WorkingPro™ Series

BASS AMPLIFIERS

OWNER'S MANUAL

swrsound.com

Important Safety Instructions

This symbol warns the user of dangerous voltage levels localized within the enclosure.

This symbol advises the user to read all accompanying literature for safe operation of the unit.

- Read, retain, and follow all instructions. Heed all warnings.
- Only connect the power supply cord to an earth grounded AC receptacle in accordance with the voltage and frequency ratings listed under INPUT POWER on the rear panel of this product.
- **WARNING:** To prevent damage, fire or shock hazard, do not expose this unit to rain or moisture.
- Unplug the power supply cord before cleaning the unit exterior (use a damp cloth only). Wait until the unit is completely dry before reconnecting it to power.
- Maintain at least 6 inches (15.25 cm)of unobstructed air space behind the unit to allow for proper ventilation and cooling of the unit.
- This product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
- This product may be equipped with a polarized plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of this plug.
- Protect the power supply cord from being pinched or abraded.
- This product should only be used with a cart or stand that is recommended by the manufacturer.
- The power supply cord of this product should be unplugged from the outlet when left unused for a long period of time, or during electrical storms.
- This product should be serviced by qualified service personnel when: the power supply cord or the plug has been damaged; or objects have fallen, or liquid has been spilled onto the product; or the product has been exposed to rain; or the product does not appear to operate normally or exhibits a marked change in performance; or the product has been dropped, or the enclosure damaged.
- Do not drip nor splash liquids, nor place liquid filled containers on the unit.
- **CAUTION:** No user serviceable parts inside, refer servicing to qualified personnel only.
- SWR® amplifiers and loudspeaker systems are capable of producing very high sound pressure levels which may cause temporary or permanent hearing damage. Use care when setting and adjusting volume levels during use.
- Hazardous voltages may be present within the cabinet even when the power switch is off and the power cord is connected. Therefore, disconnect the power cord from the rear panel power inlet before servicing. The power inlet must remain readily operable.

Congratulations on your purchase of an SWR® WorkingPro™ amplifier! You now own a feature-packed, professional-quality SWR® bass amplifier, with the famous SWR® tone, power, clarity, and true full-range response that's made SWR® the choice of professionals for over twenty years.

Whether you've chosen the WorkingPro™ 400 or 700, each model in the WorkingPro™ series combines the best classic SWR® features:

- The famous preamp designed by original engineer Steve W. Rabe
- The Aural Enhancer
- The 4-band active EQ with variable midrange – with exciting new features, like the footswitchable tuning mute
- More flexibility with the XLR output
- And especially, the new, exclusive Bass Intensifier circuit, which simultaneously boosts and compresses a set of chosen frequencies to add pure low-end thickness to your bass sound

SWR®, since its founding in 1984, was created to serve one purpose – to provide bass amplification products with professional quality, tone, features and power delivery for players of all levels and styles. We sincerely thank you for choosing SWR®, and remain committed to helping you Amplify Your Future™.

Read through this Owner's Manual before using your amplifier not only to ensure your safety and protect your investment, but so the full potential of the SWR® WorkingPro™ is at your command!

Please verify that the following items were included in your SWR® WorkingPro™ packaging: AC Cable, Dual Footswitch, SWR® Catalog.

Front Panel

A. INPUT - Plug your bass into this jack using a shielded instrument cable.

B. INPUT PAD - Reduces input sensitivity to allow cleaner response with high-output (above 1-Volt RMS) guitars. Use the setting that sounds best!

NORMAL—Full input sensitivity

–10dB PAD—Lower input sensitivity

Active (pre-amplified) bass guitars—if you hear distortion even with the INPUT PAD switch active and a low (not clipping) GAIN {D} setting, try replacing your guitar battery.

C. MUTE - Disables all audio output *except* the TUNER OUT {V} and HEADPHONES {R} jacks. Useful when tuning up, during instrument changes or while using headphones. The LED ☼ indicates MUTE is on.

D. GAIN - Adjusts the volume level of the preamp section. After you adjust any tone or effects levels, use the PRE AMP CLIP LED to find the best GAIN setting for the optimal signal–to–noise ratio:

☼ **PRE AMP CLIP** - Indicates when the preamp, tone circuits or output buffer are being overdriven (clipping) causing signal distortion. Occasional flashing is normal at your instrument's peak output levels. The type of clipping that this LED indicates is *not harmful* to your amplifier, so reduce GAIN if you hear *unwanted* distortion while this LED is on. NOTE: If an effects device is overdriven by the output level of the EFFECTS SEND {S} jack, reduce GAIN, then increase MASTER Volume {M} to adjust the overall loudness of the amplifier.

E. AURAL ENHANCER - Featured on just about every SWR® amplifier since the company's inception in 1984, it is a trademark part of the "SWR Sound" people have come to know and love. It was developed to bring out the fundamental low notes of the bass guitar, enhance the high-end transients, and reduce certain frequencies that "mask" the fundamentals. The ultimate results are: 1. A more transparent sound, especially noticeable when slapping and popping, and 2. Passive basses take on an "active" type of quality when set at "2 o'clock" or positions further clockwise.

How the AURAL ENHANCER works: Think of it as a variable tone curve that changes depending on where you set the AURAL ENHANCER control knob. As you rotate the control clockwise from the "MIN" position, you are elevating low–, mid–, and high–frequency points selected specifically because they're different than those of the individual Tone Controls.

This remains true up to about the "2 o'clock" position. This position—a favorite for many users—brings out both the low end fundamentals and crisp highs and, at the same time, adds a little lower midrange to help cut through the band. However, if you go further clockwise and past the "2 o'clock" position, selected mids will start to drop off—specifically, a group of frequencies centered around 200 Hz. At this point and after, the effect becomes much more pronounced. However, the curves involved here are gentle, as opposed to the very extreme curves you can create by boosting or cutting the Active Tone Controls (EQ).

Most significantly for basses, the AURAL ENHANCER will help bring out the fundamentals of your lower registers without masking them with overtones, as is possible when using the BASS control only. At the same time, it opens up the sibilance characteristics of all instruments without being harsh.

Your ears are the best judge when it comes to settings that affect the tone of your instrument. Obviously, "numbers, curves and circuits" mean nothing if not heard with your own ears. So, play a chord, a repeated lick, or a harmonic, and turn the AURAL ENHANCER control to various points on the knob to hear the effect for yourself.

F. BASS - Employs a shelving-type circuit that boosts or cuts low-frequencies (±15dB), from about 30Hz to 100Hz, centered at around 80Hz.

G.

MIDRANGE SEMI-PARAMETRIC EQ - You have two midrange tone controls. **MID LEVEL** boosts or cuts (±15dB) the *level* of midrange response at the specific midrange *frequency* selected by the **MID FREQ** knob. To find a midrange frequency, rotate MID LEVEL fully to either "–15" or "+15" (this makes frequency changes more noticeable). Adjust MID FREQ to the specific frequency, then adjust MID LEVEL as desired.

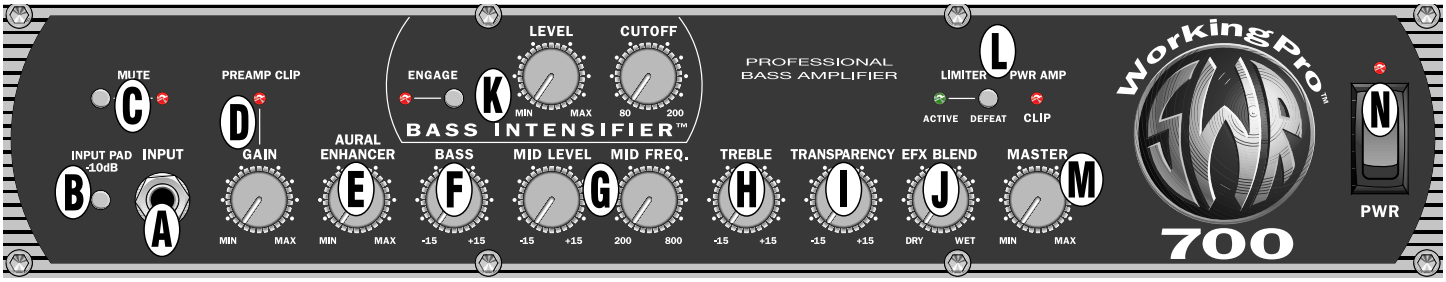
NOTE: When MID LEVEL is in the center (12 o'clock) position, the midrange semi-parametric equalizer is "flat" and has no effect on your signal regardless of the position of the MID FREQ control.

TIPS: If you need to "cut through" the band a little more, try boosting the 200–400Hz midrange frequency level. If you like a more transparent or "scooped" sound, try cutting the 800Hz midrange frequency level. The midrange controls are especially useful in controlling fretless basses and their inherent qualities.

H. TREBLE - Employs a shelving-type circuit that boosts or cuts high-frequencies (and their subsequent octaves ±15dB) from about 2 kHz to 14 kHz.

I. TRANSPARENCY - Boosts or cuts ultra-high frequencies (±15dB) above ~5kHz.

J. EFX BLEND - Controls how apparent your effects loop sounds, or more precisely, the ratio of external effects loop *(wet)* signal, to internal amplifier *(dry)* signal. Used in conjunction with the rear panel Effects Loop jacks, EFX BLEND is enabled when a 1/4" phone plug is inserted into EFFECTS RETURN {S}.



K. BASS INTENSIFIER - A new SWR® tone circuit that boosts of a chosen set of low-frequencies combined with a smooth, fast-acting compressor. The boost and compression work in harmony to allow radical boosts in the chosen bass and lower midrange frequencies without the side-effect of overdriving the amplifier circuitry. Once dialed in, it literally *intensifies* the bass tone in your sound. It can be used as a boost for certain, heavier sections of a tune, or just as a part of your overall preferred sound.

ENGAGE - Activates the BASS INTENSIFIER circuit as indicated by the LED.

LEVEL - Adjusts the amount of bass boost added by the BASS INTENSIFIER. Hint: Adjust slowly, so you can hear the difference a small amount of this effect can have on your tone.

CUTOFF - Adjusts the frequency range boosted by the BASS INTENSIFIER. When fully counter-clockwise, only frequencies below ~80Hz are affected. When fully clockwise, frequencies below ~200Hz are affected.

To best hear what this control does: **1.** Decrease MASTER Volume to half its normal setting (or less). **2.** Set LEVEL to maximum. **3.** Set CUTOFF to 80Hz. **4.** Play a note repeatedly (low 'E' or low 'A') and slowly rotate CUTOFF clockwise. You will hear additional frequencies being boosted as you turn the dial, and the overall effect will seem louder because more frequencies are being boosted. As always, your ears are the best judge. Take some time to experiment and hear what works best.

L. LIMITER - This circuit is located after MASTER Volume and before the power amplifier in the signal path. Therefore, the circuit is driven by MASTER Volume. Its threshold (starting point) is preset so you get the maximum overall apparent volume without overdriving the power amplifier or internal speakers.

DEFEAT - Disables the internal LIMITER circuitry:

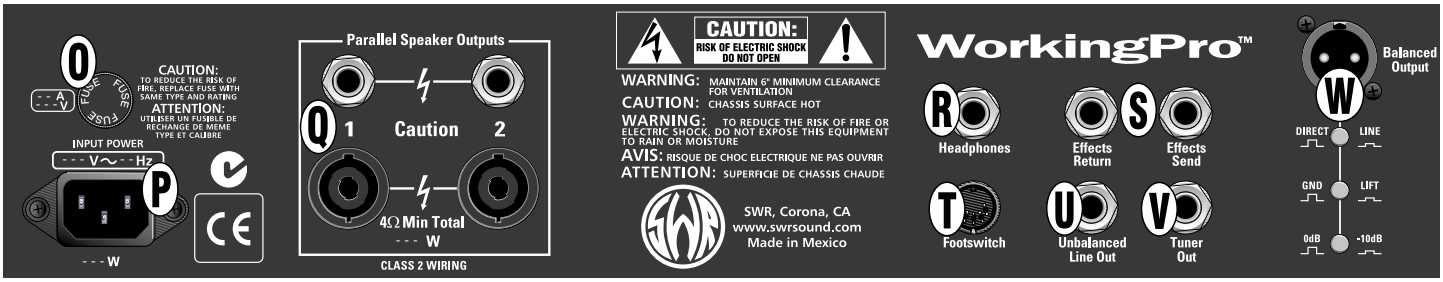
LIMITER ON LIMITER OFF (DEFEATED)

ACTIVE - Indicates exactly when the LIMITER circuit is working—*only when the LIMITER is ON.*

POWER AMP CLIP - Indicates when the power amp is being overdriven (clipping) causing signal distortion. Unlike preamp clipping, power amp clipping *can be harmful* to your equipment. Therefore, if the POWER AMP CLIP LED flashes often, either engage the LIMITER or turn down the MASTER Volume.

M. MASTER VOLUME - Use to set the loudness output from your speakers (and headphones) after all other levels are set, including external effects. MASTER Volume does not affect any output levels other than the SPEAKERS {Q} and HEADPHONES {R}.

N. POWER SWITCH - Switches power on-off to the amplifier as indicated by the LED.



O. FUSE - Protects the amplifier from electrical faults. Replace a blown fuse ONLY with a fuse of the type/rating specified on the rear panel of your amplifier to protect your amplifier and maintain warranty coverage.

P. IEC POWER CORD SOCKET - Connect the included power supply cord to a properly wired and grounded AC electrical outlet in accordance with the voltage and frequency ratings specified on the rear panel of your amplifier.

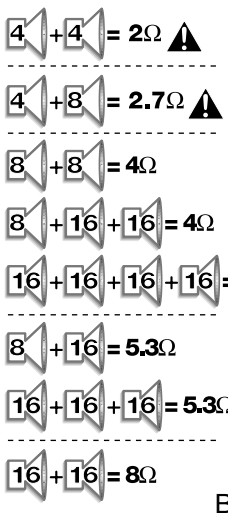
Q. PARALLEL SPEAKER OUTPUTS - WorkingPro™ Series amplifiers feature both 1/4" phone and Speakon® speaker output jacks to provide flexibility in making your speaker connections. Use the Speakon® jacks whenever possible to take advantage of their superior power transfer efficiency and locking connectors. All four jacks are full range and wired in parallel. Read *Speaker Connections* and *Impedance Guidelines* before plugging anything into your amplifier:

SPEAKER CONNECTIONS

- ONLY connect one amplifier to your bass speaker enclosure(s). Two amplifiers WILL NOT work and may damage your equipment.
- DO NOT connect speakers with a total impedance load below the minimum rating of your amplifier (4–ohms) to prevent damage to your equipment. See *Impedance Guidelines* below.
- ONLY connect speakers with a total power handling capacity that is above the power output rating of your amplifier to prevent damage to your equipment.
- ALWAYS switch your system power OFF before connecting or disconnecting speakers.
- ONLY use unshielded speaker cable of 18 gauge or heavier (such as 16 or 14 gauge) for speaker connections. Shielded instrument cable WILL NOT work and may damage your equipment.

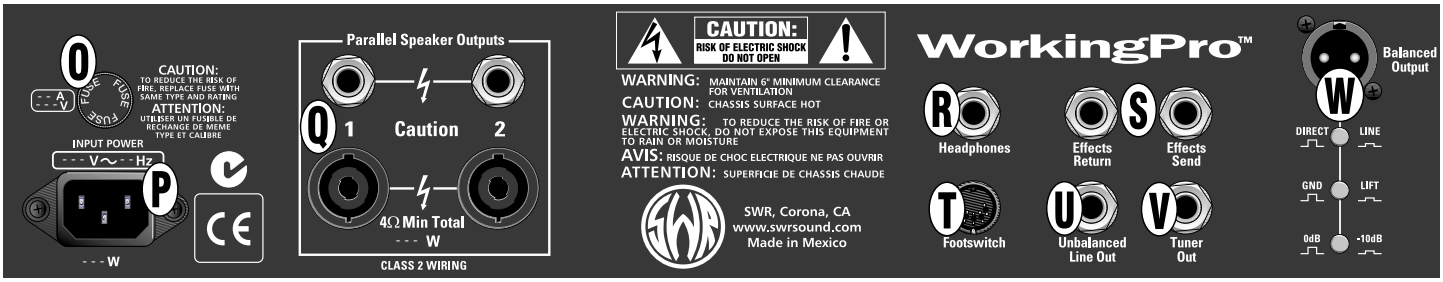
IMPEDANCE GUIDELINES - Use the impedance ratings on your amplifier and speakers to determine if a particular combination of speakers is appropriate for your amplifier. NOTE: All SWR® bass speaker enclosures, as well as most others, are wired in *parallel* (NOT in *series*), therefore, these Impedance Guidelines apply only to *parallel* speaker connections. The illustration shows the total impedance loads of various combinations of speakers linked together.

Generally, you will want to connect your amplifier to speakers with a total impedance load equal to the minimum impedance rating of your amplifier (4–ohms for your WorkingPro™ amplifier). ⚠ Operating below the minimum impedance rating can easily overheat the amplifier and cause damage. Operating above the minimum impedance rating will reduce the amplifier's maximum power output.



Notice that different combinations of speakers can equal the same total impedance load. If their impedances are the same, each speaker will receive equal power from your amplifier. However, if their impedances are not all the same, speakers with the lowest impedances will receive most of the power. For example, if you connect an 8–ohm speaker and a 16–ohm speaker to your amplifier, the 8–ohm speaker will receive most of the power. Take this into consideration when calculating power handling capacities and when positioning your bass speaker enclosures.

For an in-depth discussion of impedance and power rating issues, go to the SWR® Website at www.swrsound.com, click on "Press," then click on "Articles," then click on "Plug and Play: Setup Tips for Amps and Speakers"—an article by SWR® founder Steve Rabe that ran in the August '92 issue of Bass Player Magazine.



R. HEADPHONES - Plug in your stereo or mono headphones here. Use MASTER Volume to control your headphone listening level. Use MUTE {C} to disable speaker audio output. NOTE: While any headphones will work, 75–ohms is optimum.

S. EFFECTS SEND / RETURN - Multi-purpose jacks: EFFECTS SEND provides a preamp output signal that includes onboard tone shaping. Output level is controlled by GAIN {D}. EFFECTS RECEIVE provides a power amp input that can be blended in any ratio with the onboard preamp signal using EFX BLEND {J}.

The Effects Loop circuit is on a "side chain" of the main circuit (as in studio recording consoles) to provide the full sound of your instrument AND the diversity of your effects units. This circuit also reduces noise generated by effects units because it is located after the gain stages in the preamp signal path.

Use only standard 1/4" mono phone plugs with these jacks. Use a stereo–to–mono adapter if your source has a stereo plug.

1. **Effects Loop** - Connect EFFECTS SEND to your effects device input, then connect the effects device output to EFFECTS RETURN. NOTE: Set the wet/dry control on external effects units to the fully WET position to prevent phasing problems. Set the input level on external effects as close to 0dB as possible.

2. **Multiple Amps** - Connect the primary unit's EFFECTS SEND to the auxiliary unit's EFFECTS RETURN. The primary unit is used to control all auxiliary units except their MASTER Volumes. Set EFX BLEND on all auxiliary units fully to WET.

3. **Recording or Reinforcement** - Connect EFFECTS SEND to the sound equipment input.

4. **Accompaniment** - Connect a CD player or drum machine to EFFECTS RETURN. Control the input level at its source and by using the EFX BLEND control {J}.

T. FOOTSWITCH - Plug in the included footswitch here. Use the footswitch to remotely switch MUTE and the BASS INTENSIFIER.

U. UNBALANCED LINE OUT - Provides unbalanced preamp output for an auxiliary amplifier or sound equipment that includes the effects loop signal. Output level is controlled by GAIN {D}.

V. TUNER OUT - Plug in your bass guitar tuner here to enable inline tuning. Use MUTE {C} to disable audio output while tuning.

W. BALANCED (XLR) OUTPUT - A true electronically balanced output, suitable for studio and "front-of-house" (live) mixing consoles. The function of each of the three BALANCED OUTPUT switches are described below. Wiring for the XLR jack at the BALANCED OUTPUT is (American Standard):

Pin	Wiring
1	Ground
2	Positive
3	Negative

- **DIRECT / LINE** - Connects the BALANCED OUTPUT to a point in the signal path either before (DIRECT) or after (LINE) the onboard tone shaping circuits.
  - DIRECT (pre-EQ)
  - LINE (post-EQ)
- **GROUND / LIFT** - Disconnects the BALANCED OUTPUT ground connection (pin-1) which may reduce hum noise due a ground loop (non-standard XLR wiring somewhere in the signal path). Normally leave this switch out.
  - GROUNDED (normal)
  - GROUND LIFTED

  Lifting the ground connection will not solve hum noise due to bad cables, poor connections, miswired A/C outlets, nearby fluorescent lighting (especially with single-coil pickups) or a cell phone close to your bass.
- **0dB / –10dB** - Reduces the BALANCED OUTPUT by –10dB.
  - 0dB (normal)
  - –10dB (padded)

To preserve the beauty and reliability of your amplifier, we recommend that you install your amplifier in a rack case. The WorkingPro™ is completely ready to be rack mounted and needs no additional parts or accessories other than the rack screws and the case itself.

The WorkingPro™ takes up two full rack spaces (3 1/2"). If the rack in which you mount your WorkingPro™ requires that the rubber feet on the bottom of the chassis be removed, please remember to keep the screws handy in case you wish to reattach the rubber feet at a later date.

The WorkingPro™ should be mounted as close to the bottom of the rack case as possible. If you must mount the WorkingPro™ in an area of the rack other than the bottom space, a piece of wood or similar solid material should be installed between the bottom of the rack case and the bottom of the amplifier to prevent flexing of the amplifier's chassis. Severe or constant flexing of the chassis can damage the amplifier and is not covered under the warranty.

Please do not forget about your amp after it has been installed in a rack case. Continuous transportation and vibration can cause screws to become loose, both on the WorkingPro™ and with your rack case rails. We recommend that at least once a month you remove the WorkingPro™ from the case and tighten all outside screws and wipe off the outside of the chassis with a damp cloth. Then check all the connections in your rack case and reinstall the unit.

Specifications

MODEL:		***WorkingPro™ 400***	***WorkingPro™ 700***
PART NUMBERS:		4450200010 (120V, 60Hz) USA 4450203010 (240V, 50Hz) AUS 4450204010 (230V, 50Hz) UK 4450206010 (230V, 50Hz) EUR 4450207010 (100V, 50Hz) JPN	4450000010 (120V, 60Hz) USA 4450003010 (240V, 50Hz) AUS 4450004010 (230V, 50Hz) UK 4450006010 (230V, 50Hz) EUR 4450007010 (100V, 50Hz) JPN
POWER REQUIREMENT:		840 W	1440 W
POWER AMP	**MINIMUM IMPEDANCE:**	4Ω	4Ω
	SENSITIVITY:	700mV RMS, 1kHz	1V RMS, 1kHz
	POWER OUTPUT:	400W RMS into 4Ω @ < 0.1% THD, 1kHz 250W RMS into 8Ω @ < 0.1% THD, 1kHz	700W RMS into 4Ω @ < 0.1% THD, 1kHz 440W RMS into 8Ω @ < 0.1% THD, 1kHz
PRE AMP	**INPUT IMPEDANCE:**	3.9MΩ	3.9MΩ
	SENSITIVITY AT FULL POWER:	15mV	20mV
TONE CONTROLS	**BASS:**	±15dB @ 100Hz	±15dB @ 100Hz
	TREBLE:	±15dB @ 2kHz	±15dB @ 2kHz
	MIDRANGE SEMI-PARAMETRIC EQ:	±15dB @ MID FREQ frequency	±15dB @ MID FREQ frequency
	BASS INTENSIFIER:	±15dB below CUTOFF freq	±15dB below CUTOFF freq
	TRANSPARENCY:	±15dB @ 5kHz	±15dB @ 5kHz
EFFECTS LOOP	**SEND IMPEDANCE:**	2kΩ	2kΩ
	RETURN IMPEDANCE:	27kΩ	27kΩ
UNBALANCED LINE OUT	**SEND IMPEDANCE:**	1kΩ	1kΩ
BALANCED LINE OUT	**SEND IMPEDANCE:**	1.5kΩ	1.5kΩ
FOOTSWITCH (INCLUDED):		2-button, Mute, Bass Intensifier (P/N 065436)	2-button, Mute, Bass Intensifier (P/N 065436)
LINE FUSE	**110V-120V MODELS:**	T8A, 250V	T15A, 250V
	230V-240V MODELS:	T4A, 250V	T8A, 250V
DIMENSIONS	**HEIGHT:**	3.5 in (8.9 cm)	3.5 in (8.9 cm)
	WIDTH:	19 in (48.3 cm)	19 in (48.3 cm)
	DEPTH:	13.5 in (34.3 cm)	13.5 in (34.3 cm)
WEIGHT:		25 lb (11.25 kg)	25 lb (11.25 kg)

Product specifications are subject to change without notice.

SWR®

Corona, California USA

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