

POWER PLAY DX!

Keyboard, Pitch Bend & Control Techniques for the Yamaha DX711

by STEVE DE FURIA







by STEVE DE FURIA

Produced by John Cerullo Art Direction by John Flannery Edited by Susan Hanlan Illustrations by Steve De Furia

Produced by Third Earth Publishing Inc. Pompton Lakes, N.J.

Book Copyright © 1988 by Hal Leonard Books. All Rights Reserved. Any use of this material without permission of Hal Leonard Books is a violation of copyright laws.

Published by Hal Leonard Books.

Ferro Technologies makes no representations of warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability of fitness for any particular purpose. Further, Ferro Technologies reserves the right to revise this publication without obligation of Ferro Technologies to notify any person of such revision or changes.

4-10P-86188-0 M8ZI

Acknowledgments

This project wouldn't have come together without the special help and support of several individuals. I'd like to sincerely thank the following people. Mark Koenig of Yamaha. It was Mark who, originally suggested that I write this book. Dave Oppenhiem of Opcode Systems for rushing me a pre-release version of the DX7 II Editor/Librarian that was used to produce the voice, performance, and micro tune charts for the book. My partner at Ferro Technologies, Joe Scacciaferro, who (as always) provided me with invaluable insights and helped me stay focused on what really mattered while screening me from the outside world so I could write. John Cerullo, of Third Earth Publishing, who helped me translate my "chicken scratches on staff paper" into meaningful notation examples. Barbara Williams, of Lexicon Inc., who has taught me so much about the art of illustration.

Tape Credits

Composed and performed by Steve De Furia

Produced by Steve De Furia and Joe Scacciaferro

Recorded at Skylight Studio

Engineered by Joe Scacciaferro and Frank Day

DX7 II Voices and Performances designed by Steve De Furia

About The Tape...

I've resisted the temptation to produce a slick demo tape for this book. In fact, I've intentionally left it a little ragged around the edges. What you hear on the tape is a single DX7 II played by a single person in real time. No recording tricks. No special effects except for the keyboard, pitch bend, after touch, and foot controller performance techniques I've explained in this book. Many of the sounds have built in stereo effects, such as chorusing, flanging, or reverb. Except for a slight amount of reverberation, no external audio processing was used for this recording. What you hear is pure DX7 II. (The only exception is that some of electric guitar examples were played through a guitar amp for distortion.) I've given you the voice and performance data for every sound on the tape. (They're listed in the last section of the book.)

Many of the recorded examples are performances of the musical examples in the book, while others are short improvisations to demonstrate some of the musical possibilities these techniques have to offer. I've kept the music pretty simple to let you focus on the technique(s) being demonstrated. On the first listen, some of the music might sound difficult to play because the rhythms are so quick. Keep in mind, that is one of the things I'll show you how to do (read about *Unison Tuning* and *Alternating Chord Patterns*). You'll be surprised to find how easy it is to play the examples.

Tape Contents

The recorded examples are in the same general order as the techniques presented in the book. Many of the examples demonstrate several techniques at once. For instance, you'll hear after touch and pitch wheel bending in many examples covering other techniques. With each example, I've listed the performance or voice used and (where it applies) the number of the musical example from the book.

- Guitar improvisation 1 (Performance 23): country pick and strum techniques played with alternating hands on a unison tuned split keyboard.
- Dovetail strumming (Performance 23, Example 5): dovetail chord pyramids and glissandos with pressure bends.
- · Open progression (Performance 5, Example 9)
- Dovetail progression (Performance 23, Example 10): accompaniment for open progression.
- Permutation pattern (Performance 23, Example 13): seven note dovetail picking pattern.
- Basic strum (Performance 1, Example 18)
- Flamenco strum (Performance 25, Example 19): strum articulations with glissandos.
- Power chord strum (Performance 29, Example 20): after touch and low key pitch bending; the distortion comes from a guitar amp (the feedback is in the voice).
- · Power chord intro (Performance 29, Example 20)
- Fretless bass improvisation (Performance 30): repeated notes are played with alternating hands on a unison tuned split keyboard; after touch does the pitch bends.
- Shuffle variations (Performance 1, Example 22): rock 'n' roll rhythm guitar parts played with alternate chords on a unison tuned split keyboard.
- Slinky ninths (Performance 17): funky sixteenth note chord strumming played with alternate chords on a unison tuned split keyboard.
- Chromatic ninths (Performance 25): jazzy ninth chords played with alternate chords on a unison tuned split keyboard; played through a guitar amp for some "edge."
- Twelve-string flourish (Performance 2, Example 22)
- Fiddle 1(Performance 10, Example 24): alternating between two hands on a unison tuned keyboard makes it possible to play these violin examples quickly and authentically.
- Fiddle 2 (Performance 10, Example 25)
- Fiddle 3 (Performance 9, Example 25)
- Fanfare (Performance 7, Example 25): the same technique used in the fiddle examples can also simulate triple-tongue brass attacks.
- Stereo congas (Performance 27, Example 25): alternating hands used with a percussion voice.
- Cajun squeeze box (Performance 22): alternating hands is also the key to concertina and accordion playing.
- Fretless (Performance 30, Example 28): played with alternating hands on a unison tuned split keyboard.
- Bone (Voice 17): double tongue attacks are played with alternating hands; after touch pitch bending.

- Guitar improvisation 2 (Performance 25): guitar pick and strum techniques played with alternating hands on a unison tuned split keyboard; played through a guitar amp.
- Blues harp (Performance 20): normal mode bending; foot controller tremolo; played through a guitar amp.
- Distortion lead (Voice 11): normal mode bending; foot controller changes harmonics; guitar amp used for distortion.
- Finger picking 1 (Performance 16, Example 30): alternating between two hands on a unison tuned keyboard is also a great technique for finger picking parts.
- · Finger picking 2 (Performance 1, Example 33)
- Finger picking 3 (Performance 2, Example 33)
- Finger picking 4 (Performance 25, Example 34)
- Pick and strum (Performance 14, Example 36): playing above the split point lets you reach "impossible" notes; left hand picking part spans an octave and a fifth but the reach is only an octave.
- Big chord shuffle (Performance 14, Example 37): left hand-chord part spans an octave and a fifth, but the reach is only an octave.
- Harmonized strings (Performance 11, Example 38): the C Ionian scale
 is played as single notes; the harmony is voice B playing a micro tune
 scale (the two voices are panned left and right; listen to either channel
 to hear the difference between the two voices).
- Fiddle improvisation (Performance 11): this was played in real time with just two hands. The performance uses the C Dorian micro tune scale (I'm playing in F Mixolydian). The chords are played on the left (unharmonized) side of the keyboard, and the melody parts on the right (harmonized) side. The right hand plays one, two, and three note voicings that are harmonized by the micro tune scale. Listen to a single channel to hear the difference between what I played on the keyboard and what comes out of the DX7 II.
- Split harmony (Dual Mode Voices 18 & 20): right-hand part is harmonized in G Mixolydian with micro tune scale.
- Pedal steel (Performance 15, Example 58): high key bending; foot controller volume swell.
- Unison bending (Voice 18, Example 59): various articulations of a unison bend; played with low key pitch bend mode; after touch whammy bar; guitar amp distortion.
- Sitar (Performance 32, Example 60): key on pitch bending.
- Press Me (Performance 4, Example 65): example using dovetail voicings and after touch pitch bending.
- Guitar improvisation 3 (Performance 25): finger picking and strum techniques played with alternating hands on a unison tuned split keyboard; foot controller tremolo.
- The end (Performance 31): foot controller fades in feedback tones.

Author's Notes

In The Tradition Of The Cave...

I've been playing and programming synthesizers since they first became generally available in the early 1970's. My first synth was a single voice analog instrument (an Arp Odyssey). Since then, there's been a steady evolution in the design and production technology of synthesizers in general. In some ways, comparing those original analog synths with today's digitally based instruments is like comparing Mr. Spock's tricorder with a cave man's stone axe. The current generation of post-MIDI synthesizers are a wonder to behold. Their sophisticated microchip sound-engines can produce ear dazzling sonorities and effects. Digital memory makes it possible to store many preset sounds for instant recall. As a result, we've come to demand large collections of high caliber presets from our synths. Today's synthesizers certainly fulfill the requirement for lots of great sounding presets. Even Spock would be impressed with the arrays of memory banks, ram carts, and data bank libraries available for even the "simplest" of today's synths. Spock would know however, that while computer technology may make a great synth; it's the more primal aspects-those defining its touch and feel—that make a great musical instrument.

When the time comes to make music, (after the sun goes down, when the shadows cast by the firelight dance along the cave walls) great sounds alone won't do it for me. It's not enough to just push a key, and call forth the perfect preset. I want to work up a little sweat carving sounds from their elemental stuff. For me, that's what performing music is all about. I need to feel the physical connection between what I do and what I hear as I'm playing. I don't just want to see sparks. I want to strike together the elements to make them fly. In short, there are times when I play, that I want to be able to wield my synth like a stone axe.

Last year, I was lucky enough to receive one of the first DX7 II's to arrive in the U.S. It was love at first touch. Here at last, was an instrument with the logic, precision, and sophistication of Spock's tricorder with the heft and feel of that primal axe. Finally I have a synthesizer that is as satisfying to perform with as it is to listen to. Since I started playing my DX7 II, I'm continually finding new ways to make the sparks fly. I've written this book because striking the sparks is, after all, only a beginning. In the tradition of the cave, once the fire is struck, the flame must be passed on. With this book, I pass it on to you.

You'll find that many of the techniques I've described here will open up areas of creative expression long used by guitar, string, brass and percussion players. Up until now, these areas were largely unexplored by keyboardists. None of these new techniques are difficult to master. Mostly, they involve new ways for keyboard players to think about how to play a particular set of notes or chords. Try them out with your favorite presets, as well as the ones I've given you. I hope that, for you too, they'll make the sparks fly. If they do, keep up the tradition of the cave. Be sure to pass it on.

Steve De Furia Spring, 1988

Table of Contents

Acknowledgments • 2

Introduction • 3

About the Tape • 4

Author's Notes • 5

Part 1: Keyboard Performance • 9

Overview • 11

Keyboard Techniques • 12

About Keyboard Techniques • 12
Positioning the Keyboard and Hands Effectively • 15
Dovetail Voicings • 15
Unison Tuning with the Split Mode • 25

Micro Tuning For Special Keyboard Techniques... 42

About Micro Tuning • 43
Unison Tuning with Micro Tuning • 45
About Diatonic Harmonies • 45
Diatonic Harmonies with Micro Tune Scales • 45
Playing Diatonic Harmonies • 46
About Keys and Modes • 47
Micro Tune Scales for the Natural Modes • 49
lonian • Dorian • Phrygian • Lydian • Mixolydian
• Aeolian • Locrian

Micro Tune Scales for the Synthetic Modes • 57
Super Locrian • Neapolitan Minor • Neapolitan
Major • Oriental • Double Harmonic • Enigmatic
• Harmonic Minor • Hungarian Minor • Major
Locrian • Lydian Minor • Overtone • Leading
Whole Tone • Hungarian Major • Symmetrical •
Pentatonic Major • Pentatonic Minor

Part 2: Pitch Bender Performance • 75

Pitch Bender Techniques • 77

About Pitch Bending • 77
How to Play the Wheel • 77
Bender Articulations • 79
Working Up Your Bender Technique • 83

Pitch Bend Modes • 90

About the Pitch Bend Modes • 90 Normal Mode • 90 Bending with the High Key Mode • 92 Bending with the Low Key Mode • 94 Bending with the Key On Mode • 96

Part 3: Controller Performance • 101

Controller Techniques • 103

About the Mod Wheel, Breath Controller, and MIDI Controllers • 103

After Touch Techniques • 104

About After Touch • 104
Calibrating After Touch on the DX7 II • 104
How to Play With Pressure • 106
After Touch Articulations • 107

After Touch Patching • 112

About After Touch Patching • 112 Pitch Modulation • 112 Amplitude Modulation • 113 Envelope Generator Bias • 113 Pitch Bias • 113

Foot Controller Techniques • 114

About the Foot Controllers • 114
Proper Placement of the Foot Controllers • 114
Foot Controller Articulations • 116

Foot Controller Patching • 118

About Foot Controller Patching • 118
Pitch Modulation • 118
Amplitude Modulation • 118
Envelope Generator Bias • 119
Volume • 119
Control Slider 1 • 119

Part 4: DX7 II Performance and Voice Data • 121

Performance and Voice Data • 122

About the Performance and Voice Data • 122

Performance Data • 123

Acoustic Gtr C3 Split • Acoustic Duo Split • 12 String C3 Split • Jazz Pressure Flange • Verb Fanfare Brass • Fanfare Key On/Pedal • Verb Fanfare Split • Bowed Strings • Strings/Verb Split • Fiddle Split • C Dorian Strings • C Lydian Str Choir • String/Verb Choir • Acoustic F2 Split • Hi Key Pedal Steel • Roundwound Rhythm • Roundwound Chorus • Bones Key On Bend • Another Strummer • Blues Harp • Brass/Vibes Harmony • Cajun Squeeze Box • Jazz Tremolo Pedal • Wind & Duke Harmony • Jazz Tremolo Split • Strings Verb • Percussion Split • Steel Drum Choir • Feedback Gtr Split • Fretless Split • Heavy Feedback Split • Dual Sitars

Voice Data • 134

Acoustic 1 • Roundwound • Press Me 0 • Press Me 1 • Verb Pad • Fanfare • F-fare Ped • Fiddle 1 • Duke Synth • Bowed VIn • Hi-Bender • Fretless A • Fretless B • Bent Brass • Dirty Bone • Feedback Gtr • Conga Bongo • Hollow Guitar • Heavy Mentl • Verb Brazz • Cajun Sqz • Blues Harp • Tremolo Gtr • Tremolo 8vb • Flute • Sitar Key On • Steely Drum

