

**NORTH
DRUMS**

The origin of the North Drum concept.

Innovator and guiding force behind the revolutionary concepts that eventually led to the development of North Drums, Roger North is a professional drummer with an M.S. in Structural Engineering from the Massachusetts Institute of Technology. After working for several years as an engineer in Boston, North joined a rock group named Quill in 1968 and went on to pursue his career as a musician with Odetta and the Holy Modal Rounders.



The idea of "horn-loaded" drums.

Many people automatically assume that the unconventional "horn-shaped" North Drums take that particular form just to produce more loudness and volume. In truth, the design of North Drums involves a number of benefits for the modern drummer including extended reproduction into higher frequencies usually missing from conventional drums at a certain distance, "separation" of the individual drums sounds for greater clarity and superior psycho-acoustic characteristics, a longer "throat" or resonant chamber for greater depth and, not just increased volume, but a great deal more **presence** throughout the drum kit.

Just as the loading of bass speaker enclosures aids in the transmission of frequencies above the bass register in live club/concert applications, so do the "horn-loaded" North Drums. Because of this, they are able to project all of the top-end subtleties and detail **out to** the listener, unlike conventional drums which primarily project sound downwards. This can provide a much more complete drum sound in recording situations and greatly facilitate the task of miking the drums for live performance.

Separation plays a crucial role in the recording studio and in home stereo systems. Whether separating the individual instruments during the recording process or stereo separation in home music re-

The initial concept behind North Drums came about by chance during a sound-check while a roadie was tuning his drums and North was sitting out in the theater, several rows back from the stage. He noticed that even though his drums sounded good when he was sitting behind the kit playing them, all of the subtleties and rhythmic nuances of articulated percussion were virtually inaudible to someone sitting a certain distance away **in front** of the drums. This perception led to North's experimentation with different shapes and sizes to express a totally new and different percussion approach involving "directional" drums that actually **project** sound outwards, just like speaker horns. After building six versions of different size shells and setting them up in various combinations, he ended up with a prototype set-up consisting of two 12" drums, one 8" drum and two 18" x 33" long "shotgun" bass drums with 24" openings. Five years of intensive experimentation followed, with the drums gradually evolving into the "radical" shapes which immediately set North Drums apart from the rest of the percussion mainstream.

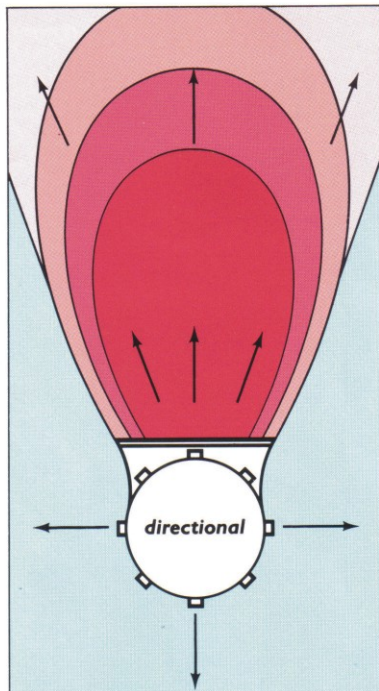
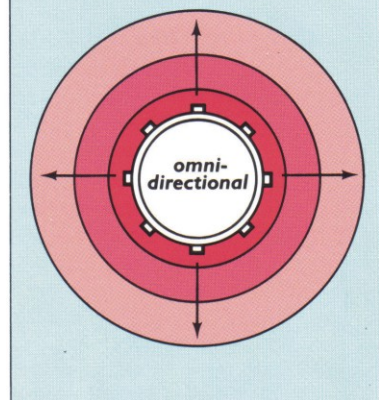


Illustration demonstrates North Drums' ability to concentrate sound and project it out to the audience as compared to general dispersion pattern of conventional drums.



production, it is commonly accepted that the proper separation of sound increases clarity and the accurate reproduction of individual "voices" while decreasing distortion and listening fatigue. The directional nature of the North Drums provides the drummer with maximum control over separation of the drum voices, a critical aspect when balancing the drum sound. The accompanying graphics illustrate the

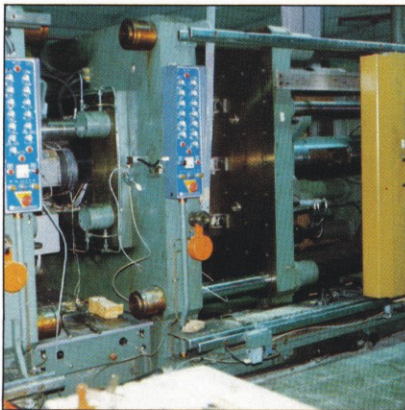
omni-directional acoustical effect produced by conventional drums which results in uneven time delays and a diffused sound, and the **directional** sound typical of North Drums, a principle similarly employed in the microphone industry ("super directional" hyper-cardioid pattern mics), musical instrument design (trumpets, saxophones) and professional speaker enclosure design (horn-loaded bass bins). Creating a horn-shaped drum necessarily involves a resonant chamber much longer and deeper than that of conventional drums. Exact calculation of physical and geometric properties were required to produce a cohesive design that curved at critical sound points to effectively project

the sound outwards. Analogous to a drummer removing the bottom head to get more sound out of the drum, the North Drum actually **pushes** the sound out through the bottom of the drum. The longer throat or chamber also adds a great deal more depth to the sound because, in actuality, it is not the size of the drum head but the length of the chamber which produces the unique, full-voiced tone of the North Drum.

And even if you feel committed to the notion of conventional drum design, you should consider North Drums as the kind of logical "add-on" to deliver a substantial amount of added power and projection to your drum sound.

Producing a concept.

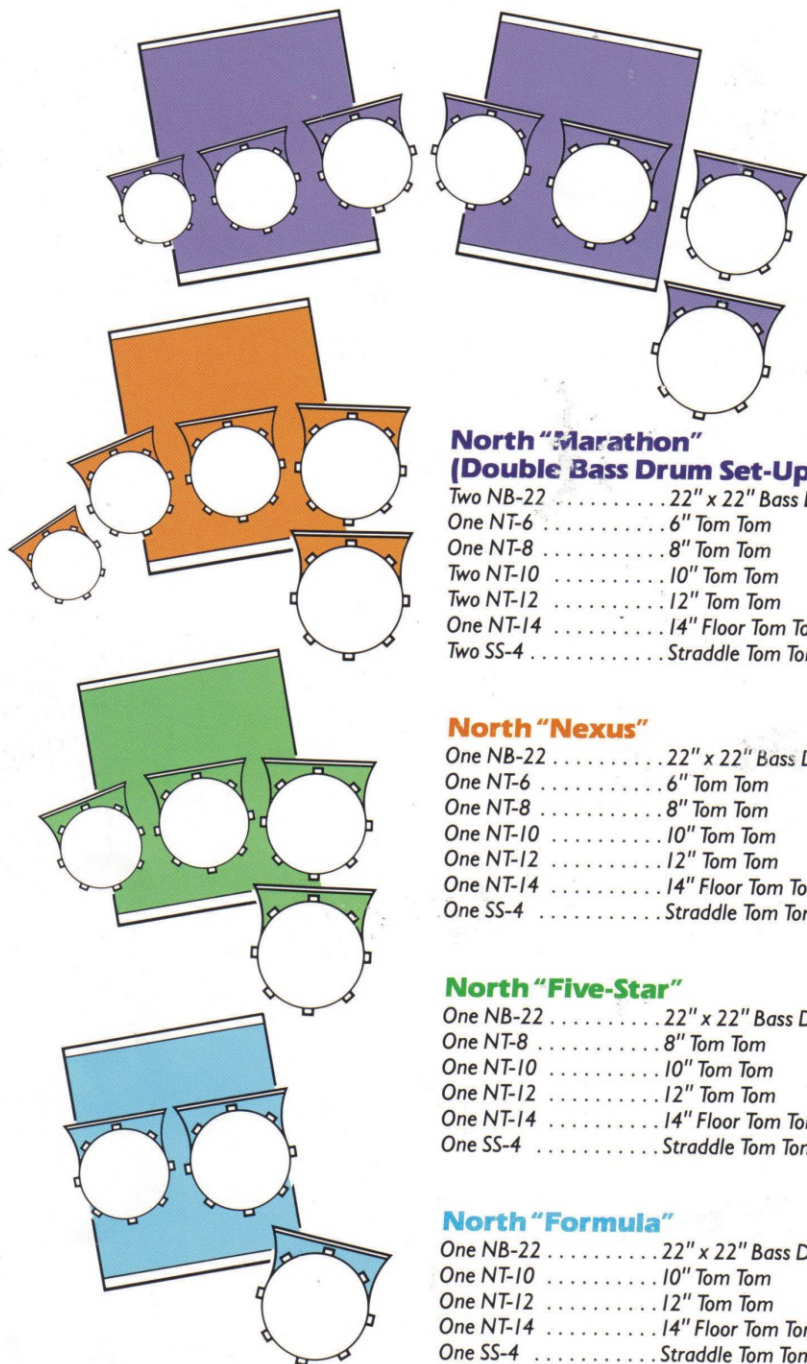
The unique design of North Drums literally demands the very latest in materials and technological methods throughout the construction process. A special high-pressure, injection-mold process is used



to shape North's exclusive sonic-curved shells, creating drums with superior sound projection which are also exceptionally roadworthy and durable. To prove their resistance to the natural elements under a variety of on-the-road situations, each North Drum is stress-tested under the most grueling temperature, humidity and impact conditions. Both the interior and exterior of North Drums receive a thorough five-step "Foto-Finish" coating which results in a jewel-like but very tough high-gloss lustre. The chrome-plated tension lugs on each drum are spring loaded with special insulation to prevent buzzing. The bearing edge under the drum head is precision-molded and perfectly round for precise, uniform tuning and each drum features a black vinyl finishing ring which has been redesigned for improved fit and appearance around the bell circumference. All North Drums come fitted with Remo "Fibre-skyn 2" drum heads, the newest in the Remo line, which offer superior "warmth" and tonal quality without sacrificing a single decibel of projection. North also recommends Hydraulic heads or Pin Stripes, but ultimately the choice is yours to make in order to give your North set its own distinctive sound.



North Drum set-ups.



North "Marathon" (Double Bass Drum Set-Up)

Two NB-22	22" x 22" Bass Drums
One NT-6	6" Tom Tom
One NT-8	8" Tom Tom
Two NT-10	10" Tom Tom
Two NT-12	12" Tom Tom
One NT-14	14" Floor Tom Tom
Two SS-4	Straddle Tom Tom Stand

North "Nexus"

One NB-22	22" x 22" Bass Drums
One NT-6	6" Tom Tom
One NT-8	8" Tom Tom
One NT-10	10" Tom Tom
One NT-12	12" Tom Tom
One NT-14	14" Floor Tom Tom
One SS-4	Straddle Tom Tom Stand

North "Five-Star"

One NB-22	22" x 22" Bass Drums
One NT-8	8" Tom Tom
One NT-10	10" Tom Tom
One NT-12	12" Tom Tom
One NT-14	14" Floor Tom Tom
One SS-4	Straddle Tom Tom Stand

North "Formula"

One NB-22	22" x 22" Bass Drums
One NT-10	10" Tom Tom
One NT-12	12" Tom Tom
One NT-14	14" Floor Tom Tom
One SS-4	Straddle Tom Tom Stand

North Drums Dimensions/ Specifications.

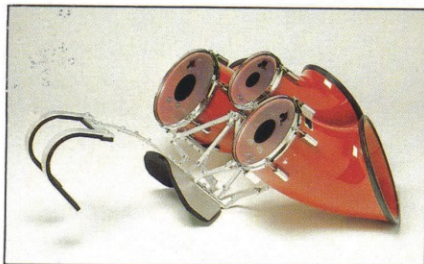
NT-6	6" Head Diameter	10" Bell Diameter
NT-8	8" Head Diameter	13" Bell Diameter
NT-10	10" Head Diameter	15" Bell Diameter
NT-12	12" Head Diameter	17" Bell Diameter
NT-14	14" Head Diameter	19" Bell Diameter

NB-22

22" x 22" Bass Drum

Described as the "ultimate bass drum" and applying the identical voicing techniques used throughout the North Drum line but within bass drum reproduction areas, its voices can range from explosive playing levels (for concert applications) to subtler levels (using traditional dampening techniques) suitable for smaller playing environments and recording situations.

Finishes Available: Arctic White, Ebony, Crimson, Slate



North Marching Harness.

The North Marching Harness allows the world's most imitated drums to be used in marching percussion. Now the clarity, power and projection that immediately distinguishes the North Drum line can be an integral part of your band's sound. The North Marching Harness is made from a lightweight alloy offering extra stability and strength. This carrier accepts both combinations of North "Trio" marching set-ups (NT-6, NT-8 and NT-10) and (NT-8, NT-10 and NT-12).

Heavy-duty North Drum Cases available upon request.

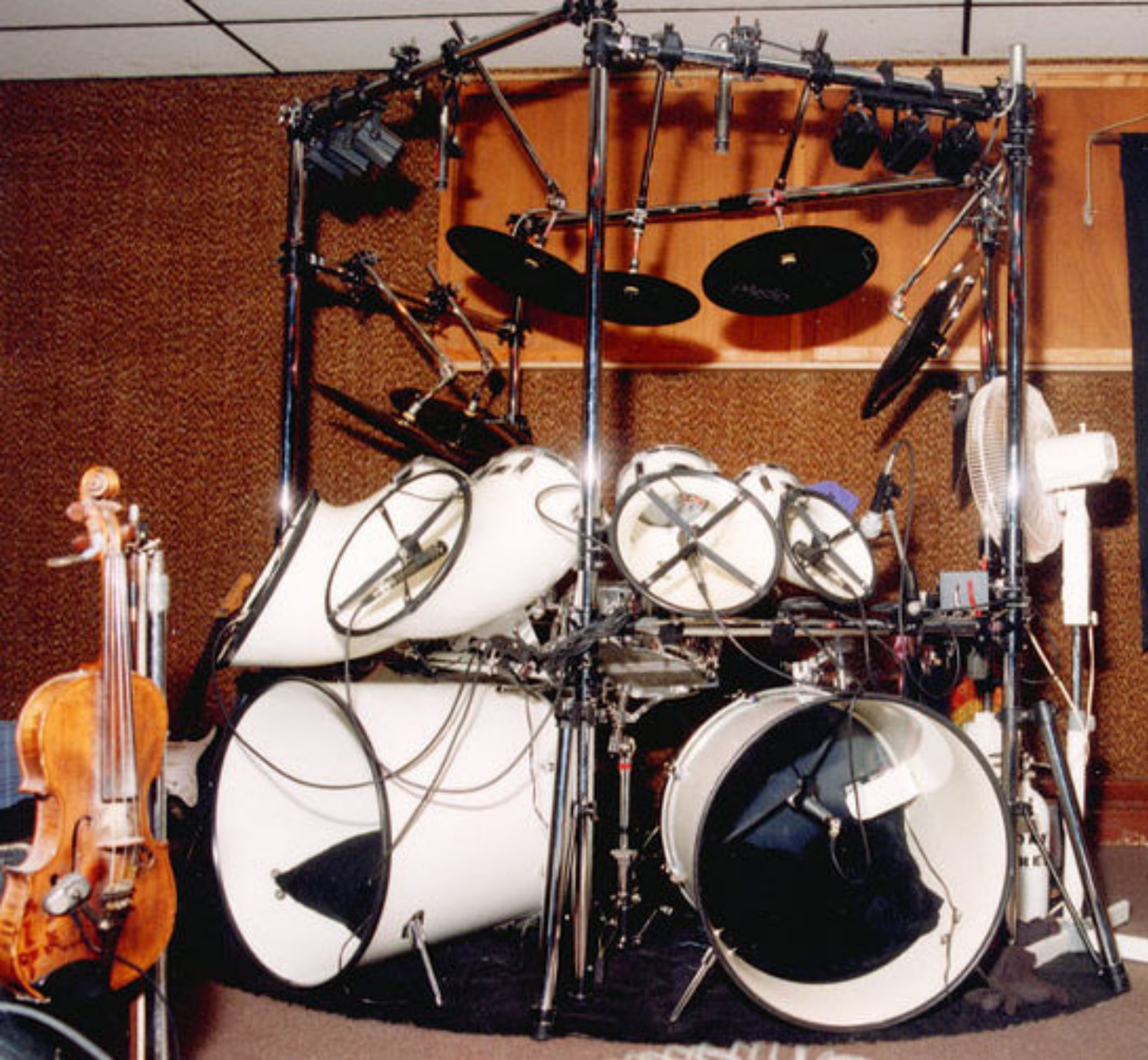


North Drums
A Division of Music Technology, Incorporated
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(516) 747-7890















NORTH

ORTH







Clifford rented the set and experimented with it. Within a month, he owned the set and was playing them in concert. "Red Hot," the Don Harrison Band's latest recording for Atlantic Records, features Clifford playing the full set of Toms and the Bass.

"The only adjustment I had to make," says Clifford, "was to get used to the smaller heads. Each drum sounds bigger than its size. The six-inch Tom is one of the most unique instruments I've ever played, and the bass keeps going deeper when some conventional drums might loose their bottom end."

Clifford went on to say that the smaller heads make for tight sharp attack, but that the sound stays tight and gets rounder and mellower, particularly in the bottom ranges. He claims he can get a bassy sound out of a small Tom.

"All the Toms are loud, but they are not muddy," he remarked, "they turn out clear, directional, pointed sounds, but they don't hurt the listeners. I can get five Toms in the space I used to use for three conventional Toms.

"They're integrated tonally, but each one is distinguishable, either live or recorded, so I can get a lot of movement on any track." (Clifford cultivates the image of an athlete. He is very active



North drum technician works on drum finishing.

on stage. Movement from Tom to Tom is both visible and audible when he plays.)

RESPONSIVE IN RECORDING

In recording, Clifford noted, the instruments stay somewhat distinguishable against the string bass at high volume levels. They apparently don't drive the sound mixer crazy trying to equalize individual drum sounds. But where equalization is necessary for a desired effect, they respond adequately, as they also do to echo, miking, tape delay and other recording techniques. Furthermore, the units can be miked in the horn of the drum itself in recording and amplification.

"When we're playing," Clifford concluded, "the drum sound isn't lost in the floor. The other musicians tell me that they can hear what I am playing and respond to it. That's unusual in a rock 'n' roll group.

"For me, these drums are to conventional drums what the jet plane is to the Turboprop. Until Roger North came along, the biggest technical advance in drum design was the plastic drum head. But these are all-new instruments."

Production facilities are located at Music Technology Inc., in Garden City Park, New York, and went on stream

early in 1977. Ernie Briefel, president of MTI promises a plentiful supply of drum sets and individual instruments as soon as back orders are filled. High quality control of drum shells and hardware will be maintained. MTI will also be producing cases and other accessory items for the drums, along with plans for a snare drum.

Dennis Briefel, MTI's vice president of Sales and Marketing, is unguardedly optimistic about the future. "These are the best drums made anywhere," Briefel says, "we only wish we could make them faster."

LOUIE BELLSON & FRIENDS

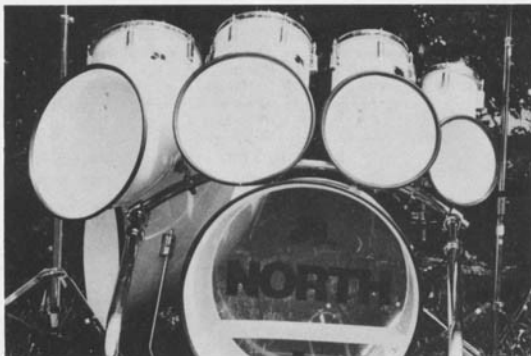
REMO USA
Drum heads, Roto-Toms and Pro-Mark Drumsticks

REMO, INC. 12804 RAYMER ST., NORTH HOLLYWOOD, CALIF. 91605

NORTH ⁻ Directional drums strive for unconventional sound

by STU ASTOR

Reprinted Courtesy of North Drums.



ONE THING that Roger North's drums have in common with most other percussion instruments is that the drummer hits them with a drumstick. But from that point on, North, a professional musician and MIT engineering graduate, abandoned normal percussion designs in his search for a more directional instrument.

The shape of the instruments is the first noticeable departure from conventional drums. Below the head of each tom-tom, for instance, the drum continues downward in a cylinder then curves ninety degrees to end in a wild-looking open flared horn, facing the audience. The bass drum doesn't have that curve, but its mouth, too, is open and flared.

Molded-in fiberglass colors are part of their look, and the drums are produced in solid, single colors or contrasting combinations — one color outside and another in the horn.

But when one music editor said recently, that, "North Drums do for percussion what the synthesizer did for keyboards," he wasn't talking about their unusual shape. He was responding to their sound, which is also distinctive and identifiable. These drums are loud, clear, tight in tone and are distinguishable, both live and recorded.

These superlative compliments weren't created by the manufacturer's advertising manager but by the people who play North Drums. The few musicians who have been able to perform with prototypes see advantages to these instruments, and some will play nothing else.

The drums were conceived and created by Roger North of Portland, Oregon. North's credits as a drummer are impres-

sive — a year with Odetta, five years with The Holy Modal Rounders — but his credits as a designer are even more so.

A graduate of Swarthmore College, North went on to MIT for a graduate degree, in structural engineering. For four years afterward, he played drums professionally full-time. His drums are a product of musical experience and thorough technological training.

PROJECTING SOUND

In 1968 North, then playing high-quality conventional drums, realized that the sounds he was creating on stage were not projecting to the audience in the same way as he heard them. He needed a more directional instrument, fatter sounding at a distance with a lot of bottom and mid-range. His first experiments in making drums for himself produced a 12-inch Tom, laid-up by hand from fiberglass with a longer than normal shell for increased low range resonance.

The principle worked almost too well. First, the 12-incher tuned low enough to enable the sound of a much larger conventional Tom; and second, the increased volume and clarity of the one new drum, in North's words, "Blew the rest of the drum set away."

Clearly, development of a whole new set was indicated, and North began patiently to handcraft other complementary drums. He made smaller instruments first with increased low range. A bass drum followed with more or less the diameter of a conventional bass, but somewhat longer. By 1970, North had a rough looking but superb-sounding group of drums for his own performances, and he applied for pat-

ents on them. The patents were granted in 1971.

It took another year, while North still played drums professionally, to produce a set for a fellow musician. Finally, in 1972, he opened a small factory and went into limited production.

MTI INCREASES SUPPLY

To date, perhaps 65 drum sets and another 30 individual drums have been made and sold, seemingly gaining converts with every sale. Some rock 'n' roll, country and jazz drummers (including Billy Cobham, Doug "Cosmo" Clifford, Jerry Brown and Richie Albright) use them regularly, as was the current U.S. Champion Drum Corps, the Blue Devils; but until now, the demand for these instruments has exceeded the supply.



Roger North, sitting at his original handmade set of tom-toms, settled on this design for his drums after seeking to project the sounds he created to his audience.

With Roger North's agreement in 1976 to allow Music Technology Incorporated to set up full-scale production and marketing facilities, his drums are becoming an available reality for every drummer.

Roger North's original idea was to produce a better drum for live performances. In use, his drums have just as many advantages for recording purposes. Doug "Cosmo" Clifford, formerly Credence Clearwater's drummer and now a mainstay of the Don Harrison Band, saw his first North Drums in a West Coast music store in mid-1976.

"I loved their sculpture," Clifford explained, "but I didn't believe they could sound as good as they looked."