



MODULUS® GRAPHITE  
OWNER'S MANUAL

QUANTUM





## WELCOME TO MODULUS®

And thank you for choosing one of our instruments. This owner's manual is intended to be a resource to help you understand and fully utilize the features and functions of your new instrument.

Located in the heart of the thriving San Francisco Bay Area music scene, Modulus Graphite began building exceptional handmade instruments in 1978. Our specialty is utilizing innovative materials to better serve the needs of the serious player. Modulus pioneered the use of graphite in the construction of guitar and bass necks. We were also the first to combine structural graphite with non-structural tone woods in our Genesis guitars and basses.

Innovation is meaningless if it doesn't result in increased playability, sonic integrity and visual beauty. Modulus is dedicated to building instruments that showcase all of these features. Let's take a look at the many facets of your new instrument and how they work together with your ears, hands, and heart. Music is the reason we are here.

### **QUANTUM TBX™, QUANTUM™, FUNK UNLIMITED™, & VJ4™ NECKS**

Modulus instruments feature a composite neck design. Our original Quantum bass neck is a lightweight, ultra-rigid "D"-shaped shell made from dozens of layers of aerospace grade epoxy-impregnated graphite fibers. With an amazing strength-to-weight ratio and a resonant peak far above the range of the notes on a bass, it is an ideal neck for producing crystal clear, even tone. Because graphite telegraphs attack more quickly than conventional wood necks, the Quantum neck aids articulation and is dynamically very sensitive.

### **FINGERBOARD**

Modulus basses come standard with a phenolic (composite) fingerboard. An optional wood fingerboard is available. This provides the player a choice of feel, look, and sound. Composite fingerboards are more dense, and harder than a wood fingerboard. Composite fingerboards offer similar performance to ebony and have a very low coefficient of thermal expansion. That means they expand / contract far less than wood. This is part of the reason a Modulus neck is so stable. The composite fingerboard on a Modulus neck delivers clean and clear tone on fretted basses, and a tighter focus to the sound of fretless instruments. The optional Chechen fingerboard is an ecologically sustainable, independently-certified Mexican hardwood with similar characteristics to rosewood. A wood fingerboard on a Modulus neck adds a touch of warmth to the midrange of the instrument and provides a more traditional look and feel to the neck.

### **WOOD**

Modulus instruments are crafted from the finest aerospace-grade composites and hand-selected exotic woods. Wood, whether for the body of a TBX, Quantum, Funk Unlimited, or VJ4, is chosen for its tonal characteristics, beauty and long-term stability. Our skilled builders combine woods to create instruments with individual sonic and visual character that maintain the signature Modulus sound: Crisp and clear with warmth and dynamic sensitivity.

## GENERAL MAINTENANCE

### **CLEANING AND STORING YOUR MODULUS INSTRUMENT**

Keep a soft, clean cotton cloth in your case. Wipe down the body, hardware and the back of the neck after each playing session. Use a separate cloth to wipe down the strings and fingerboard. This will remove body acids and oils that corrode metal parts and will maintain the playability and beauty of the instrument.

All surfaces of your instrument, excluding hardware, pickguards (if applicable) and fingerboards, are finished with a polyurethane finish. This finish is extremely tough, but can be scratched or chipped by hard objects such as tools, jewelry or keys. Always store your

instrument in its case or gig bag when not in use and keep it on a guitar stand between sets on the gig. In most instances, wiping the finish with a soft cloth after each use will be enough to keep the finish looking new. If you desire greater protection, use an automotive paste wax, such as Turtle Wax twice yearly. Never use abrasive polishing or rubbing compounds or solvent-based cleaners on your bass. If the body or back of the neck becomes extremely dirty, apply lukewarm soapy water with a soft, damp cloth to the area. Wipe clean, then dry immediately.

Do not apply any kind of oil to the composite fingerboard. It will not sink in and may damage the material. Chechen fingerboards may benefit from an application of gunstock oil or similar light oil, generally during winter months when humidity is low. Test the Chechen fingerboard by dropping one drop of water onto the board to see how long it takes to soak in. If the drop of water takes less than 10-20 seconds to disappear, the board needs a light coat of oil. Use a clean cloth slightly moistened with the oil. Gently and evenly rub it into the wood fingerboard. Allow the oil to soak in for a minute, and then wipe off the excess. Avoid getting oil on the strings.

Although the graphite neck is impervious to most temperature and moisture conditions you will encounter, wood and electronics are still vulnerable. We recommend that the instrument be kept at room temperature whenever possible.

### **PICKUPS AND ELECTRONICS**

Modulus **Quantum** instruments come standard with EMG soapbar pickups run through an EMG preamp. A variety of pickup / preamp configurations are available. Please visit [ModulusGraphite.com](http://ModulusGraphite.com) for more information. There you will find details on additional pickup / preamp options, along with videos that demonstrate several configurations.

### **PICKUP HEIGHT ADJUSTMENT**

Pickup height is set at the factory for even string balance and output. Depending on your playing style and string choice, you may want to change the factory settings.

Height is set by turning the adjusting screws clockwise to lower the pickup, counter-clockwise to raise the pickup. Standard height at the factory is 1/8" from the top of the pickup cover to the bottom edge of the string (depressed at the **24<sup>th</sup>** fret). Ensure the angle of the pickup is parallel to the strings.

### **CONTROL FUNCTIONS AND LAYOUT**

Modulus **Quantum Basses** typically have a 3 or 4 knob control layout as detailed below.

- » Dual Pickup, 4 Knob Configuration: Volume / Blend / Bass / Treble
- » Dual Pickup, 4 Knob Configuration with Stack: Volume / Blend / Mid / Stacked Treble & Bass

For additional information on the preamp options, please visit our website: [www.modulusgraphite.com](http://www.modulusgraphite.com)

### **CHANGING THE BATTERY**

To replace the battery in a Modulus **Quantum**, be sure the instrument cable is unplugged from the bass. Lay the bass face down on a clean soft surface. Use a medium Phillips screw driver to remove the screws from the control cavity cover plate. Remove the cover plate. Lift the battery carefully out of its compartment and gently pull off the snap-on battery clip. Do not pull on the wires to remove the clip. Replace the battery, place the fresh battery back in the compartment and install the plastic cavity cover with the Phillips head screws. Take care to dispose of the dead battery properly, and in an environmentally friendly fashion.

\*Do not leave your bass plugged in for extended amounts of time when not in use as this will drain the battery. Never plug in or unplug your bass when it is plugged into an amplifier. The loud "pop" as the battery discharges can damage your speakers.

### **BRIDGE ADJUSTMENTS**

The bridge on your **Quantum** Bass is adjustable for string height and intonation.

**Height Adjustments** — are made by turning the set screws located on either side of the string on top of each bridge saddle clockwise to raise the string height, or counter-clockwise to lower the string height. Be sure that both screws are set at the same height so that they contact the base plate equally. Generally, the string action should follow the curve of the fingerboard. Factory specs for string height are:

**Quantum 4:** 5/64" measured from the top of the 12<sup>th</sup> fret to the bottom of the "E" string and 4/64" from the top of the 12<sup>th</sup> fret to the bottom of the "G" string.

**Quantum 5 & 6:** 6/64" measured from the top of the 12<sup>th</sup> fret to the bottom of the "B" string, 5/64" measured from the top of the 12<sup>th</sup> fret to the bottom of the "E" string and 4/64" from the top of the 12<sup>th</sup> fret to the bottom of the "G" string and "C" string (Quantum 6).

**Intonation Adjustment** — is made by turning the Phillips head screws at the back of the bridge. Use an electronic or strobe tuner to match the pitch of the fretted and twelfth fret harmonic for each string, using a fresh set of the brand and gauge strings you will normally use on the instrument. If the fretted note is flat compared to the harmonic, turn the screw counter-clockwise until the two notes match. If the fretted note is sharp compared to the harmonic, turn the screw clockwise until the two pitches match. Have the intonation set by a qualified repairperson if you are not familiar with this procedure.

### **NECK RELIEF ADJUSTMENT**

Neck relief on Modulus basses is set at the factory to accommodate most playing techniques and string gauges. Though the Quantum™ composite neck on your **Quantum** Bass is able to resist many times the tension of a standard set of strings, we have provided a relief adjusting system to allow for personalized setup of your bass. The Modulus system provides for two-way truss rod adjustment (over-bow and under-bow). Turning the truss rod nut clockwise will move the center of the fingerboard closer to the strings. Turning the truss rod nut counter-clockwise will move the center of the fingerboard

farther away from the strings. Use the provided 5mm hex wrench to make relief adjustments. The hex socket is visible under the fingerboard at the end of the neck is the access point for the adjuster. There is a center "dead" spot you will feel when the system is at its neutral point. We recommend having this adjustment made by a qualified service tech.

### **Quantum Specs**

QUANTUM	NUT	@24 FRET	STRING SPACING @ BRIDGE	SCALE LENGTH
Q4	1.60"	2.40"	0.75" (19 mm) Center to Center	35"
Q5	1.85"	2.75"	0.67" (17mm) Center to Center	35"
Q5-19	1.90"	3.00"	0.75" (19 mm) Center to Center	35"
Q5-21	2.00"	3.25"	0.85" (21.5 mm) Center to Center	35"
Q6	2.00"	3.25"	0.67" (17 mm) Center to Center	35"

### **String Gauges for Quantum 4, 5, & 6**

- » Quantum 4: 45-65-85-105
- » Quantum 5: 45-65-85-105-130
- » Quantum 6: 35-45-65-85-105-130
- » Modulus Nickel Roundwound, Extra Long Scale – Available for purchase

## CUSTOMER ASSISTANCE / FAQ

Answers to Frequently Asked Questions can be found on our website, [www.modulusgraphite.com](http://www.modulusgraphite.com). If you encounter an issue or question that is not covered in the FAQ section, please contact [info@modulusgraphite.com](mailto:info@modulusgraphite.com). Following the adjustment and maintenance procedures in this manual will help ensure peak performance and long-term reliability for your instrument. We suggest you do a monthly inspection of your bass to keep your instrument in top working condition. Unless specifically noted, all procedures in this manual apply to **Quantum 4, 5, & 6** string versions.

\*As with any situation needing technical expertise or manual dexterity, be honest with yourself about what you do and don't feel comfortable attempting. If you feel the least bit hesitant about making an adjustment, take the instrument to a qualified repair person in your area to have the work done.



# MODULUS<sup>®</sup> GRAPHITE

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Model QUANTUM  
Doc. MANQ-KKC-A