

Fitting Guide

MLxi and MLxi Baha

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Welcome

MLxi is a universal Dynamic FM receiver. Compatible with virtually all BTE hearing instrument brands and types, it offers unparalleled ease of operation and is simply a case of plug and listen. Featuring totally automatic DPAI management, it also reduces the need for electro acoustic verification.

Designed to offer the ultimate in performance, **MLxi Baha** has the same functionality as MLxi, but incorporates a small connector for Cochlear's Intenso, Divino and Compact Baha instruments.

The state-of-the-art, highly miniaturized technology inside MLxi/MLxi Baha enables users to benefit from features never seen before:

- Dynamic FM
- AutoConnect
- Monitoring

Please read this fitting guide carefully to make sure the MLxi/MLxi Baha is well fitted to your customers hearing system so they can benefit from all its features.

The following symbol appears in this user guide:



Important information for the fitter.

For detailed information on using the FM transmitter, which is part of the overall FM solution, please refer to the appropriate FM transmitter user guide (also see www.phonak.com).

MLxi/MLxi Baha are quality products developed by Phonak, the world leader in FM technology, innovation and reliability.

2. Instrument description

2.1 MLxi



2.2 MLxi Baha



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3. Preparing the hearing instrument for FM use

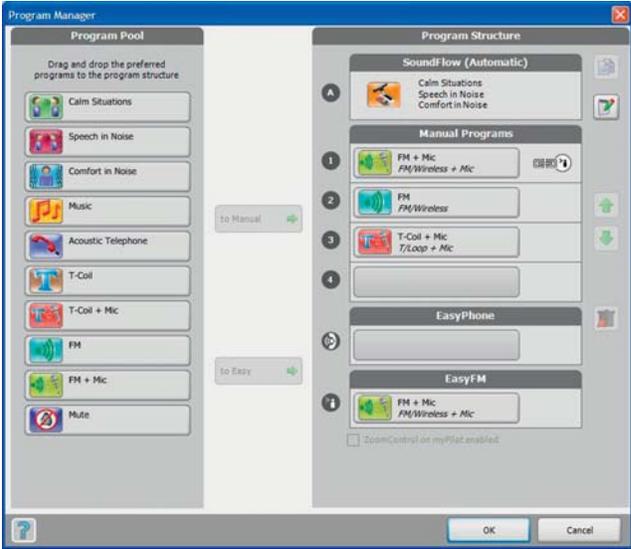
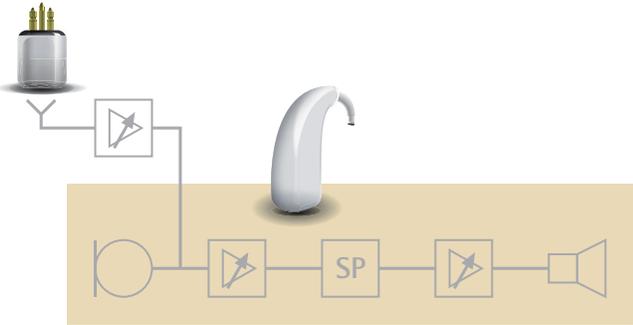
Fitting example: Phonak CORE* hearing instrument
 Drag and drop FM program into manual programs or EasyFM:

3.1 Program selection

Hearing instruments can be divided into two types with respect to the external audio input: DPAI Yes and DPAI No. DPAI stands for Designated Programmable Audio Input.

DPAI No

FM is usually directly wired with the microphone in the normal listening program. Attenuation of the hearing instrument microphones depends on the impedance of the external device. Selection between "FM+M" and "FM only" takes place on the receiver.

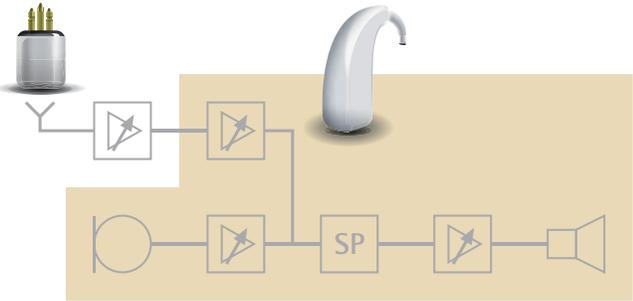


Most Phonak HIs offer the EasyFM feature. If this is enabled, the HI automatically switches to FM mode a few seconds after a signal (e.g. voice or music) has been broadcast by the FM transmitter. The reaction time of the EasyFM feature ranges up to several seconds depending on the hearing instrument and the signal intensity. The HI automatically switches back to the default listening program after approximately one minute, when no signal has been broadcast by the transmitter.

*Current CORE hearing instruments from Phonak include: Exélia, Versata, Certéna, Naida, Nios and Milo.

DPAI Yes

On these hearing instruments, the audio input has its own Designated Programmable Audio Input and the FM program is selected via the program structure of the hearing instrument. Please activate the instrument's FM+M and/or FM only program. The FM+M program is recommended for most listening situations.



3.2 Attaching the audio shoe

Phonak

For most Phonak hearing instruments it is required to change the battery door in order to be able to attach the audio shoe and MLxi.



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MLxi can also be connected to the iCom

A separate brochure describes the optimal FM solution for different use cases, including extensive information about the combination of MLxi and iCom.



Other hearing instruments

Attach audio shoe according to the user guide of the hearing instrument.



Baha

MLxi Baha can be plugged directly into most Baha processors.

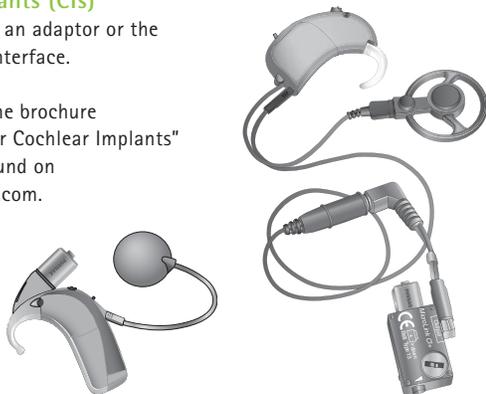
Make sure the circular MLxi Baha pin matches the marked hole of the Baha processor.



Cochlear implants (CIs)

Most CIs require an adaptor or the MicroLink CI S interface.

Please refer to the brochure "FM Solutions for Cochlear Implants" which can be found on www.phonakpro.com.



4. Fitting MLxi

4.1 AutoConnect

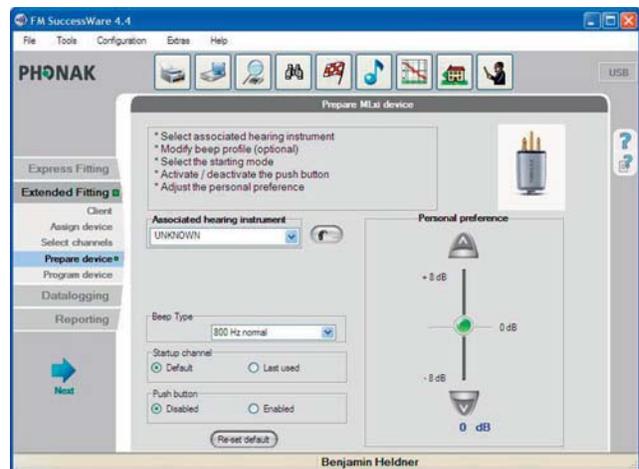
MLxi/MLxi Baha features AutoConnect. This feature measures the input impedance of the hearing instrument and automatically provides an FM Advantage of 10 dB, regardless of whether the hearing instrument is DPAI Yes or DPAI No. The fitter simply connects the MLxi/MLxi Baha to the audio shoe attached to the hearing instrument.

Please note these important points:

- Make sure your hearing instrument is switched on when you connect the MLxi/MLxi Baha.
- The first time you connect MLxi/MLxi Baha to a hearing instrument, it may take up to one minute until MLxi/MLxi Baha has automatically corrected the gain to provide 10 dB FM Advantage.
- At every startup, AutoConnect plays a beep to measure the impedance of the hearing instrument. This measuring beep may be audible.

4.2 Advanced fitting of MLxi using FM SuccessWare

The extended mode of FM SuccessWare enables you to fine-tune some parameters of the MLxi according to the needs of your customers.



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Associated hearing instrument

You can select the hearing instrument on which the MLxi will be used. This selection has no influence on the setting unless you select a cochlear implant model. In all other cases the "AutoConnect" feature corrects for any impedance mismatch. When the MLxi is used on a cochlear implant speech processor, it is strongly recommended to select the specific speech processor from the drop-down list (also refer to page 6).

Beep type

MLxi/MLxi Baha plays a confirmation beep at start up or when the system synchronizes with a transmitter. You can change the type of beep tone using the drop-down menu.

Startup channel

There are two choices:

- "Default": At every startup, the MLxi/MLxi Baha is ready to receive the signal on the *default channel* chosen in the "Select channels" section of FM SuccessWare. Phonak recommends using this option if your client has his own transmitter which always operates on the same channel. Select as default channel in the MLxi/MLxi Baha the same channel the transmitter transmits on.
- "Last used": At startup, the MLxi/MLxi Baha will receive the signal on the channel to which it was last synchronized (the same channel MLxi/MLxi Baha was using before switch off). Phonak recommends using this option if the client receives the signal on different channels during the day (e.g. in school).

Push button

The push button of MLxi/MLxi Baha is by default disabled. If you enable the push button, it will have different functions depending on whether the hearing instrument is DPAI Yes or DPAI No. For all types of hearing instruments, pressing the button for two seconds switches the MLxi/MLxi Baha on or off respectively.

If...

- the hearing instrument is DPAI No and
- the push button is enabled and
- the MLxi/MLxi Baha is switched on and
- a Classic FM transmitter is used, a short press on the push button will toggle between "FM+M" and "FM only". For both "FM+M" and "FM only" a beep may be audible. The beep is the same for "FM+M" and "FM only".



With push button enabled the MLxi/MLxi Baha will be in off mode by default. The MLxi/MLxi Baha must be switched on, by pressing for two seconds on the push button, after it has been disconnected from the hearing instrument or the hearing instrument was switched off.

Personal preference

The MLxi/MLxi Baha comes with a personal preference of 0 dB, which corresponds to a 10 dB FM Advantage when connected to a hearing instrument. The 10 dB FM Advantage is automatically checked/adjusted every time MLxi starts. Usually, the 10 dB FM Advantage is well accepted by clients. However it is possible to reduce or increase the personal preference of the FM Advantage on MLxi/MLxi Baha. The range for this change is 8 dB louder or softer respectively and can be adjusted in 2 dB steps.

Note:

For MLxi Baha it is possible to adjust the gain for "FM+M" and "FM only" separately.

4.3 Fitting MLxi/MLxi Baha using inspiro

With Dynamic FM inspiro it is possible to change some MLxi/MLxi Baha settings. Please select "Receiver options" in the inspiro menu.

- Push button activation/deactivation – use the function "lock push button"
- Change of personal preference – use the function "Set FM volume"
- Activation/Deactivation of the beep tone – use the function "Set beep tone"

Note:

The menu "receiver options" can only be accessed in the extended mode of the inspiro menu.

5. Additional fitting information

5.1 Toggling between "FM+M" and "FM only" when MLxi/MLxi Baha is used in combination with a Classic FM transmitter

MLxi/MLxi Baha does not have a switch to select between "Off", "FM only" and "FM+M". The customer does not need such a switch when a Dynamic FM transmitter (inspiro, DynaMic, SmartLink+, ZoomLink+ or EasyLink+) is used.

However, MLxi can also be used with the following Classic FM transmitters: Campus SX, EasyLink, ZoomLink, SmartLink and Classic FM inspiro. For these combinations, there is no Adaptive FM Advantage feature, which automatically adjusts the FM Advantage in noisy environments, and no Voice Activity Detection, which automatically reduces the FM level when no voice is present at the transmitter microphone. In those cases the user needs to have the chance to select between "Off", "FM only" and "FM+M", as with a Classic FM receiver. For DPAI Yes hearing instruments this selection takes place by toggling between different HI programs such as "no FM", "FM only" and "FM+M". For DPAI No hearing instruments this selection takes place on the receiver.

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For the combination of a Classic FM transmitter, MLxi/MLxi Baha and a DPAI No hearing instrument, activate the push button to enable toggling between "FM only" and "FM+M". The push button can then be operated as follows:

Long press (2 seconds): Switching on or off

When MLxi/MLxi Baha is switched on:

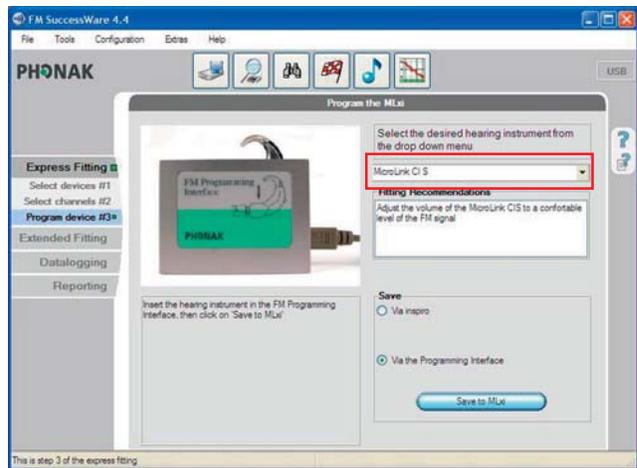
Short press: Toggling between FM+M and FM only (program change is confirmed by a short beep)

The various combinations available look like this:

MLxi or MLxi Baha	Transmitter	Hearing instrument	MLxi push button Disabled	MLxi push button Enabled
	Classic FM 	DPAI No 	MLxi is on when connected to a HI Not possible to toggle between "FM+M" and "FM only"	Push button toggles between "MLxi on" and "MLxi off" (long press) If MLxi is on: short push toggles between "FM only" and "FM+M"
	Classic FM 	DPAI Yes 	MLxi is on when connected to a HI Selection between "FM only" and "FM+M" takes place in the hearing instrument	Push button toggles between "MLxi on" and "MLxi off" (long press) Selection between "FM only" and "FM+M" takes place in the hearing instrument
	Dynamic FM 	DPAI No 	MLxi is on when connected to a HI	Push button toggles between "MLxi on" and "MLxi off" (long press)
	Dynamic FM 	DPAI Yes 	MLxi is on when connected to a HI Selection between "FM only" and "FM+M" takes place in the hearing instrument	Push button toggles between "MLxi on" and "MLxi off" (long press) Selection between "FM only" and "FM+M" takes place in the hearing instrument

5.2 Fitting MLxi to a cochlear implant speech processor

The AutoConnect feature of MLxi precisely measures the impedance of the audio input and automatically sets the output to match the input. Due to the special design of audio inputs of cochlear implants, AutoConnect may not find the correct matching parameters. Therefore, it is recommended to program the MLxi using FM SuccessWare by selecting the specific CI speech processor from the drop down list:



Programming MLxi for a specific processor disables AutoConnect and the output parameters of MLxi are optimized for the selected processor.

If you do not program the MLxi using FM SuccessWare, the user may experience the following:

- An audible tone burst every startup (indicating the AutoConnect measurement)
- Incorrect Freedom BW and 3G speech processor FM levels
- Incorrect Harmony/Auria and Freedom Bodyworn monitoring results

For the following processors MLxi programming is not required (AutoConnect works fine):

- MED-EI Opus2
- All speech processors using MicroLink CI S

Phonak recommends that the MLxi/MLxi Baha push button is disabled for use by young children.

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6. Other features

6.1 Synchronization

MLxi/MLxi Baha is a multi-channel receiver and can be synchronized to any desired channel via the synchronization feature of the transmitter (Direct Frequency Synchronization) or via the WallPilot (Automatic Frequency Synchronization).

Direct Frequency Synchronization

All Phonak transmitters have a direct sync button. Refer to the user manual of the specific transmitter. Please press the corresponding button to synchronize the MLxi/MLxi Baha to the new channel. Hold the transmitter less than 50 cm from the receiver.

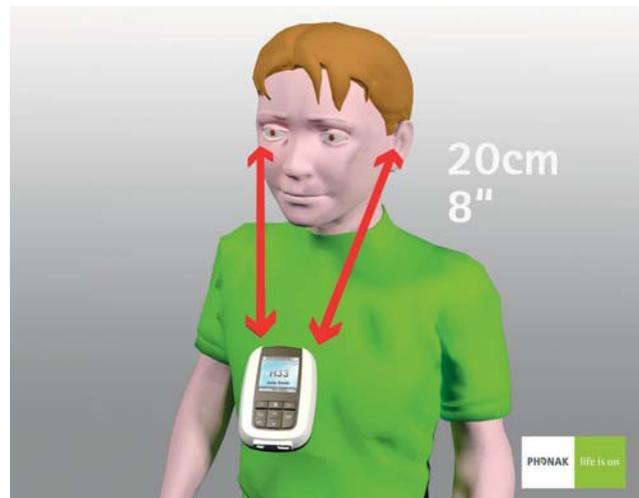
Automatic Frequency Synchronization

The WallPilot (pictured below) automatically synchronizes the MLxi/MLxi Baha to the channel used by a transmitter in a particular room without the need for direct synchronization.



6.2 Monitoring

MLxi/MLxi Baha is able to communicate with the inspiro Dynamic FM transmitter. When running inspiro's monitoring function, data from the receiver – such as battery status and the current channel – can be obtained. The link's operating range is usually 20 cm. Please hold the inspiro in front of the customer's face, as shown in the picture below, to obtain information about both FM receivers.



6.3 ChannelFinder

MLxi/MLxi Baha is able to find an interference-free channel. To access this feature, the inspiro Dynamic FM transmitter is required. Please read the inspiro user guide to use this feature.

6.4 Scanning

MLxi/MLxi Baha can search for the frequency used by a different FM transmitter in the same room. MLxi/MLxi Baha will then switch to this channel and the user can listen to the signal transmitted from this other FM transmitter. This feature can be accessed by inspiro Dynamic FM transmitter, SmartLink or SmartLink+.

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7. Programming options

7.1 Programming interface



- All receivers can be programmed using the FM programming interface:
1. Make sure all equipment is charged or a fresh battery is inserted in the hearing instrument. Turn all equipment on.
 2. Connect the universal receiver to the hearing instrument and insert it into the programming interface.
 3. Always select the option "via the programming interface" when FM SuccessWare requests communication with the receiver.

7.2 Using inspiro



MLxi, MLxi Baha can be programmed via inspiro:

1. Make sure a fresh battery is inserted in the hearing instrument. Turn all equipment on.
2. Connect the universal receiver to the hearing instrument, the CI speech processor, or MicroLink CI S, and place in front of the inspiro.
3. Always select the option "via inspiro" when the FM SuccessWare requests communication with the receiver.

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8. Compatibility

MLxi/MLxi Baha can be used with any Phonak FM transmitter. Phonak offers Dynamic FM transmitters to suit all customers and needs:

Dynamic FM transmitters

inspiro DISCOVER DYNAMIC FM



inspiro is a Dynamic FM transmitter for teachers and suitable for use in both regular and special schools.

DynaMic



DynaMic is the passaround microphone for the MultiTalker Network with inspiro.

SmartLink+



SmartLink+ is the FM transmitter for those who want nothing less than the very best.

ZoomLink+



ZoomLink+ is the FM transmitter for those who know what they want.

EasyLink+



EasyLink+ is the FM transmitter that is easiest to operate.

Classic FM transmitters**



inspiro
Classic FM inspiro is ideally suited to the needs of both regular and special school teachers.



SmartLink
An advanced FM transmitter for teenagers and adults. SmartLink features 3 microphone modes, Bluetooth connectivity for cellphone use, an audio input and a hearing instrument remote control. It is compatible with all Phonak FM receivers.



EasyLink
An easy-to-use transmitter featuring one configurable microphone mode, a single activation button, and an audio input. Compatible with all Phonak FM receivers.



ZoomLink
A versatile transmitter that features 3 microphone modes and an audio input for multimedia use. Compatible with all Phonak FM receivers.



Please note that the MLxi/MLxi Baha can only be used with Phonak FM transmitters.

** Classic FM transmitters are not available in all countries. Please ask your local Phonak representative for more information.

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9. Important notices

- Do not use a FM system in a place where it is prohibited to use electronic devices, e.g. on airplanes or in hospitals. If in doubt, please ask the person in charge.
- Persons with pacemakers or other medical devices should ALWAYS consult their physician and/or the manufacturer of their pacemaker or other medical device BEFORE using an FM system. The use of a FM system with a pacemaker or other medical devices should ALWAYS be in accordance with the safety recommendations of the physician responsible for your pacemaker, or the pacemaker's manufacturer.
- Please note that radio signals may be picked up and overheard by other people.
- Do not use water or other liquids to clean the MLxi/MLxi Baha.
- Only use original Phonak accessories.

10. Declaration of conformity

Hereby, Phonak Communications AG, declares that MLxi and MLxi Baha are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

To obtain a copy of the Declaration of conformity, please contact the local Phonak AG representative, whose address can be taken from the list of Phonak distributors worldwide.

This device complies with part 15 and part 95 of the FCC rules and with RSS 210 of Industry Canada.

Operation is subject to the following two conditions:

- (1) This device don't cause harmful interference and
- (2) must accept any interference received, including interference that may cause undesired operation.



Warning:

Changes or modifications made to this equipment not expressly approved by Phonak may void the user's authority to operate the equipment.

11. Online Resources

To learn more about MLxi/MLxi Baha and Phonak's FM products, we recommend the following websites:

www.eSchoolDesk.com

This website is designed to support teachers, parents and FM users. It includes numerous short movies that explain how various product features and functions work.

www.phonakpro.com/FM_Configurator

The latest set-up tips for FM systems in combination with cochlear implants and hearing systems.

www.FMlibrary.com

This is an online scientific library about FM systems. Here you can find FM-related papers and reports from all over the world.

www.phonakpro.com

This is the main Phonak website for professionals where you can find lots of additional useful information.



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The CE symbol is a confirmation by Phonak AG that this Phonak product meet the requirements of directive 93/42/EEC on medical devices and the R&TTE Directive 1999/5/EC on Radio and Telecommunication Terminal Equipment.



This symbol indicates that it is important that the user refers to associated warnings given in this user guide.



The symbol with the crossed out disposal bin indicates that this product shall not be treated as household waste. Please hand over your old or unused product to the applicable collection point for the recycling of electrical and electronic equipment or bring your old product to your hearing care professional for appropriate disposal. By ensuring this product is disposed of correctly, you help prevent potential negative effects on the environment and human health.

Operating conditions

This product has been designed for trouble-free operation without restrictions when used as intended, unless otherwise stated in this user guide.

Transportation and storage conditions

Temperature should not exceed limits of -20°/60° Celsius at a relative air humidity of 65% for extended periods during transportation and storage.
Air pressure between 500 and 1100 hPa is not detrimental to this device.

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