access
MIDI TOOLS

MICROWAVE
PROGRAMMER

Bedienungsanleitung

Owner's Manual

MODULATION — OSCILLATORS — FILTER/ENVELOPES

MIDI OUT   MIDI IN   9V DC +−

MODULATION

WAVE1
ENV AMT
LFO1 RATE

LFO1 SHAPE

WAVE2
ENV AMT
LFO2 RATE

LFO2 SHAPE

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MICROWAVE
PROGRAMMER

OSCILLATORS

1

WAVETABLE   OCTAVE   DETUNE   STARTWAVE

SEMITONE

WAVE1 VOL   TRI   SQU   SAW

2

WAVE2 VOL   OCTAVE   DETUNE   STARTWAVE

SEMITONE

NOISE VOL   TRI   SQU   SAW

FILTER/ENVELOPES

CUTOFF   RESONANCE   ENV AMT   KBD AMT

ATTACK   DECAY   SUSTAIN   RELEASE

TIME1/5   TIME2/6   TIME3/7   TIME4/8

ATTACK   DECAY   SUSTAIN   RELEASE

LEVEL1/5   LEVEL2/6   LEVEL3/7   LEVEL4/8

VCF/VCA ENV   WAVE ENV1-4   WAVE ENV5-8

LOCK   INSTRUMENT

TABLE OF CONTENTS

INTRODUCTION

Thank you for choosing the **access MICROWAVE PROGRAMMER**. With this tool, we have provided you with an analog user interface for the **MICROWAVE** which enables you to create sounds intuitively, manipulate them precisely, and record realtime parameter changes to a sequencer.

Although a comprehensive library for the **MICROWAVE** is already available, when working with the Programmer, you will soon find that many sound options have not yet been exploited.

By simply adjusting a few parameters, you will discover sounds that you wouldn't have expected from the **MICROWAVE**.

The **access MICROWAVE PROGRAMMER** features a streamlined design, focused on the most significant and effective parameters for maximum handling ease. Nevertheless, you should read this manual thoroughly to ensure you gain insight into all of the Programmer's features and functions.

SYSTEM PREREQUISITES

The operating system version of the MICROWAVE must be 1.20 or higher. Outdated operating system versions are unable to process realtime SysEx data. To ensure you are able to exploit all the options the MICROWAVE and the access MICROWAVE PROGRAMMER have to offer, you definitely should load the latest update (currently V2.0).

DEVICE ID

The MICROWAVE PROGRAMMER features a fixed Device ID setting of 0. Consequently, the Device ID of the connected MICROWAVE must also be set to 0, otherwise the Programmer will be ignored by the MICROWAVE. If you are using several MICROWAVES in conjunction with the Programmer, set those devices you do not want to edit to an ID No. other than 0.

SAVING EDITED SOUNDS

The MICROWAVE PROGRAMMER is not equipped with a memory of its own. Save sounds you have edited in the usual manner, in other words, directly at the MICROWAVE via the Shift/Store function.

RECORDING PROGRAMMER DATA

The MICROWAVE PROGRAMMER converts the settings you have dialed in at the front panel to system exclusive data; in other words, specific data for the diverse devices. Most sequencers are able to process and record these SysEx data so you can permanently integrate edited sequences in an arrangement.
You should reserve a track specifically for this purpose and, additionally, ensure the sequencer does not filter out the SysEx data.
Software sequencers often feature special MIDI filters for recording purposes.

CONNECTIONS

MIDI IN

This is the input jack for the keyboards or sequencers you want to use to drive the MICROWAVE. The MICROWAVE PROGRAMMER is not able to process incoming sound data, bulk dumps, etc. The MIDI In jack is used to merge incoming information with internally generated data. The Programmer works fine without an external merger (MIDI mixer).

MIDI OUT

SysEx data generated by the Programmer and MIDI data received via MIDI IN are routed to this jack (merge function). Consequently, the MIDI Out jack also functions MIDI THRU.

POWER 9V DC

Please use a standard external power pack bearing a rating of 9V/300 mA DC to supply the MICROWAVE PROGRAMMER with power. To ensure a snug fit, the power pack's plug should measure 2.1 x 5.5 mm (inside x outside diameter).

Polarity of the power pack:

ATTENTION!

Ensure the polarity of the power pack corresponds to the depicted polarity. If you use a power pack with reverse polarity for any length of time, it won't damage the MICROWAVE PROGRAMMER, but it could destroy the power pack.
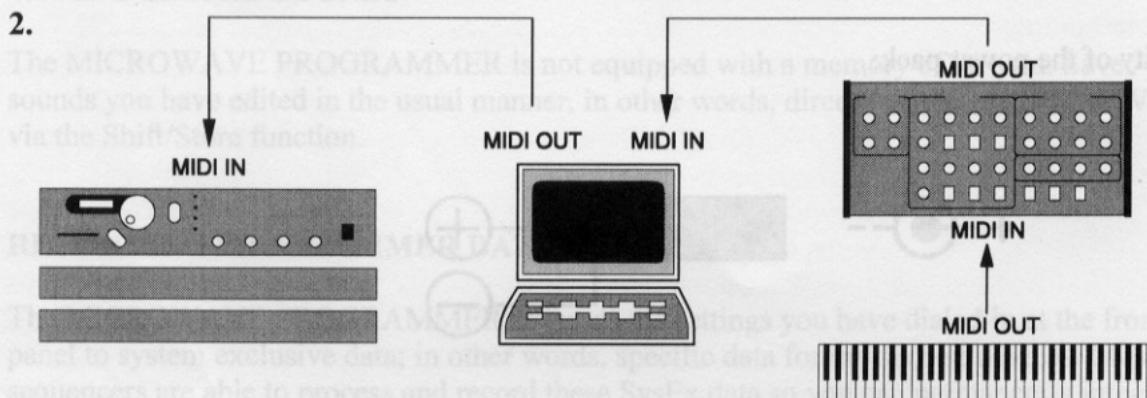
SETUP

There are several ways you can integrate the MICROWAVE PROGRAMMER to your MIDI system.
The following examples may of course be applied to larger MIDI setups.

1.

MIDI IN   MIDI OUT   MIDI IN   MIDI OUT
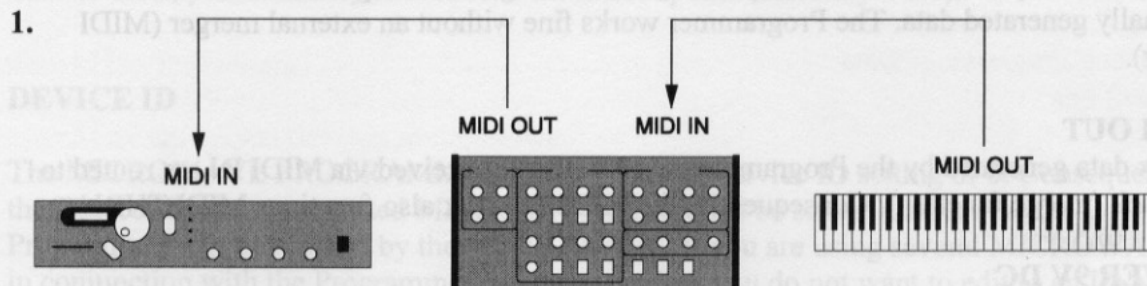
- This is simplest method when you are not using a sequencer and want to use just one keyboard to drive the Programmer.

2.

MIDI IN   MIDI OUT   MIDI IN   MIDI OUT

MIDI IN

MIDI OUT

- Connect the Programmer to the computer's MIDI IN port so you can record parameter changes; keyboard data will be routed through the computer to the other devices.
  Even if you chose not to record Programmer data, you should still connect the MICROWAVE PROGRAMMER prior to your computer/sequencer in the signal chain.
  This avoids timing problems when data are played back. Otherwise the THRU function, implemented purely as a software tool, may cause timing problems.

You do not need an additional MIDI mixer to merge keyboard and Programmer data. If you do own a MIDI Patchbay, you can of course connect the Programmer to the patchbay to route its data to the MICROWAVE or sequencer inputs.
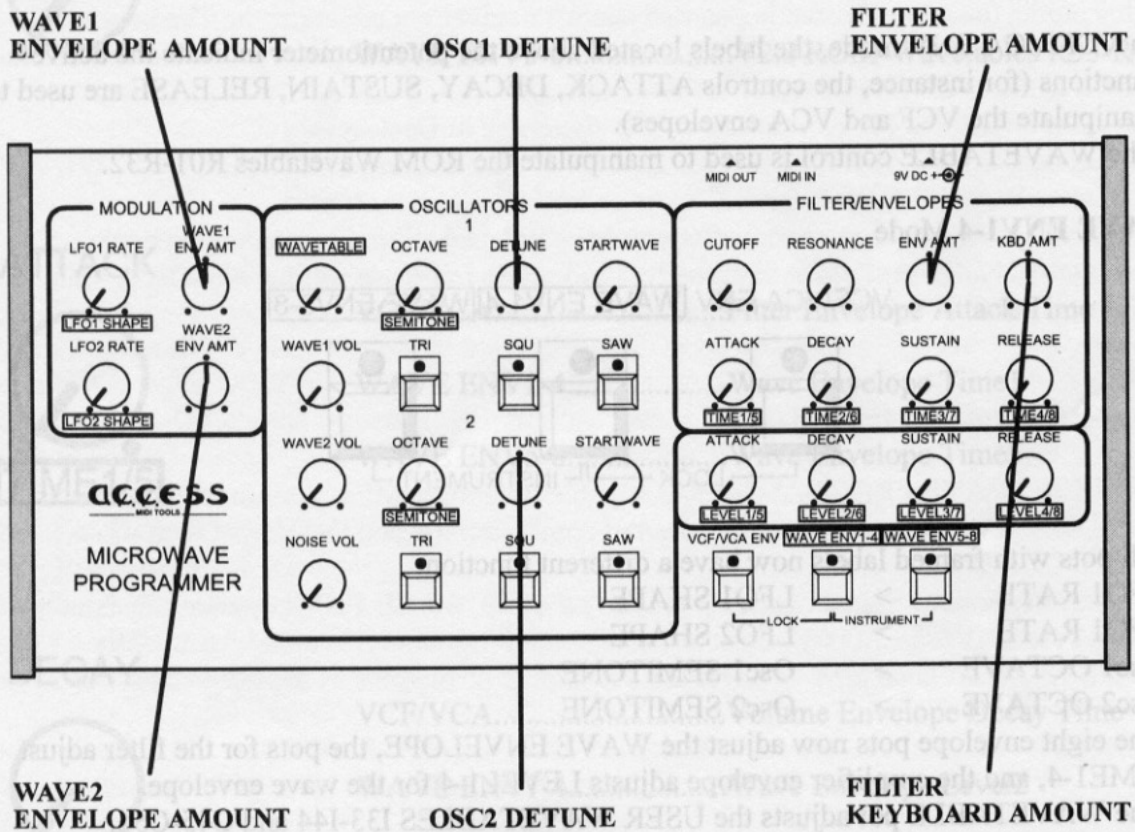
IMPORTANT!

Ensure all devices you patch into the signal chain between the Pogrammer and the MICROWAVE are able to transmit MIDI system-exclusive data. Software sequencers are often equipped with a feature that allows you to filter out certain data types for the MIDI THRU function. Check out these settings and if necessary, switch them off.

CONTROL FEATURES

The MICROWAVE PROGRAMMER's control features, in other words, the pots and keys as well as the parameter they affect, are labelled in the same manner as the MICROWAVE's. The only exception is the filter's KEYTRK AMT (keytrack amount), which is called KBD AMT (keyboard amount) on the Programmer. If you are not familiar with how sound is generated via the MICROWAVE, consult the MICROWAVE's progamming manual. It describes the sound parameters in detail.

Six of the 26 rotary pots are set to "0" at the 12 o'clock position:

WAVE1
ENVELOPE AMOUNT   OSC1 DETUNE   FILTER
ENVELOPE AMOUNT

MIDI OUT   MIDI IN   9V DC

MODULATION   OSCILLATORS   FILTER/ENVELOPES
1

LFO1 RATE   WAVE1 ENV AMT   WAVETABLE   OCTAVE   DETUNE   STARTWAVE   CUTOFF   RESONANCE   ENV AMT   KBD AMT

LFO1 SHAPE   WAVE2 ENV AMT

LFO2 RATE   WAVE1 VOL   SEMITONE   TRI   SQU   SAW   ATTACK   DECAY   SUSTAIN   RELEASE

LFO2 SHAPE

2

WAVE2 VOL   OCTAVE   DETUNE   STARTWAVE   ATTACK   DECAY   SUSTAIN   RELEASE

TIME1/5   TIME2/6   TIME3/7   TIME4/8

access
MIDI TOOLS

MICROWAVE
PROGRAMMER

SEMITONE

NOISE VOL   TRI   SQU   SAW   LEVEL1/5   LEVEL2/6   LEVEL3/7   LEVEL4/8

VCF/VCA ENV   WAVE ENV1-4   WAVE ENV5-8

LOCK — INSTRUMENT

WAVE2
ENVELOPE AMOUNT   OSC2 DETUNE   FILTER
KEYBOARD AMOUNT

Turn the pots counterclockwise for negative values, clockwise for positive values.

MODE BUTTONS
The VCF/VCA ENV, WAVE ENV1-4 and WAVE ENV5-8 keys do not send MIDI data. They activate alternate modes for certain pots and switch LOCK and INSTRUMENT modes on and off.

VCF/VCA ENV Mode

VCF/VCA ENV   [WAVE ENV1-4] [WAVE ENV5-8]

LOCK ─── INSTRUMENT

- In VCF/VCA ENV mode, the labels located above the potentiometer indicate the active functions (for instance, the controls ATTACK, DECAY, SUSTAIN, RELEASE are used to manipulate the VCF and VCA envelopes).
- The WAVETABLE control is used to manipulate the ROM Wavetables R01-R32.

WAVE ENV1-4 Mode

VCF/VCA ENV   [WAVE ENV1-4] [WAVE ENV5-8]

LOCK ─── INSTRUMENT
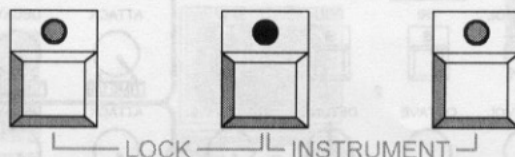
- All pots with framed labels now have a different function.

LFO1 RATE	>	LFO1 SHAPE
LFO1 RATE	>	LFO2 SHAPE
Osc1 OCTAVE	>	Osc1 SEMITONE
Osc2 OCTAVE	>	Osc2 SEMITONE

- The eight envelope pots now adjust the WAVE ENVELOPE, the pots for the filter adjust TIME1-4, and the amplifier envelope adjusts LEVEL1-4 for the wave envelope.
- The WAVETABLE pot adjusts the USER WAVETABLES I33-I44 and C45-C56.

WAVE ENV5-8 Mode

VCF/VCA ENV   [WAVE ENV1-4] [WAVE ENV5-8]

LOCK ─── INSTRUMENT

- In contrast to WAVE ENV1-4 mode, the pots now edit TIME5-8 and LEVEL5-8 for the WAVE ENVELOPE.
- The WAVETABLE pot adjusts the new ROM WAVETABLES of the MICROWAVE operating system version 2.0 (R33-R64).
- The functions of the other pots remain as they are, in other words, as in WAVE ENV1-4 mode.

These four examples illustrate how the mode keys work:

KNOB	MODE	FUNCTION
WAVETABLE	VCF/VCA	ROM-Wavetables R01-R32
	WAVE ENV1-4	User-Wavetables I33-I44 and C45-C56
	WAVE ENV5-8	V2.0 ROM-Wavetables R33-R64
ATTACK / **TIME1/5**	VCF/VCA	Filter Envelope Attack Time
	WAVE ENV1-4	Wave Envelope Time1
	WAVE ENV5-8	Wave Envelope Time5
DECAY / **LEVEL2/6**	VCF/VCA	Volume Envelope Decay Time
	WAVE ENV1-4	Wave Envelope Level2
	WAVE ENV5-8	Wave Envelope Level6
OCTAVE / **SEMITONE**	VCF/VCA	Oscillator Octave
	WAVE ENV1-4	Oscillator Semitone
	WAVE ENV5-8	Oscillator Semitone

LOCK MODE

VCF/VCA ENV WAVE ENV1-4 WAVE ENV5-8

└──LOCK──┘└─INSTRUMENT─┘
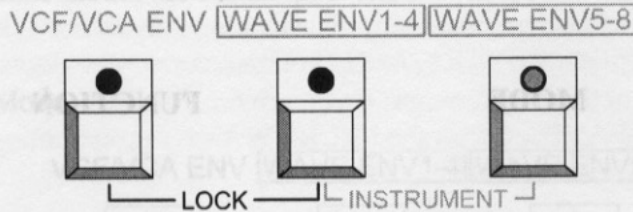
Press VCF/VCA ENV and WAVE ENV1-4 simultaneously to set the MICROWAVE
PROGRAMMER to **Lockmode**.
In this mode, the control panel is guarded against inadvertent adjustments. The keys are
disabled, and if you turn the pots, they no longer affect the given parameters. However, data
patched to the MIDI IN jack are still routed through.
When you switch the Progammer on, it will always be in **Lockmode**.
You can deactivate **Lockmode** by pressing one of the mode keys VCF/VCA ENV, WAVE
ENV1-4 or WAVE ENV5-8.
You should always lock the panel after you have finished editing to ensure you don't
accidentally change settings. Additionally, **Lockmode** improves timing when large amounts
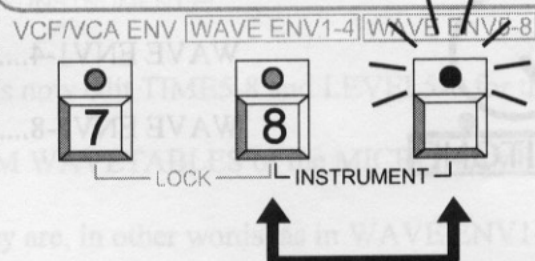of data are sent via the THRU function.

INSTRUMENT SELECT MODE

The MICROWAVE PROGRAMMER is capable of editing different sounds (instruments) or
several sounds simultaneously in any desired combination when the MICROWAVE is set to
MULTIMODE.
Activate **Instrument Select Mode** by pressing the two WAVE ENV keys simultaneously.
The WAVE ENV5-8 LED will flash to indicate the Programmer is ready for an entry.
Use the the remaining 8 keys to select the 8 available instuments as depicted below:

TRI   SQU   SAW

[1]   [2]   [3]

TRI   SQU   SAW   VCF/VCA ENV WAVE ENV1-4 WAVE ENV5-8

[4]   [5]   [6]   [7]   [8]

└──LOCK──┘└─INSTRUMENT─┘

For editing puposes, you can select several instruments in succession for any desired combination or even all 8 instruments.

Press the WAVE ENV5-8 key to exit **Instrument Select Mode**.

NOTE:

- In **Instrument Select Mode**, the rotary pots no longer send MIDI data!
- The Programmer defaults to **Instrument 1** when turned on.

## TRI/SQU/SAW BUTTONS - STARTWAVE

TRI   SQU   SAW
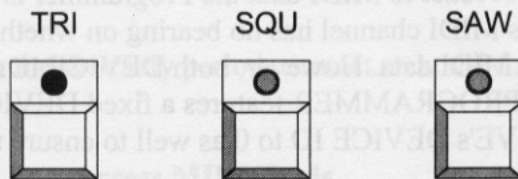
The TRI, SQU and SAW keys let you select the triangular, square and sawtooth waves available at the end of each wavetable individually for both oscillators.

In contrast to the STARTWAVE controls, when you press one of these keys, it switches all modulations that affect the wavetable off; in other words, the following modulation options are set to "0":

Wave Envelope Amount
Wave Envelope Velocity
Wave Keytrack Amount
**Wave Modifier1 Amount**
Wave Modifier2 Amount

Please note that the MICROWAVE PROGRAMMER cannot reconstruct modulations you have switched off. You must reprogram them via the Programmer or directly at the Microwave.

If you want to utilize the TRI, SQU or SAW waveshapes with the given modulations, select them via the STARTWAVE pot. Turn the STARTWAVE key all the way clockwise to the maximum setting. The TRI/SQU/SAW LEDs will illuminate when the corresponding Waveform is activated.

STARTWAVE
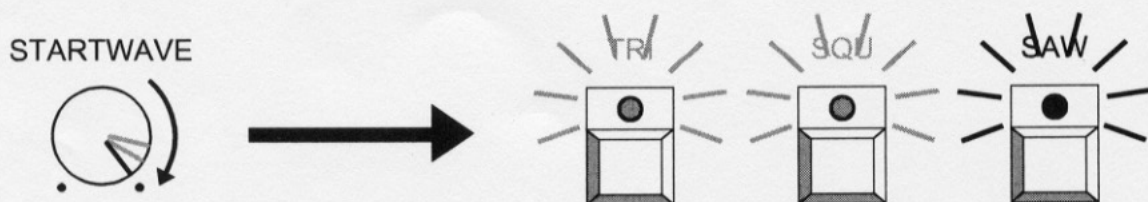
TROUBLESHOOTING

1. You have plugged the power pack in and switched the power on, but none of the MICROWAVE PROGRAMMER's LEDs illuminate.

    - The power pack's polarity is reversed, it does not supply sufficient power, or it is defective.

2. The VCF/VCA and WAVE ENV1-4 LEDs illuminate, MIDI THRU functions properly, but the Progammer is not sending MIDI data.

    - After you switch the Programmer on, it is in LOCKMODE, in other words, all control features are disabled. Switch LOCKMODE off by pressing the VCF/VCA ENV key or one of the WAVE ENV keys.

3. The MICROWAVE does not react to MIDI data the Programmer is sending.

    - The MICROWAVE's MIDI channel has no bearing on whether or not it registers the Programmer's SysEx MIDI data. However, both DEVICE IDs must correspond. The MICROWAVE PROGRAMMER features a fixed DEVICE ID setting of 0, so set the MICRROWAVE's DEVICE ID to 0 as well to ensure the two units can interact.

    - The MICROWAVE is set to MULTIMODE and the Programmer is addressing an instrument that has not been added to the multisetup. Use the INSTRUMENT SELECT key on the MICROWAVE to locate the number of the instument you want to edit. Enter this number to the Programmer as described in the section on INSTRUMENT SELECT MODE (page 8).

4. The MICROWAVE PROGRAMMER is connected to a sequencer (computer) input. The MICROWAVE does not react to Programmer data.

    - Check out the sequencer program's input filter (MIDI THRU filter). Switch the SysEx filter off so that Programmer data are routed to the computer's output jack.

5. You are able to edit the MICROWAVE, but the edits cannot be recorded to a sequencer track.

    - Your sequencer may feature a separate Record filter. In this case, switch off its SysEx filter via the MIDI Definitions menu or a similar menu.

6. Although you have applied troubleshooting measures 1-5, the MICROWAVE PROGRAMMER still does not operate properly.

    - Check if your MICROWAVE features system software V1.20 or higher. If not, update your MICROWAVE with current operating system Version 2.0.
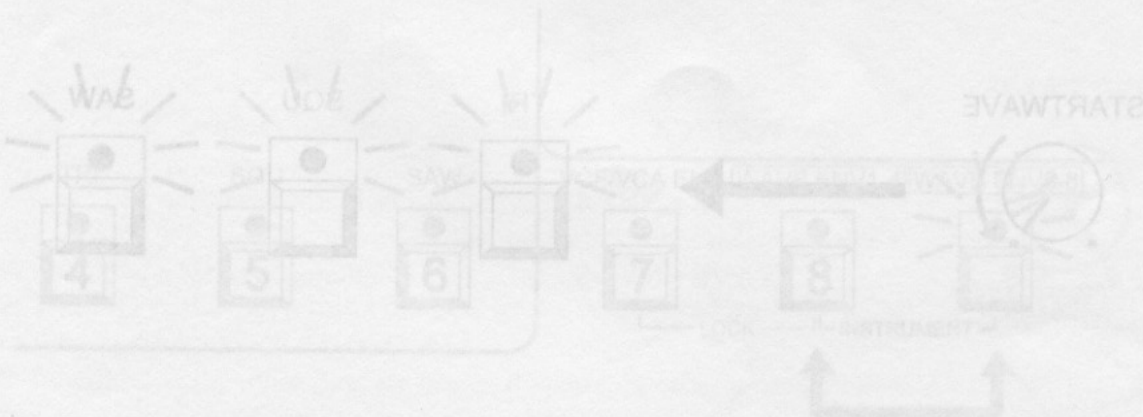
WARRANTY

The access MIDI Tools warranty covers all defects in material and workmanship for a period of six months from the date of original purchase.

This warranty does not cover defects due to abuse, faulty connections or operation under other than specified conditions.

Warranty coverage is also voided when the device is repaired by unauthorized persons or tampered with in any way.

To ensure the warranty is valid, fill out the warranty card completely, including serial no., date of sale, company stamp, signature of the authorized dealer, as well as your name and address.

If a defect occurs during the warranty period, contact us at the following address before sending the device to us:

access MIDI Tools
Trimburgstr. 11
D-36039 Fulda
West Germany
0661/65693

The following stipulations also apply:

- We can accept only prepaid packages. The device will be returned to you C.O.D. All shipping costs must be covered by customers.
- Ensure the unit is sent in its original package or one of equal quality.
- Include a detailed description of the defect and a copy of the purchase receipt.

SPECIFICATIONS

access MIDI TOOLS
MICROWAVE PROGRAMMER

Analog User Interface for MICROWAVE Synthesizers via MIDI SysEx

Dimensions: 355x185x66mm
Weight: 1500g
Power Supply: 9V DC (optional)
Power Consumption: < 200mA

Controls: **26 Rotary Knobs**
                  9 Buttons w/LED Indicators

Connections: **MIDI In**
                  MIDI Out
                  Power 9V DC

Control Functions:

LFO1 Rate / Shape	VCF Cutoff
LFO2 Rate / Shape	Resonance
Wave1 Envelope Amount	Envelope Amount
Wave2 Envelope Amount	Keyboard Amount
Wavetable	Attack / Wave Env Time1(5)
Wave1 Volume	Decay / Wave Env Time2(6)
Wave2 Volume	Sustain / Wave Env Time3(7)
Noise Volume	Release / Wave Env Time4(8)
OSC1 Octave / Semitone	VCA Attack / Wave Env Level1(5)
Detune	Decay / Wave Env Level2(6)
Startwave	Sustain / Wave Env Level3(7)
Wave Select (Tri/Squ/Saw)	Release / Wave Env Level4(8)
OSC2 Octave / Semitone	Envelope Select (VCF/VCA/Wave)
Detune	Instrument Select
Startwave	Panel Lock Mode
Wave Select (Tri/Squ/Saw)	MIDI Merge

Specifications subject to change without notice.
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