

DCP PRODUCTIONS'



A Soundbank for the
YAMAHA Motif/Motif Rack/S90

OWNER'S MANUAL

INTRODUCTION

Thank you for purchasing the "Vintage Keys" soundbank for the Yamaha Motif/Motif Rack/S90. This soundbank contains 128 voices and 1 new user arpeggio which is required for use with one of the voices.

The soundbank is divided into two groups of 64 voices each. The first group [A1 to D16] consists of electric pianos, Clavinets and other keyboard sounds which are similar. The second group [E1 to H16] consists of classic synthesizer sounds. By "vintage", we refer to keyboards and synthesizers built before the arrival of the Korg M1, which can probably be defined as the first of the modern sample-playback workstations in use today.

It would be impossible to include emulations of every electric keyboard or synth ever built. For that reason, this collection largely contains emulations of what could more or less be considered the "greatest hits" of vintage keys - the Rhodes and Wurlitzer electric pianos, the Hohner Clavinet, and the Moog Minimoog, Sequential Prophet-5, Oberheim and Roland Jupiter synthesizers.

There are a number of voices which are emulations of the hallmark keyboard or synth sounds for particular classic songs, such as Van Halen's *Jump*, Edgar Winter Group's *Frankenstein*, Emerson Lake and Palmer's *Welcome Back My Friends* (actually the song's title was *Karn Evil 9 First Impression Part 2*), the Who's *Baba O'Riley* and *Won't Get Fooled Again*, and so on. Again, there simply wasn't room to include every emulations for every synth sound that ever appeared on a hit recording. This is where the Performance mode comes in handy - any voice can be altered in Performance mode (for example, changing the filter cutoff or resonance, or the attack time or release) thus creating, in effect, up to 128 additional keyboard or synth sounds as the user so desires.

LOADING THE VOICES

Motif / S90 users

If you downloaded the soundbank onto your computer , you received a Zip file containing TWO files - "VNTAGE.W2A" and "VNTAGE.W3A" (for the Motif) or "VNTAGE.W4A" and "VNTAGE.W5A" (for the S90).

1. Assuming you have a SmartMediaCard reader attached to your computer, insert the SM card.
2. When the SM icon appears on your desktop, drag BOTH files onto the icon, and properly remove the Smart Media card.
3. Insert the SM card into the SM card slot on your Motif or S90.
4. Press FILE, select "All" as the type and select LOAD.
5. Then using the cursor controls, highlight the "VNTAGE" file name and press ENTER. The file will load.

If you received the soundbank pre-loaded on a SmartMedia card, simply follow steps 3, 4, and 5 above.

Motif Rack users

You must use the Motif Voice Editor software to transmit this soundbank to your Motif Rack.

1. Unzip the downloaded Voice Editor files ("VNTAGE.W2E" and "VNTAGE.W3E").
2. Open the Motif Voice Editor and follow the instructions for opening the files and sending them to your Motif Rack.

The voices are divided into two groups of 64 each, explained in all the sordid details below.

Many thanks to Julian Colbeck of Keyfax, whose *Keyfax Omnibus Collection* book (available at the MotifMart) was a tremendous source of information about all the vintage keyboards and synths.

Dave Polich, DCP Productions.

GROUP 1 - Electric pianos, Clavinets, and related sounds.

Rhodes electric pianos [A1 thru B16]

The most popular electric piano of all time and still cherished and used in music today, the Rhodes was invented by one Harold Rhodes, who had the idea for building an electro-mechanical piano using spun metal rods, or "tines" struck by hammers (you might think of a tine as a cousin to the tuning fork). Harold's first Rhodes piano was the 32-note PianoBass, used by notables such as Ray Manzarek of the Doors for his bass sounds. In 1965 the design for the PianoBass was modified and enlarged to create an 88-key piano, complete with amplification and speaker enclosure. Thus began a line of Rhodes electric pianos, manufactured until 1984.

Rhodes pianos (also referred to as Fender Rhodes as they were marketed by the Fender company for quite a number of years) were a lot like people - each one had its own character. Some were temperamental, some sounded beautifully chime-like, others sounded more harsh and squawky like an electric guitar, and many sounded just plain bad. And so presented here are 32 Rhodes pianos, ranging from the good (most of them) to the bad to the ugly.

On all the Rhodes piano voices, the mod wheel usually controls vibrato/tremolo, and assignable knobs one and two control brightness and/or tremolo speed.

A1 Suitcase 1

Modeled after a 1965 Suitcase 88. Called the Suitcase because it traveled as two *suitcases* - a piano section with a detachable lid and a curved black plastic top, and an amplified speaker section, same length and depth as the piano section, which fitted on top of the speaker cabinet. A metal rod connected the keyboard to the sustain pedal which was housed in the speaker cabinet.

At this time the tremolo circuit for the amp/speaker was mono, not stereo, and felt hammer tips were used which gave the piano its characteristic softer, more bell-like tone.

A2 Suitcase 2

Modeled after a 1969 Suitcase 73, with a stereo tremolo circuit.

A3 Babe

Modeled after the Rhodes sound on the Styx hit *Babe*. That Rhodes had a *Dyno-My-Piano* modification - Chuck Monte of Los Angeles retrofitted Rhodes pianos with a tri-stereo chorus and active equalization controls. The tines were also moved closer to the hammers, and all this resulted in a crystalline/metallic chorused tonal quality.

A4 Stage 73

Probably the most popular model of Rhodes piano. The Stage series were identical to the Suitcase models, except they didn't come with a speaker cabinet. Instead the piano rested on four tubular metal legs which screwed into the bottom of the piano. This is a model of a Stage 73 with the Neoprene hammers which replaced the earlier felt ones, resulting in a harder more aggressive sound with a bit less bottom end and more midrange tone.

A5 Stereophaz

Modeled after a Stage 73 run through a phaser pedal.

A6 Transistr1

You could say this piano sounds bad, and you'd be right. You could say it sounds cool and you'd also be right. I actually had a Rhodes Stage 73 that sounded just like this - there was something rather strange going on with the pre-amp which caused the piano to sound distorted and brash no matter what the loudness was. It was "bitchin cool" in its own metallic weird way as well, depending on how you looked at the situation.

A7 Transistr2

Variation on the same theme - a Stage 73 with pre-amp distortion.

A8 Transistr 3

And yet another Stage 73 with cool/terrible pre-amp distortion of a different color. Notice the uneven timbre and loudness response in the upper octaves - ah, the memories.

A9 RhodesComp

Rhodes Suitcase 73, circa 1975, fed through a compressor unit. You can hear this kind of sound on Chick Corea/Return to Forever's album *Where Have I Known You Before*.

A10 FeltHammrz

Suitcase 73 with felt hammers and very soft bell-like tone.

A11 Neoprene

Modeled after a 1976 Suitcase piano with Neoprene (hard rubber) hammers.

A12 Sunshine

The famous Rhodes sound from Stevie Wonder's *You're the Sunshine Of My Life* hit song. Warmer, darker Suitcase piano sound with stereo tremolo engaged.

A13 Mutron

Classic sound of a Rhodes through a Mutron Bi-Phase pedal.

A14 SuitcsSpkr

Rhodes suitcase piano with a noisy amp/speaker system.

A15 Rhodz Bass

This was Harold Rhodes first commercial creation - the 32-note PianoBass. Used by keyboardists for playing - what else - left hand bass lines. Since it only had 32 notes, this voice is zoned so the main 32 notes fall in the correct range - E1 to E4. Additional bass sounds are on either side of that range.

A16 Lacquered

Some folks would do anything to get more brightness out of their Rhodes pianos, including lacquering the rubber tips, which resulted in a tone like this - thinner, percussive, and very very bright.

B1 Dayride

Modeled after the sound of Chick Corea's Rhodes on the song *Dayride* from Return to Forever's album *No Mystery*. Highly compressed, bright, thin and metallic.

B2 Distorted 1

Rhodes through a distortion pedal - a la Corea's sound on some of the cuts like *Captain Senor Mouse* and *The Game Maker* from Return to Forever's *Hymn To The Seventh Galaxy*.

B3 Distorted 2

Variation on Voice B2

B4 Distorted 3

Another variation on the same theme.

B5 FeltHamrz2

Another soft bell-like Rhodes tone.

B6 80'sSession

There's a story that back in the early 80's, the best Rhodes to rent for a particularly heavy session was one owned by Leeds Rentals, referred to as the "Stage Model E" piano. Solid and bright, it usually was run through a chorus pedal and eq'd even brighter at the mixing console. This voice was modeled with that Rhodes in mind - that classic 80's electric piano sound.

B7 Amp Noise

Stage 73 Rhodes fed through a noisy small combo amp. Perfect for rap and hip-hop.

B8 Filtered

Rhodes through an external envelope filter, giving it that "nasal" quality for funk'n'.

B9 Bad Ground

Okay, this one is like a blind date gone wrong. Rhodes with a noisy amp/speaker and a bad electrical ground to boot - which sometimes happened. As said before, not all Rhodes pianos were pretty.

B10 Led Song

That swirling moody sound you heard John Paul Jones wring from his Rhodes in the Led Zeppelin concert film *The Song Remains The Same*.

B11 Nosy Tine

Another thinner, more nasal Rhodes piano tone.

B12 ClassicWah

Rhodes through a wah-wah pedal.

B13 Mark 2

Although production standards got better and the Rhodes pianos generally got more reliable as the years went on, there isn't any truth to the rumor that the Rhodes Mark 2 sounded different than the Mark 1. The difference was the top of the piano - with the Mark 2, it was redesigned to be flat, so you could put another keyboard (or two) on top of it. The classic combo was a Rhodes and a Minimoog synth, or a Rhodes with a Clavinet on top of it and the Minimoog on top of the Clav. But it seemed necessary to include a Mark 2 in our Rhodes lineup - this one was a Stage 73. And in keeping with historical accuracy, this one sounds different than the rest of our Rhodes pianos.

B14 Compressd2

Another Fender Rhodes Stage piano through a compressor.

B15 Stage 73 2

Another Rhodes Stage 73 with a unique character.

B16 No AC

Since the Rhodes was mechanical as well as electronic, it could still produce a little bit of sound even when the power went out or someone accidentally tripped over the piano's AC cord.

To hear the sound of the Rhodes unplugged in all its glory, you had to go one step further and pull the lid off, revealing the harp assembly. One also did this if the Rhodes needed tuning (which you did by physically repositioning the individual tines). Naturally, you hoped the power was off when you decided to do a tuning job on your Rhodes.

Wurlitzer Electric Pianos [C1 thru C7]

The moniker "Mighty Wurlitzer" referred to the huge theater organs the Wurlitzer Company built in the first third of the twentieth century. But one could argue that the little Wurlitzer electric piano was a bit of a scrappy contender in music as well, having fueled hits by Supertramp, Queen, Rod Stewart and the Faces, and many others in the late 60's, 70's and 80's. Later in the 90's, artists like Lenny Kravitz and Jellyfish also employed the retro sound of the Wurlitzer.

Though not as popular (and certainly not as well-built) as the Rhodes pianos, Wurlitzers maintained a special charm and possessed a unique, clarinet-like tone and a wobbly tremolo, controlled by a push-pull switch which you turned to increase or decrease the tremolo speed. They were quite a bit lighter and easier to move than the Rhodes as well. And best of all, the later models came in different colors!

C1 VintgWurly

Classic Wurlitzer tone with a bit of compression and equalization.

C2 Wurly 100

Early model Wurlitzer piano with a tube amplifier and oval speaker.

C3 BestFriend

Modeled after the unique sound from Queen's mega-hit *You're My Best Friend* (*A Night At The Opera* album). There's argument as to whether it was actually a Rhodes piano used on the recording, but close listening reveals what is unmistakably Wurlitzer. Curiously, producer Roy Thomas Baker split the piano sound so that the lowest notes (the song is in the key of C) are panned hard left and the body of the piano sound is panned slightly off to the right. As the Wurlitzer wasn't a stereo instrument, one can only conclude that Baker tracked the left and right hand parts separately.

C4 Faces

Modeled after the heavily overdriven Wurly sound from the Rod Stewart/Faces hit *I'm Losing You*.

C5 200A

More "scooped" sound of the Wurlitzer model 200A, later in the line.

C6 Paisely

"Psychedelic" Wurlitzer sound. And you'd have to be trippin' indeed to have heard this from an original Wurly's mono audio output.

C7 WurlyPhase

Another Wurlitzer with a bit of studio trickery involving stereo phasing.

Hohner Keyboards [C8 thru C16]

Hohner, an old German musical instrument company which sold a lot of harmonicas, dreamed up their electric keyboards in response to requests for something like a harpsichord that was portable and easy to maintain. Well, they got the portable part sort of right and did a little better than that on the maintenance end. But the sound of their Clavinet became THE staple sound for funk and disco in the 70's, and continues to make its presence felt today in everything from rock to country to r&b to rap and hip-hop. Or at least synthesizer patches that sound like it carry on the torch. I've met some musicians who thought "Clavinet" was the name of a synth patch and wasn't a real instrument. That's how prevalent the sound is on everything from megabuck synth workstations to home digital pianos.

C8 Pianet

What better way to start off a collection of Hohner sounds than with the sound of something other than the Clavinet - like the pianet? Sounding like a cross between an anemic Wurlitzer and a ukulele, the Pianet nevertheless found its way onto recordings by superstar acts like Fleetwood Mac and others. I happened to own one at one time, and was recently reminded by Mr. Julian Colbeck in his book *Keyfax Omnibus Edition* that the pianet didn't require a power cord - which was true. You plugged it into a pre-amp and it drew its power through the connecting plug - truly genius! It had no sustain pedal, and the keyboard had a curious sticky action - almost like some sort of delay occurred between the time you depressed a key and the time you heard a note sound.

C9 Clavinet D6

Although Hohner marketed other models of Clavinet, and the D6 wasn't the first, it was truly the model that everyone refers to when speaking of the "Clavinet sound".

The D6 was wooden, more or less rectangular and boxy, and despite its seemingly smaller size it weighed what felt like a ton.

When a key on a Clavinet is depressed, a plunger underneath touches what is essentially a guitar string and presses it onto an anvil. Depending on velocity, the string changes tone and dynamics. When the key is released, contact between the plunger and anvil is broken, and the string's vibration is muted. The Clavinet has a simple damper mechanism operated by a lever (not a foot pedal) which allows the player to let notes ring or remain muted. For the most part, this means that less than superstar Clav jockeys end up playing parts that don't bother with the damper mechanism. To make a long story short, try NOT using the sustain pedal for your authentic Clavinet-ness.

C10 Wonderclav

Yes, it's the Clavinet sound from Stevie Wonder's *Superstition*, probably the song that defined the use of the Clav in pop music.

C11 Stickyclav

Clavinet with a little more of that sticky "pull" sound so characteristic of it. Use Motif's or S90's second slider to add more of the sticky effect.

C12 Wah Clavi

Clavinet through a wah-wah pedal - a classic funk sound.

C13 Amp Clav 1

Clavinet through a guitar amp on overdrive.

C14 Amp Clav 2

Overdriven, amped Clavinet sound.

C15 Amp Clav 3

Clavinet through a different guitar amp.

C16 Amp Clav 4

Clavinet through amp with slight overdrive.

Yamaha Keyboards [D1 thru D9]

With groundbreaking FM instruments like the GS1 and GS2, its mega-selling DX series of synths and its innovative CP electric grand pianos, Yamaha easily lived up to the claim made by one of its DX7 promo posters, which promoted the DX7 as being just as significant an invention as the light bulb. Many companies claim to have products in development for a significant time before they come to market, but in Yamaha's case development was (and continues to be) years ahead of a product's actual release. Sometimes as many as ten years.

A very astute young Yamaha engineer by the name of Mr. Ichimura was dispatched to Stanford University in 1971 to observe a form of synthesis invented by electronic music teacher John Chowning. Chowning's associates had convinced him that his synthesis method, called FM (Frequency Modulation) might be of interest to organ companies. Chowning had approached several other organ manufacturers, none of whom were either interested or even understood what it was. Mr. Ichimura understood, and the result was that Yamaha took a ten-year license out on FM technology. The first commercial FM product was the GS1, released in 1982. Its asking price was \$16,000. Soon after that there followed the GS2 which retailed for about half that, and then followed the DX7, and the rest is history, as they say.

D1 DX7 Classic

That DX7 Rhodes sound. You've heard it, everyone's heard it - so why not hear it again here. This sound found its way onto about a bazillion records in the 80's, and continues to be heard today (although people try disguising it a bit with software plug-ins and other types of sonic mangling).

D2 DX 2

Another DX electric piano type sound. Similar to the timbre heard on the Motels' 80's hit *Only The Lonely*.

D3 DX3

Flutey "tine piano" sound.

D4 GS Tines 2

Similar to the GS1 Tines sound (which I also programmed) on the original Motif factory set. This one has more metallic ring and overtones to it.

You might ask why this particular sound and instrument. And I'll tell you even if you don't want to know. I saw my first GS1 and GS 2 (yes, both) in a little music store in Apple Valley, CA, in the late summer of 1982. I hadn't heard FM before, and the sound coming from these keyboards was nothing short of a spiritual experience. Judging from their price tags, I imagined the store wouldn't be selling them anytime soon and since the cover band I was in had a month long stint at the nearby bar I knew where I was going to be spending my afternoons. I probably wrote twenty songs on both of those keyboards, and it was a sad day when we had to head back to L.A.

D5 DX 4

DX7 sound, cross between an organ and electric piano.

D6 DX Synth

When the DX7 tried to sound "analog", it fell pretty far short of that goal. However, the sound wasn't uninteresting or useless - this is a typical DX7 "synth" style sound, particularly good for reggae of all things.

D7 DX Wireclv

Metallic, wiry sound similar to the one from the old 80's John Parr hit *Naughty Naughty*.

D8 CP80

When I first moved to L.A. in 1979, I had a Hammond B3, two Minmoogs, an Elka string machine, and a Baldwin electro-piano in tow. I thought I had my ticket as a top session player all written out. Then I went to the *Starwood Club* one night and saw the keyboard player from John Q. Public (that was the band's name) hammering away at a Yamaha CP80 with a Sequential Circuits Prophet-5 synth on top of it. That was the L.A. keyboard rig at the time. I sold everything I had and still couldn't come up with enough money for the CP80, let alone both it and the Prophet 5.

The thing about the CP80 was, it felt like a real piano, because it pretty much was. Hammers, 88 keys, strings, metal harp. And it looked cool. And you could amplify it, you didn't have to mic it. The lowest notes had this weird almost non-pitched sound to them, and the highest notes sounded more like a Rhodes in a way, but it didn't matter. The CP80 was cool. It also went out of tune, though not as often as a real piano did, and it wasn't the lightest thing to move. But if you owned one in L.A. in the early 80's, you were the business, and that was that.

D9 CP80flange

CP80 through an MXR rack mount flanger (the blue-plated one).

D10 CP80 Phazd

CP80 with phaser effect.

D11 CP80chorus

CP80 with chorus effect.

Various classic keyboards [D12 thru D16]

D12 RMI

You might not know what it was, but chances are you've heard an RMI more than a few times. Rick Wakeman used an RMI extensively, especially on hits like *Long Distance Runaround*. Edgar Winter (of *Frankenstein* fame) played one. And although I don't know for sure, I'd swear that's an RMI on its harpsichord setting that I hear Keith Emerson using on a few early ELP tunes.

And yours truly also owned - er, borrowed for a prolonged period of time - an RMI. RMI stood for Rocky Mount Instruments (not Rocky Mountain Instruments as some people think). It was covered in blue tolex vinyl, it stood on four spindly chrome legs. It had rocker switches which controlled various voice settings, but overall it always sounded about the same - like a raspy harpsichord/Farfisa organ but with slightly more bottom end.

D13 VoxOrgan 1

Cheezy Vox Jaguar combo organ sound. Great for the theme from *Austin Powers*. A classic 60's organ sound.

D14 VoxOrgan2

Vox Jaguar with vibrato on, run through a home stereo hi-fi amp.

D15 ElctrHrpsi

Roger Manning, now of the *Moog Cookbook* and formerly the brilliance behind the 90's band Jellyfish, is one of the few people who knows what a Baldwin Electric Harpsichord was. I saw one at a music store in Boulder, Colorado, in 1971. That's how I know.

The Baldwin Electric Harpsichord actually was quite beautiful - metal piano-shaped casing, with a clear plexiglass top. And it sounded great, both unplugged and plugged in. The Baldwin Company went on to produce the Baldwin Electro Piano, which was a small portable piano with a real harp assembly, designed for teaching music. Both instruments are now sadly long gone and very hard to find.

D16 Toy Piano

You could call the Schoenhut Toy Grand Piano - which is what this sound is modeled after - the "ultimate vintage keyboard". In a depressing twist of fate where technology has made things worse, the wonderful sounding mechanical toy pianos of old have been replaced by electronic ones, all of which sport dozens of bells and whistles, digital readouts, and simply awful tone. If you're lucky, you can find a mechanical toy piano in good condition on eBay for around \$100 to \$500, although I've seen some collector's items that were fetching as much as \$2500.

GROUP 2 - Classic analog synthesizers.

NOTE:

The analog synth patches in this soundbank utilize a proprietary programming method which imitates the natural and slightly random pitch "drift" of real analog oscillators. For example, on Voice E2, "Mini Lead2", hold a note and listen, you will hear the pitches drift slowly and randomly between the two oscillators.

Moog Minimoog [E1 thru E9]

E1 Mini Lead1

One can refer to the Yamaha Motif, The Korg Triton, or the Roland Fantom as synthesizers - and technically they are, because they offer ways to manipulate and create sounds electronically. But when old school players like me think of synths, we usually think of the analog kind. The vintage kind. The wood panel and knobs kind. And no synth exemplifies that more than the Moog Minimoog.

Bob Moog (it's pronounced "mohg", or "mogue", if you will, not "moog" like in "moo-cow") started out as a young man building Theremin kits as a paid hobby. Graduating to more serious electronic musical instruments, he moved on to build quite large (some say monstrous) modular synthesizers which looked like big telephone patchboards, connected up to dozens of wires and controlled by detachable keyboard controllers.

This was in the late 60's and Bob was making a comfortable living doing it. Among his clients was composer Wendy Carlos (at the time she was Walter Carlos - you do the math). Carlos used the Moog synthesizer to record one of the first commercially successful electronic albums, *Switched On Bach*. "Synthesizer" became a household word, and eventually Bob met up with a very young musician named Keith Emerson, with whom he worked to design a portable version of his huge modular synth. Out of this collaboration the Moog Minimoog was born. And it was quite a beautiful baby, not only to play but also, quite frankly, to look at.

The Minimoog sported a 44-note keyboard, three oscillators, a filter section and an amplifier section, and knobs and switches to control it all. The bulk of the knobs and switches were on a hinged panel which could be propped up at an angle above the keyboard (the whole thing was self-contained, you could fold the panel back down and put the Minimoog in a small suitcase). Directly to the left were two modulation wheels, an innovation at the time which later became standard on synths. In addition to the wheels were switches which turned on release (so notes could ring out, like using a sustain pedal) and an off-on switch enabling the "glide" (or what we now call portamento). A separate panel knob controlled portamento time. It was all very functional, ergonomic and incredibly easy to use. And the tone was awesome. Fat, thick,

shimmering, aggressive, pure, all of these and more. You could add noise, and the third oscillator could also function in low-frequency mode modulating the first two, so you could produce ring-modulation style effects.

Keith Emerson even took to pitching knives at his Minimoog as part of his wild onstage act. Personally, I couldn't afford to do that to my Minimoogs. But they kept me gigging as I was one of the few musicians in my town at the time who had any synthesizers at all, let alone knowing how to use them.

The downside? Well, Minimoogs didn't stay in tune very well. In fact it was customary to arrive at least an hour and a half early to the gig to turn the unit on and let it warm up to stability. And they weren't programmable, a feature which Bob Moog has had the fortune to introduce on his new Minimoog Voyager released this year. One could almost never get the exact same sound one had the night before.

Although polyphonic synths like the Prophet, and later sample playback keyboards like the M1, almost killed off the Minimoog, it did survive in studios, long after production ceased in 1982, due to the constant demand for the bass tone you could produce with it. "Minimoog bass" became a staple of funk, techno, electronic and dance music.

The sound never really went away, ever. In its heyday, EVERY heavy group, from Styx to REO Speedwagon to Rush to Pink Floyd to Yes and countless others used the Minimoog.

This sound is the classic Minimoog open filter sawtooth sound, one oscillator. As with all the moog sounds in this soundbank, assignable knob 1 controls portamento time, and knob 2 controls release, imitating what the controls on the real Mini did. And yes, pitch bend range is set to a fifth, as it was on the original.

E2 Mini Lead2

Open filter sawtooth lead sound using two oscillators tuned slightly apart. Used by REO Speedwagon on their hit *Ridin' The Storm Out*, as well as by Rush on *Tom Sawyer*. And many many other tunes by artists in every genre of pop music. Easy to produce on the mini, and it sounded great.

E3 Mini Lead3

Classic open-saw triple oscillator Minimoog sound, "tuned to a fifth".

E4 LuckyManLd

Minimoog lead sound from Emerson, Lake and Palmer's first hit, *Lucky Man*. (Hint: The song is in the key of D).

E5 Stix Moog

Minimoog sound from Styx's hit *Fooling Yourself*. Also used by Rick Wakeman on Yes' song *You And I* (on *Close To The Edge*).

E6 Mini Lead4

"Tuned to a fifth" mini lead sound with different waveforms used.

E7 Mini Lead5

Open Minimoog oscillators tuned an octave apart.

E8 Mini Lead6

Heavily detuned mini lead sound, like the one Jan Hammer used on the tune *Celestial Terrestrial Commuters* on Mahavishnu Orchestra's album *Birds of Fire*.

E9 Mini Lead7

Minimoog lead sound employing ramp and saw waveforms and open resonant filter.

E10 Mini Lead8

Sine wave Minimoog lead sound. Similar to the one used by Keith Emerson on the ELP *Trilogy* album.

E11 Mini Ld 9

Mini moog single oscillator lead sound with "reedy" quality.

ARP and Korg sounds [D12 thru D16]

E12 ARP Lead 1

Pity the poor ARP Odyssey. It always ran a distant second to the Minimoog, both in terms of looks and, some would argue, sound. As Julian Colbeck states in his book *Keyfax Omnibus Collection*, ARP always had to do things a little differently. The Moog had knobs, the ARP had sliders. The Moog had a pitch wheel, the ARP had a pitch knob.

Well we should say, the ARP Odyssey had these features. Because many hit records saw the use of the ARP 2600, which was the modular, bigger brother to the Odyssey. Patch chords, telephone switchboard to plug them into, modulating anything with anything - that was the ARP 2600's game. Giant bubbling, burbling swooshing space sounds were its forte. The skinny little lead sounds like those Chick Corea used on the Return to Forever records - those were all ARP Odyssey.

You might call this particular voice a cousin of "Mini Lead2". It's the ARP version of the same idea - detuned oscillators in unison. Add a little grittier edge to it (thanks to the ARP's more aggressive filters), and you have ARP founder Alan R. Pearlman's idea of what a lead synth should sound like.

E13 ARP Lead 2

Trumpet-like ARP lead sound.

E14 ARP Lead 3

Squaresaw-wave lead sound with extra resonance.

E15 ARP Lead 4

Nasal thin lead sound.

E16 ARP Lead 5

Another lead sound one might describe as being like a "squeezed trumpet".

F1 MiniKorg

For those who couldn't afford a Minimoog, Korg released their first synth in 1973, the MiniKorg. It was dual-oscillator, with a pair of sliders that controlled filter cutoff and resonance (they dubbed this the "Traveler" section), a slider controlling vibrato, and a curious switch called "brilliance" which either added extra filter resonance or switched the filter to a steeper slope, I'm not sure which. Price? \$1000 in 1973, which was still a lot of money for the time.

Minimoog and TB303 Bass [F2 thru F8]

F2 Mini Bass 1

The classic Minimoog bass sound, like you might have heard on a Stevie Wonder record in the 70's or on the dance floor in the 80's, as well as today.

F3 MiniBass 2

Mini Bass sound that levels off at a slightly brighter tone, more aggressive attack.

F4 MiniBass 3

Darker, more detuned mini bass sound.

F5 MiniBass 4

Punchy mini bass sound. Great for dance tracks.

F6 Mini Bass 5

Classic "Ow" Mini bass sound, revived on No Doubt's *Hellagood* track from their *Rock Steady* CD.

F7 TaurusPedl

Question - how was Rush's Geddy Lee able to sing and play keyboards AND bass at the same time live? Answer - he used (at least in the 70's and early 80's) a set of Bass pedals marketed by Moog. The Moog Taurus bass pedals looked like a set of organ pedals, placed on the floor at the player's feet. The typical Taurus ass pedal sound - long and droning, detuned, with some resonance - is represented here.

F8 TB Bass

The Roland TB303, known for its characteristic spiky or pointed tone.

Various Synth Effects [F9 thru F16]

F9 Osc Mod 1

Type of sound achieved by modulating filter self-oscillation with another source. On the Minimoog, ARP, and later the Prophet and Oberheim synths, the filter itself could be driven far enough into resonance that it "whistled" or self-oscillated on its own. One could then play discrete pitches on the keyboard using the filter alone - although the pitches weren't exact incremental steps like a scale, nor did they behave predictably interval-wise. But that was where the fun was. Since the third oscillator on the Minimoog could be switched to sub or low-frequency oscillation, it could modulate (affect) the self-oscillating filter. In essence, you were using the predictable waveform cycle of one oscillator to interact with the unpredictable intervals of the filter which in self-oscillation mode becomes a sort of "fourth oscillator". All kinds of electronic havoc could be produced this way.

My wife, a non musician, also refers to these sounds as simply "spaceship noises", so I guess that's a little more down-to-earth explanation of their character.

F10 Osc Mod 2

Another sound produced in the manner described above, but with a "falling bomb whistle" character to it.

F11 Osc Mod 3

It sweeps up, then it sweeps back down - it's all over the place.

F12 S&Hgenratr

Ah, the famous sample and hold generator. Like the mutant offspring of a cheap 50's Sci-Fi soundtrack (which is where the first electronic synthesizers of any note were used), the sample and hold seemed destined to lead a charmed life, appearing in modular synths, disappearing with the portable lead synths like the Minimoog, reappearing later as a waveform in modern sample-playback workstations.

The sample and hold generator "samples" an oscillator frequency, "holds" it for a brief period of time, then release it and takes a sample of another frequency, holds that, then releases it, picks up another frequency, and so on. It produces a random set of tones, therefore, since it is never sampling the same frequency twice (or at least not so often that you'd notice it). And so is born the sound we've come to associate with R2 D2, computers gone berserk and other space characters.

F13 Syndrums

This is sort of a collection of synthesized drum sounds, from the disco era Syndrums to the Moog percussion sounds triggered by Carl Palmer's drumming on ELP's *Toccatta* Not classic "keys" *per se*, but still a hallmark sound collection from that era.

F14 Theramin

Most widely recognized as the haunting lead sound heard on the Beach Boys *Good Vibrations* (and some say that wasn't actually a Theramin at all, I have no way of verifying this). Jimmy Page controlled a Theramin with his hands in the movie *The Song Remains The Same*. Clara Rockmore, a European woman who passed away some time ago, was probably the world's best Theramin player. It was and is still a very difficult instrument to play, not a keyboard, but a sort of plate mechanism between two antennae. Don't ask me exactly how it works, I only know you wave your hands between the antennae and something resembling music is produced. Quite lovely music at that if you're good enough at it, although probably not for everyone.

F15 S&Hgenrtr2

Another sample and hold generator sound.

F16 Pro-One

The Sequential Circuits Pro-One was a monophonic synth based on the same circuitry as the Prophet 5. The main thing it had going for it was a very cool arpeggiator.

Classic polyphonic synths and keyboards [G1 thru G16]

G1 PrftT8Brss

I had a Sequential Prophet T8, and man I wish I still did. It was big, had wooden end panels, 76 weighted keys, and was velocity sensitive. Big and beautiful. And it didn't sell that well.

Sequential's biggest hit was the Prophet 5, the first programmable polyphonic synth released commercially. For reasons unclear even to yours truly, the company felt it needed a successor to the Prophet 5. And so it announced, two years before actual delivery, that the T8 was that successor. By the time the T8 appeared in 1983, the Yamaha DX7 had taken over and the Korg M1 was on its way. Too expensive for most consumers, and short on ooh-aah features like reverb and delay, not to mention sample playback, the T8 was doomed from the get-go.

It did sound awesome, however, essentially two Prophet 5's packed into a single box, with all the Prophet features, a small-memory sequencer (I used it to play the brass theme from "The Wild Wild West" TV show during my club-days keyboard solo) and that wonderful velocity-sensitive wooden keyboard which was later used on the Synclavier system as a controller keyboard.

G2 Memorymoog

Bob Moog didn't even develop the Memorymoog. Which is probably the reason one of my buddies, who saw it at a trade show the day before I went, called me and said, "Moog blew it!"

It certainly had a huge, expansive sound, and was pretty much what Moog Music (by then under new ownership and out of Bob's hands) had been hinting it would be - a polyphonic Minimoog. But it was obviously unstable, judging from the fact that when you hit the keys the display would exhibit bad jitter or sometimes shut off completely.

And worst of all, it had no MIDI, and came out right on the eve of MIDI's introduction. The keyboard didn't respond to velocity either. Nevertheless, it was a beautiful instrument to look at, had a wicked cool arpeggiator, and hard sync, all of which make it extremely useful even today.

G3 OB8 Comp

The most famous Oberheim synth sound ever is arguably the one from Van Halen's *Jump*. But Oberheim had been around quite awhile by the time Van Halen used it. The company started making polyphonic synths very early, about the same time as Sequential Circuits started making Prophet 5's. The first Oberheim modulators were sort of like boxes that you connected up to make a bigger synth - very flexible, but rather tedious and demanding on the setup and teardown end of things. The Oberheim OBX was the first of their all-in one Polyphonic synths, later followed by the OBX-A, and then the OB8. The OB8 and OBX-A look very similar and have the same basic (and very cool) Oberheim sound, which is often described as more of a pure sound, not as edgy and aggressive as the Prophet's.

This sound is typical of one that might have been used by groups like the Police for comping and rhythm parts with a brassy tone but a closing filter envelope.

G4 OBX Strngs

Oberheim style analog strings. You always need 'em sometime.

G5 T8 Strings

Analog strings from the Prophet T8, different character altogether.

G6 1999/Crazy

This is that souped up and chorused oscillators in octaves sound that Prince used for *1999* and *Let's Go Crazy*. It was Oberheim, to be sure (You couldn't miss seeing the logo in the movie *Purple Rain*), but there was something else added to it - compression, chorusing, delay, who knows what p- that made it seem tall and orchestral.

G7 JuPiTer8 A

"Tuned to a fifth" polyphonic synth sound typical of the Roland Jupiter 8 synth. Used by groups like Duran Duran, it was quite the space-age thingie, all silver metallic with brightly colored graphics.

It didn't have quite the razor edge of the Prophet or the purer tone of the Oberheim, and you couldn't get the filters to self-oscillate very comfortably like you could on the Prophet or Moog products. Its sound fit in nicely with the overall band sound, though, and it had quite a few synth tricks up its sleeve like an arpeggiator, hard sync, and more.

G8 JuPiTer8 B

One of those Jupiter sounds with less resonance and an interesting sort of "in tune, not in tune" quality, good for comping and dance track rifling.

G9 Prophet 5

I remember the day I bought my Hammond B3. Or more to the point, I remember the day after, when I walked into a music store and saw the Prophet 5 for the first time. Sleek, wooden casing, knobs and switches, a lot like the Minimoog, only better looking.

And it had an organ sound, which made me question my Hammond purchase. Weighed a lot less - hmm, what had I been thinking. Of course, nowadays I wish I had both. At the time though, a polyphonic synthesizer with sounds that were memorized - absolutely stunning.

On the whole, the Prophet's sound tends to be quite brassy. Even strings sound like they're half-brassed (pardon the pun). It does have a feature called hard sync which made possible the signature sound used by the Cars' Greg Hawkes on their hit *Let's Go* (from *Candy-O*). More recently this sound has shown up on songs like No Doubt's *Just A Girl*. Sadly the Motif, S90, or Motif Rack without the PLG-150AN modeling card will not reproduce this kind of sound.

G10 Solina

The Solina was one of the first synthesizers devoted to string sounds. Actually, that's all it did - somewhat cheezy "string" sounds which really didn't sound too much like strings. But it was polyphonic, cheaper than a Mellotron, and weighed a lot less as well.

It's shining moment was probably when it was used on the soundtrack for the old *Charlie's Angels* TV show back in the 70's.

G11 CS80

There was a band once called UK. They didn't have any hits, but a lot of musos remember them for a certain synth sound used at the beginning of their track, *Alaska*. That was done on a Yamaha CS80, a classic polyphonic synth which made its mark but was overshadowed by the Sequential and Oberheim synths. The CS80 was big, heavy (amazingly heavy), had ONE programmable setting (you lifted up a lid to reveal a compartment containing a "mini-panel" where you set sliders to store the sound) and a neat ribbon controller. One basically hoped that you had a house gig for two months or more so you wouldn't have to move it much. This sound, using portamento with a very long time factor, also came to be part of what we now call the "THX" sound.

G12 Polymoog

"Thanks to Bob Moog for rushing the Polymoog to Chick". That's what it says on the back of the Return to Forever album *Where Have I Known You Before*. Today I'm not so sure Chick would feel the same way about the Polymoog. It had a thinner sound than the Minimoog, even though it was polyphonic, due to its shared-oscillator architecture, and construction wise it was - er, strange.

Each of the synthesizer's "voices" (oscillators, if you will) was on its own card, and the cards were set into a chassis, like PCI cards in a computer chassis. Trouble was, they were only secured on the insert end, and the chassis would flex when you moved the polymoog, resulting in - missing notes when you fired up the beast for soundcheck. A quick bang on the hood usually settled the cards back in place - usually. If you did enough banging, it was back to the shop for service.

The sound here is typical Polymoog, with that "wiggly" sort of LFO oscillation made famous in Gary Numan's Polymoog-propelled hit *Cars*.

G13 Mellotron1

It wouldn't be a classic keys collection without some Mellotron voices.

The Mellotron was probably the world's first sample-playback "synth". Sounds were generated from recorded reels of tape. The recordings were of actual instruments, and when you pressed a key, one of the reels would start its spoolout. However, the Mellotron had a curious quirk - tape playback lasted about 8 seconds, then the tape would stop and rewind. So the trick became to try and play successive new notes just as previous notes were nearing the end of their "8-second

run". That behavior is imitated here as well - hold down a chord, after 8 seconds or so it will cut out.

Recording playback was a generous 2-bits (not 16 or 24 bits) and generally the Mellotron sounds pretty bad but in a hip way. Distorted, grainy, low fidelity, screeching, whining, gear grinding - yes, I'll take some of that for my next hip-hop track. And oh es, most people used it for strings, choirs, and the occasional flute sound, although the Mellotron libraries were actually quite extensive and featured dozens of different sounds and instruments.

G14 Mellotron2

Variation of Mellotron string sound.

G15 Tron Vox

Mellotron choir sound.

G16 TronFlutes

The classic Mellotron flute sound from the Beatles *Strawberry Fields Forever*.

Greatest Hits of Vintage Keys [H1 thru H16]

H1 Tom Sawyer

That deep, resonant sweeping bass sound from Rush's hit song *Tom Sawyer*.

H2 Jump

As said before, probably the best known hard-rock synth sound of all time. Originally done on an Oberheim OBX-A, Eddie Van Halen at the controls.

H3 BabaORiley

From the Who song *Baba O'Riley* on their *Who's Next* album. Most people think the song is called *Teenage Wasteland*. At any rate, the song is in the key of F. To play the sound properly, arpeggiate F1, C2 and F2 in the left hand, in time to the LFO rhythm, and trill on C4,D4, E4 and F4 in the right hand.

H4 GetFooled

The triggered organ sound from the Who's *Won't Get Fooled Again*. It's not really a synth sound, but it was originally a Lowrey organ triggered by a VCS3 Putney synth, so technically it's still in the running. The song is in the key of A.

H5 WelcomeBak

The famous synth sound that opens Emerson Lake and Palmer's *Karn Evil 9 First Impression - Part 2* on their *Brain Salad Surgery* album. Most people refer to this song as *Welcome Back My Friends To The Show That Never Ends*. This sound is a good example of sample and hold modulating the filter. Yes, the song is in A flat, which of course required Keith to play all his amazing stuff on the BLACK keys - an incredible feat.

H6 Journey JP

Gregg Rollie's Jupiter 8 sound for Journey's hit song *Separate Ways*. Key of E.

H7 Totohorns

The synth horn sound from Toto's monster hit, *Africa*. (*Toto IV* CD).

H8 Frnkenstein

The modulated filter sweep sound from the Edgar Winter Group hit *Frankenstein*. As the filter closes down, use the mod wheel to animate it, opening and closing it again rhythmically, to imitate what's going on on the original song.

H9 ProphetUFO

"Spaceship landing" sound which is similar to the one that opens Styx's hit song *Too Much Time On My Hands*. That was probably done on an Oberheim, but the Prophet 5 was capable of producing this sound as well.

H10 RingMod1

Ring-modulated, bell-like or chime tones. Easily produced on a Prophet or Oberheim synth.

H11 RingMod2

Ringmod chimes, lower pitched, with LFO modulation.

H12 RingMod3

Low pitched ring mod tones without LFO modulation. Ringmod chimes, lower pitch.

H13 - PinkFloyd1

The droning, repetitive bass sequence sound from Pink Floyd's *On The Run/Time* on their *Dark Side of the Moon* album.

H14 PinkFloyd2

The synthesized helicopter sound from the same tune.

H15 ClkwrkOrng

Theme from Stanley Kubrick's film *A Clockwork Orange*, which featured music composed by renowned synthesist Wendy Carlos.

H16 A440

And so we come to the final voice in this set. After much head scratching over what to finish things off with, in good humor it was decided that the A-440 tuning oscillator sound from the old Minimoog would be appropriate. Use this sound when the guitar player in your band needs an "A" note (for your sake, we've also included a lower E, a D, and a G).

' 2003 Dave Polich for DCP Productions

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