the volume down (counterclockwise), the number will increase. The adjustments steps are in 1 dB increments between -99.0 dB and -50.0 dB, and 0.5 dB increments from -49.5 dB to 0.0 dB.

13. Home

This button brings you to the input select screen no matter which control screen you are currently viewing.

14. Return/back

This button brings you back to the previous control screen. For example, from any input's screen, such as XLR 1, it will take you back to the input selector screen.

15. Standby/power

Push this button to turn the Virgo III on and off. When you turn the unit on, it will take a few seconds for the power supply and preamp to warm up. When the Virgo III is ready for use, its LCD screen will show the most

recently selected input. To put the unit in Standby mode—which will silence the audio but keep the power supply on so the unit stays warmed up—press this button again after turning on the power.

Hold this button down for 5 seconds to turn the Virgo III off. The unit will enter cool-down mode for 10 seconds. During cool-down, no buttons on the unit or remote will operate.

16. Multifunction button

The multifunction button serves different functions depending on which control screen is shown. A label on the LCD display will show the function of the button.

17. Mute

Press this button to silence the audio temporarily. Because the Virgo III uses a relay to perform the Mute function, it may take a second or so for this control to respond. The volume numbers on the LCD will flash when the preamp is in Mute mode. Press the button again to restore the sound.

Remote control

The remote operates the basic functions of the Virgo III. It does not operate other Constellation Audio components.

18. Standby

This button turns the Virgo III on when it is in Standby mode, or places it back in Standby mode. This button is not operational unless the unit is in Standby mode, which requires that you push the Power button under the front touchscreen. When the Virgo III is ready for use, its LCD screen will show the most recently selected input. To put the unit in Standby—which will silence the audio but keep the power supply on so the unit stays warmed up—press this button again after the front LCD has come on.

Hold this button down for 5 seconds to turn the Virgo III off. The unit will enter cool-down mode for 10 seconds. During cool-down, no buttons on the unit or remote will operate.

19. Mute

Press this button to silence the audio temporarily. Because the Virgo III uses a relay to perform the Mute function, it may take a second or so for this control to respond. The volume numbers on the LCD will flash when the preamp is in Mute mode. Press the button again to restore the sound.

20. Volume up/down

Press these buttons to raise or lower the volume. Each press changes volume by 1 dB at volumes below -50.0 dB, and 0.5 dB at volumes above -50.0 dB. Holding the buttons down raises or lowers the volume quickly.

21. Balance left/right

Press these buttons to shift the balance to the left or right. Each press changes the balance by 0.1 dB.

22. Input

Press this button to select among the Virgo III's XLR and RCA inputs. You will have to wait a second or so between pushes of this button, because for best sound quality the Virgo III uses relays to switch inputs.

23. Phase

Push this to flip the phase of the Virgo III's output signal for the selected input. Use whichever setting sounds best.
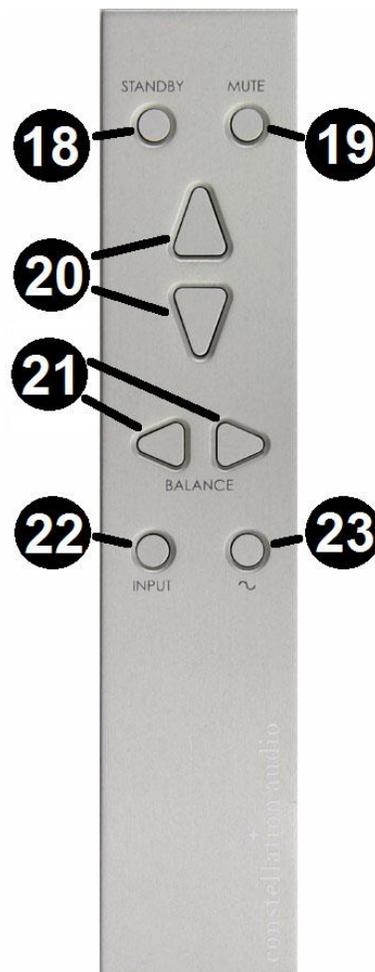
Control screens

Many Virgo III functions are controlled through the LCD touchscreen. Here is how the control screens function.

Standby screen

When the preamp's power is on, touch the power button to enter Standby mode, which silences the audio but keeps the power supply running.

Input selector (or home) screen

This screen appears when the power is on and the unit is warmed up. Touching any input button onscreen will switch to that input. The Setup screen can be accessed from this screen using the multifunction button below the display.

Input screen

When you select an input, this screen will appear. It provides a large volume display as well as the display for the balance control. The balance control functions only when this screen is shown. Pushing the multifunction button under the Setup label enters the input setep screen.

Input setup screen

When you press the multifunction button labeled Setup on the input screen, this screen will appear. It allows you to set up a home theater bypass input; set minimum and maximum output levels, and change the phase of the output signal.

To flip the phase of the Virgo III's output signal: Use the multifunction button below the display.

To set minimum and/or maximum levels: Adjust the Virgo III's volume to the desired minimum or maximum level, and press either the Set Min or Set Max button, depending on which function you want, and hit Apply to accept the setting. To clear the setting, press either CLR Min or CLR Max as appropriate, or press Default to clear both settings.

To set up a home theater bypass input: First select the input you want to use for this function, then adjust the volume on the Virgo III to the desired level. Push the Set Min button, then the Set Max button, then the Apply button. To clear these settings, press CLR Min then CLR Max, or press Default.
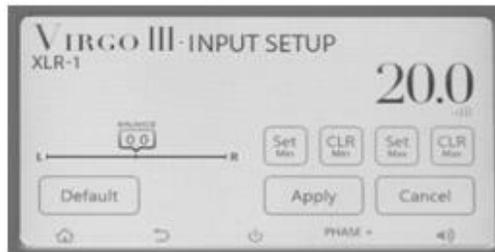
Screen setup screen

To adjust LCD brightness: Press the + and – buttons on the left side of the screen, on either side of the dark dot.
To adjust LCD contrast: Press the + and – buttons on the right side of the screen, on either side of the half-dark/half-light dot.
To adjust LCD backlight timeout: Press the Timeout button in the lower left corner to keep the screen lit for 15 sec., 30 sec., 1 min., 5 min., 10 min., and always on.
To accept or cancel screen setting changes: Press the Apply or Cancel button, respectively.
To return to the factory default settings: Press the Default button. This will bring up a screen asking "Are you sure you want to set this device to its default settings?" Hit the Yes button to go to default settings, the No button to cancel.

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Step-by-step operating process

We've covered all of the basic controls and indicators of the Virgo III. Here's how you use them to perform the basic operations of turning the unit on, selecting a source, adjusting the sound, and turning the unit off.

STEP 1: Before making or changing any connections on the Virgo III, turn off the main power switch on the back of the power supply, and turn off the power amplifier(s).

STEP 2: To turn on the Virgo III from the front panel, push the Power button in the middle under the LCD touchscreen. Alternatively, you may push the Power button on the remote.

Whichever way you turn on the power, you will hear the Virgo III's internal relays click as the unit goes into warm-up mode. In a few seconds, the front touchscreen will illuminate. The most recently used input will be selected. If you wish to let the unit warm up for a while before listening, hit the Power button (on the front panel or remote) again to enter Standby mode. The Standby screen will appear on the LCD and the audio will be silenced until you push the Power button once more.

STEP 3: To change to a different input from the front panel, press the button under the Home icon. This will bring up the input select screen. Push an onscreen button (XLR-1, RCA-1, etc.) to select the input you want. The screen for that input will appear. Alternatively, you can scroll through the available inputs using the Input button(s) on either of the remotes. Enable playback on the chosen source device.

STEP 4: Adjust listening volume with the volume knob on the front of the unit or the volume up/down buttons on the remote. Note that the control is calibrated in negative decibels (-dB), reaching maximum volume at 0.0 dB and minimum at -99.0 dB. Thus, when you turn the volume up (clockwise), the number on the front display will decrease. When you turn the volume down (counterclockwise), the number will increase.

STEP 5: To adjust left-to-right balance, turn the balance knob or use the left/right balance buttons on the remote. With the knob, counterclockwise shifts the balance to the left, clockwise shifts it to the right. The onscreen indicator will show you the balance setting in 0.1 dB increments.

STEP 6: You may wish to set a maximum output level to prevent damage to your speakers if the level is accidentally turned up too high, and a minimum output level so the preamp always delivers an audible volume. To do this, adjust the Virgo III's volume to the desired minimum or maximum level. Push the multifunction button labeled Setup. Press either the Set Min or Set Max button, depending on which function you want. Hit Apply to accept the setting, or Cancel to return to the original setting. To clear the setting, press either CLR Min or CLR Max as appropriate, or press Default to clear both settings.

STEP 7: If you want to use the Virgo III in a home theater system, in conjunction with a surround-sound processor, you should set up one input for home theater bypass. When you switch to this input, volume and balance will be at fixed settings and your channel balance adjustments in the surround processor will be preserved. To do this, first select the input you want to use for this function. Now adjust the volume on the Virgo III to the desired level. Push the multifunction button labeled Setup. Push the Set Min button, then the Set Max button, then the Apply button. To clear these settings, press CLR Min then CLR Max, or press Default.

STEP 8: To turn the system off, stop playback on the source device. Hold the Power button in the middle under the LCD touchscreen or on the remote down for 5 seconds. The unit will enter cool-down mode for 10 seconds, during which no buttons will work. After cool-down mode finishes, you can turn the unit back on again as described in Step 1 above.

Maintenance

The Virgo III requires no regular maintenance.

If the preamplifier's surface becomes dusty, simply wipe it off with a soft dry cloth. Do not spray cleaners on the surface.

To clean fingerprints from the surface of the preamplifier, spray a small amount of mild window cleaner such as Windex onto a soft dry cloth, then use the cloth to remove the fingerprints. Do not spray the cleaner directly onto the preamplifier.

Troubleshooting

Preamplifier will not turn on

1. Check to see if the front screen on the Virgo III is illuminated, or touching the screen lights it up. If the screen won't light up, try the following steps in order. After you perform each step, touch the Standby button on the front of the unit and wait a few seconds to see if front display flashes. If any one of the steps restores the power (i.e., allows the Standby button to turn the unit on), there is no need to continue to the next steps.

    A. Check power cable connections between the wall and the Virgo III's power supply. Push the wall plug and the connector at the power supply in firmly.

    B. Check power cables between Virgo III and power supply. DO NOT pull out these cables while the power supply is on.

    C. Make sure the master power switch on the rear of the power supply is turned on.

    D. If the Virgo III is plugged into an AC line conditioner, make sure the conditioner is turned on.

    F. Flip the master power switch off and on again. This will reset the Virgo III's internal circuit breaker.

    G. Check the circuit breaker for the AC circuit that the Virgo III is plugged into. If the breaker is tripped, flip it back on. If it will not turn on, there is likely a short circuit somewhere in the lines or in a device connected to this AC circuit. Check the power cords for your components to make sure none have been damaged.

    H. If none of these conditions restores power, it is possible one of the Virgo III's internal fuses is blown. Do not attempt to change the fuse yourself—the Virgo III requires special high-voltage fuses that are not commonly available. Contact your Constellation Audio dealer for service.

Preamplifier is on but no sound is produced

1. Make sure the front display illuminates when touched, indicating that the preamp is powered up and not in warm-up mode.

2. If the display lights up when touched, hit the Mute button on the front panel or on the remote to restore sound.

3. If the Mute button does not restore audio, try the following steps in order. If any one of the steps restores the sound, there is no need to continue to the next steps.

    A. Check you are on the correct input. Cycle through available inputs using the front touchscreen controls, or select the desired input using the remote.

    B. Check that the source component is on and playing back—i.e., if it is a CD player, make sure that the CD is playing and not in pause mode.

    D. Check the connections between the Virgo III and your amp, and between the Virgo III and the audio source device. If a cable is disconnected, reconnect it. If this does not restore sound, try substituting a different set of cables in order to make sure the original set was functioning properly.

    E. Check the connection between your amp and the speaker. Make sure the speaker cable has not come loose. If it has, turn the power off on your amp, then re-install the cable.

    F. Check that the volume is at a sufficient level. Do not turn the volume all the way up to check this, as if sound is reestablished while the Virgo III is set to output maximum volume, damage can be done to your speakers and amplifiers.

    G. If none of these actions restores the sound, contact your Constellation Audio dealer.

Sound seems unfocused

1. Play a CD of typical pop vocals and sit in front of your speakers at an equal distance from both (at least 8 feet away from each speaker). If the vocals seem to come from between the speakers, they are connected correctly. Alternatively, you can use the "barking dog" test from the *Stereophile Test CD* or a similar phase check test from another test CD.
2. If the vocals seem to come from all around you, make sure that the cables on your amplifier are connected properly, with the marked connector or cable connected to the positive (red or +) binding post on the amplifier, and the unmarked connector or cable connected to the negative (black or -) binding post.
3. If you need to change the speaker cable connection, turn the amplifier off first. To avoid possible electrical shock or damage to the amplifier, you must discharge the energy stored in the power supply. To discharge the power supply, turn the power off with music playing. It may take up to a minute or so for the sound to die out. After the sound dies out, it is OK to change or adjust the cables.

Sound comes from the wrong speaker

If left-channel sounds are coming from the right or vice-versa (i.e., the violins in an orchestral recording come from the right speaker, not the left), check the cable connections between the source and the Virgo III, and the Virgo III and your amp. Make sure left-channel cables are connected to the left channels of the Virgo III and amp, and right to the right channels.

Only one speaker is working, or one speaker is playing a different piece of music

1. Check each cable, starting with the source component. Make sure the left channel of the source goes to the left input on the Virgo III (which is on the right side, as you're looking at the back panel), and the right channel to the right input (which is on the left side). On the back of the Virgo III, the left and right inputs are NOT next to each other. They are on opposite sides of the unit. In other words, the XLR input numbers are 1, 2, 3, 4, 4, 3, 2, 1, and the RCA input numbers are 5, 6, 7, 8, 8, 7, 6, 5.
2. Check that the cables to the amp are on the correct channels of the preamp. The XLR and RCA outputs on the back of the Virgo III, from left to right, are 1, 2, 2, 1.

Remote control does not work

1. Push any button to see if the remote's backlight illuminates. If the backlight does not illuminate, use a 3/32" Allen wrench to remove the remote's battery compartment cover, then replace the remote's two AAA batteries and replace the cover.
2. If the remote's backlight does illuminate, move the remote a few feet away to a different location and try again. The remote requires a clear line-of-sight to the infrared detector on the Virgo III's front panel.

Balance and volume controls do not function

1. If you are using the input configured for home theater bypass, this situation is normal—volume and balance controls do not function in this mode.
2. If you are not using an input configured for home theater bypass, you need to clear out the minimum and maximum volume settings for the input you are using. Press the multifunction button labeled Setup on the screen, then press the Default button.

For more information

Your Virgo III preamplifier should give you many years of trouble-free, maintenance-free service. If you encounter any problems you cannot solve or have technical questions, please contact your Constellation Audio dealer.

For more information about Constellation Audio products, please visit our website:

www.constellationaudio.com

constellation audio
Simply, Light Years Ahead.