**RECENT CHANGES IN THE RADIO-BATON AND CONDUCTOR PROGRAM**

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**COMMAND LINE SPECIFICATION OF SCORE**

The name of the score can now be written in the command line of both the compile and cond programs. This can reduce the number of keystrokes needed to compile and perform a score and is especially useful when a score is being edited and revised.

As an example the command line:

```
    compile bachairg
```

will compile the score bachairg producing the bachairg.p file.

The command line:

```
    cond bachairg
```

will start the conductor program and load the bachairg.p file. Playing the score requires only typing z, the start play command.

For frequent recompiling and replaying of the same score, one can make a batch file. As an example the file run.bat containing the commands:

```
    compile bachairg
    cond    bachairg
```

will compile and load the bachairg score. Typing the command:

```
    run
```

will compile and load the score which can then be played by typing the z key.

**SAPP TRIGGER ALGORITHM**

Version 5 of the program in the baton microprocessor uses the trigger algorithm invented by Craig Sapp. With it, a trigger is generated when the downward acceleration of a stick decreases to zero after the downward velocity of the stick has increased beyond a velocity threshold. This algorithm seems more reliable than previous trigger algorithms.

The velocity threshold can be adjusted with pot4. If triggers are missed, increase (clockwise) pot4. If false triggers are generated, reduce (counter-clockwise) pot4.

**LINEAR TRANSFORMATION OF CONTROL CHANGES**

An optional feature has been added to the qn command which allows the linear transformation of control change functions.

The control change command can now be written:

qn hm si [wj ek rl tp] ck

where the [parameters] are optional and specify two points on a linear transformation of the x or y or z data from either baton before it is sent to the synthesizer as a control change.

j,e,l, and p are integers in the range 0...127 which specify the two points. Referring to Fig 1,

j=X1
k=X2 (X2 > X1)
l=X1t
p=X2t

if X1=X2, no transformation will be made.

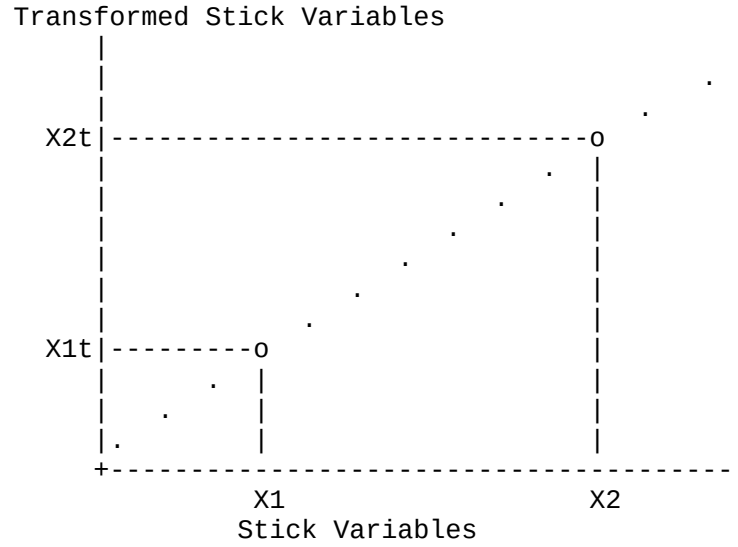


Fig 1. Linear Transformation of Control Changes

The linear transform can be used to change the range of the control change or even to change the slope of the control change function from positive to negative.

Example 1;

q2 h3 x2 w5 e120 r64 t127 c7

will compress the range of control change 7 in channel 3 to go from 64 to 127 as the x2 baton variable goes from 5 to 120.

Example 2:

q2 h3 y2 w5 e120 r64 t64 c7

will completely compress the range of control change 7 in channel 3 to be constant at 64 independent of y2 (this is a stupid thing to do);

Example 3:

q2 h3 z1 w40 e127 r127 t30 c7

will make control change 7 in channel 3 go from 30 to 127 as baton 1 is lifted and z1 goes from 127 to 40.

Example 4:

q2 h3 x2 w0 e127 r127 t0 c7

will make control change 7 in channel 3 go from 127 to 0 as y2 from baton 2 goes from 0 to 127.