



Audio Labs

# VANGUARD V13

Multi-Pattern Tube Condenser Microphone

**Thank you for choosing the VANGUARD V13 gen2 Microphone!**

From day one at Vanguard Audio Labs, we have always sought ways to improve our products and we always will...that is part of our mission. As a result, on the NEW gen2 mics we have upgraded nearly all of the key signal-path components to audiophile-grade parts, many sourced from American parts manufacturers. These upgrades have netted us a lower signal-to-noise ratio (even though we already had a superb reputation for low noise mics), and vastly improved sound staging. In addition, we also made physical design improvements in several areas, as well as giving the finish a beautiful upgrade. All cable, microphone, and power supply connectors are now made by Neutrik® Group. The V13 power supply gained key upgrades to provide cleaner power with more headroom. In short, we feel the new V13 gen2 microphone is a true world-class mic.

**Enjoy!**

Your **VANGUARD V13** microphone is carefully packed at our workshop in Southern California. The padded pinewood mic box and aluminum carrying case are designed to protect the microphone during shipping and storage. In addition, before any microphone is released, the final assembly and testing is performed here in sunny Southern California to make sure the mic is ready for you to reliably enjoy in professional recording situations.

**TO AVOID DAMAGE TO YOUR MICROPHONE, PLEASE READ THE ENTIRE MANUAL BEFORE PLUGGING IN THE V13 FOR THE FIRST TIME!**

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## OVERVIEW

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Lovingly refined by experts over the course of 2 years, the VANGUARD V13 gen2 Tube Condenser is designed to offer true world-class performance. It combines vintage warmth with smooth modern detail, all while being visually stunning and reliably designed. After exhaustive research, testing, and listening by world-class engineers, we can say with pride that the performance of this mic will rival or exceed that of both iconic vintage and modern microphones, **at a fraction of the cost.**

### PERFORMANCE

The **VANGUARD V13** was conceived and commissioned to establish a new performance standard at an until now unachievable price point. While being visually stunning, the V13's audio performance will inspire confidence from any artist, engineer or producer, with a sonic signature that is rich, yet natural. We designed the V13 with the character of yesteryear's iconic vintage tube microphones in mind, while also

utilizing the latest technology to ensure that every nuance and detail of the performance is faithfully captured. We specifically engineered the V13 with warm, full lows, a precise and detailed midrange, and buttery-smooth high end. The result is a microphone that unifies warmth with clarity, depth with detail, and character with precision.

After hundreds of hours of listening and testing dozens of design variations with world-class engineers, the V13 is a top-shelf microphone with an incredibly low noise floor. This is truly a professional, world-class microphone.

## **DESIGN**

The VANGUARD V13 is very different from other mics in its price range. It is designed and precision built in limited quantities to “no-compromise” standards.

We started with an edge-terminated, gold-sputtered Mylar 3µm dual-capsule assembly and custom-voice it with a proprietary hand-tuning process, placing it in an open-weave headbasket for a natural sound with low internal reflections. We then designed a circuit that matches the unique musical properties of our capsules, loading it with premium-grade, over-spec components sourced from manufacturers around the world. We cryogenically treated critical components in the signal path, including a hand-selected European vacuum tube. We placed the 70Hz roll-off and -10dB pad toggle switches on the rear of the microphone, where they are easily accessible to the engineer. We topped off the electronics with an ultra-linear, fully shielded, custom-wound, dual-bobbin humbucking transformer for the output stage to drive long cable runs.

The V13 gen2 refines the lauded design of the original V13. Key upgrades include low-noise audiophile-grade resistors sourced from a US manufacturer, as well as Neutrik® Group audio connectors on the microphone, power supply, and cable. These upgrades make the V13 gen2 one of the quietest tube microphones ever made. The redesigned power supply provides even more clean headroom, and sports a durable matte-black powdercoat.

Aesthetically, the precision-machined stainless steel body is coated with our trademark Pinot Noir, finished with a deep, lustrous gloss, and accented by polished nickel trim and a precision-cast Vanguard badge. Machined into the rear of the microphone is a cooling vent to prolong tube life. Your V13's serial number is laser-engraved on the lower rear of the microphone.

The V13 was designed by a team of experts with more than 65 years of experience and vetted by world-famous engineers and producers.

## **QUALITY**

Each V13 undergoes final assembly in the USA. We perform 100% quality control – every single microphone undergoes a series of stringent audio and visual tests here in Southern California before being hand-packed.

Every part of the V13 was designed to be robust and reliable. Wherever possible, components are over-specified. The gen2 V13 uses US-made audiophile-grade precision resistors throughout. The deep-cycle cryogenic treatment improves the lifespan of critical electronic components. Brass, stainless steel, aluminum, and zinc are part of the heavy-duty construction. Every Vanguard microphone is backed by our FIVE-YEAR WARRANTY.

## **ACCESSORIES**

When you buy a V13, you also get a VLSM Heavy-Duty Shockmount. We wanted to rethink the standard “spider-style” shockmount of old, and designed the VLSM with a few nifty features. First is the open front, which allows you to position the microphone as close to the source as necessary. Second, we source aerospace-grade suspension rings that won't break, sag, crack, or stretch over time.

The V13 also comes with the redesigned PS-13 gen2 power supply, which allows you to select any of 9 available polar patterns on your microphone. We encourage you to experiment with the different polar patterns, as each one changes the frequency response of the microphone. The PS-13 can operate from 110-240V. A 7-pin XLR Neutrik® Group cable connects the PS-13 to the V13.

When not in use, your V13 should be stored in its padded pinewood box with the included dessicant inside.

The black aluminum locking carrying case with the V13 keeps your microphone, cables, and power supply in one place, and includes a slot for an extra vacuum tube. Varying the tube model from our stock V13 tube gives a unique sonic character to the V13 – in particular, we found that a Russian 6072A lent a distinctly different flavor.



**CONNECTORS BY NEUTRIK®**  
NEUTRIK a brand of the Neutrik Group

## **USAGE**

The VANGUARD V13 excels in a multitude of recording situations. It is a superior choice for studio vocals, acoustic guitar, mandolin, drum overheads, orchestral strings, room mic'ing, the delicate nuances of piano, choral, and orchestral recording - essentially any acoustic instrument. Tested in a diversity of situations, acoustic environments, styles, and genres, we found that the V13 was often the top option, despite being matched against microphones several times its cost! Through our hundreds of hours of testing, research, and listening, we've found a few particular uses we would like to share with you.

### **VOCALS**

The V13 is particularly "forgiving" when it comes to vocal style and timbre. Oftentimes, microphones can be a bit choosy when it comes to how they mesh with different vocalists, but we have found that the V13 sounds great with almost any vocal complexion. If you're having difficulty dialing in "that" sound for your vocals, try experimenting with the different polar patterns via the selection knob on the power supply. One of our favorite polar patterns for smooth, open vocals is two clicks to the left of cardioid mode.

### **ACOUSTIC GUITAR**

The V13 is superb for adding warmth and detail to your acoustic guitar tracks. We tested the V13 on a variety of acoustic guitars from several price ranges. We found that even when tracking overly-bright and mid-rangey guitars, the V13 brought out the very best in each instrument. Once again, polar patterns play a huge role in finding the perfect tone - try widening or narrowing the pattern for different results.

### **PIANO**

The custom-voiced capsule of the V13 gives it incredible low-frequency depth while providing an open, smooth top end, and allows you to capture the nuanced performance of the entire range of the instrument. In a good-sounding room, the omni-directional pattern allows for an incredibly spacious and lush piano recording, even on a mono track!

### **VIOLIN, VIOLA, CELLO, AND DOUBLE BASS**

Whenever we tracked these instruments, we found that the "sweet spot" was about 10-30 degrees off-angle, at least 1 foot of separation from the instrument (often up to 2.5 feet), with the microphone "listening" to the gap between the bridge and the fingerboard. Experiment with slight off-axis response by pointing the microphone towards the f-holes for different timbres.

## **DRUMS - ROOM AND OVERHEAD**

As a room mic, we recommend engaging the 70Hz “rumble filter” switch on the rear of the V13 (and if necessary, the -10dB pad switch as well). A spaced pair of VANGUARD V13s will give you detailed, rich drum overhead tracks.

## **POLAR PATTERNS**

The robust PS-13 power supply uses a 9-position, instant-change popless switch for fast, easy comparisons which allow the engineer to fine-tune the resulting signal with the most suitable pattern. The “chicken-head” knob on the pattern selector allows for 3 basic settings, with 6 “in-between” variations that allow for dialing in just the right setting for your use.

### **POWER SUPPLY BASIC PATTERNS**

#### **Cardioid**

The Cardioid setting provides optimum pickup performance from the front, less from the sides, and the least from the back of the microphone. It is primarily used to allow precise focusing on a close-miked solo voice or instrument. This pattern allows the minimal amount of room sound to get into the signal path if working close up. For even less room sound, select patterns in between Cardioid the Figure-8 setting to narrow the pickup pattern further. For more room sound, but a broader pickup axis, select patterns in between Cardioid and Omni-directional.

Cardioid microphones also exhibit “proximity effect”. This is a boost in low frequency response at close range. For example, a singer that is 1 inch away from the mic will have a much deeper tone than one 6 inches away. Keep this in mind, and experiment with microphone distance to use it to your advantage.

#### **Omni-directional**

The Omni setting will allow sound to be picked up equally from all sides of the microphone. It tends to have a more natural low frequency response, as well as a generally smoother response across the entire frequency spectrum. They also can exhibit some directional characteristics at higher frequencies. This setting allows the most room sound to be present with the recorded signal.

#### **Figure-8 (also known as “bi-directional”)**

This pattern allows equal-but-phase-opposite response on both the front and rear sides of the microphone capsule assembly, with excellent rejection of sound from the sides of the microphone. The Figure-8 pattern is used most commonly in stereo miking techniques such as MS and Blumlein, which both involve a figure-8 microphone in some way. Figure-8's can be used as room mics, to record two sources with a single microphone. (e.g., two vocalists on opposite sides of the microphone).

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## **FEATURES**

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### **CAPSULE & ELECTRONICS**

- Custom-voiced, edge-terminated 34mm dual-capsule assembly with gold-sputtered Mylar diaphragms
- 9 polar patterns (selectable at power supply)
- Vacuum tube analog circuitry with premium-grade components
- Hand-selected European vacuum tube
- Deep-cycle cryogenic treatment of critical signal path components
- Transformer-coupled output – humbucking, shielded, dual-bobbin transformer
- -10dB pad and 70Hz rolloff toggle switches
- Robust power supply design for ultra-low noise floor

## CONSTRUCTION

- Heavy-duty brass, aluminum, stainless steel, and zinc metal construction
- Tube vent
- Open-weave headbasket for low internal reflections, "open-air" voicing
- Each V13 comes with its own laser-engraved serial number
- Over-spec componentry
- Deep-gloss Pinot Noir finish
- Polished nickel trim
- Precision-cast Vanguard badge

## STANDARD ITEMS SUPPLIED

- V13 Vacuum Tube Condenser Microphone
- PS-13 Power Supply with Neutrik® audio connectors
- VLSM Large Shockmount with aerospace-grade suspension rings
- Padded Pinewood Microphone Storage Box
- Locking Aluminum Carrying Case
- 7-Pin Microphone Cable with REAN® connectors
- Power Cable

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## SPECIFICATIONS

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<b>Capsule Type:</b>	<b>34mm Gold sputtered Mylar-True Condenser (DUAL CAPSULE)</b>
<b>Polar Pattern/s:</b>	<b>9 patterns selectable at power supply</b>
<b>Frequency Range:</b>	<b>20Hz-20,000 Hz</b>
<b>Output Impedance:</b>	<b>&lt;200 Ohms / transformer isolated</b>
<b>Maximum SPL :</b>	<b>144dB (0.5% THD @1000Hz) with pad engaged</b>
<b>Equivalent noise level :</b>	<b>&lt; 13dB SPL (A-weighted)</b>
<b>Sensitivity:</b>	<b>-35dBV</b>
<b>S/N Ratio:</b>	<b>80dB (Ref. 1Pa A-weighted)</b>
<b>Output Connector:</b>	<b>Male XLR 7 pin</b>
<b>Included Accessories:</b>	<b>Padded Wooden Box, Shockmount, Metal case, Power Supply,</b>
<b>Vacuum Tube Type:</b>	<b>Proprietary Select Premium Grade</b>
<b>Power Requirement:</b>	<b>Dedicated PS-13 POWER SUPPLY w/ selectable 110/240V Capability</b>
<b>Finish:</b>	<b>Polished Nickel trim / Black Cherry Body</b>
<b>Warranty:</b>	<b>5 Years</b>

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## CARE AND PRECAUTIONS

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- When not in use, please store your V13 microphone in the provided padded wooden microphone case. We recommend keeping the plastic sleeve that the microphone is shipped in with the desiccant packet inside, and keeping it on the microphone when not in use to prevent debris build-up on the capsule.
- When using for close-mic'd vocals, it is important to use a high quality Pop Filter to protect the capsule against breath moisture, as well as plosive blasts like "P", "K", "T", etc.
- Always protect your V13 from any hard jolts, drops, and vibrations. Although it is ruggedly constructed, it is a professional tool and should be treated with respect. Always handle with care.
- For best performance, stability, & longevity, do not expose the microphone to any moisture or smoke.
- **DO NOT** open the V13 microphone while plugged in - very high voltages are present!
- **DO NOT** open the PS-13 power supply under any condition. See the "SERVICE AND WARRANTY" section below if you have any issues with your PS-13 power supply.
- Before each use, turn on the power supply after the microphone is plugged in and allow the tube circuitry 5 minutes to warm up and stabilize.
- Don't use this product in or near water, during a lightning storm, etc. It is intended as a professional studio microphone only.
- **HOW TO SET YOUR CARRYING CASE LOCKS:**
  - Open the V13 case. Remove the red plastic securing the 3 rotating number wheels.
  - Firmly push the square opening mechanism for the first lock TOWARDS THE HANDLE of the case. Set your desired 3-digit combination while maintaining firm, steady pressure on the square opening mechanism. After you have set the combination, release the square so it returns to its normal (middle) position.
  - Repeat this process for the second lock. Close the case and test your new combinations.

The VANGUARD V13 complies with all applicable CE / RoHS / WEEE European Union directives.



## IMPORTANT SAFETY INFORMATION



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within 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 appliance.

WARNING: TO AVOID FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPARATUS TO WATER, RAIN OR MOISTURE.

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## SERVICE & WARRANTY

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### LIMITED 5 YEAR WARRANTY

VANGUARD microphones purchased in the U.S.A. are warranted by Vanguard Audio Labs to be free from defects in materials and workmanship for the period of 5 YEARS to the original purchaser. In the event of such defects, the Vanguard Audio Labs product will be repaired without charge or, at our option, replaced with a new one if delivered to Vanguard Audio Labs prepaid, together with the sales slip or other proof of purchase date. The warranty excludes problems due to normal wear, abuse, shipping damage or failure to use the product in accordance with the specifications. This warranty does not apply if the product has been damaged by accident or misuse, or as a result of repair or modification by anyone other than a Vanguard Audio Labs customer service facility authorized to service this product.

All parts except tubes (90 days) are covered under this Limited 5 Year Warranty.

Vanguard Audio Labs shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation or commercial loss or any other damages, whether incidental, consequential or otherwise. This warranty gives you specific legal rights, and you may have other rights, which will vary from state to state.

*Specifications and prices are subject to change without notice or obligation.*

Do not attempt to service this unit yourself, as it will void your warranty. Please check your unit carefully upon receipt and return to place of purchase immediately if there are any problems with the product. After that, the standard VANGUARD AUDIO LABS 5 YEAR WARRANTY will apply to defects in materials and workmanship.

**(U.S.A)** Should your VANGUARD microphone require service, please contact the VANGUARD AUDIO LABS Service Department. (909) 920-5600 -or- e-mail [service@vanguardaudiolabs.com](mailto:service@vanguardaudiolabs.com)

To claim warranty in USA, microphones and accessories must be delivered in their entirety to VANGUARD AUDIO LABS freight prepaid, IN PROPER/SAFE PACKAGING. All returns must have prior authorization before shipping. Please contact VANGUARD AUDIO LABS for a Return Authorization Number (RA). A sales slip or other proof of purchase must be included.

### IMPORTANT! BEFORE PLUGGING THE MIC IN

**Make sure the proper AC MAINS operating voltage has been selected on the rear of the PS-13 power supply!**