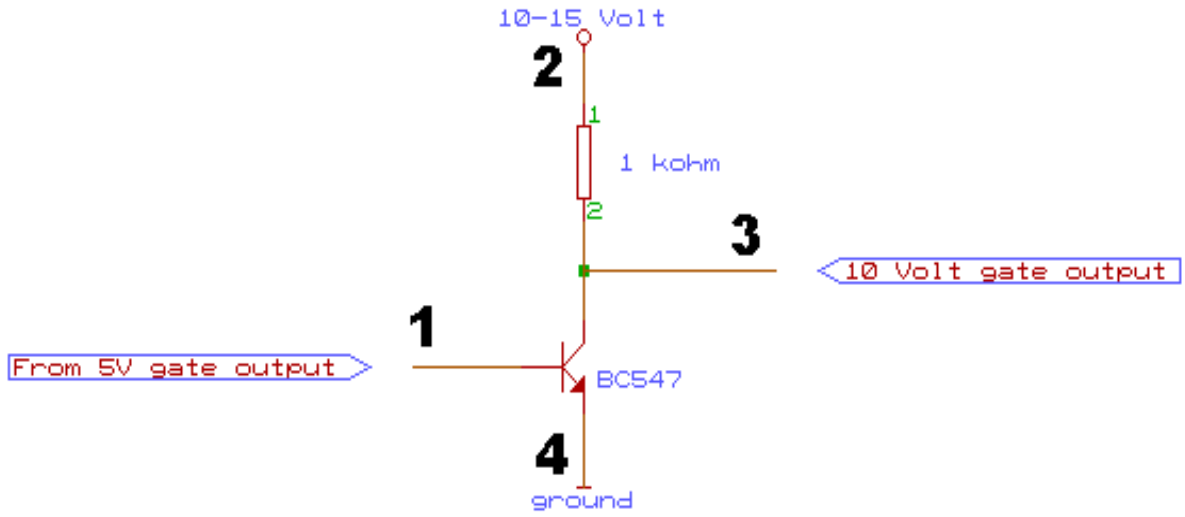
The 4 CV/Gate outputs of the TeeBee are capable of driving all CV/Gate inputs, except for :

- Gates which need a gate Voltage higher then 5 Volts.
- Gates which are S-triggered.

The following modification can be made to the TeeBee in order to make a Gate with an output of 10 Volts. For example, the Roland SH-09 needs a Gate Voltage of 10 Volts.
This circuit will invert the gate polarity at the same time, you can correct this by programming the TeeBee CV/Gate mode (choose the polarity of the Gate output).

The modification is a very simple schematic, you will only need 1 resistor and 1 transistor.
The most difficult part is placing the modification in a suitable housing.



1 : The 5 Volt Gate output of the TeeBee
2 : Any Voltage between 10 Volts and 15 Volts.
3 : The 10 Volt Gate output.
4 : Ground

This is the bottom view of the BC 547 transistor (when you are looking at the pins).
E = Emitter = point 4
B = Basis = point 1
C = Collector = point 3

If this transistor is not on stock at your electronicshop, just take some normal (audio) NPN transistor, this will also work without any problems.

For example if you want to make the 10 Volt Gate at the output of CV/Gate 1.
- Connect the output of Gate 1 to point 1.
- Connect the ground of Gate 1 to point 4
- Connect the 10-15 Volt Power to point 2
- Connect the ground of the new (mini) jack with 10 Volt Gate to point 4
- Connect the center pin of the new (mini) jack with 10 Volt Gate to point 3

You might want to build the circuit inside the TeeBee.
Then you can use the 12 Volt powersupply inside the TeeBee.
The 12 Volt power is available at pin 4 of the TL074 at the digital board. The 12 Volt is also available at other points. Use a Voltmeter to find an easy to reach place to solder a wire to.

You can drill a hole (at the back of the TeeBee) for an extra (mini) jack output with 10 Volt, or use the old mini jack output. When you use the old mini jack output, you must cut the trace that is going to the center pin of this gate output (leave the ground connected).

You can also build the circuit in a small box outside the TeeBee.
Then you must "feed-through" the 12 Volt power of the TeeBee.

This box could for example look like this :
- 1 x mini jack input (5 Volt gate from the TeeBee
- 1 x mini jack output (10 Volt Gate output)
- 1 x DC input for 12 Volt power connector
- 1 x DC output for 12 Volt power connector

- Built the circuit in a small box
- Insert the 12 Volt Power connector that normally goes to the TeeBee into the small box. This will make the 12 Volt available in the small box.
- Connect the ground to pin 4.
- Connect the 12 Volt to point 2.
- Now also make a wire that feeds the 12 Volt power (and the ground) from the small box to the TeeBee 12 Volt power input.

When you built the circuit in a small external box, you do not have to open the TeeBee or solder in the TeeBee.

I hope you understood all this, when you did not, please contact me.
Best regards,
Robert Honsbeek