CMLS HW2

Xenharmonics Group

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Analysis of a JUCE Plugin

CHOWTAPE

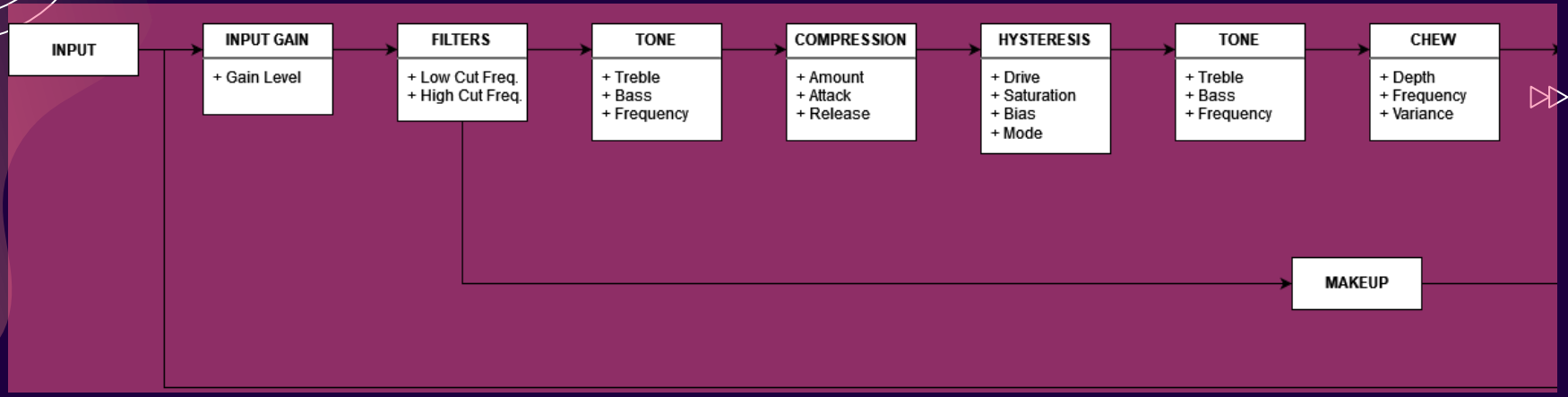
CHOWTAPE

PLUGIN OVERVIEW

AUDIO TAPE EMULATION

- Warm sound due to hysteresis emulation
- Degradation of broken/used tape
- Additional effects

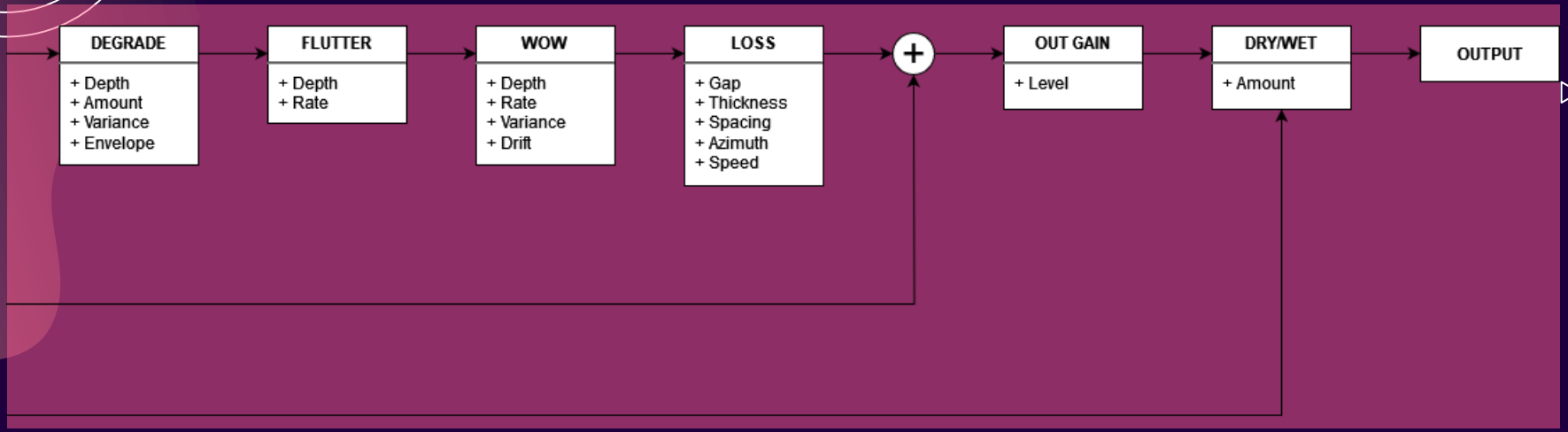
SIGNAL FLOW



- Gain control
- Filtering
- Compression

- Tape Hysteresis
- Tape Chewing

SIGNAL FLOW



- Tape Wear
- Signal Loss
- Tape Fluttering
- WOW Effect

CHOW TAPE

Frequency Processing

FILTERS

- High/Lowpass filters
- Makeup control

STEREO

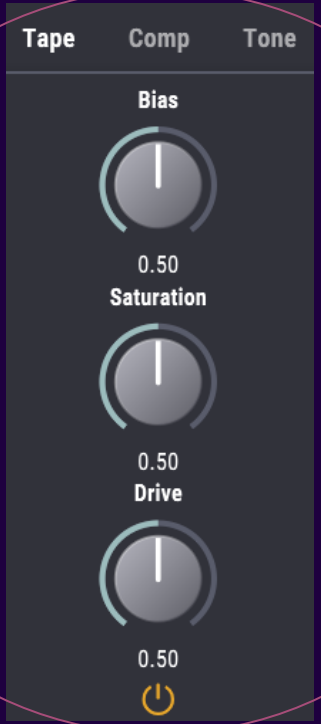
- **L/R** or **Mid/Side** processing
- Panning controls

COMP

- Compression of input signal
- Control Attack, Amount, Release

CHOW TAPE

Tape Emulation



HYSTERESIS

- Magnetic nonlinear phenomenon, due to strong magnetic fields applied to tape
- **Drive**, **Saturation** and tape recorder **Bias**
- Choice between **Runge Kutta** and **Newton Raphson** modes

CHOW TAPE

Tape Wear

CHEW

- Broken tape machine emulation
- Control over **Depth**, **Frequency** and **Variance** of Chewing

DEGRADE

- Wear and tear of used tape
- **Amount**, **Variance**, **Envelope**

CHOW TAPE

Signal Loss and Effects

LOSS

- Tape machine frequency response
- Due to **Playhead Gap** and **Tape Thickness**
- Control over: **Gap width** and **space**, **Thickness**, **Speed** and **Azimuth**

FLUTTER

- Tape machine timing irregularities
- **Depth** and **Rate** controls

WOW

- Longer time scale compared to Flutter
- Additional **Variance**, **Drift** controls

CHOW TAPE MODEL

We'll now show a brief **demonstration video**

Chow Tape Model
IN: -37.2 dB
OUT: -41.1 dB
Win64-Intel, VST3, v2.11.1 ~ DSP by chowdsp
Gain
Filters
Stereo
Input Gain
0.00 dB
Dry/Wet
100%
Output Gain
0.00 dB
Tape
Comp
Tone
Bias
0.50
Saturation
0.50
Drive
0.50
Loss
Degrade
CHEW
Gap [microns]
1.0000
Thickness [microns]
0.1000
Spacing [microns]
0.1000
Azimuth [degrees]
0.00
Speed [ips]
15.00
3.75
7.5
15
30
Flutter
Wow
Flutter Sync
Depth
0.00
Rate
0.30
Oversampling: 2x
Hysteresis Mode: RK2
Mix Group: N/A
Default

THANK YOU FOR YOUR ATTENTION

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