
iPFG Junior Fitting Mode: A Dedicated Pediatric Software Approach

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Introduction:

It is clear that children are not just little adults. Depending on the age of the child, a pediatric fitting can require a different work flow and hearing instrument configuration. This is why Phonak is proud to introduce a new and dedicated pediatric software mode within its fitting software (iPFG 2.0 and upwards). This is a unique one click pediatric configuration, offering an efficient, accurate pediatric fitting with the needs of fitters, children and their families in mind. The Junior Mode is available for all iPFG hearing instruments.

The Junior Mode highlights:

- Evidence-based software defaults for **0-4 years** and **5-8 years** to cater to the different needs of children as they grow
- **FM+M** as the start-up program, for easy access to FM solutions
- Useful, **time-saving defaults** for the most important listening programs
- **DSL v5** as the default fitting formula
- Modular platform; with each new iPFG release more components will be added
- Individual fitting philosophies are supported with **customizable defaults**
- **Extensive Help menu** providing information, references and resources
- **Intuitive** for experienced professionals as well as those with little pediatric experience
- Available for **all Phonak hearing instruments** programmable via the iPFG software

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The Junior Mode defaults:

The Junior mode defaults were developed based on inputs from the international pediatric community and the Phonak Pediatric Advisory Board. They are based on the child's date of birth. If the developmental age of the child differs, the appropriate Junior mode can easily be selected. All defaults can be clearly viewed in the iPFG software and can be changed depending on the fitter's needs. Junior defaults are applied depending on the features available within the selected hearing instrument model.

The key Junior Mode defaults are discussed below:

Start-up program:

The start-up program within the Junior Mode is FM+M by default (as long as the hearing instrument supports FM). This allows easy access to FM solutions as the child's instruments are always in 'FM Ready' mode. It is clear that FM is not only useful at school but also in other situations such as at day care, at home and during outdoor activities (Gabbard, 2005). New for the Junior Mode, the settings of 'M' within the 'FM+M' program are now equal to the Calm Situations base program. This means that optimized performance to prescription target is maintained regardless of which of these programs is used.

Additional available programs:

In addition to the start up program, a 'Calm Situations' manual program is available for Junior Mode 0-4 years. Two additional manual programs are available in the Junior Mode 5-8 years: 'Calm Situations' and 'Speech in Noise'. If the hearing instrument supports an automatic program, it is not placed in the program toggle sequence by default. The Phonak Pediatric Advisory Board advises not to use automatic programs with children up to 8 years as there is little published research to support this. If required, it is easy to add manual or automatic programs to the hearing instrument within the Junior Mode.

Access to the telephone:

The telephone is an integral part of a child's life (Palmer and Mormer, 1999). In fact, the telephone connects children to family and friends from as young as 6 months old. The Junior mode provides easy access to the telephone by default, with features such as 'EasyPhone', which allows the instrument to automatically switch to the selected phone program when a telephone handset is placed near the instrument.

Directional microphones:

In Junior Mode 0-4, the default microphone mode is omni directional rather than directional. It is well known that infants and young children need omni directional listening to maximize acoustic and linguistic input and to learn localisation. The Phonak Pediatric Advisory Board recommends not to use directional microphones under 5 years of age, as there is no published research examining the effect of directional microphones on speech understanding in very young children. FM systems are the solution of choice for improving the signal to noise ratio in noise.

In Junior Mode 5-8, the default microphone mode is Real Ear Sound in the Calm Situations program as results from adults have shown that Real Ear Sound can restore front-to-back localisation abilities otherwise lost due to the microphone location effect of BTE instruments. In the Speech in Noise program, the default microphone is directional as research with older children has found directional microphones to be effective when listening in background noise (e.g. Gravel, Fausel, Liskow and Chobot, 1999; Ricketts and Tharpe, 2005). It is important that children receive counseling regarding the correct use of directional microphones as there will only be significant benefit when the head is generally pointed at the sound source of interest and away from the noise (Ricketts, 2007).

Manual controls:

For Junior Mode 0-4, the manual volume control and program switch are disabled to avoid inadvertent changing of the volume or switching between programs by the young child. The parent or carer can have access to the program and the volume control via a remote control. For Junior Mode 5-8, there is no delayed start-up and the manual volume control and program switch are enabled in order to give older children ownership of their hearing loss.

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"The Junior Mode is wonderful to work with. It is important to recognize that adults and children require a different fitting approach." Andrea Bohnert, Senior MTA-F Pedaudiology, Medical School, Mainz, Germany

"This is a significant first step towards a dedicated pediatric fitting approach." Dr Patricia Roush, Department of Otolaryngology, University of North Carolina, USA

For more information about the Junior Mode, please contact Jane.Woodward@phonak.com

A Junior Mode desk top fitting guide is available on www.phonak.com. The extensive Junior Help Menu in the iPFG software is an additional useful resource.

References:

Gabbard, S. (2005). The use of FM Technology for Infants and Young Children. In: R. Seewald and J. Bamford, (Eds.). *A Sound Foundation Through Early Amplification 2004: Proceedings of the Third International Conference* (pp. 91-104). Stäfa, Switzerland: Phonak AG.

Gravel, J.S., Fausel, N., Liskow, C., and Chobot, J. (1999). Children's speech recognition in noise using omni directional and dual-microphone hearing aid technology. *Ear and Hearing* 20 (1): 1-11.

Palmer, C.V, Mormer, E.A. (1999). Goals and expectations of the hearing aid fitting. *Trends in Amplification* 4(2):61-71.

Ricketts, T. A; Tharpe, A. M. (2005). Potential for Directivity-Based Benefit in Actual Classroom Environments. In: R. Seewald and J. Bamford, (Eds.). *A Sound Foundation Through Early Amplification 2004: Proceedings of the Third International Conference* (pp. 91-104). Stäfa, Switzerland: Phonak AG.

Ricketts, T. A. (2007). Application of Directional Microphone Technology in Children. *A Sound Foundation Through Early Amplification*. International Pediatric Conference, Chicago.
http://www.phonak.com/professional/events_professional/virtual_attendance.htm