MODIFIorC User Manual

Creative CV Modifier

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1. Introduction

1.1 Key Features

MODIFIorC is a **creative CV modulation tool** designed to make shaping and controlling CV signals in the Reason Rack intuitive and powerful. From simple adjustments to dynamic control, it transforms CV signals in a variety of ways, enabling precise and expressive modulation of parameters in other devices.

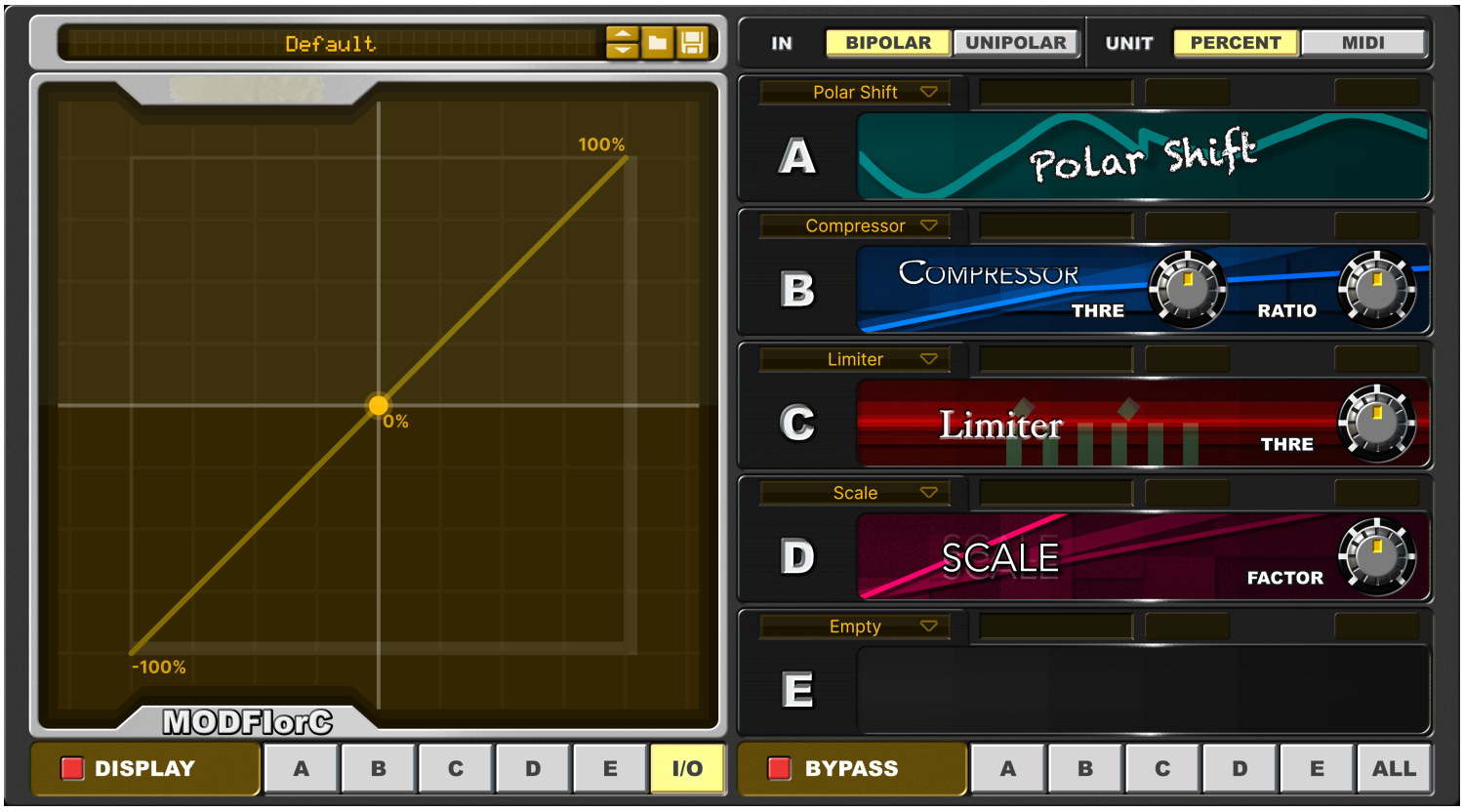

Figure 1. MODIFIorC — Front Panel Overview

1.2 Core Concepts

- **Simple yet powerful structure**: Five-slot (A–E) serial processing flow
- **Selectable modules**: Each slot can be assigned one of several modules, combined as

needed

- **Real-time display**: Immediate visual feedback of modulation results
- **Unit switching**: Results can be displayed in Percent or MIDI values
- **Polarity control**: Uni/Bipolar settings allow adaptation to various CV scenarios

1.3 Target Users

This device is useful for any Reason user seeking finer and more flexible control of CV. Whether you are a producer, performer, or sound designer, MODIFIorC supports creative patching and precise modulation.

1.4 Structure of This Document

- System Requirements & Installation
- Quick Start
- Panel Overview
- Signal Flow & Unit System
- Slots A–E
- License & Support

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2. System Requirements & Installation

2.1 Supported Versions

- Reason 10.1 or later (full version)
- Reason Rack Plug-in (VST/AU/AAX environments supported)

2.2 Installation & Authorization

1. **Purchase/Download**: Purchase MODIFIorC from the Reason Studios Shop or download the demo version.
2. **Install & Update**: MODIFIorC is installed and updated via the Reason Companion app according to your purchase history.
3. **Authorization**: When Reason launches, your account is automatically verified. Licenses are managed by Reason Studios.

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3. Quick Start

3.1 Preparation

- **CV Source**: Device generating modulation signals (e.g., LFO, sequencer)
- **CV Target**: Device parameter to be modulated (e.g., filter cutoff, volume)
- **MODIFIorC**: Intermediate device to process and shape CV signals

3.2 Basic Connections

1. Connect the source device's `CV Out` → MODIFIorC `CV In`
2. Connect MODIFIorC `CV Out` → target device's `CV In`
3. Select a module for Slot A
4. Adjust module parameters to achieve the desired modulation effect

3.3 Confirming Results

- Depending on the selected module, signal amplitude, polarity, and threshold-based control are immediately applied.
- Observe output changes in the real-time display.
- Adjust parameters as needed to refine the modulation.

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4. Panel Overview

4.1 Front Panel

- **Patch Area**: Displays the patch name and provides selection/browsing/saving controls
- **Global Options**: Input mode (Bipolar/Unipolar), unit switching (Percent/MIDI)
- **Slots A–E**: Module selector dropdown, module name, parameter knobs (depending on module)
- **Display**: Graphical visualization of modulation curves
- **Display Selector Buttons**: Choose which slot(s) to display (A–E, I/O, ALL)
- **Bypass Buttons**: Bypass individual slots (A–E) or all slots at once (ALL)

4.2 Back Panel

- **CV In**: Single input
- **CV Out**: Single output

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5. Signal Flow & Unit System

5.1 Signal Flow

Input CV → Slot A → Slot B → Slot C → Slot D → Slot E → Output CV

5.2 Unit Switching

- Percent: 0% ~ 100%
- MIDI: 0 ~ 127
- Unit switching affects **only the display**; internal signal processing remains unchanged.
- Internally, all processing uses normalized values in the range -1.0 ~ +1.0.

5.3 Polarity

- **Unipolar**: Interprets incoming signals in the range **0% ~ 100% (MIDI: 0 ~ 127)**
- **Bipolar**: Interprets incoming signals in the range **-100% ~ +100% (MIDI: -127 ~ +127)**
- This setting does not automatically detect the polarity of the incoming signal; instead, it defines how the signal should be interpreted.
- The chosen polarity affects the reference point and operation of threshold-based modules (Gate, Compressor, Expander, Limiter).

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6. Slots A–E

6.1 Common Structure

- Each slot can host one of 8 modules.
- All slots share the same structure and can be configured independently.
- Slots are processed in series, from A through E.

6.2 Module Descriptions

- **Polar Shift**
  Converts signal range between Bipolar and Unipolar.
  - **Bipolar mode**: Range **-100% ~ +100% (MIDI: -127 ~ +127)**
  - **Unipolar mode**: Range **0% ~ 100% (MIDI: 0 ~ 127)**
    Converted polarity applies to all subsequent slots.
- **Inverter**
  Reverses the incoming signal.
  - **Bipolar mode**: Inverts around 0 (e.g., +50% → -50%)
    Range: **-100% ~ +100% (MIDI: -127 ~ +127)**
  - **Unipolar mode**: Inverts around midpoint (50%) (e.g., 25% → 75%)
    Range: **0% ~ 100% (MIDI: 0 ~ 127)**
- **Scale**
  Adjusts the signal amplitude by a scaling factor.
  - **Factor**: Sets output multiplier (e.g., 0.5x = half, 2.0x = double)
    Range: **0.0x ~ 8.0x**
    Greater precision available at lower values.
- **Offset**
  Shifts the entire signal by a specified amount.
  - **Level**: Offset amount
    Range: **-100% ~ +100% (MIDI: -127 ~ +127)**
- **Limiter**
  Restricts the signal to remain within a set threshold.
  - **Threshold**: Limit value
    Range: **0% ~ 100% (MIDI: 0 ~ 127)**
  - **Bipolar mode**: Limits output to -Threshold ~ +Threshold
  - **Unipolar mode**: Prevents output from exceeding Threshold
- **Compressor**
  Reduces dynamic range by compressing signals above a threshold.
  - **Threshold**: Threshold level
    Range: **0% ~ 100% (MIDI: 0 ~ 127)**
  - **Ratio**: Compression ratio
    Range: **1:0.0625 (1/16) ~ 1:16**
  - **Bipolar mode**: Compresses symmetrically when absolute signal exceeds Threshold
  - **Unipolar mode**: Compresses signals above Threshold
- **Gate**
  Passes signal only when it exceeds a threshold.
  - **Threshold**: Threshold level

Range: **0% ~ 100% (MIDI: 0 ~ 127)**
    - **Bipolar mode**: Opens gate when absolute signal exceeds Threshold
    - **Unipolar mode**: Opens gate when signal exceeds Threshold
- **Expander**
  Increases dynamic contrast by reducing signals below a threshold.
    - **Threshold**: Threshold level
      Range: **0% ~ 100% (MIDI: 0 ~ 127)**
    - **Ratio**: Expansion ratio
      Range: **1:0.0625 (1/16) ~ 1:16**
    - **Bipolar mode**: Further reduces signals when absolute value is below Threshold
    - **Unipolar mode**: Further reduces signals when signal is below Threshold

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7. License & Support

- This product is purchased and authorized via the Reason Studios Shop.
- Technical support & inquiries: **info.rainstreets@gmail.com**

Appendix: MIDI CC Mapping

CC	Label
40	Display On
41	Select Display
42	Bypass On
43	Bypass A
44	Bypass B
45	Bypass C
46	Bypass D
47	Bypass E
48	Bypass All

49	Input Polarity
50	Unit
51	Slot FX A
52	Slot FX B
53	Slot FX C
54	Slot FX D
55	Slot FX E
56	Factor A
57	Factor B
58	Factor C
59	Factor D
60	Factor E
70	Level (Percent) A
71	Level (Percent) B
72	Level (Percent) C
73	Level (Percent) D
74	Level (Percent) E
75	Level (MIDI) A
76	Level (MIDI) B
77	Level (MIDI) C
78	Level (MIDI) D
79	Level (MIDI) E
80	Thre (Percent) A
81	Thre (Percent) B
82	Thre (Percent) C
83	Thre (Percent) D

84	Thre (Percent) E
85	Thre (MIDI) A
86	Thre (MIDI) B
87	Thre (MIDI) C
88	Thre (MIDI) D
89	Thre (MIDI) E
90	Ratio A
91	Ratio B
92	Ratio C
93	Ratio D
94	Ratio E