Wide Dynamic Range Compression

Overview

- Can be fitted with a choice of prescriptions
- Fully configurable channel structure and compression parameters
- Suitable for all hearing losses
- Enables individual programs to be configured differently

The WDRC module provides a method of amplification which is extremely flexible to meet the needs of existing compression users.

Description of how WDRC works

This particular WDRC system provides a degree of flexibility not seen elsewhere, as it can be configured differently for various applications within a product range, and even different memories within a single product may have individualised settings to optimise for fluctuating audiograms and signal types. Fitting software can configure the number of compression channels, and their boundaries, within each hearing aid program, which allows the channel structure to be optimised for different knee points per channel for all channels. In addition, by adjusting parameters such as the knee points, compression ratios and time constants for each part of the input-output curve for each compression channel, the system may be configured to provide linear amplification, speech compression or input or output based compression limiting as desired.

The WDRC module has built-in downwards multiple channel expansion below the lowest knee-point in each compression channel, which can be configured for the suppression of low-level environmental noise, or alternatively a linear response if expansion is not desired.

Each compression channel also has an output level knee point that can be configured to provide multiple channel compression limiting. Protection against loud broadband signals is provided by combining the WDRC module with Dynamic Hearing’s wideband Output Compression Limiting (OCL) module, which comes with a configurable frequency weighting of its compression threshold.

The WDRC module groups FFT bins into compression channels to provide the desired number of channels and channel spacing. The bin spacing is determined by the number of bins and the sampling rate (e.g. spacing of 125Hz for 64 bins and a 16 kHz sampling rate).
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Feature List

- Fully flexible system
- Fit with multiple prescriptions
- Built in MCNS module
- Configurable channel spacing, channel numbers, number of knee points, CTs, CRs, ATs, RTs

Benefits

User Benefits

✓ All sounds into the dynamic range of the listener
✓ Amplification of speech signals

Dispenser Benefits

✓ Fast fit settings
✓ Familiar fitting process
✓ Fit with prescriptions
✓ Suitable for a large range of hearing losses

Manufacturer Benefits

✓ Match to existing products
✓ Added flexibility to programs
✓ Limit dispenser adjustments
✓ Already coded for latest hardware

Configuration and Deployment

The WDRC module is available standalone or as part of our Hearing Aid Designer™ package. The Hearing Aid Designer includes all the tools necessary (DSP modules, FrameWork, Software Tools and Modular API) for rapid development of new hearing aid products. It reduces development time and enables easy product customisation.

Dynamic Hearing enables manufacturers to produce a hearing aid product with clinically validated technology, developed by an experienced team. Engineering, software and audiological support are readily available.

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