

The Stoned Marten LPG - ADSR Card for 208

Hi

Thank you very much and congrats on your purchase of the Stoned Marten LPG - ADSR Card. This card expands the Music Easel or 208 with a VC looping ADSR envelope, a Lo Pass Gate, a preamp and an output mixer.

The switches give you the ability to instantly turn on, off and mix various signals to trigger the ADSR and open the LPG, and you can shape and put life into your patches thanks to the numerous CV inputs.

This opens up countless modulation variations.

ADSR

LED : monitors the ADSR output

Pots

- Attack : sets the attack time
- Decay : sets the decay time
- Sustain : sets the sustain amplitude
- Release : sets the release time

Black banana CV inputs - each with attenuator trimmer

- Attack : controls the attack time
- Decay : controls the decay time
- Sustain : controls either the sustain amplitude or the pulse length (see below), selected with a mini slide switch located on the side below the envelope LED
- Release : controls the release time

Trigger source

- Red banana : pulse input (the 218e arpeggio can't trigger the ADSR because the pulse outputs during arpeggiation are 10V pulses with sustain, and therefore the voltage drops to 5v and does not drop down to 0V - workaround : use the SVS in keyboard mode with arpeggiator and take the sequencer pulses).
- Length pot : sets the input pulse length, it is to adapt the pulse length for best response to the various trigger and gate sources or to create variations in a sequence, it can be voltage controlled via the sustain black banana when the mini slide switch is set accordingly
- Seq / puls switch : selects if the 208's pulse sequence switches or pulser triggers the envelope, central position is off, it can be mixed with the red banana pulse input
- Self switch : switch it to the right to enable self-retriggering
- Self LED : monitors the retrigger pulse
- Self black banana : CV input to the retrigger pulse delay
- Self pot : sets the retrigger pulse delay

Orange banana outputs

- Out : ADSR CV output
- Inv. out : ADSR CV inverted output (negative voltage - do NOT plug it to 200e series modules)
- Switch : connects either the output or inverted output to the LPG level input, central position is off

LPG

Level

- Left pot : sets the CV input amplitude
- Right pot : sets the amplitude manually
- LED : monitors the LPG opening
- Black banana : CV input
- Env / puls switch : selects if the 208's envelope or pulser controls the LPG level, central position is off, it can be mixed with the ADSR out / inv. out switch and CV input
- Mode select
- Switch : selects LPF combination or VCA mode
- Black banana : mode CV input - with attenuator trimmer next to the switch
- Internal 'CV response' trimmer : sets the LPG response to CV, adjust it according to your own 208 and preference

Preamp

- Signal in tinijax : signal input to the LPG
- Gain switch : switch to adapt the preamp gain according to the incoming signal amplitude
- c.v. out blue banana : CV output of the envelope detector, it works like the 208's one and outputs a CV related to the incoming signal's envelope.

Output section

- Channel C pot : sets the LPG output amplitude to the output mixer
- Signal out : LPG and mixer output
- Signal in : input to the mixer to patch one of the 208's signal outputs in order to have a single mixed signal of the 3 LPGs at the mixer output, if nothing's patched to this input, the card's LPG output only is present at the signal output which can be patched on its own directly to a mixer or effect or other module, the trimmer accessible on the side attenuates the signal level

Tips and tricks

Turn off the 208 before inserting or removing the card into the program card slot. Do not insert it backwards.

When the card is used, the 208's 'control' switch should be set to its central 'both' position.

The card's purpose is to leave the 208's LPG 2 to the MO, so its output shouldn't be patched to the 208's preamp (it's safe to patch it but doesn't make much sense).

To have all the 3 LPGs signal mixed together to a single output, run a 'signal output' tinijax of the 208 (both carry the same signal) to the card's output section 'signal in' and it will be present at the card's 'signal out' mixed with the card's LPG signal. So the card's 'signal out' becomes the Easel's main output.

The card's LPG signal level is set by the 'channel c' pot.

The 208's LPG signals are set by the 208's 'channel a and b' and 'master level' pots and reverb can be applied to these.

Alternatively you can choose not to patch the 208's output to the card in order to have only the card's LPG present at its 'signal output' and to rather patch it directly to a track of the mixer and the 208's out to another one.

The ADSR's attack response depends on the incoming pulse length. For example if a long attack is desired when a short pulse such as the one from the sequencer, pulser or self triggers the envelope, adjust the length pot to get the expected result.

The length pot can also be used as clock divider, to skip incoming pulses.

The CV of the length and self works better if their pot is not set to 0, unlike the other CV inputs.

It is safe and encouraged to mix various sources to trigger the ADSR and control the LPG.

The inverted ADSR signal routed to the LPG via the central switch can be mixed with another CV such as the 208's envelope or pulser or with the offset.

On my 208p, when the pulser yellow banana out is patched as a trigger source to the ADSR it interacts surprisingly with the self : if the self is disabled, the pulser doesn't trigger the envelope, if the self is enabled the pulser triggers it but the self doesn't retrigger regardless of the pot setting. Let's consider this 'normal'.

The ADSR self mode may not work properly if the sustain is set to 0.

The card's LPG is based on the original 70s circuit of the 208. It may sound and behave pretty differently from a 208c's or 208e's LPG. The level in VCA mode when not all the way up is lower. This is normal behaviour of this LPG.

To reduce action and pressure on the 208's edge connector, hold the card with a hand when you patch or unpatch a cable.

The card draws 100mA on the +15V rail and 50mA on the -15V rail.

Internal wiring of the card's signal output to the 208's output section

As an option, the LPG output can also be connected directly to 208's output section via the edge connector with a small easy modification of the 208, thanks to the N/C contacts of the card connector (contacts 5 and 6 of each front and rear row, unless are used for another modification)

This doesn't apply to the 208c / Easel Command and likely Buchla USA Easel as my understanding is that unlike other revisions, all the contacts of the card connector are already used on these.

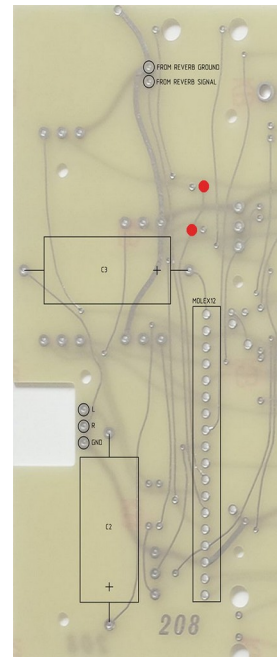
On the Stoned Marten Card, solder a short cable or piece of component lead between the 'output' pad (located above contacts 6 of the card's rear connector) and a N/C contact of your choice. The lugs of contacts 5 and 6 are snipped to ease access for soldering without opening the card.

On a 208p or 208r, unplug card 12 to access the R70 and R71 resistors pads on the motherboard.

Solder a cable between either the top pad of R70 or the bottom pad of R71 (dots on the pic) and the corresponding contact 5 or 6 of the card edge connector.

The modification should be similar on the BEMI Easel, the resistors are 33k and in series with the channel A and B pot wipers (central terminal), easy to spot them with a continuity test.

The mini slide switch located near the LPG's 'channel C' pot enables or disables the connection to the 208's output section.



Dedicated length CV input via a 208 panel's 'to card' / 'to prog' socket

As an option, a 208 panel's 'to card' / 'to prog' socket can be used to control the length.

Remove the back panel.

Run a cable through the hole (located between the gain and phase switches) from the edge connector's rear 23 (to use the 208 inverter's socket) or front 26 (to use the 208 preamp's socket) to the 'length CV' pad and solder a 56k resistor in the spot, 56k is a suggested value, a lower value will increase the CV action, a higher value will reduce it, feel free to select on test the value which best fits your own preference.

Disclaimer

Although 100% safe with any 208, the 218e and other 200e modules might be damaged if audio signal or bipolar or negative CV is patched to an input.

The inverted ADSR output is negative CV, therefore do not patch this output to a 200e module. I assume no liability for personal injury or damage to equipment or loss of use caused directly or indirectly by the use of the Stoned Marten ADSR - LPG Card.

Feel free to contact me for questions, feedback and support.

Thank you and have fun !

Cheers and beers from Belgium,
Constantin