

Numark

Professional Disc Jockey Products

the **BEATKEEPER**TM II



Audio Synchronized Beat Counter BCMI35

OWNER'S MANUAL

PLEASE READ !

NUMARK BCM135

the **Beatkeeper™ II**

AUDIO SYNCHRONIZED BEAT COUNTER

A LETTER FROM THE INVENTOR:

Dear Customer,

Congratulations on your purchase of the second generation BeatkeeperII™. This product is the culmination of a quest to bring more “feel” into mixing so that mixing duds like myself can finally use those fancy CD mixers, or those of us who still swear by vinyl can mix with greater ease.

Features like the Beat Assist are the result of working with working DJs like yourself and noticing that it's frustrating to wait for the computer to figure everything out for you. The downbeat start minimizes your need to be a control panel expert and allows you to keep your hands on the music, where they belong. The bar graph was put in so you could keep the mix precise and prevent it from drifting into a “bad mix”.

Now that was the first generation. We listened to your feedback and made several improvements for the BeatkeeperII™.

You now have 2 extra audio inputs so you can now work with up to 4 phono/line sources. The BeatkeeperII™ will track the beat of all 4 sources at the same time so you can mix from turntables to CDs, check BPMs on other sources during a mix, cue up more than 1 song for a mix.

Many of you responded that the beat offset and BPM displays would be better if they updated faster. So we made the BeatkeeperII™ even more responsive. It now updates the displays on every beat so you can get a quicker, sharper mix.

We also saw new CD players with pitch adjustments of +/- 16%, and sometimes even higher. So the BeatkeeperII™ was designed so you can pitch the music up or down as much as you want, and the BeatkeeperII™ will continue to track the tempo.

Take care and good luck with your new BeatkeeperII™.

Regards,
Elliot Marx
Advanced Audio Concepts

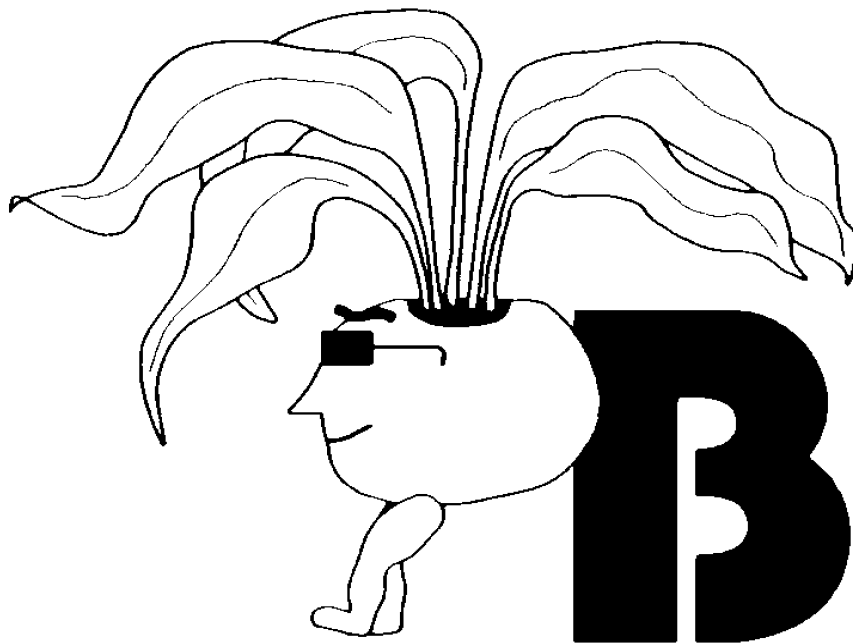


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IMPORTANT SAFEGUARDS

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN !

CAUTION: To prevent the risk of electric shock, do not remove the cover (or hack). There are no user-serviceable parts inside. Refer servicing to qualified service personnel.

READ ALL INSTRUCTIONS

All of the safety and operating instructions should be read before the Beatkeeper™ is operated.

HEED WARNINGS

Adhere to all warnings and precautions in the operating instructions.

RETAIN INSTRUCTIONS

The operating instructions should be retained for future reference.

WATER AND MOISTURE

Care should be taken so that liquids are not spilled into the enclosure through openings. The Beatkeeper™ should not be used near water (for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc).

LOCATION

The Beatkeeper™ should be securely mounted in a stable location or a sturdy rack.

HEAT

The Beatkeeper™ should be situated away from heat sources such as radiators, stoves, or other household appliances that produce heat.

POWER SOURCES

This product is intended to be powered solely by the 9V 500mA adapter provided within the original packaging of the product. The use of any other adapter or any unintended voltage source may cause product malfunction and will instantly void the product's warranty.

POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed on or against them. Pay particular attention to the power adapter at its plug end and the point where it exits from the Beatkeeper™.

NON-USE PERIODS

The Beatkeeper's™ power switch only controls power to the unit's displays. The remainder of the component still draws power when the power switch is off. We recommend leaving the unit unplugged during prolonged periods of non-use.

CLEANING

The Beatkeeper™ should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

Servicing

The unit should be serviced by qualified service personnel when one or more of the following has occurred:

- A. The power adapter has been damaged due to cutting or melting of the cord or power plug.
- B. The unit appears damaged, or exhibits a sudden, unexplained drop in performance.
- C. Liquids have been spilled into the unit.
- D. The unit has been subjected to excessive shock, such as being dropped.
- E. The unit malfunctions after hooking up the RCA ports to sources other than phono or line output audio signals.
- F. The unit malfunctions after hooking up the wrong power adapter.

Please note that items A, C, D, E, and F are not covered by the 1 year warranty.

FOR YOUR RECORDS

Please record the model name and serial number of your unit as shown on the back of the case, as well as the dealer from whom you purchased the unit. Retain this information for your records.

Model No: **BCM135** _____

Serial Number: _____

Purchased From: _____

Date Purchased: _____

INTRODUCTION

CONGRATULATIONS you have just purchased the first ever 4 input rack-mountable mix tracker, "**the Beatkeeper™ II**", brought to you by NUMARK. This unit is designed to help you perform beat mixing with greater ease and accuracy. The Numark Beatkeeper™ works for both CD and record turntable setups and it automatically detects the input signal level so you don't have to fool around with extra switches. Providing you with visual cueing, the Beatkeeper™ will greatly improve the quality and precision of your mixes, especially in loud mixing environments or at gigs with 'odd' echoes.

Please take a few moments to familiarize yourself with the BCM135 by reading the following information. **The Numark Beatkeeper™ is not only a new product, but a new kind of product. If you have never used the BEATKEEPER™ we can guarantee you've never used a Dual Audio Synchronized Beat Counter before. Taking a few minutes now will undoubtedly save you time, headaches, and embarrassment while DJing.** If you're the type that has never read instructions before, this manual is designed to give you the basics up front (bold text entries); and for everyone else, there's more detail if you want it following each section in plain text.

PARTS LIST

Before you connect or use your Beatkeeper™, please check to make sure your Beatkeeper™ was shipped with all of the following items:

- (1) Beatkeeper™ II**
- (1) AC Adapter (110V or 220V)**
- (4) Sets of Patch Cords**
- (1) Set of Rack Mounting Hardware (4 screws and 4 washers, may be contained with adapter)**
- (1) Owner's Manual (If you are reading this, it's probably in your hands.)**

FCC NOTES

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

We can not guarantee interference free operation in a particular installation. If the unit does cause interference to any radio or television reception, attempt to reduce the interference by one or more of the following means.

- a) Turn or move the other unit and/or its antennae.
- b) Move this unit further from the effected unit.
- c) Plug the two units into different AC outlets, so that they are on different circuits.

This device also complies with EN55022 Class B radiated and conducted emissions limits. Note from the manufacturer: At the time this product was tested, it was classified as a professional audio product and thus was only required to meet class A emissions requirements. This product has been designed to comply with the more stringent class B emissions requirements for equipment intended for sale to the home audio market, as well as allowing the use of this product in radio installations.

FEATURES

The Beatkeeper™ is more than just a finger tapping, hand-held calculator; it's a rack mountable, beat counting device which actually synchronizes to the music. The Beatkeeper™ allows you to hear, feel, and now see your beat mixes as they occur. Whether you use CDs or are still doing that vinyl thing, bad mixes can be a thing of the past. Now you can mix like a pro all the time, every time.

Automatic Input Adjustment

If you're still using vinyl, you'll be surprised how easy it is now to mix with CDs. The Beatkeeper™ is so versatile, you can use it with CDs, records, or even tapes if you dare. The Beatkeeper™ automatically adjusts its sensing circuitry for each input right when the music starts.

Beat Assist

The Beatkeeper™ is foolproof. If the beat ever stops, the Beat Assist button gets the Beatkeeper™ back on track, quickly and easily with the push of a single button.

Scanning Ranges

The Beatkeeper™ can track any music between 50 and 199 beats per minute. Since most dance music is between 80-150BPM you normally won't need to worry about this special range feature we have provided. Occasionally, however, you may need to track the high speeds of Meringue or Salsa music, or the low speeds of R&B slow jams. For this we've added a BPM select button for three scanning ranges: low for 50-95 BPM, medium for 80-150, and high for 130-199. Just hit the BPM select button to choose which one. The default is the medium range which works for most music used in beat mixing.

Note: the BPM range only affects the BPM number displayed when the Beatkeeper™ is originally looking for the tempo. You can manually set the tempo to anything between 50 and 199 beats per minute regardless of the BPM range selected.

Visual Mixing

Once you've synced the Beatkeeper™ you've opened a whole new dimension in mixing. The Beatkeeper™ has two bar graphs - one showing the tempo difference, and the other showing the beat offset. Now you can see when your mix is on track. If the beats start to drift, you'll be able to easily adjust the music before your audience can hear it. No other beat counter or automatic mixer can give you the power to make a more accurate mix.

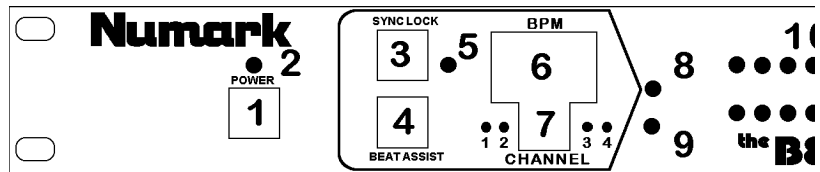
Prepping For A Mix

You may also choose to prep the Beatkeeper™ for an actual mix. To prep the Beatkeeper™, first match the two song's tempos by adjusting the pitch so that the Tempo Difference LED graph displays yellow or green LEDs. Next hit the Cue button of your CD player, or lift your record needle. The red “beat” LED will remain solid alerting you to which input is ready to start. When the music starts again, the Beatkeeper™ begins right on the beat and indicates how well the two songs are synced within seconds.

Syncing To Off Beats

Now if you really want to be fancy, you can actually use the Beatkeeper™ to sync to the off- beats. You can have two songs going “Boom - Cha - Boom - Cha”. Normally, you would sync the “Booms” of both songs (beat-to-beat mixing). But you can also sync the “Boom” of one song to the “Cha” of the other (beat-to-half beat mixing). The Beatkeeper™’s Beat Offset graph will display whichever offset is smaller. This allows the DJ the flexibility to mix with the beat or the off-beat.

FRONT PANEL DIAGRAM



The front of the unit can be divided into five sections. From left to right they are: the power, Channel One, Mixing, Channel Two, and BPM Range Section.

1. POWER BUTTON- turns the Beatkeeper's displays On or Off
NOTE: The Beatkeeper draws power even when turned off. We recommend that you unplug the Beatkeeper for prolonged periods on non-use.

2. POWER LED

OFF- the unit's displays are off
ON- the unit's displays are on

3. SYNC LOCK BUTTON- When an input is not yet set and scanning for the tempo tapping the Sync Lock button once will lock in the music as long as there is a BPM number displayed for the input. When an input is locked in tapping the Sync Lock button tells the Beatkeeper to start scanning for a new tempo again.

4. SYNC LOCK LED

OFF- the respective input is not locked or set to track the music
ON- the respective input is synced and ready to track the music

5. BEAT ASSIST BUTTON- Tapping the Beat Assist button once automatically realigns the downbeat to exactly when you tapped the button. Tapping the beat assist button two or more times also sets the tempo and sync locks the music.

6. BPM DISPLAY-

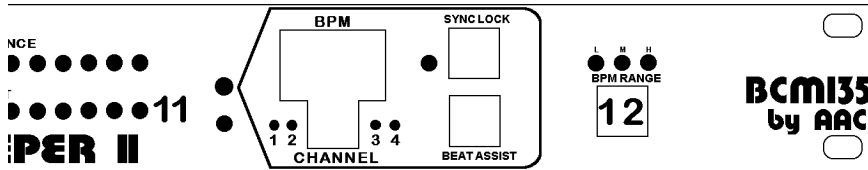
(--)- No audio signal is being processed for this input or the Beatkeeper has not completed tracking the BPM for this input
(NUMBER)- The respective input is currently playing music with this number of Beats Per Minute (as determined by the Beatkeeper)

7. CHANNEL SELECT

1,2,3,4- Choose the respective input by the number of taps applied.

8. DOWN BEAT LED (red)

OFF- the Beatkeeper has not yet matched the beat of the respective audio input
BLINKING- the Beatkeeper has matched this LED to the beat of the respective audio input
ON- the Beatkeeper is waiting for the music to start on the respective input



9. PEAK SOUND LED (green)

OFF- the Beatkeeper is not detecting sound from the respective audio input

BLINKING- the Beatkeeper is detecting 'rhythm setting' sounds from the respective audio input

ON- the Beatkeeper is waiting for the music to start on the respective audio input

10. TEMPO DIFFERENCE GRAPH

OFF- One or Both of the audio inputs are not yet sync locked in

RED LED ON- The audio inputs tempos are not aligned

YELLOW LED ON- The audio inputs tempos are close to aligned

GREEN LED ON- The audio inputs tempos are perfectly aligned

11. BEAT OFFSET GRAPH

OFF- one or both of the audio inputs are not yet sync locked or are not sending an audio signal

RED LED ON- the audio inputs beats are not aligned

YELLOW LED ON- the audio inputs beats are close to aligned

GREEN LED ON- the audio inputs beats are perfectly aligned

12. BPM RANGE BUTTON- Selects the range the Beatkeeper scans to find the tempo of the audio inputs, Low (50 - 95 BPM), Medium (80- 150 BPM), or High (130 - 199 BPM).

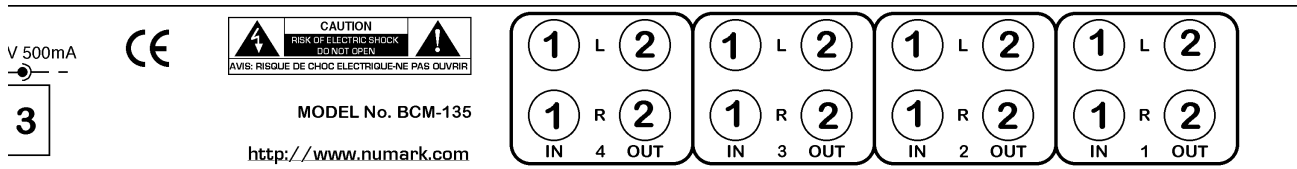
BPM RANGE LEDS

RED LED ON (L)- The Beatkeeper's BPM Range is set to Low. When the Beatkeeper searches for the tempo of an audio input, the Beatkeeper is scanning between 50 and 95 Beats Per Minute

YELLOW LED ON (M)- The Beatkeeper's BPM Range is set to Medium. When the Beatkeeper searches for the tempo of an audio input, the Beatkeeper is scanning between 80 and 150 Beats Per Minute

GREEN LED ON (H)- The Beatkeeper's BPM Range is set to High. When the Beatkeeper searches for the tempo of an audio input, the Beatkeeper is scanning between 130 and 199 Beats Per Minute

REAR PANEL DIAGRAM



The rear panel of the Beatkeeper contains Inputs and Outputs for both Channel One and Channel Two as well as the jack for the power adapter.

WARNING- Use only the power adapter provided with this unit.

1. **Channel INPUTS-** Plug the patch cords from your CD players (or turntables) into these jacks
2. **Channel OUTPUTS-** Attach the patch cords from these jacks to the Input jacks of your mixer
3. **POWER ADAPTER JACK-** Plug the (9V 500 mA) adapter that came with your Beatkeeper into this jack. Note: plugging in any other power adapter or source voids the warranty on this unit.

INSTALLATION

NOTE: For purpose of explanation, 'Source' refers to any CD player, turntable, or line input device (tape deck, etc.) to be used with the Beatkeeper.

- **First locate the output patch cords connecting one of your sources to your mixer. Disconnect the ends that are presently connected to your mixer and reconnect them to the "CH 1" inputs of the Beatkeeper.**
- Repeat the previous step for all other sources you wish to connect.
- **Now using the patch cords provided, connect the outputs of the Beatkeeper to where your sources were originally patched into your mixer.**
- **Next plug the Beatkeeper into a live outlet using the power adapter provided.** *If you are using your Beatkeeper in a mobile setup, be sure that the connection is secure so that it does not become loose during transport due to the weight of the adapter.* Plug the free end of the adapter into the rear panel where the Beatkeeper is labeled "9V 500mA".
- **After you have it all plugged together you will need to mount your Beatkeeper in a secure location.** If you are going to insert your new Beatkeeper into a rack, now's the time (mounting hardware is included with your Beatkeeper). Be sure that the power cords as well as the patch cords coming to and from your Beatkeeper are not tangled or going through an area where they might be pulled out, pinched or melted.
- **Finally, push the power button.** When you have power, the power LED is on, both BPM displays show 2 dashes (--), and the Mid BPM range LED (yellow) will illuminate.

NOTE: If you are installing for turntables, be sure that the ground wires from your turntables are securely connected to your mixer.

OPERATION

BPM Range Select

When the unit is first turned on, the BPM range will default to medium range. Medium range corresponds to 80-150 beats per minute, which is ideal for most dance music. **As a general rule, this section should be left alone except on those rare occasions when you're not mixing music between the 80-150 BPM range.** Press the BPM Range button once to select the high range of 130-199 BPM (for fast Meringue or Salsa music), or twice to select the low range of 50-95 BPM (for ballads, Rap or Reggae).

Channel Selection

When your mixer is first turned on the channels selected will be 1 & 2 respectively. If you wish to track the beat of another channel, tap on the channel select button until the desired input is reached.

NOTE: The Beatkeeper will track the source that is selected with the channel toggle switch.

Syncing Your Beatkeeper

When learning how to use the Beatkeeper, choose some dance music with a hard, steady beat.

Start the music for left channel of your Beatkeeper. When the Beatkeeper has located the beat, the BPM display will illuminate with the music's Beats Per Minute.

You'll notice a flashing green LED every time the Beatkeeper detects a rhythm defining instrument. The Beatkeeper will soon flash a red LED on every beat, the same way you would tap your foot to the beat of the music. The Beatkeeper will display a BPM which will update every five-seconds while scanning. As long as the beat is well-defined the BPM number will equal the beats per minute of the song being played. **Once you see the red beat LED flashing with the beat of the music, press the respective Sync Lock button,** and the Sync Lock LED will illuminate.

Activating the Sync Lock tells the Beatkeeper to stop scanning the music for a different BPM and to start tracking the beat changes of the current BPM as you adjust the pitch of the music. This function is manual to ensure that the Beatkeeper is right on the beat. **Once the Sync Lock LED is on, the Beatkeeper tracks the beats of the music and updates the BPM display on every beat.**

To unlock, simply tap the Sync Lock button once and the Beatkeeper is back in BPM scanning mode.

After syncing an audio input, try speeding up and slowing down the music. You'll notice that the red beat LED will continue to flash on the downbeat, and the BPM number will adjust itself to match the tempo of the music. This indicates that the Beatkeeper is successfully tracking the beat and will continue to do so throughout your mix. If you stop the music you will notice the Beat LED will go solid and the BPM number will remain in memory. Once the music is restarted the Beatkeeper will remember the last tracked rhythm pattern and pick up on the beat right away.

PLAY the music, **OBSERVE** the beat match, and **PRESS** the Sync Lock Button. That's it. If you can do that twice, you can mix with the Beatkeeper.

Beat Assist

Of course all music doesn't have hard, steady beats, and let's face it, sometimes you need the music set up yesterday. For those occasions we have included a Beat Assist Button.

If the Beatkeeper™ is having trouble matching the beat to the flashing red Beat LED, or if you need to sync up Immediately, tap the Beat Assist button 2-8 times as you hear the beat, the same way you would tap your feet to the music. Pressing the Beat Assist Button more than once aligns the Beatkeeper™ to your taps. Note that the Sync Lock LED illuminates, signifying that the Beatkeeper™ is now locked in with the beat. Simply put, if the Beatkeeper™ isn't on track, or you're in a real hurry, you need to press a button twice instead of once. We know it's tricky, but we're sure you can handle it.

If the Beatkeeper™ is synced to the correct BPM but is aligned to the music's offbeat, tap the Beat Assist button with the beat of the music just once and you will have brought the Beatkeeper™ back in sync.

2 Channel Mixing

After you feel comfortable syncing up the Beatkeeper, you're ready to mix. **Mixing with the Beatkeeper has three parts: syncing to the music (which you've done), aligning the tempos, and aligning the beats.** Once these three things are done, you will have a perfect mix. No more guessing, tapping, or embarrassing fades.

Choose another music selection and start it on your right channel. Sync up the first song as described in the last section. With the first selection synced (Sync Lock LED illuminated), sync up the right channel the same way you set up the left.

As the second Sync Lock LED illuminates, a new dimension of DJing begins: VISUAL MIXING.

The bar graphs on the top of the Beatkeeper have now been activated and are updating automatically.

NOTE: In order to perform a mix which is tracked by the Beatkeeper, both channels MUST be synced. This is indicated by the yellow Sync Lock LED being lit for both inputs.

In order to create the perfect mix, your goal is to keep both bar graphs as close to centered (green or yellow) as possible.

First, align the top graph, the Tempo Difference Graph. This graph indicates how close the two BPMs are to each other. If they are exactly the same tempo, the green LED in the middle will light up. If one song is faster than the other, the bar graph will shift towards the faster song. **If the Tempo Difference graph is not centered, adjust the speed of one of the inputs using the pitch control.** For example, if the Tempo Difference graph has a red LED illuminated closer to the right channel of the Beatkeeper, the right channel is faster than the left channel, either slow down the right channel, or speed up the left channel. If the opposite is true, the Tempo Difference Graph has a red LED illuminated on the left channel, indicating the song on the left channel is faster than that the right channel, either slow down the left channel, or speed up the right channel.

The second step involves the bottom graph, the **Beat Offset Graph.** This graph indicates how close the individual beats are. **Both BPMs may be the same but the beats may not be in sync.** This is often described as the "ping-pong" effect. If the beats are matched, the green LED in the middle lights up. **If the beats of one input are earlier than beats of the other input, the Beat Offset Graph will shift toward the song with the earlier beats.**

To align the Beat Offset Graph when using CD Players, adjust the appropriate pitch bend. If you are using turntables, hold or apply pressure to the record/turntable and then release to "shift" the beat.

If the Beat Offset graph is shifted toward the right channel either use the minus (“-”) pitch bend for the right channel CD player (with vinyl, apply pressure to slow the turntable) or use the plus (“+”) pitch bend for the left channel CD player (with vinyl push the turntable ahead).

Intuitively, if either bar graph is shifted towards a channel, this indicates that the song on that channel is “ahead” of the other one. Either the tempo is faster (top graph), or the beats come sooner (bottom graph).

When both bar graphs are in the green you are ready to perform your mix!

Don't forget you can always resync to the beat, if it ever shifts off, by tapping the Beat Assist button.

If the beats start to drift, you'll be able to easily adjust the music before your audience can hear it. No other beat counter or automatic mixer can give you the power to make a more accurate mix!

NOTE: The Beat Offset bar graph either indicates beat to-beat offset, or beat-to-halfbeat offset, whichever is closer. This allows the DJ the option of mixing on the beat or on the half beat.

Multiple Channel Mixing

One exciting feature of your Beatkeeper II is the option to visually beat mix more than 2 sources at the same time. Once you have synced a channel of the Beatkeeper the unit will continue to track it even if you should decide to change channels. Up to all four channels can be in sync simultaneously. By selecting different channels you can cross-compare the mix of any 2 channels instantly.

In order to perform a 3-way mix you first will need to set up a 2-way mix as described in the previous section.

NOTE: Multiple source or “layer” mixes should be performed with a minimum of vocals otherwise the music will clash when mixed for a long period of time.

The next step will be to decide which input channel you would like to use as a reference for beat mixing. **While your 2-way mix is ongoing change the channel, on the side you have not chosen as a reference, to the next song you plan to mix into. Now sync and mix this song like you did for the 2 way mix.** After you have synced up the new song you should continue to check your original mix by switching between channels. When you have properly aligned the new song you are ready to perform a 3-way mix.

To perform a 4-way mix just do the same thing again.

Prepping For A Mix

You may also choose to prep the Beatkeeper for an actual mix. To prep the Beatkeeper, first match the two song's tempos by adjusting the pitch so that the Tempo Difference LED graph displays yellow or green LEDs. Next hit the Cue button of your CD player, or lift your record needle. The red “beat” LED will remain solid alerting you to which input is ready to start. When the music starts again, the Beatkeeper begins right on the beat and indicates how well the two songs are synced within seconds.

Syncing To Off Beats

Now if you really want to be fancy, you can actually use the Beatkeeper to sync to the off-beats. You can have two songs going “Boom - Cha - Boom - Cha”. Normally, you would sync the “Booms” of both songs (beat-to-beat mixing). But you can also sync the “Boom” of one song to the “Cha” of the other (beat-to-half-beat mixing). The Beatkeeper's Beat Offset graph will display whichever offset is smaller. This allows the DJ the flexibility to mix with the beat or the off-beat.

Non-Fading Mixes

Sometimes described as a “slam” mix, a non-fading mix is defined here as a mix during which the two songs do not overlap, yet the second song seems to be a continuation of the first. **To do a non-fading mix, you need to first, sync both the Channel One and Channel Two inputs.**

For the song that will be starting (as the other concludes) do the following:

1) Line up the beat using the Search or Cue button on the CD mixer (with vinyl, position the record player needle) Try to position the starting point as close to the beginning beat as possible. If you used the Sync Lock button, wait a few seconds until the Beat LED (red) stops blinking, indicating the Beatkeeper™ is ready to resync to the downbeat.

2) Press the play button to make sure you're starting at the right point. (with vinyl, release or start the turntable) Confirm the BPM and downbeat are correctly synced before step 3. *If you used the search button on a CD player, the repetitive beats may have thrown off the BPM on the Beatkeeper™. This will usually resolve itself within the first few seconds of resyncing.*

3) Press the Cue button (On vinyl, reposition the needle). Again, wait a few seconds until the beat LED stops blinking.

4) Start the music exactly where you want it to mix.

If your mix is such that the downbeat isn't strong enough, the beat LED might start tracking an offbeat. Simply tap the Beat Assist button once to resync the beat while you're mixing.

Beat mixing is a skill that must be practiced in order to be proficient at it.

3 and 4-way mixing can be a very difficult skill to master.

Visual mixing with the Beatkeeper gives you the tools to help you do this, but nothing replaces practice.

TROUBLESHOOTING

T1 The Beatkeeper™ doesn't come on automatically when I turn on the power to my rack.

We chose to use an electronic momentary switch for the Beatkeeper™'s power switch. This choice was made because this type of switch is more durable than the old fashioned push-and-retain switches. As a result, the Beatkeeper™ does not remember if it was on or off when the power was "cut". The Beatkeeper™ defaults to off when initially plugged into a live outlet.

T2 The Power LED does not come on when I press the power button.

Make sure that the 9V 500mA power adapter supplied with your unit is plugged into the correct AC receptacle (110V or 220V), and that the plug is plugged into the rear of the Beatkeeper™ in the jack labeled "9V 500mA". If your rack has a main power switch controlling the power receptacle, make sure this is turned on and the main cord is plugged into a working outlet. Also, if you are using a mobile setup, make sure that the power supply has not become loose due to transporting. Once everything is plugged in, hold the power button on your unit down for at least a quarter second to turn the power on.

T3 The BPM goes way off when using the search button on my high tech CD mixer.

Some high tech CD mixers have a cueing feature which allows you to cue precisely to an exact spot in the music so you can slam mix. The only problem is that this mode repeats the first beat of the music at a rate which is unrelated to the actual BPM of the music. As a result, the BPM goes off track. The best way to avoid this is to restart the music after a search, make sure the Beatkeeper™ is resynced to the music and then press the Cue button on the CD player. The Beatkeeper™ will remember the BPM and track the music once it starts.

T4 The Beatkeeper™ doesn't resync to the downbeat of the music when the music restarts.

Either the downbeat isn't strong enough to be detected, or the music was started well before a strong downbeat. You can easily resync to the downbeat by tapping the Beat Assist button once with the beat. *Alternatively you can cue the music to a strong downbeat so that the Beatkeeper™ starts on this downbeat.*

T5 Either the BPM display is blank, or it is noticeably off.

This is common at the beginnings of songs where the beat is not well defined. To sync simply tap the Beat Assist button two or more consecutive times on the downbeat. The Sync Lock LED turns on automatically, indicating that the Beatkeeper™ is now tracking the beat of the music.

T6 The BPM display is correct, but the beat LED isn't flashing on the downbeats of the music.

If this happens tap the Sync Lock button (turning the Sync Lock LED on) and tap the Beat Assist button once to make the Beatkeeper™ track the downbeat. You can also use this to force the Beatkeeper™ to track an offbeat for more advanced mixing.

Alternatively you may sync manually by tapping the Beat Assist button 2 or more times on the beat.

T7 I have sound coming out of my mixer, but the Beatkeeper™ is not doing anything.

Check to see that the RCA jacks on the back are attached as described in the Installation section of this manual.

*** Note that if you hook up an input of the Beatkeeper™ to a mixer output you will only be able to sync what can be heard on the mixer output.**

If the connections are all correct and you are using a CD player or a record player with line inputs allow time for a solid drum or bass beat to become audible in the music.

T8 The Beats per minute number seems to jump all over the place.

The Beatkeeper™ is analyzing different sections of the music to find the BPM. If there is a temporary suspension of a distinct beat or if the rhythm is too complex, this number may not follow the actual BPM.

a) You can wait for a passage of music with a steady beat for a more accurate BPM indication.

b) Hit the Sync Lock button once the red beat LED starts following the beat

or **c)** Tap the Beat Assist button at least twice along with the music beat.

Either method (b or c) will cause the Sync Lock LED to turn and lock on, indicating that the Beatkeeper™ is now tracking the music.

T9 The Beatkeeper™ won't work with records once I hook it up to CDs.

The Beatkeeper™ is designed to work with two CDs, one record and one CD, or two record inputs. If you switch an input while the unit is on, the Beatkeeper™ cannot distinguish between a record and a CD. When first turned on, the Beatkeeper™ assumes a record is hooked up to each input. However, if the signal level increases dramatically, the unit will adjust to compensate for the stronger signals of CD players until the Beatkeeper™ is turned off. If you wish to change from CDs to records, simply turn the unit off and then back on.

T10 It takes too long for the Beatkeeper™ to find the beat on its own.

To speed up the BPM detection process, tap the Beat Assist button at least twice. At this point, the Beatkeeper™ will turn on the Sync Lock LED, immediately providing a BPM estimate, while resynchronizing to the beat you tapped.

T11 I hit the Sync Lock button, but the flashing red beat LED doesn't seem to follow the beat.

This means you hit the Sync Lock button before the red beat LED actually started tracking the tempo. You can easily fix this by tapping the Beat Assist buttons as many times as necessary to resync to the beat of the music.

T12 The beat tracking suddenly gets off track.

This may happen if the music has several beats missing, or the rhythm suddenly becomes extremely complex or variable. You can either resync the beat using the Beat Assist button or wait a few seconds for the Beatkeeper™ to automatically recover.

T13 The Beatkeeper™ seems to track the music for a little bit right after using the Beat Assist, and then drifts off.

This could be one of two things:

a) The Beatkeeper™ is averaging the time between each of your Beat Assist button taps. If the first tap is way off, the tempo will be way off.

b) The Beatkeeper™ was synced during a section of the music without a well defined beat.

In either case, the problem can be overcome by waiting a few seconds before preceding to tap the Beat Assist button two or more times with the beat of the music.

T14 Either the BPM number or red beat LED doesn't track the music fast enough while using the pitch bend on my CD player (or speed control on my record player).

You may have exceeded the tracking capability of the Beatkeeper™. The Beatkeeper™ can normally handle speed changes of +/- 5% per beat if the music's rhythm is steady. If the rhythm is complex (or some of the beats are missing) the Beatkeeper™ will require more gradual changes to track properly.

** You can also manually resync the beat using the Beat Assist button.*

T15 Neither the Tempo Difference graph or the Beat Offset graph seem to work.

The bar graphs are only operational when both Sync Lock LEDs are illuminated. This ensures that you don't inadvertently try to mix two songs without their tempos being synced.

To make the bar graphs operational, either:

a) Wait for the red beat LED's to follow the music and tap the respective Sync Lock button

or **b)** Tap the Beat Assist button twice with the beat of the music.

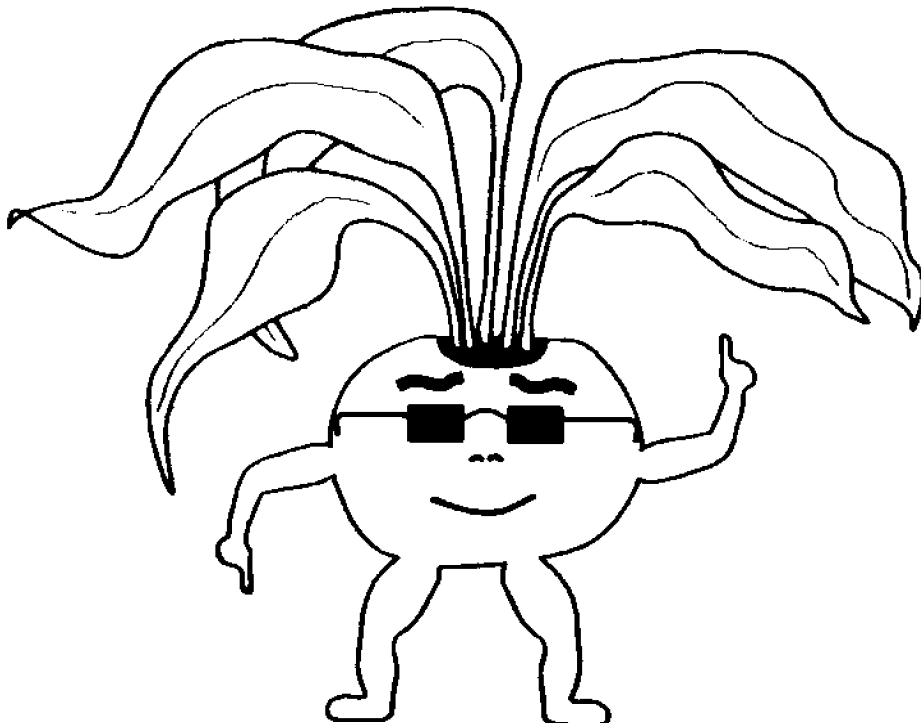
Either method will cause the Sync Lock LED to illuminate.

T16 The Beat Offset graph is not illuminated, but the Tempo Difference graph is.

This indicates that one or both of the inputs are not playing. The Beat Offset graph turns off when there are no beats available for tracking on either or both inputs. The graph automatically restarts once both inputs become active again.

T17 The Beat Offset graph has the green LED illuminated when the red beat LEDs are a half beat off from each other.

This indicates that the songs are synced at their half beats. With rap music and some house, mixing is often done on the half beats rather than the down beats themselves. The Beatkeeper™ intentionally syncs this way to give the DJ the option of beat-to-beat mixing or beat-to-halfbeat mixing.



SPECIFICATIONS

INPUTS & OUTPUTS

Sensing Levels Phono or Line In, Auto Sensing

Sensing level switch threshold	100mVAC nominal
Impedance	660kOhms +/- 5%
Input - Output resistance	<0.1 ohms

OPERATIONAL

Scanning Mode

BPM ranges in scanning mode:

low	(L) 50-95BPM
medium	(M) 80-150BPM
high	(H) 130-199BPM

Sync Lock Mode

BPM update rate	Every beat
BPM accuracy	+/- 1 BPM
Bar graph update rate	Every beat
Tempo difference graph resolution	+/-1 BPM per LED, green is +/-2 BPM
Beat offset graph resolution	+/-7.5msec per LED, green is +/-15msec

Beat Assist Button

Minimum time between consecutive taps	0.3 seconds
Maximum time between consecutive taps	1.2 seconds
Consecutive taps averaging for BPM	Last 2 to 8 taps

GENERAL

Dimensions	19" wide x 1 3/4" high x 2 1/8" deep
Weight	4 pounds
External power adapter	110VAC, 11W input; 9VDC, 500mA out USA (220VAC, 11W input, 9VDC, 500mA out Europe)

WARRANTY INFORMATION

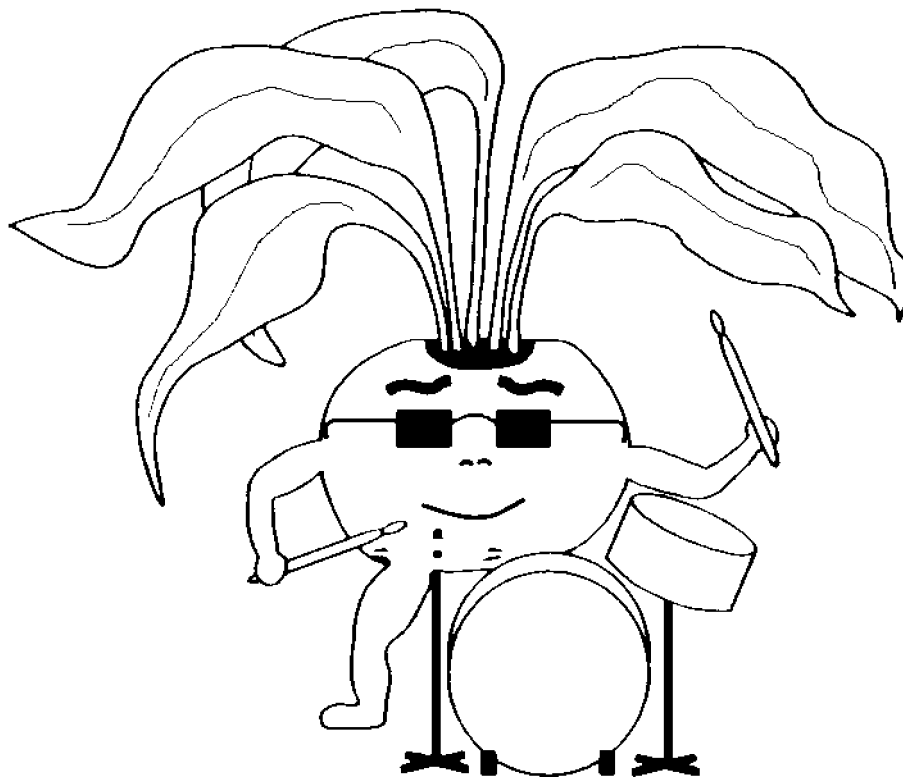
NUMARK provides a 1 year limited warranty on the BCM135 covering all manufacturer's defects effecting the performance of the unit.

The following are excluded from the manufacturer's warranty:

(1) Insignificant defects, to include but not limited to: minor scratches, minor mechanical or electrical maladjustments, or random manufacturing errors that will not show up as performance defects; and

(2) defects discovered in any product that has been modified, altered, or enhanced without NUMARK's prior, written consent.

All repair work not explicitly covered by this warranty will be billed to the customer.



Numark

Professional Disc Jockey Products

SERVICE INFORMATION

In the unlikely event of a product defect or if your equipment ever needs factory service, please call (401) 295-9000 and request a return authorization number. Packages sent without an RA number will be refused. Send the product to be repaired in its original packaging by insured prepaid freight to the address below. We cannot guaranty the safety of your equipment if it is not properly packed.

If the product is no longer covered by warranty we will still repair the unit, however you will be subject to charges for parts and labor. We will contact you by phone or fax to inform you of the charges and you can prepay by check or have your repaired unit returned to you C.O.D. (including shipping charges).

**NUMARK INDUSTRIES, INC.
11 Helmsman Road
North Kingstown, 02852
U.S.A .**

Attention: Service Department

Telephone:(401) 295-9000

Fax: (401) 295-5200