

## Using the chord-per-key Multi-Harp feature

The Multi-Harp feature allows you to play an entire chord by just holding one key of the fingerboard, then strumming or picking the String Triggers.

This feature is set up in the Ztar by making just a few settings. Once these settings have been made they may be saved into an onboard patch or SONG so that the proper performance mode may be selecting without having to re-program it.

These are the settings involved:

1) Enter the FRETBOARD/SCAN-MODE menu and set "TRIGS:Cho".

This says that each key will now play a six note Chord, one note per StringTrigger. The Multi-Harp chording mode will only operate when the StringTriggers are strummed or when you hammer-on. Chords currently may not be played when the "TRIGS:Off" ("tapping" style).

2) If no chords have been set up previously, go to the UTILITIES/TUNING menu.

On the line that says "CHORDS" press generate

Setting up the ZPC to use the chord-key feature may seem fairly complex, but most of this setup can be put into the ROM songs.

The chords will be stored in six consecutive keymaps. For the purposes of this example I will use the first six, keymaps 1-6. But you could just as easily use 11-16 or 8-13 or whatever.

To access these keymaps you need to use six zones. Again, I will use zones 1-6, corresponding to keymaps 1-6.

### 1. Triggers setup.

You must tell the ZPC that the triggers will be producing chords instead of just firing individual strings. This is done in the SENSORS menu. There is a new "Mode" option after Dual: "Chord String #n". This enables the trigger in Chord mode. You should enable the six triggers as Chord String #1 through Chord String #6. The string number is still important, because it tells the ZPC which note in the chord this trigger will produce. (We could rename this "Chord Note# n" if you think that will be clearer.)

Chord mode sets the \$10 bit in the PAD.STRING.NR byte. When this bit is set, striking the trigger will produce "Strum" events for ALL SIX strings. You must use the zones to control

what notes are played in this event.

- \* Set the Triggers' Sensor mode to Chord
- \* Set the Triggers' ChordString assignment to 1-6

## 2. Zones setup.

If you leave the zones programmed "normally", then striking a single trigger will produce six notes. To force each trigger to play a single note of the chord, you must restrict each zone to respond to only one trigger. This is done in the ZONES > SCAN-MODE menu. The "Trigs" option still switches on/off when you press the softkey. But after turning Trigs:On, you can then use the up/down keys to select either "On" or a number 1-6. If you select a number, then this zone will ONLY respond to trigger events from that trigger number. If you select "On", this zone will respond to events from any trigger (the normal behavior).

- \* Set Zones 1-6 Trig-Modes to #1-6

So, you should program Zone#1 as Trigs:1, Zone#2 as Trigs:2, Zone#3 as Trigs:3, and so on. In the ROM file, this is stored as the low three bits of the PATCH.CHAN byte (1-6, or 0 for "all").

You must also tell each zone what notes to play for that trigger number. You do this by assigning a different keymap to each zone. This is done in the ZONES > KEY/TRANS menu. Program Zone#1 to use Map:1, Zone#2 as Map:2, Zone#3 as Map:3, and so on. In the ROM file this is stored in the ZONE.TUNEMAP byte (zero-based, i.e., 0..15).

- \* Set Zones 1-6 Keymaps to 1-6

ALSO!! You should program each zone to cover the entire fingerboard EXCEPT the open string. You do this by selecting Low: i:1, High: vi:24 in the main ZONES menu. This is to prevent the zones from playing the open string. If you leave the default Low: i:0 in the six zones, then you will hear SIX notes from EACH trigger when no key is pressed. If you need an "open string" chord, you can enable ONE zone to play Low: i:0, but the other five zones should have Low: i:1.

- \* Set Zones 1-6 lower boundaries to "1", not "0"
- \* Set Zones 1-6 Notes:On

Of course, you must also select Notes:On for all six zones, and select a suitable MIDI channel for all six zones.

### 3. Maps setup.

Now you have programmed the ZPC so that each key selects a chord, and each trigger plays one note of that chord. All that remains is to program the notes of all the chords. You do this by programming the six keymaps.

#### a. Manual editing.

You can go into the UTILITIES > TUNING > CHORDS-EDIT menu.

In this menu you will see, and you can edit, the six notes of a single chord. The chord is identified by fingerboard key, which is shown as string:fret in the lower left of the screen. You can tap softkey#5 once to change string, twice to change fret. Or you can "chase" to the desired key by tapping it on the fingerboard.

After selecting a key, you can program the six keymaps for that key. You can use softkey#1 to change the map numbers; you will always see six consecutive maps displayed. Tap the softkey for the desired note to change it with the up/down keys.

If you wish fewer than six notes in the chord, you can select "no note" for any map by holding the up key until it reaches its high limit. (You can think of "no note" as "higher than the highest note".)

#### b. Chord generator.

You can go into the UTILITIES > TUNING > CHORDS-GENERATE menu. In this menu you can select a set of six maps, a chord family, and a root note. Again, you can use softkey#5 to select string:fret, or you can "chase" to the desired key.

If you select Frets:ONE and then press CREATE, a chord will be generated for THAT KEY ONLY, using the given Root note.

If you select Frets:ALL and then press CREATE, a chord will be generated for ALL THE KEYS ON THAT STRING, using the same chord family. The Root note will be used for the open string, and each fret up the string will be successively one note higher.

You can go directly from this menu to the manual editing menu by pressing the EDIT key.

For a quick setup, go to UTILITIES > TUNING > CHORDS-GENERATE, select Maps# 1-6, and select Frets:ALL. Then press a key on string#1, select a chord family and root note, and press CREATE. Press a key on string#2, select a different chord family, and press CREATE. Ditto for the four remaining strings.

#### SETUP SUMMARY:

##### SENSORS menu:

- \* Set the Triggers' Sensor mode to Chord
- \* Set the Triggers' ChordString assignment to 1-6

##### ZONES menu:

- \* Set Zones 1-6 lower boundaries to "1", not "0"
- \* Set Zones 1-6 Notes:On

##### ZONES>SCAN-MODE menu:

- \* Set Zones 1-6 Trig-Modes to #1-6

##### ZONES>KEY-TRANS menu:

- \* Set Zones 1-6 Keymaps to 1-6

##### ZONES>MIDI menu:

- \* Set Zones 1-6 to the same MIDI channel (1) so all the notes of the chord will have the same synth patch.

##### UTILITIES>TUNINGS menu:

- \* Create the 6 keymaps