GB Tracker and Satellite Manual V1.2

1. INTRODUCTION

Congratulations! You are the proud owner of a UTA GB Tracker and/or Satellite unit/s. The ultimate integrated DI and Re-amp recording system for electric guitar and bass.

This system was designed to enable an effortless and seamless workflow while preserving the sonic integrity of the instruments and amps being used. Rest assured that huge effort went into making sure the sound would not change when adding the GB Tracker to the signal path of your rig. Once the GB Tracker is in the recording setup, the benefits of editing, processing and re-amping the captured performances are only a flip of a switch away. The power to perfect performances and tones has never been so easy. I will never record guitars and basses without this box ever again.

-Eric Valentine

GB Tracker II

We've made a few updates to the design of the GB Tracker, and were calling it the GB Tracker II. Circuit-wise nothing's changed; it's still the exact same totally invisible-sounding, gain-matched DI and reamp system. Here is a list of the changes:

- Brand new, robust chassis design, which is rack mountable with our optional rack mount kit
- The input impedance selector (see page 12) was moved from an internal jumper to an additional switch on the front
- To streamline the design, we removed the power button on the back, and the off position on the Output Gain control

2. SAFETY/POWERING UP

SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION: RISK OF ELECTRIC SHOCK. DO NOT OPEN. There are no user serviceable parts inside the product. Refer servicing to qualified service personnel.

In order to ensure safe operation of the device, follow these guidelines:

1. Read the instruction manual in its entirety before operating the equipment. Retain the manual for future reference.
2. Observe all safety precautions, warnings and instructions noted in this manual.
3. Always unplug this device from the wall socket before cleaning. Use only dry cloth. Do not use aerosols or solvents.
4. Keep this device away from sources of water such as pools, bathtubs and sinks, and do not expose it to rain or splashes of water. Do not place objects filled with fluid on the device.
5. Vents are provided for heat dissipation on the sides and the rear of the device. Maintain at least 2” (5cm) space around these vents to provide sufficient ventilation.
6. Keep the device away from sources of heat and open flame such as heaters, radiators, stoves, lit candles, etc..
7. Make sure the power cord is intact before plugging it into the device. Do not use cords with visible damage to the insulation or connectors.
8. This device is equipped with a safety feature that requires the use of a three-pin grounding power plug. Do not defeat the safety purpose of the grounding plug. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete power outlet.
9. Use only accessories listed in this manual or otherwise specified by the manufacturer.
10. Do not install this product on carts or other moving objects.
11. When the device is in use, route the power cord in such a way that will prevent it from being stepped on, tripped on, pinched or damaged.

12. Do not use this device with wall or ceiling mounts not specified by the manufacturer.
13. To completely disconnect the device from the AC Mains, disconnect the power cord from the AC receptacle. For additional protection, unplug the device during electrical storms, or when not used for long periods of time.
14. No user serviceable parts inside. Refer servicing to qualified personnel. If the unit was exposed to liquid, excessive heat or fire, or sustained mechanical damage of any kind, do not attempt to operate it. Disconnect the unit from the wall outlet and consult qualified service personnel.

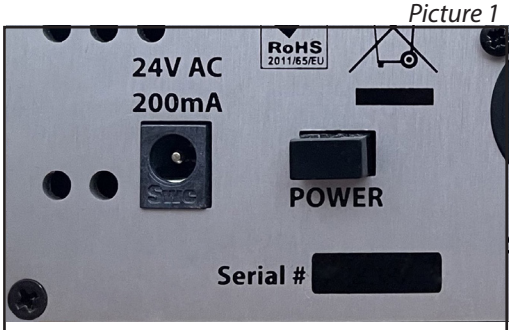
POWERING UP

GB Tracker V1 only: Plug the included power supply into an available outlet. Connect the power jack to the back of the GB Tracker unit. Turn on the power by pressing the "POWER" button on the back of the unit so the button is depressed. The red light on the front of the unit will illuminate if the GB Tracker has powered up properly.

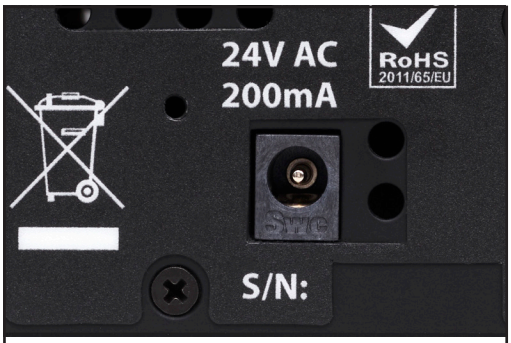
GB Tracker II: We have eliminated the power switch! Now all you need to do is simply plug in the included power supply. The red light on the front of the unit will illuminate if the GB Tracker has powered up properly.

PLEASE ENSURE THAT YOU ARE USING THE CORRECT POWER SUPPLY: 24VAC 250mA, or 6VA

Picture 1



Picture 1 shows where to plug in the included power supply on the back of the GB Tracker V1 unit and the power button.



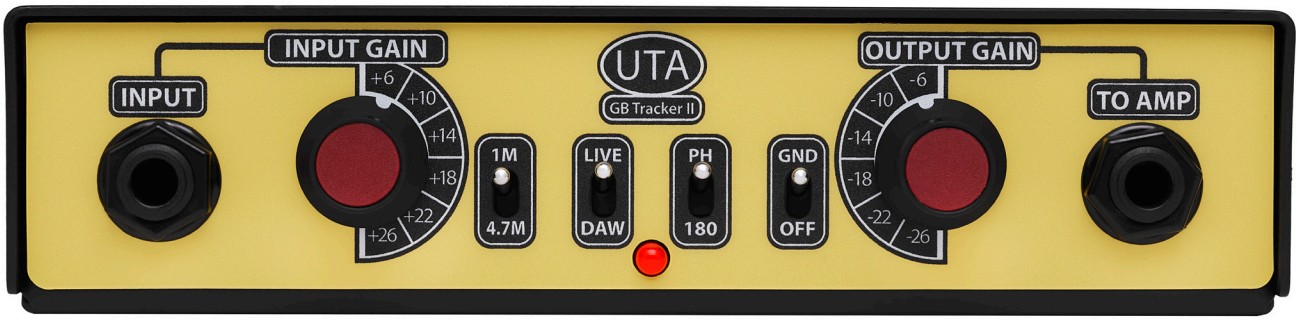
Picture 2 shows where to plug in the included power supply on the back of the GB Tracker II unit—no more power button!

3. PLACEMENT OF THE UNIT

The GB Tracker is a “tabletop” unit designed to sit on any flat surface. The GB Tracker II can also be rackmounted using the rackmount kit (sold separately). It is best to place the unit close to the musician/instrument plugged into it so you have the option of using a shorter cable or preferably a UTA Varicap cable.

4. AUDIO CONNECTIONS

FRONT PANEL CONNECTIONS

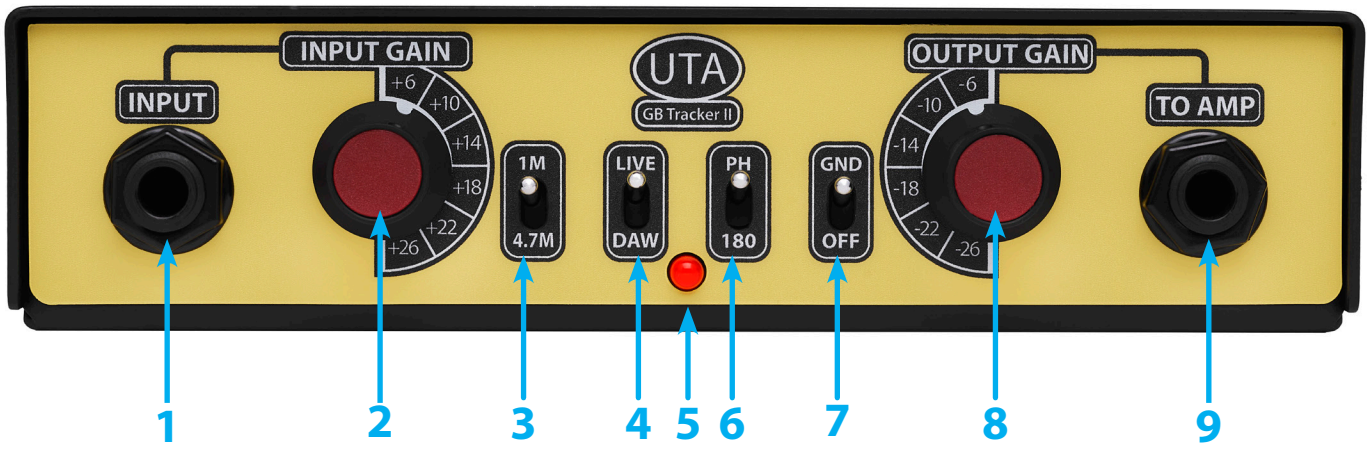


Connect your Guitar or Bass to the "INPUT". Connect the "TO AMP" output to the input of the amp being used.

REAR PANEL CONNECTIONS

Connect the "TO DAW" (DI signal) output to an input of your DAW recording system. Connect an output from your DAW Recording system to the "FROM DAW" input. Connect the "TO SATELLITE" output to a Satellite unit, if you are using one.

5. FRONT PANEL CONTROLS



DESCRIPTION OF FRONT PANEL CONTROLS

1. INPUT JACK - Plug your guitar or bass into this input

2. INPUT GAIN - This adjusts the input gain in 4dB steps.

3. INPUT IMPEDANCE SELECTOR - This selects between 1M and 4.7M input impedance. See pg 12 for more information.

4. DAW/LIVE - In the "LIVE" position, signal from the DI will be sent directly to the re-amp circuit. In the "DAW" position, signal from the "FROM DAW" line input on the back of the unit will be sent to the re-amp circuit.

5. PWR - This LED illuminates when the GB Tracker is powered on.

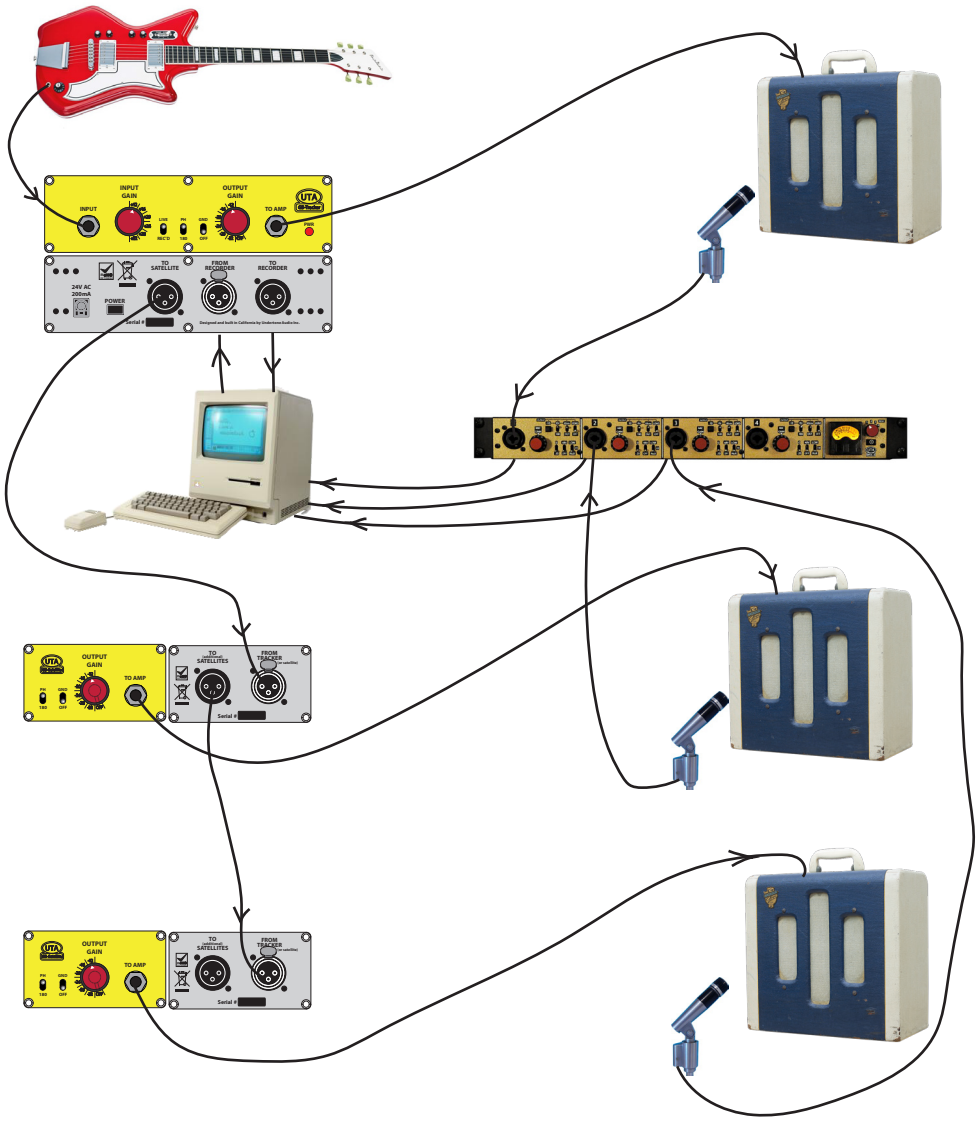
6. PH/180 - In the "PH" position, the phase of the signal going to the re-amp curcuit will be normal. In the "180" position, the phase of the signal going to the re-amp curcuit will be reversed.

7. GND/OFF - This switch isolates the ground between the GB Tracker and the amp plugged into the "TO AMP" jack to eliminate ground loops.

8. OUTPUT GAIN - This rotary switch adjusts the ouput gain in 4dB steps. It is typically set to match the input gain for unity gain functionality.

9. TO AMP JACK - This output jack connects signal from the re-amp circuit to the amp being used.

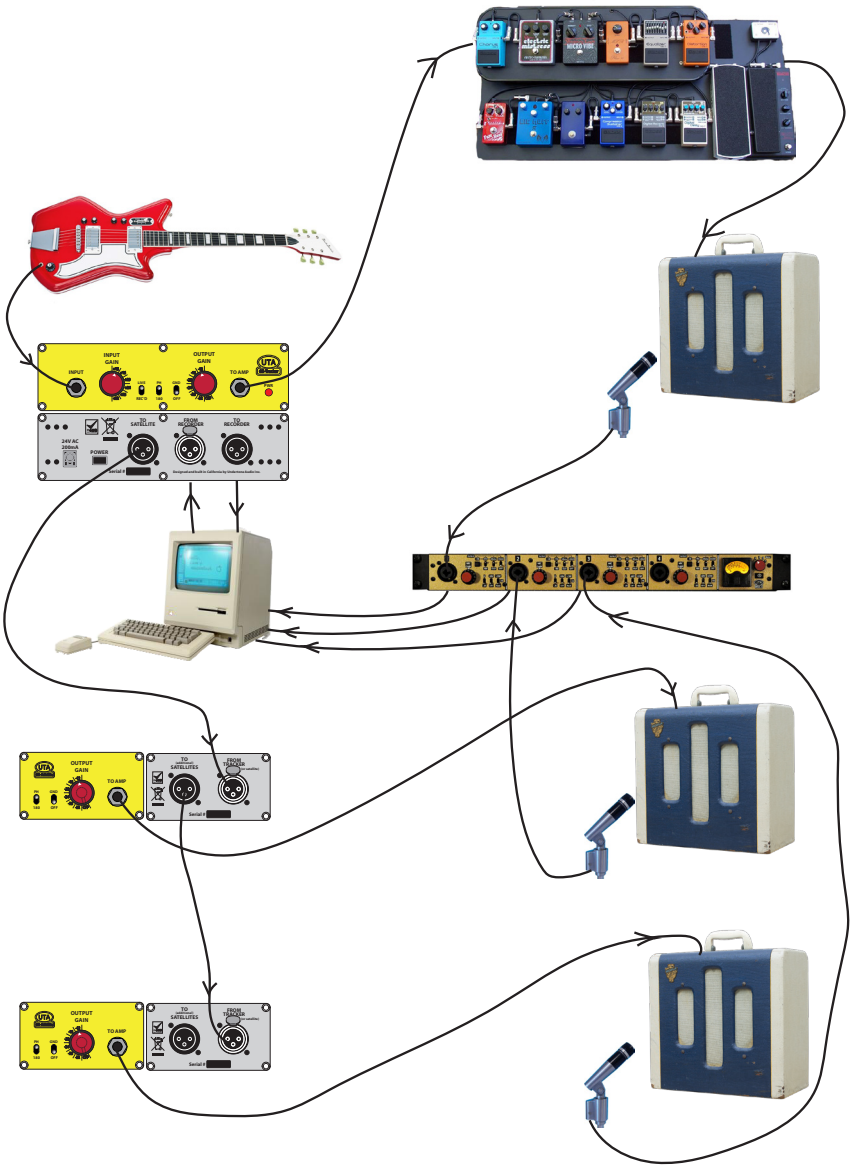
6. EXAMPLE SETUPS



BASIC SETUP

In this setup, you can see the guitar plugged into the "INPUT" jack and the amp connected to the "TO AMP" jack. The "TO DAW" DI output is connected to an input of the computer recoding system. A line output from the computer recording system is connected to the "FROM DAW" input. There is a microphone on the guitar amp that goes to a mic preamp and then on to another input of the computer recording system. If you are not adding any additional amps, this is a complete basic setup. If you want to layer amps, you can use a Satellite unit for each additional amp you would like to add. The first Satellite unit is connected to the "TO SATELLITE" line level output of the GB Tracker. You can then keep adding additional Satellite units by daisy chaining them from each previous Satellite via the "TO (additional) SATELLITES" output jack on the back of each Satellite unit.

This setup works great if you are not using any guitar pedals but want all the benefits of editing the DI signal, pro-esing the DI signal in computer and/or adding additional amps.

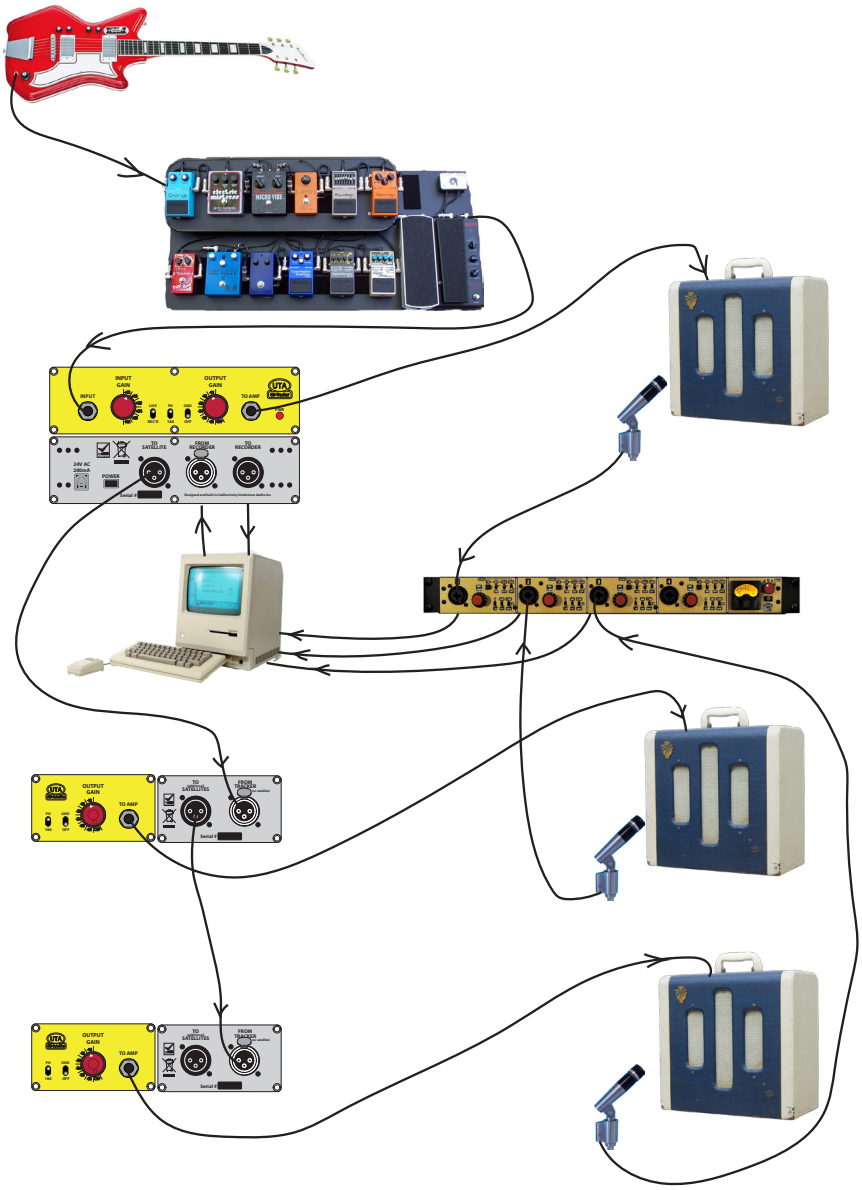


SETUP WITH PEDALS (After GB Tracker)

In this setup, everything is patched the same as the last setup except there is a pedal board added between the output of the GB Tracker "TO AMP" output and the amp input.

The benefit of this setup is that the DI signal being captured is still only the pristine guitar signal. The DI signal is clean and clear for editing and you can alter pedal settings when/if you decide to re-amp the performance.

The downside of this setup is that the guitar pedals are only going to the amp plugged into the output of the pedal board itself. Any additional amps connected via Satellites would not be getting the guitar pedal signal.



SETUP WITH PEDALS (Before GB Tracker)

In this setup, The guitar goes to the pedal board first and then the output of the pedals feed the input of the GB tracker.

The benefit of this configuration is that the sound of the pedals is captured in the DI signal and there is no need to set them up again if you wanted to re-amp the performance at a later date without the pedals. Ther is also the benefit of having the pedal affected signal go to all of the additional satellite amps.

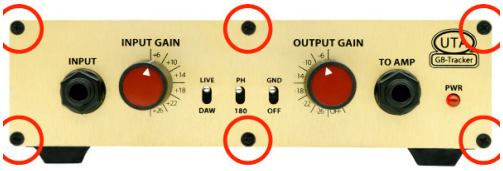
The down side of this configuration is that the DI signal may be more difficult to use for editing if there is a pedal adding distortion or fuzz. You also would not be able to remove the sound of the pedals or adjust their settings at a later date if that was the cause for wanting to re-amp the performance.

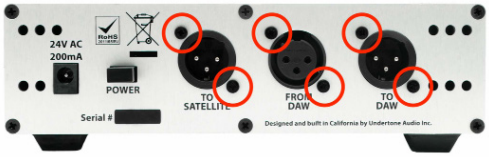
7. NERDY TONE STUFF

1. INPUT IMPEDANCE

OK, so if you really want to geek out about the subtleties of this device you are in the right place. We will start with the input impedance. This issue ended up being one of the very significant final tweaks to the GB Tracker. There is an interaction between the input impedance of the amp and the instrument plugged into it, so long as it is a passive instrument (no battery in it). Most amps have an input impedance of 1Mohm. It is by far the most common choice for amp designers. There are a few exceptions that are higher, in the 4.7 - 5.7Mohm range (e.g. the Ampeg SVT, which has an input impedance of 5.6Mohm). My goal was to make sure the tone didn't change at all between plugging directly into the amp or going through the GB Tracker first. We initially thought it would be best to have the input impedance of the GB Tracker higher than the typical 1Mohm so if you were using one of the amps with the higher input impedance the GB Tracker wouldn't alter the sound. We thought it would be inconsequential for the amps with the lower 1Mohm impedance. That was not the case. The 1Mohm impedance was very important for replicating the interaction between the guitar output and the input it was plugged into. Once that initial interaction is established in the GB Tracker that is plugged directly into the guitar or bass, it would be passed on to the amp that is connected to the output of the GB Tracker. The output of the GB Tracker does not interact with the input impedance the same way the passive instrument does.

GB Tracker V1 only: we ended up adding a jumper inside the GB Tracker so the user could decide if they want a 1Mohm, 4.7Mohm, or 5.7Mohm imput impedance. To access the internal jumper, remove the screws circled in red in the images below. Holding the front faceplate, slide out the PCB.





You will find it here:

The 4.7 and 5.7Mohm sound is slightly clearer. There is more detail in the transient attacks. More separation in the dynamics of the sound. The 1Mohm sound is more congealed. The dynamics are connected more into one cohesive sound. The sounds have their advantages and it is really up to the user to decide what works best for them. If you want your Marshall, Fender or Vox amp (all are typically 1Mohm) to have a bit more detail and clarity to the sound, try the 4.7 or 5.7Mohm setting. If you want your instrument to sound exactly the same as when you plug directly into those amps, stick with the 1Mohm setting. If you happen to be using one of the amps that is in the 4.7-5.7Mohm range, those settings will ensure the GB Tracker doesn't alter the sound.

GB Tracker II: The input impedance selector has been moved to a switch on the front panel.

3. LOADING

The GB Tracker is able to send signal to multiple amps via additional satellite units. Each additional satellite unit adds an additional load to the active circuitry of the GB Tracker. There is no audible affect on the tone but the affect on the overall level may become noticeable at a certain point. The addition of each Satellite unit will drop the level by .05dB. Adding one or two Satellite units is probably not noticeable but once you start adding 4 or 5 or 6 you should be aware that the gain setting you have on the amp can start to feel a bit different. You may have to compensate by turning up the gain on the amp/s a little bit. You could also compensate for the difference in gain in the DAW if you are in the "DAW" setting on the GB Tracker.

8. SPECIFICATIONS

INPUT VOLTAGE .....24V AC (200mA)

INPUT IMPEDANCE

INSTRUMENT INPUT 1Mohm, 4.7Mohm

FROM DAW 15Kohm

OUTPUT IMPEDANCE

TO AMP 2Kohm
TO DAW 47ohm

FREQUENCY RESPONSE

"INPUT" to "DAW OUTPUT".....20Hz - 50KHz 0dB to -1dB
"FROM DAW" to "TO AMP".....20Hz - 40KHz 0dB to -1dB

MAX LEVEL BEFORE CLIP WITH 600Ω LOAD

TO DAW.....+24dBm

DISTORTION

"INPUT" to "DAW OUTPUT".....<0.02% THD 20Hz-20kHz @+20dBu

DIMENSIONS

GB TRACKER II .....1.75"(H) X 6.81"(D) X 7.2"(W)
SATELLITE .....1.93"(H) X 4"(D) X 3.55"(W)

WEIGHT

GB TRACKER II .....2.8 Lbs
SATELLITE .....0.86 Lbs