



USER MANUAL

Version 1.02 - 05/2023



Bettermaker

Thank you for purchasing Bettermaker Mastering Limiter 2.0!

IMPORTANT SAFETY INFORMATION

Do not operate this unit in the presence of rain, liquids or condensing moisture. Liquid entering the product enclosure presents the risk of electric shock, fire or permanent failure. Use the unit in well ventilated environment. Make sure it is not exposed to high temperatures as it might affect the performance.

Use provided AC/DC adapter only. It will work with variety of mains voltages and all most popular socket types around the world.

No user serviceable parts are available inside the unit. Do not remove the top lid, as it will void the warranty. In case of any questions or issues, please contact your seller.



Back panel connectors

CONNECTIONS

For best audio performance use balanced XLRs and quality USB cables (like the one provided with this unit). Please note that the USB link is for DAW control and recall only. It does not stream audio, so the XLR connection with AD/DA converters is needed.

The unit requires external power supply and will not work using USB power only.

SOFTWARE

For most recent versions of firmware and DAW plugins please visit www.bettermaker.com

ON/STANDBY
PUSH
BUTTON



INPUT
LEVEL KNOB



ENGAGE
BUTTON with
TRUE BYPASS

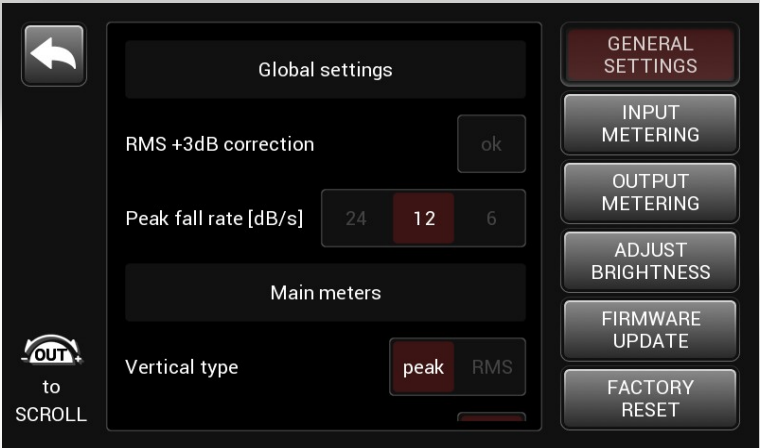


MAIN
TOUCH
SCREEN





***NOTE:** both function knobs can be pressed to select various functions.



Setup screen with scrollable list of settings

-  return to previous screen
-  use **INPUT**, **OUTPUT**, **P1** or **P2** knob

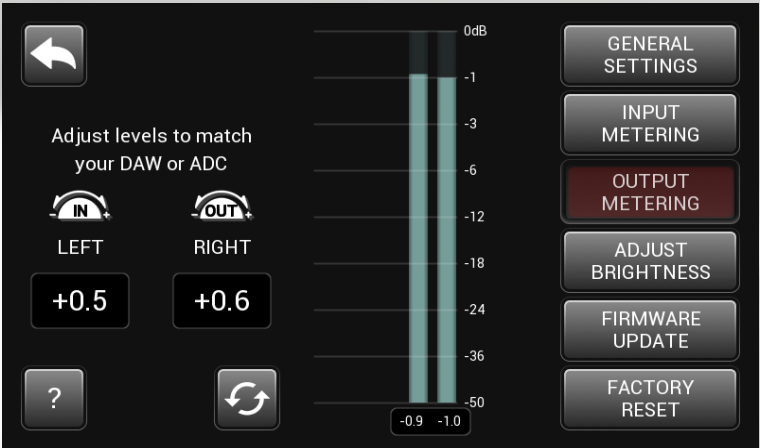
FIRMWARE UPDATE

You can easily update the firmware inside the unit with dedicated macOS/Windows app available on www.bettermaker.com

But first, you need to initiate Firmware Update mode in Setup screen (use  in Main Menu).

STATE MEMORY

Internal non-volatile memory will restore all settings after sudden mains power loss.
It also provides 400 slots for presets and user configurations (regardless of DAW plug-in).



Setup screen with scrollable list of settings



return to previous screen



reset calibration to 0dB

ABOUT METERING CALIBRATION

You can calibrate readings for the input and output metering independently.

Use INPUT and OUTPUT knobs on the Mastering Limiter 2.0 to offset the values below bar indicators, so they match with your AD/DA or DAW readouts.

Please note that the calibration is for metering only – it does not affect audio levels or any other part of the analog signal path. It's only here for the convenience of work with the Limiter.

BASIC SCREEN LAYOUT & LIMITER



Quick access to Limiter, Sidechain, Clipper and Color (you can also press P2 knob)



Save settings



Set all to default state

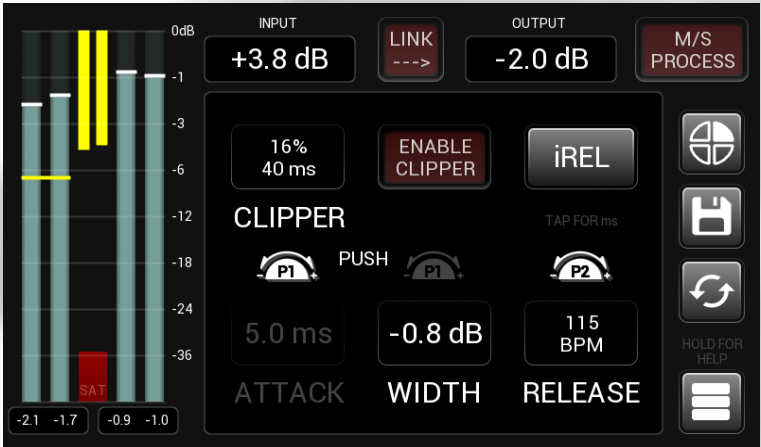


Enter Main Menu

INPUT LEVEL

GAIN REDUCTION

LINK INPUT AND OUTPUT GAIN
for optimal mastering level



SATURATION
AMOUNT

OUTPUT LEVEL

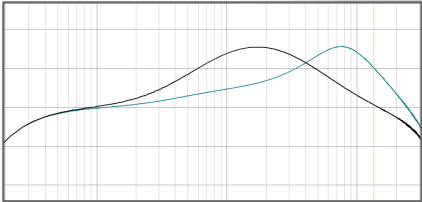
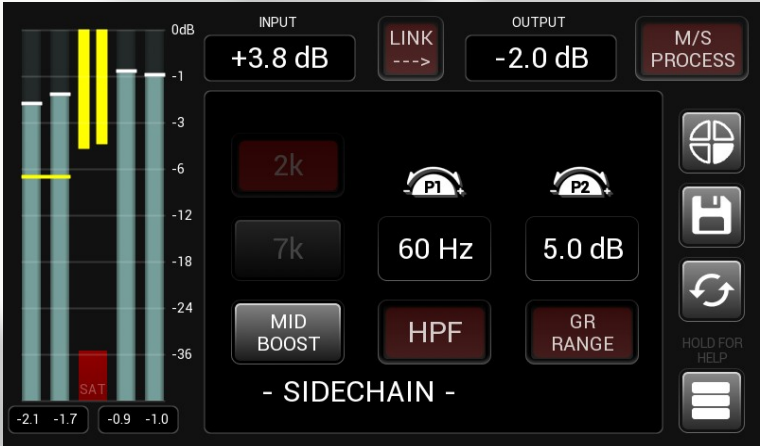
ADJUST STEREO FIELD
for M/S processing

Limiter screen

SIDECHAIN FILTERS

TAP TOP HALF for FULL SCREEN and
METERING OPTIONS

MID-SIDE PROCESSING

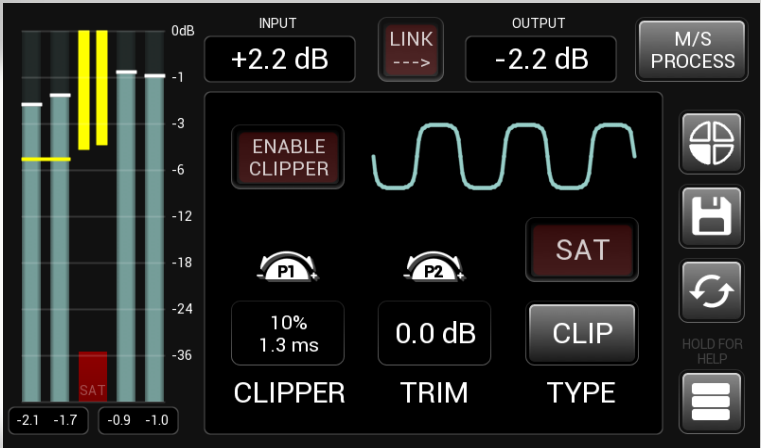


SIDECHAIN MID BOOST
OPTIONS

SET RANGE for
GAIN REDUCTION

Sidechain screen

SATURATION & CLIP



Clipper screen

TAP BOTTOM HALF
to RESET PEAKS

ADJUST AUTO
MAKE-UP GAIN*



ZENER DIODE BASED
SATURATION



ANALOG HARD CLIP
for peak free output

***NOTE:** TRIM will also alter the amount of Saturation and Clip. It is recommended to start with this parameter set to 0dB

COLOR SCREEN



APPLY ALL CHANGES
TO BOTH CHANNELS

SELECTED CHANNEL

LISTEN TO
SELECTED CHANNEL

COLOR A
ON/OFF

COLOR B
ON/OFF

SELECT COLOR B
TYPE*

ENABLE COLORS	LINK M/S	SIDE	FOCUS
ODD A	15%	12k	55%
ODD B	30%	1.2k	25%
2nd COLOR	DRIVE	FREQ	MIX

Color screen

AMOUNT OF COLOR
added to the MIX

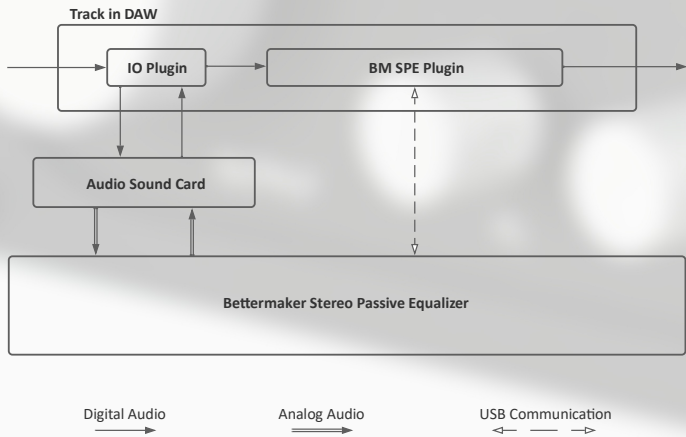
*NOTE: COLOR A can generate ODD harmonics only. For COLOR B you can choose between ODD and EVEN.

DAW PLUGIN CONNECTION WITH HARDWARE

If you want to use Bettermaker Mastering Limiter 2.0 full potential, please follow the signal & data flow diagram showed bellow.

The connection with Mastering Limiter 2.0 plugin should be established automatically. Once the hardware locks with the software, USB icon on the menu bar turns blue.

In case of multiple Mastering Limiter 2.0 units connected, select correct one from the list.



SNAPSHOT EXPLAINED

When the **Snapshot** button is pressed, new panel will appear. Press the button again to hide it.

You can program up to 32 snapshots for Mastering Limiter 2.0 state that can be triggered by DAW's automation.

Use left and right arrows to navigate through snapshots.

Copy and **Paste** buttons are helpful if you want to use one snapshot as a starting point for another one.

SETTINGS
MENU



UNDO
REDO



SNAPSHOTS
More details above..



CONNECTION
MENU



SUPPORTED PLUGIN FORMATS

AAX Native, AU, VST3

PLUGIN MODIFIER KEYS

AU

Fine Control	Shift
Set to default	Option

VST3

Fine Control	Shift
Set to default	Command (Mac), Ctrl (Win)

AAX

Fine Control	Command (Mac), Ctrl (Win)
Set to default	Option (Mac), Alt (Win)

SUPPORTED OPERATING SYSTEMS

Mac

macOS 13 down to macOS 10.11
Intel, or Apple Silicon architecture

PC

Windows 11 down to Windows 8
x64-compatible CPU

SYSTEM REQUIREMENTS

Display resolution: 1440 × 900px or 1280 × 960px or higher
Memory: 2 GB RAM

TECHNICAL SPECIFICATION

Maximum gain reduction: 20 dB

Input adjust range: 0..+20dB

Output adjust range: -10..+12dB

Makeup gain: automatic with trim (-/+8dB range; only available with clipper enabled)

Attack time: 0.1 – 250ms (measured at 63% of 10dB GR)

Release time: 1ms – 2s (measured at 63% of 10dB GR) + IREL (intelligent release)

Sidechain HPF: off or 20-200Hz (2nd order)

Sidechain mid boost: off or 8dB @ 2kHz or 7kHz

Metering ADC range: 60dB

Power saving mode available

Mid/side mode available, true bypass (relays) available

Connection: balanced XLR (audio), USB type B (PC/MAC), 5.5/2.1 center positive 12V only socket

Maximum input level: +24 dBu (balanced with 48k Ω input impedance)

Maximum output level: +27 dBu (balanced with 50 Ω + 50 Ω output impedance)

Nominal audio level: +4 dBu

Frequency response: 6 Hz – 27kHz (-0.5 dB, ISO-R40 sweep)

Frequency flatness: +/- 0.1 dB (20Hz – 20kHz, ISO-R40 sweep)

Dynamic range: 107 dB (20kHz bandwidth, +24dBu)

THD+N ratio: 0.05 % (20kHz bandwidth, +4dBu, 1kHz)

THD ratio: 0.03 % (+4dBu, 1kHz)

CMRR: > 80dB (20Hz – 20kHz, IEC 60268-3)

Crosstalk: > 76dB (20Hz – 20kHz, +18dBu, channel to channel)

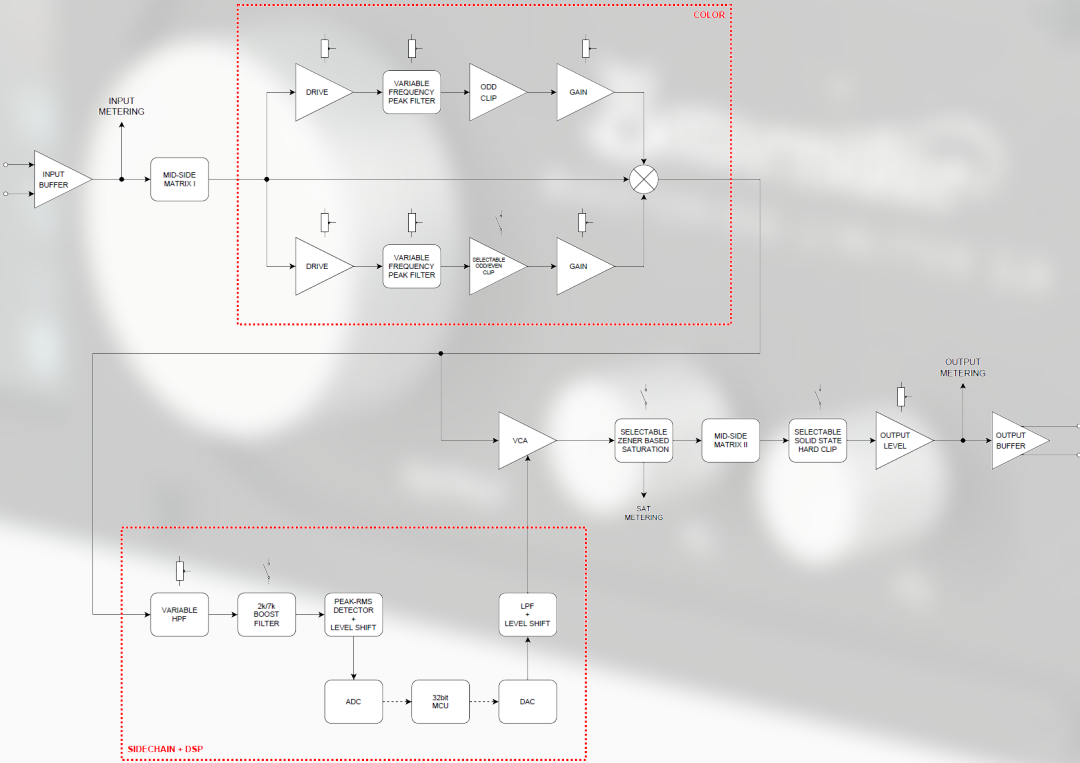
AC power consumption: max 25W (<2W in standby, with included 100-240VAC power adapter)

2U enclosure, 230mm deep

Shipping weight and size: 5kg, 62x37x21cm

NOTE: all specifications are subject to change without notice.

DETAILED SIGNAL FLOW DIAGRAM





www.bettermaker.com

facebook.com/bettermaker

instagram.com/bettermakerproaudio

instagram.com/addictedtomusicstudios

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