

Congratulations on the purchase of the Synth-Expansion. This package will increase the functionality of your RAVE-O-LUTION 309 tremendously. The following new features are at your disposal after installation:

- 36 new waveforms including noise.
- 2 new filter algorithms: 12 dB Highpass and 12 dB Lowpass.
- In combination with installed Audio-Expansion:
 - New filters also for treatment of external signals.
 - Oscillator parameters (Wave/Tune/Glide) for Ext1/2.
 - 2 additional monophonic synthesizers (with MIDI-control).

Before you can start taking advantage of these new functions, you will have to install the Synth-Expansion. Please adhere to the installation procedures described in this manual. If you don't understand any of the explanations of the new functions we recommend consulting your authorized QUASIMIDI-dealer or the QUASIMIDI-distributor for your country.

Installationguide:

Included in the package, besides this installationguide, are the following items:

- 1 board with the Synth-Expansion.
- 1 IC with the new operating system on antistatic foam.
- 1 IC removing tool.

Check to see if all the items listed above are included in the package. In addition to the above listed tool you will just need a Phillips screwdriver.

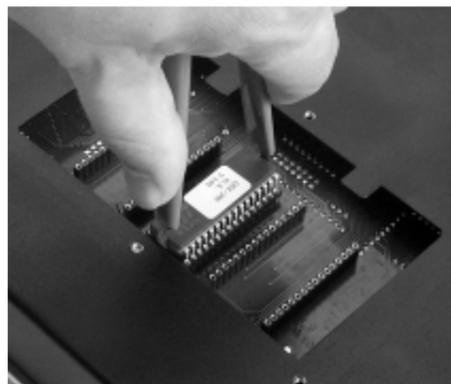
ATTENTION: BEFORE DOING ANYTHING, BACK-UP ANY VALUABLE USER-MOTIFS, SOUND- AND SONG-DATA, BECAUSE THIS PROCEDURE REQUIRES REINITIALIZATION OF THE 309'S MEMORY.

IMPORTANT: The included IC and expansion-board are sensitive to electrostatic charges. This procedure requires that you periodically "ground" yourself, by touching a grounded object such as a water pipe or a grounded piece of equipment. Grounding yourself prevents the static charge in your body from damaging the sensitive IC and expansion-board.

Installation of the operating system IC:

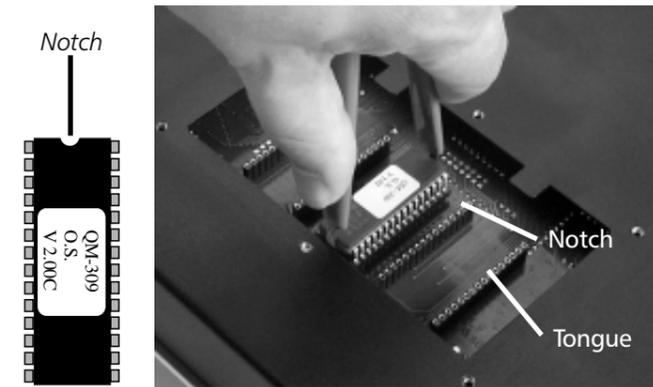
- a.) To start installation, be sure to disconnect the AC-adaptor.
- b.) Place the 309 with the bottom side up on a soft cloth. To place the 309 in a safe position it is better to use the styrofoam of the shipping box.
- c.) Remove the six screws of the small bottom plate.
- d.) Here you see three IC-sockets. The IC you have to change is located in the middle.

- e.) Using the IC-tool, remove the chip. To remove the IC from the socket, place the IC-tool at the both ends of the IC. Pull carefully, alternating from the left and right sides, and remove the chip.



Don't forget to "ground" yourself before you insert the new IC. Insert the the new IC on the socket without pressing. **Pay attention to the polarity of the IC indicated by the notch.**

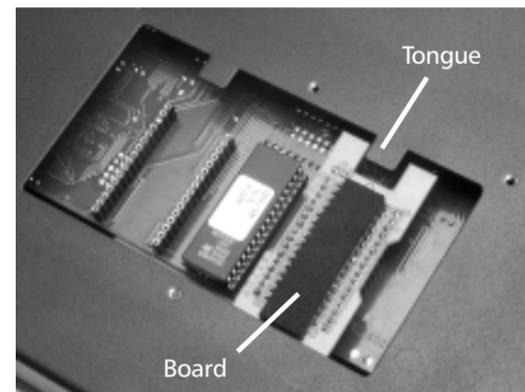
The new IC has to be inserted with the notch oriented towards the tongues of the 309's body (see picture). Make also sure that all the IC's pins fit the socket.



Now press the IC into the socket gently, then double-check the polarity and the positions of all the pins a second time. If everything is OK, carefully press the IC into the socket until fully seated.

Installation of the Synth-Expansion board:

The installation of the Synth-Expansion board is easier than the installation of the operating system IC. The design of the board makes it nearly impossible to insert it in the wrong direction. The following picture will help you for orientation:



Before you insert the expansion-board you should "ground" yourself one more time to prevent electrostatic charge in your body. The Synth-Expansion-Board can be installed left or right of the operating system IC. At first insert the board into the socket without pressing and check if the pins fit the socket. If everything is OK, carefully press the expansion-board into the socket until fully seated. This procedure also needs a little bit of fine feeling to prevent damages of your equipment.

The last step of the installation consists in screwing the small bottom plate onto the 309 body and to initialize the instrument (see next page).

Initialization of the 309:

After changing the operating system of the 309 it is necessary to initialize the instrument. Otherwise the Synth-Expansion will not be recognized.

With the 309 turned off, press and hold the WRITE-button of the 309 while you switch the power on. The display will show: "INITIALIZE ALL?". To confirm this message press button F1. Don't worry, this may take some seconds and the progression is indicated by a meter in the display. If the Synth-Expansion is installed properly, from now on the display will show the message "Expanded S" after turning on the 309.

How to get a first impression of the sound?

We are sure that now you want to listen to some new sounds to evaluate the new possibilities of the Synth-Expansion. To do this, start any pattern and mute all the tracks except the BASS/LEAD-Synthesizer. Now, hold the SELECT button down and turn the EDIT/VALUE wheel to chose a sound beyond soundnumber 127. There are 32 new sound examples in the expanded 309 located in between the soundnumbers 128 and 159.

Important!

After the installation of the expansion, the 309 doesn't have more RAM memory locations than before! If you want to employ one of the new sounds in a pattern, you have to save it first on one of the regular soundnumbers between 0 and 127. The patterns can only call up sounds from 0 to 127!

How to reach the new oscillator models?

The Synth-Expansion features 37 new waveforms based on new oscillator models. These waveforms are automatically located behind the waveforms of the regular version of the 309. The Synth-Expansion provides oscillator models with up to four oscillators. The following list shows the several new waveforms and indicates their numbers of oscillators:

Spectra1	1	TB303_a1	1
Spectra2	2	TB303_a2	2
Spectrb1	1	TB303_b1	1
Spectrb2	2	TB303_b2	2
Spectrc1	1	TB303_c1	1
Spectrc2	2	TB303_c2	2
Spectrd1	1	Major_Ch	3
Spectrd2	2	Minor_Ch	3
Spectre1	1	5th8thCh	3
Spectre2	2	MajorMin	3
Spectrf1	1	MinorAdd	4
Spectrf2	2	MinorMin	3
Spectrg1	1	MajorCh2	3
Spectrg2	2	MinorCh2	3
Spectrh1	1	5th8thC2	3
Spectrh2	2	MajorMn2	3
Spectri1	1	MinorAd2	4
Spectri2	2	MinorMn2	3

How to find the new filter algorithms?

With the Synth-Expansion, the BASS/LEAD-Synthesizer is enhanced by two new filter algorithms: the 12 dB Lowpass and the 12 dB Highpass filter. For selecting the new filters, a new menu page appears in the edit-sound menu. Press the SELECT button of the BASS/LEAD-Synthesizer and select the last page in the edit-sound menu. You will see the following menu in the display:

```
Edit Bass-Sound
<23| VCFTyp:LP24
```

Here you can select the different filter algorithms.

How to sync the LFO with the sequencer?

A superb feature for sound design is a filter-, pitch- or volume modulation that automatically adjusts to the speed of your groove. To chose this feature, select the parameter "LFORat:" on page 17 of the edit-sound menu. After the value of 120 the display will show you the different available sync-rates: 1/16, 1/8, 1/4, 1/2 and 1/1. These values indicate the resolution of the LFO-rate within on measure. If you have selected one of these values and you change the tempo of the sequencer, the rate of the LFO will follow.

New features in combination with the Audio-Expansion:

If you have installed an Audio-Expansion in addition to the Synth-Expansion, your 309 will have three identical BASS/LEAD-Synthesizers. The two additional synthesizers can be played via MIDI or triggered with the internal sequencer of the 309. The general handling of the additional synthesizers is explained in the manual of the Audio-Expansion. You will find all the necessary information in the chapter "Editing the Input Sections". The new parameters introduced by the Synth-Expansion will be explained in the following two paragraphs.

How to control the two synthesizers via MIDI?

Once the RAVE-O-LUTION has been initialized, the MIDI system channel is channel 1. Accordingly the two additional Synths can be played on channels 6 and 7. To do this, you just have to set up the oscillators for the two sections instead of the external inputs. Open the edit menu of the first additional synth located on MIDI channel 6 by double clicking the F1 button under the display. You will see the following menu in the display:

```
Edit Ext1-Sound
<6> Wav: ---
```

Press the PAGE buttons to select menu page 5:

```
Edit Mix T: Ext1
<5> Trigg: NoTrg
```

Modify the parameter for triggering (Trigg:) and set it to MIDI:

```
Edit Mix T: Ext1
<5> Trigg: MIDI
```

If you now go back to page 6, the parameter "Wave" allows you to select all the waveforms of the BASS/LEAD-Synthesizer. The parameters "Glide" and "Tune" are now also appearing in the edit menu of the two additional synthesizer units. If you want to go back to edit external audio-signals, you have to select "In1" instead of a waveform. It is only with "In1" selected that you can go back from MIDI-triggering to the "No Trigger" setting. On menu page <0> you have the option to select all the the sound-programs of the BASS/LEAD-Synthesizer for use with the two additional synths. Of course, the selection can also be made via MIDI-program changes. All the parameters of the two additional synthesizers can be modified via MIDI-controllers. You can find the listing of the 309's MIDI-controllers on page 23 of your 309 manual.

How to double the BASS/LEAD-Synthesizer with the additional synths?

If you have done all the settings until this point, you just need to switch the triggering parameter on page 5 to "Bass". From now on the selected synthesizer will play along with the 309's Bass-track!