WENDELjr

PERCUSSION REPLACEMENT SYSTEM

SYSTEM OPERATION

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Roger Nichols 5210 Pine Hill Road Nashville, TN 37221 (615) 646-5659

WARNING

POWER REQUIREMENTS:

Power requirements for electrical equipment vary from area to area. Please insure that your machine meets the power requirements for your area. If in doubt, consult a qualified electrician.

120 Volt 60 Hz for USA and Canada 220 Volt 50 Hz for Europe except UK 240 Volt 50 Hz for UK and Australia

WHAT YOU SHOULD KNOW TO PROTECT YOURSELF AND YOUR WENDELjr.

Watch out! You might get an electric shock.

- ...Never touch the plug with wet hands.
- ...Always pull out by the plug and never the cord.
- ...Only let a qualified professional repair your WENDELjr.

Touching the internal parts of your WENDELjr may cause an electric shock.

- ...NEVER let a child put anything, especially metal, into your WENDELjr.
- $\dots \mbox{Use}$ only domestic AC power sources. Never use DC power.
- ...If water is spilled on WENDELjr, disconnect it and call your dealer.
- ...Place WENDELjr on a flat solid surface.
- ...To avoid damaging the finish, never use denatured alcohol, paint thinner or other similar chemicals to clean WENDELjr.

CAUTION!

To reduce the risk of electric shock, do notremove cover or bottom panel.

NO USER SERVICEABLE PARTS INSIDE.

Refer servicing to qualified service personnel.

Note 1:

Because of the high quality cartridge connector used in WENDELjr, insertion and retrieval of cartridges may seem a little stiff in a new WENDELjr. To facilitate easier removal of the sound cartridges, move them from side to side while pulling the cartridge out of the WENDELjr unit.

Note 2:

WENDELjr cartridge proms are in no way compatible with the proms available for other digital percussion devices. Any attempts to use one of these other proms in a WENDELjr will not only void your warranty, but may severely damage your WENDELjr and/or the amplifiers through which you are monitoring your WENDELjr.

Note 3:

The part you've been waiting for. Your WENDELir is warranted to be free from defects workmanship in during manufacturing for a period of ninety (90) days from the date of original purchase. Any defective WENDELjr will, during this time period, be repaired or replaced by WENDEL LABS LTD. at their discretion. Proof of purchase and а authorization number are required to return your WENDELir for service. Items shipped to WENDEL LABS LTD. that do not bear a return authorization number will refused.

OPENING YOUR WENDELJr WILL VOID YOUR WARRANTY!!

No other warranties are offered either expressed or implied, including, but not limited to, warranties of merchantability and fitness for a particular purpose. The entire risk as to the quality and performance of this product is that of the user.>

In no event will WENDEL LABS LTD. be liable for any damages, including any lost profits, or other incidental or consequential damages arising out of the use or inability to use this product even if WENDEL LABS LTD. has been advised of the possibility of such damages, or for any claims by any other party.

COPYRIGHT NOTICE!

All sound cartridges are Copyright (c) 1985 WENDEL LABS LTD. All rights reserved. The actual PCM data in each WENDELir sound cartridge has bee filed with the U.S. Copyright office. These sound cartridges may be used only in a WENDELjr or other WENDEL LABS LTD. product. You may only transfer these sounds to audio tape for use by you in the context of a musical recording. You may not transfer or copy any of the data contained in a sound cartridge for any other persons to use for any reason whatsoever. Your use of and the WENDELjr WENDELjr sound cartridges constitutes your acceptance of this agreement not to copy or allow others to copy in any form human or machine readable, and you further agree that to do so would cause great harm to WENDEL LABS LTD. WENDEL LABS LTD. will seek punitive damages toward anyone found violating this limited license to use the WENDELjr sound cartridges. So there!

WENDEL has played the original drum tracks, replaced drum tracks or added percussion instruments for the following artists. WENDEL's first performance was on the STEELY DAN "GAUCHO" album. WENDEL 's first gig was playing drums, percussion and sequencing synthesizers on "HEY NINETEEN", in December 1979.>

WENDEL CREDITS

(Partial list)

STEELY DAN
DONALD FAGEN
KENNY ROGERS
STEVIE WONDER
LEO SAYER
AL JARREAU
JOHN DENVER
JOE COCKER
CRUSADERS
DIANA ROSS
TEMPTATIONS
KASHIF
DURAN DURAN
TOTO

MILES DAVIS

JAY GRAYDON **NEIL YOUNG HUEY LEWIS** DAVID FOSTER DE BARGE ROBBIE BUCHANAN **CONWAY TWITTY** OAK RIDGE BOYS PINK FLOYD DAVID LEE ROTH UNIVERSAL STUDIOS JOHNNY CARSON SHOW **EDDIE MURPHY** JACK MACK & THE HEART ATTACK **BRUCE WILLIS HEART** SUPERTRAMP WENDY & LISA **BELINDA CARLISLE GEORGE BENSON** PAUL SIMON CHRISTOPHER CROSS **BRUCE HORNSBY REO SPEEDWAGON** STEVE WINWOOD FRANK SINATRA **ROD STEWART** STARSHIP Z. Z. TOP AMY GRANT LEE GREENWOOD WILLIE NELSON JOHNNY CASH CHRIS CHRISTOPHERSON **BANGLES DWIGHT YOKUM ROSANNE CASH** RODNEY CROWELL INXS CHINA CLUB

PAUL SIMON MARYLAND SOUND

DESCRIPTION:

WENDELjr is NOT another drum machine. WENDELjr is a state of the art, digital, percussion sound replacement device. That is, the basic function is to replace the horrible drum sounds produced by any 'drum machine', and replace drum sounds already recorded on tape, whether they were produced by a machine or a real drummer.

There is no need to use pre-delayed triggers with WENDELjr's trigger input. The trigger response time is so quick (total trigger delay does not exceed 32 microseconds), that in many cases the new drum sound may appear as if it were happening early. In addition to the ultrafast triggering, the drum sound can be tuned over a 2 octave range from the front panel control.

WENDELir has the unique ability to track drum fills and complex patterns. When a live drummer plays a flam or fast fills on the snare drum, he does not use just one hand to hit the drum, he uses both hands. Each hand strikes the drum head in a slightly different place, at a slightly different angle and intensity. These two beats in a row, therefore, do not sound the When WENDELjr detects the same. difference in timing which represents the drum fill, it switches to an alternate drum sound. The difference in quality between a WENDELir snare drum and a snare drum from any other drum machine is so drastic, that many times just replacing the snare drum will make the entire drum kit sound real.

How the Sounds Were Recorded:

WENDELjr's drum sounds are 16 bit sounds sampled at 50 kHz. None of the sounds available have ever been on a piece of (excuse my language), analog tape. The drums were recorded with no equalization, on a 3M Digital Mastering System at the 50 kHz sample rate. Then, through a special interface, they were transferred, in the digital domain, into a 16 bit computer

system and stored temporarily on hard disk. The exact beginning and length of the sound was determined, at which time the sound was put back in the computer and tested to make sure that there existed no delay between the trigger and the beginning of the sound. After everyone was satisfied that the editing was correctly performed, it was transferred to the EPROMs that are in the WENDELjr cartridges. When the sound is played back in WENDELjr, it is the only time the sound has been in the analog domain since it was recorded on the digital machine.

The sounds recorded for WENDELir are not chopped off at the end. The natural decay of the drum is totally preserved in the memory chips. All drums are recorded at the full 50 kHz sample rate, providing more than 92 db of dynamic range and full 20 kHz bandwidth. Even low toms and kick drums are recorded at this sample rate. It took more than 40 hours in the studio to come up with the snare and kick sounds that are supplied as the standard sounds that come with WENDELjr. Special attention was paid to high fidelity. The snare contains all of the basics for most of your snare drum requirements. Full rich bottom end, pleasant tone, crisp snares, all blended to allow the WENDELjr user to equalize or process the sound to fit any rhythm track.

As with all sounds available for WENDELjr, the fidelity was achieved by recording with no equalization. The sounds were obtained by changing microphones, replacing drums, drum heads,kick drum beaters, whatever was necessary to make it sound right without touching the EQ knob.

Kick drums are recorded and transferred with full 20kHz bandwidth. The first cycle of a kick drum contains information typically around 18kHz. This contributes to the tightness, the firm attack of the kick drum sound. All of the spectral range is there. Just grab for what you want. As with the snare drum, the kick drum sound is not chopped off at the end. It is allowed to decay naturally ---- no matter how much memory it takes.

Some of the sounds require a fade at the end because of low level room noise and microphone noise. This fade is performed in the digital domain, and is started after

the signal has decayed into the noise floor. But that's all that was done to the sounds. We wanted to leave the EQ up to YOU! Think of WENDELjr's output as a good mic in the right place on a good sounding drum.

The phrase "Realer then real" comes to mind, but I promissed that I would not use it in this manual.

Digitally Faded Sounds:

Because of the amount of memory it takes for sounds such as crash and ride cymbals, we have produced some digitally faded versions of them. These "DF-Sounds" are faded in the digital domain to fit in one cartridge instead of two, for those persons who do not need the full eight to ten second decay present in the longer version.

Tech Info:

Drum sounds in commercially available drum machines are usually contained in a 2732 or 2764 EPROM. This is a total possible number of samples of 4096 or 8192 8 bit samples. A WENDELir snare drum consists of 32,768 16 bit samples. A WENDELjr ride cymbal consists of 913,408 16 bit samples or 14.6 Megabits of memory for a single sound. A ride cymbal with nearly 10 seconds of natural decay. This means that WENDELjr samples are at least 6 times longer, and have 64 times more dynamic range than a companded 8 bit sound. The signal to noise ratio is also 64 times better, which means that a WENDELir snare, kick, tom, ride cymbal, etc. will decay into pure quiet and not have to be gated because of unwanted hiss.

CONTROLS:

On the front panel of WENDELjr you will find the following controls:

1: Manual Trigger

This push-button is for manually triggering the sounds in WENDELjr. It's primary function is to allow you to audition the sound placed in the cartridge slots. If sound comes out when you hit this button, but does not come out when being externally triggered, then something is not connected properly to the trigger input. This button is active at all times in addition to the rear panel trigger input. This allows the playing of additional beats while WENDELjr is being externally triggered.

Holding the manual trigger button in the depressed position will inhibit any external trigger. This can be useful when you wish to ignore trigger signals up to a predetermined spot.

2: Trigger Sensitivity

Clockwise rotation of this control increases the sensitivity of WENDELjr to external triggers. The LED above the knob will light when an input trigger exceeds the threshold setting and the ignore LED is off. Because the WENDELjr trigger is so fast, you may need to lower this setting to make the triggered drum appear to happen later.

3: Ignore Window

As the Trigger Sensitivity is increased, there will be a tendency for WENDELjr to re- trigger. This is because a slowly decaying sound will remain above the threshold for a long period of time. Clockwise rotation of this control will mask these re-triggers. With this control set on the sensitive side, counter-clockwise, a snare drum flam would be played with each trigger instead of a single hit. When set in the clockwise direction, it is possible to skip triggers so that WENDELjr will play every other beat. This means that you could, with one 1/8th note click, put down the entire drum part by ignoring unwanted trigger pulses. Remember, this control is a time constant. If you are missing a trigger, then turn the control counter-clockwise to shorten the ignore time.

4: Alternate Window

This control is the hardest to get the hang of. This control sets a time window during

which a trigger received will cause WENDELjr to "alternate" sounds. This is used during drum fills or pushed beats to accent the beat. A trigger received during this window will always switch tuning settings. Whether or not it switches drum sounds depends on the position of the display above cartridge select switch.

If you want to take advantage of this feature, then turn the control clockwise until at each trigger, the LEDs above each tuning knob light alternately. Now turn the control back counter- clockwise until only the LED above the left tuning knob stays lit. At this setting, WENDELjr will put out one drum sound at one tuning until a quick trigger is encountered. When that happens, WENDELjr will switch to the tuning of the right tuning knob. If the cartridge select switch is in the "ALT" position, then the sound in the "Cart 2" cartridge slot will be output. If the cartridge select switch is in either the "1" or "2" position, the sound will not switch, but the tuning will alternate between the settings of the left and right tuning knobs.

5: Tuning A

Adjustable tuning for either cartridge "1" or the first sound during a trigger sequence. The range is approximately two octaves. When the index pointer on the knob is straight up (12:00 position), the sample rate is 50kHz and the sound will be played back exactly as sampled.

6: Tuning B

Adjustable tuning for either cartridge "2" or the sound produced if a trigger is received during the Alternate Window. If the cartridge select switch is selected to "1", then the "Cart 1" sound will be the only one played. The "B" tuning will be in effect during alternate beats of a drum fill.

7: Cartridge Select

This is a three position switch. When the LED labeled "ALT" is lit, the "1" cartridge will be the primary sound being output

during a trigger. If another trigger appears during the "Alternate Window", then the sound in cartridge "2" will be output. As long as new triggers are received within the "Alternate Windows", the sounds being output will alternate between cartridge "1" and cartridge "2". The first trigger received while the "Alternate Window" LED is off, will always output cartridge "1".

When selected to "1", cartridge "1" will always be the sound output. Tuning will continue to alternate during the "Alternate Window", but only one sound will be output.

When selected to "2", cartridge "2" will always be the sound output. Tuning will continue to alternate during the "Alternate Window", but only one sound will be output.

8: "1" Cartridge Slot

This is the slot that will contain the first sound to be output during a sequence. If there is to be no cartridge in slot "1", then the Cartridge Select Switch must be switched to "2".

9: "2" Cartridge Slot

This is the slot for the alternate sound. This will be the second sound produced during an "Alternate Window" if the Cartridge Select Switch is in the "Auto" position. It will be the only sound output if the Cartridge Select Switch is in the "2" position. It is ok to store a spare sound in this slot. If you do not want this slot to be triggered, then just turn the Cartridge Select Switch to the "1" position.

There are a couple of special cases when it comes to properly placing cartridges in their slots. The first case is when two sounds come in one cartridge. Examples of this are a left and right hand hit of one snare drum, or the kick and snare combination cartridge that came with your WENDELjr. If there is a cartridge already in the "Cart 2" slot, then it should be removed. This cartridge will behave as though it was two separate cartridges. The first sound being in the "Cart 1" slot, and

the second sound being in the "Cart 2" slot. As in the case of the "Kick/Snare" cartridge, if you want to hear only the kick drum then the "1" must be lit above the "Cart Select Switch". If you want to hear just the snare, then the "2" must be lit above the "Cart Select Switch". If "Alt" is lit above the "Cart Select Switch", triggers that would cause a tuning switch will also switch between the two sounds in the cartridge. In this example, the kick and snare. If the DUAL SOUND CART is placed in the "CART 2" slot the sounds will appear in the reverse order.

The second special case when a sound is so long that it will not all fit in one cartridge. In this case the second half of the "LONG SOUND" will be placed in the "Cart 2" cartridge slot. WENDELjr knows whether the second slot contains part of a "LONG SOUND" and will behave as if the whole sound is in the "Cart 1" slot. When using "LONG SOUNDS", the Cartridge Select Switch will be disabled.

REAR PANEL JACKS

10:Audio Output

This is where, as if by magic, the drum sounds come out of WENDELjr. The output may be connected to the line input of an audio console, or directly to the input of a tape machine. It is desirable to adjust the levels going into the tape machine with a peak indicating meter. Transient response of percussion devices may be 10 to 20 dB above the level indicated on a normal VU meter.

11:Audio Trigger Input

Audio signals from a tape machine, console feed, drum machine, drum pad, or just about anything you could imagine goes in here. The trigger sensitivity control on the front panel controls the level at which WENDELjr will start playing it's drum sounds.

The polarity of the signal does not matter. WENDELjr's trigger circuit looks for a signal rising either way from zero. Normal precautions, however, should be

maintained. It would not be wise to connect the input directly to a 110 volt AC receptacle, or with jumper cables to your car battery. I am not saying that it would hurt WENDELjr, but it might void your automobile warranty. If you treat WENDELjr's input as you would any other piece of studio rack gear, there will be no problem. Input impedance is 10k ohms.

12:Wendel system interface

This multi-pin connector provides the interface between WENDELjr and other Wendel Labs products such as the dynamics and MIDI interface, the trigger delay option and the sampler. When you receive your unit, there should be a jumper wire inserted in this connector. The unit will not operate without this jumper in place. The jumper should only be removed when necessary to plug in the interface cable to other WENDEL products.

The WENDEL BUSS connector may be used to measure the clock rate of WENDELjr by connecting a suitable frequency counter. The read out will be directly in sample rate. The sample rate displayed will be that of the tuning knob that has the LED above it illuminated. This allows for very accurate position recording of the tuning knobs on the front panel. (The very center pin of the DIN connector is ground. Looking at the rear of the WENDELjr unit, the clock appears just to the left of the jumper wire that is inserted into the DIN connector.)

13:Rear Panel Logo

The wording on this logo must be memorized by every WENDELjr owner. The Wendel Labs van may stop you on the street in Hollywood or on the beach in Maui and ask you to recite the logo information and your WENDELjr serial number. Failure to do so correctly will result in an increased probability of being molested by a deranged Pygmy.

EXAMPLES OF USES

1: Kick drum replacement

First, some vital information about what makes a real kick drum sound like a real kick drum. When the drummer playing the kick drum hits it harder, it is higher in pitch. This means that there will be a slight change in the tuning between the regular kick drum pattern and the accents played by the drummer.

So, to make the WENDELjr sound most realistic, proceed as follows:

Place the cartridge containing the kick drum in the "Cartridge 1" slot. Push the "Cart Select" button until only the green LED labeled "1" is lit.

Send the trigger source into WENDELjr. Set "Ignore Window" and "Alt Window" at approximately the 10 o'clock position. Turn the "Trigger Sensitivity" clockwise direction until the LED above this control starts to flash and the kick drum sound comes out of WENDELjr's output jack. Listen to both the original trigger source and the kick drum coming out of WENDELjr to make sure that they are coincident. If the WENDELjr kick drum is late, then turn the "Trigger Sensitivity" control in a clockwise direction. If the WENDELjr kick drum sounds early, then turn the "Trigger Sensitivity" control counterclockwise direction. If you start getting false triggers from WENDELjr, then turn the "Ignore Window" control in a clockwise direction until the multiple triggers stop.

If the kick drum pattern contains accents, that is beats that fall on the eighth note before one, or any other pickups, then we can try out the alternate tuning mode.

Turn the "Alternate Window" control in a clockwise direction until the LEDs above the tuning controls alternate with each hit of the kick drum. Now turn the control back in the counterclockwise direction until all of the kick drum beats light up the LED above the "Tuning A" control, except the kick drum on the pickup. The kick drum pickup

to the downbeat should now be causing the LED above the "Tuning B" control to light.

At this point, start playing with the "Tuning A" control to set the basic pitch of the kick drum. After that is set, then adjust the "Tuning B" control until the kick drum pickup is tuned just slightly higher than the beats using "Tuning A". Play around with these settings. Experience derived from experiment will yield the best results.

2: Snare Drum Replacement

Replacing the snare drum is done the same as the kick drum replacement for one snare drum sound. If you have obtained the "SNARE PAIR" optional drum cartridge, then you have the right and left hand hit of the same snare drum. Place the cartridge in cartridge slot "1" and press the "Cart Select" button until the yellow LED labeled "ALT" lights up. You will notice at this point that whenever the tuning changes between "A" and "B", that the cartridges also switch between "1" and (The green LEDs above the "Cart Select" button display which cartridge is being played.)

Now, whenever a snare drum fill comes along, the sounds will alternate between the left and right hit of the snare drum, just like a real drummer might do it. (Unless he only has one hand, or is Bernard Purdie with three hands.)>

WENDELjr CARTRIDGES

It must be kept in mind that because of the high resolution and sample rate used for the WENDELjr SOUND CARTRIDGES, that a great deal of memory is required to store them. The long ride cymbal in an -H- SOUND CART required 512 kilobytes of memory. An -A-SOUND CART and the DUAL SOUND CART requires 64 kilobytes of memory. This is the smallest memory increment used for sound storage.

There are three types of SOUND CARTRIDGES. The DUAL SOUND CART, the SINGLE SOUND CART and the LONG SOUND

CART pair. Each cart is used in a slightly different manner.

DUAL SOUND CART

The dual sound cart is any cart that contains two sounds in one cartridge. This includes the HEART KICK-SNARE that comes with the WENDELjr. This cartridge acts as though there was a separate cart for each sound, and one cart was placed in each slot in the front of WENDELjr. When a "DUAL SOUND CART" is placed in slot 1, the first sound will appear when cart 1 is selected, and the second sound will appear when cart 2 is selected. When the dual sound cart is placed in slot 2, however, the sounds appear reversed. The second sound will appear when cart 1 is selected, and the first sound will appear when cart 2 is selected. This allows the order in which the sounds are played to be reversed. Example; a "DUAL SOUND CART" contains two cow bell sounds. The first sound is that of an open cowbell and the second sound is of the same cow bell, but muted. When the cartridge is placed in slot 1, the open cow bell would be the main sound and the muted cow bell would play the accents. When the cartridge is placed in slot 2, the muted cow bell would be the main sound and the open sounding cow bell would be the accents. DO NOT PLACE ANOTHER CARTRIDGE IN THE OTHER SLOT WHEN USING A DUAL SOUND CART. **DAMAGE** WILL OCCUR TO YOUR CARTRIDGES.

SINGLE SOUND CART

The single sound cart contains only one The memory requirements, and therefore the length of the sound, determines the letter used to designate the sound such as -A- SOUND CART. letters are -A- through -D- for a single sound cart. A SINGLE SOUND CART contains a sound which requires too much memory to fit in a dual sound cart. The single sound cart may be placed in either slot, and sounds when that slot is selected by the "CART SELECT SWITCH". Two single sound carts may be used at the same time, although the sound being played will depend on the position of the "CART SELECT SWITCH".

LONG SOUND CART

This is a pair of cartridges that make up one sound. The letter designation for these carts are -E- through -H-. These sounds ar so long that they will not fit in one cartridge shell. The cartridge marked "SLOT 1 ONLY" must be placed in the left cartridge slot, and the cartridge marked "SLOT 2 ONLY" must be placed in the right cartridge slot. The "CART SELECT SWITCH" will become inactive, but the LEDs above the switch will indicate which cartridge is actually producing the sound.

The following pages contain descriptions of some of the available sounds, with the length designation for each one.>

CARTRIDGE DESCRIPTIONS

SN-1B (-A- SOUND CART) (Optional)

The SN1-B cartridge is a deep ballad type snare drum. Plenty of low end, lots of crisp snares. If the amount of tone contained in this snare bothers you, then notch out 6db or so at 320 Hz.

KH-2 (-A- SOUND CART) (Optional)

Kick drum two. A tight kick drum with plenty of snap on the leading edge. Don't let this one fool you. There is tons of bottom end in this kick drum. A lot of it is below 100 Hz.

SN-4,SN-1 (DUAL SOUND CART) (Optional)

This is the right-hand left-hand snare pair that was discussed in the operations section of the manual. This snare drum has more crack to it and lacks the depth of the ballad snare drum. The snares may be used separately if desired.

HeartK, HeartSn (DUAL SOUND CART) (Included) A kick drum. The best all around kick. A little more puff to this one than KH2, but not something to sneeze at. Between this one and KH2, all of your kick drum requirements for the next decade should be covered.

This is the stock snare drum that comes with WENDELjr. A nice cross between SN-1 and SN-1b. This snare cost more than your WENDELjr. I'm glad I don't have to beat on the real one any more.

HH-2a,Ho1 (DUAL SOUND CART) (Optional)

Closed hi-hat. Nice hi-hat. Cute hi-hat. The open hi-hat, when used in conjunction with the closed hi-hat, HH2a, you can track and replace open-closed hi-hat patterns that were generated by a drum machine.

Ride Cym-1 (-H- LONG SOUND) (Optional)

This two cartridge set is a long sound. That is, the sound was too long to fit in one cartridge, so we had to put it in two cartridges. CYMA must go is slot "1". CYMB must go in slot "2". The function of the "CART SELECT" switch will be locked in the "ALT" position. The "1" and "2" lights above the cart select switch will indicate which one of the cartridges is producing the sound as it is being played.

Tom-2 Tom-3 (-D- SOUND CARTS) (Optional)

A-typical tom tom. Notice that one hi-fi recorded tom can be used for many tom applications. Tuned down low, it sounds like a great floor tom. Tuned up high, it sounds like a little tom, not like a mickey mouse rendition of a larger tom.

Xplo-86 (-C- SOUND CART)

(Optional)

Canada had theirs, so here is our big bang for the year. This is an explosion. Make sure that your amps are turned down before you try this one. You could discharge a 357 magnum in the echo chamber on each back beat, but look at all the money you'll save on ammunition, not to mention the cost of patching up all the holes. Just wait 'till the next time a client asks you for an explosive back beat.

Cstik-1,Block-1 (DUAL SOUND CART) (Optional)

A great cross-stick. Every Country record uses this one. We were going to throw in a kidney shaped swimming pool, but we only had room for a wood block.

Clap-A,Clap-B (DUAL SOUND CART) (Optional)

Hand claps. We had a perfect recording of one hand clapping, but it didn't turn out to be very practical. In this cartridge we have eight hands clapping. I think that works out to four people with two hands each. When I say that this cartridge contains a lot of transients, I don't mean that the people we used were just passing through town.

Clap-B is the second half of this dual cartridge. This is another event just like the one above, but not quite as tight. This works well double-tracking with CLAP-A so it sounds like more people, or select "Alt" so that it will be alternated with the other claps. Here is a hint. Multi-Track either of these clap sounds, but each time you switch to a new track, change the tuning just slightly. You can build up to some very large crowds this way.

Tymb-1 Tymb-2 Tymb-3 Tymb-4 Tymb-5 Tymb-6 (-A- SOUND CARTS) (Optional) Of course these are timbale sounds. There are a total of six different cartridges with timbale sounds on them. They consist of two timbales each struck three different ways. Medium intensity, very hard and with a rim shot. Just about any rhythm combination can be built with this set.

Cow-1,Cow-2 Cow-3,Cow-4 Cow-5,Cow-6 Cow-7 (DUAL SOUND CARTS) (Optional)

These sounds consist of various size cows struck solidly with a baseball bat. (Just kidding!) Actually seven different cow bells. Take your pick. Two to a cartridge.

Duck-1,Duck-2 (DUAL SOUND CART) (Optional)

Well, it sounded like a duck to me! This sound is a Guiro stroked with a small wooden stick. See, I told you that it sounded like a duck.

Snap-1,Snap-2 (DUAL SOUND CART) (Optional)

Finger snaps of the greatest fidelity. A couple of different ones so that you can add them together if you want to.

Shake-1,Shake-2 Shake-3,Shake-4 (DUAL SOUND CARTS) (Optional)

Shaker pairs. These sounds should be used in pairs, just as real shaker sounds are used in pairs. The forward motion of the shaker produces a sound different than the reverse direction of the shaker. This method produces a much more realistic performance.

(DUAL SOUND CARTS) (Optional)

Four different wood blocks. Many uses. Trust me.

Conga-1,Conga-2 Conga-3,Conga-4 (DUAL SOUND CARTS) (Optional)

Two hits of each drum. A muted one and an un-muted one. Take a couple of WENDELjrs to "Carnaval" next year. Play them with pads while towing a "Red Flyer" wagon with Honda generator and P.A. system. I'll come with you to take pictures.

Echo-L Echo-R (-A- SOUND CART) (Optional)

THIS SOUND IS AMAZING, This sound is amazing, (this sound is amazing). (Get it?). How many times have you rented a digital echo unit just for snare drum echo? This pair of cartridges contains the echo only return of just such a device produced by using our SNARE1 and SNARE4 sounds as the source. These cartridges should save you around \$250.00 per day all by themselves. Or, if you feel guilty, just send the \$250.00 per day to WENDEL LABS. We'll use it to pay off our lunch debt.