



FM Solutions for Cochlear Implants

Including Dynamic FM!

PHONAK

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FM: a must for every cochlear implant

Phonak's FM systems improve the signal-to-noise ratio and thus the user's ability to understand speech in noise. Three major factors that influence the signal-to-noise ratio and the quality of the speech signal are: background noise, reverberation, and distance. By delivering the signal of interest via FM (radio waves), the strength and quality of the sound remains constant across the distance from the speaker to the hearing impaired individual. FM systems consist of a transmitter with a microphone, and a receiver, which picks up the signal via radio waves directly from the transmitter.

Cochlear implant recipients experience similar difficulties to hearing instrument users in challenging environments. It is well documented that improving the signal-to-noise ratio (SNR) for cochlear implant recipients through the use of an FM system significantly improves speech recognition in the presence of background noise. In recent years Phonak has developed the most extensive FM product portfolio on the market. Phonak's Dynamic FM products boost speech intelligibility to levels never seen before. Recent scientific research clearly indicates that Dynamic FM also brings these benefits to CI recipients.¹

Well over 60% of all children with a cochlear implant use an FM system. A rapidly increasing number of adults also benefit from an FM system used in combination with their cochlear implant. This practical fitting guide helps you set-up the FM system for speech processors of the various brands of cochlear implants and Baha's. A very useful online tool is the FM Configurator (www.phonak.com/fm_configurator), where you will also find the latest set-up tips.

FM is not a luxury for CI recipients, but increasingly a necessity. At a fraction of the cost of the CI, an FM system offers an incredible performance enhancement. We encourage you to systematically fit FM systems to all children and adults with cochlear implants. Candidates should ideally be informed about FM systems prior to implantation. We would also love to hear about your experiences. At Phonak we continue to strive to offer cochlear implant recipients the best FM systems possible, including their full service and support throughout the world.

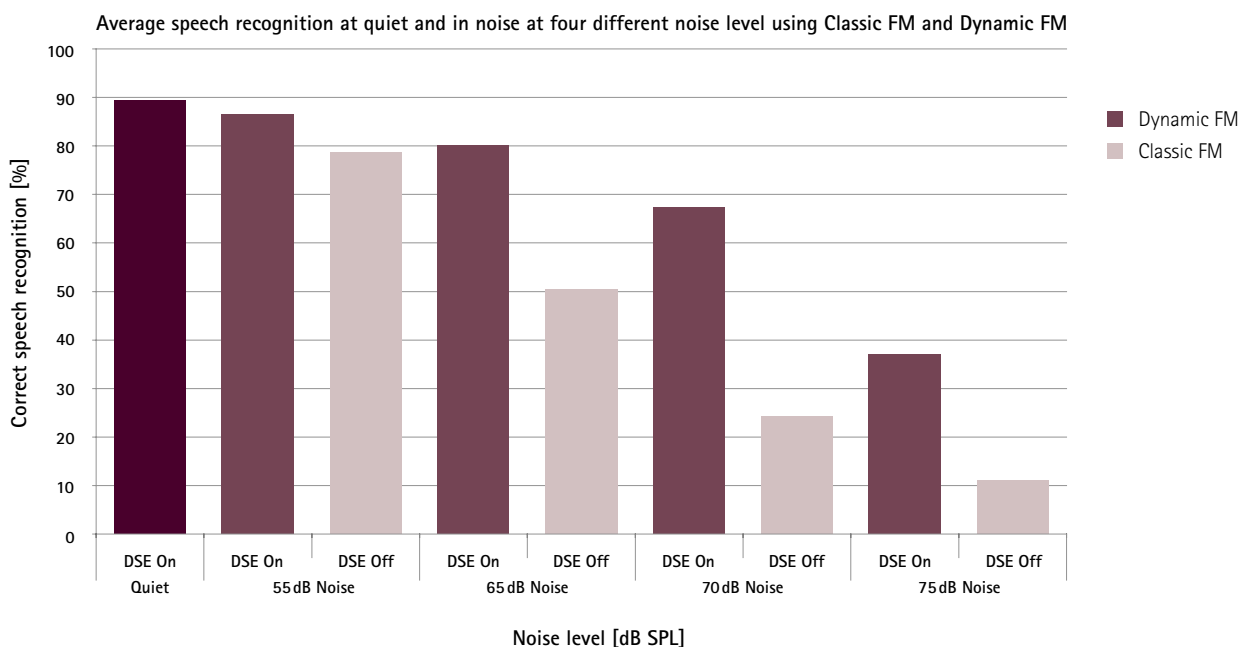
¹ Evaluation of Speech Recognition in Noise with Cochlear Implants and Dynamic FM. Jace Wolfe, Erin C. Schafer, Benjamin Heldner, Hans E. Mülder, Emily Ward, Brandon Vincent. JAAA, Volume 20, Number 7, 2009.

Dynamic FM

Dynamic FM is Phonak's latest and most advanced FM platform. It has completely reshaped the face of FM technology. Dynamic FM systems are not merely pieces of hardware transmitting sound from one place to another. They are masterpieces of wireless technology, capable of adapting themselves continuously to the actual surroundings. The most important feature of Dynamic FM is its adaptive FM advantage. It adjusts the gain of the FM receiver, depending on the ambient noise. The result is an incredible improvement in speech understanding, which in noisy conditions reaches of dozens percentage points (see picture below). Other features are equally impressive, such as MultiTalker Network, which allows up to 10 transmitters (**inspiro** or DynaMic) to form an ad hoc network in a classroom, ensuring that everybody can speak and everybody can hear. DataLogging FM meanwhile provides audiologists with a comprehensive insight into the daily usage patterns of a Dynamic FM system in school, which can lead to better counseling of teachers and parents.

Today Phonak offers 5 different Dynamic FM transmitters: **inspiro**, DynaMic, SmartLink+, ZoomLink+ and EasyLink+. **inspiro** and DynaMic are the optimal transmitters for school environment. On the one hand these products are full of cutting edge technology; on the other they are also very easy to use and robust enough to withstand heavy school use. Individual customization is child's play, while customers also benefit from ongoing developments at Phonak as new features can be obtained free of charge via optional firmware upgrades over the internet.

The SmartLink+, ZoomLink+ and EasyLink+ are Phonak's transmitters of choice for teenagers and adults. SmartLink+ with Bluetooth connectivity for cellphone usage and three different microphone modes, is our flagship adult transmitter. The versatile ZoomLink+ and simple, effective EasyLink+ complete this comprehensive product portfolio.



Speech recognition in noise for recipients of Advanced Bionics Corporation implants, Cochlear implants and MED-EL implants, at four different noise levels using Classic FM and Dynamic FM (combined results from Wolfe et al. 2009 and Goldbeck et al 2009)

Dynamic FM Transmitters



reddot design award
winner 2008

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

inspiro's award-winning design, comfortable form factor and easy-to-read color display make using this transmitter a cinch, plus it features programmable soft keys, an alarm clock, a wide range of housing options and many more features designed to help teachers enjoy the performance benefits of Dynamic FM without technical know-how.

inspiro is fully backward compatible with Phonak's Classic FM receivers.



DynaMic

Designed to enable receiver wearers to enjoy any classroom discussion, DynaMic is a durable handheld microphone that incorporates Dynamic FM transmitter technology. It is supplied with a sturdy desk stand. DynaMic has been designed exclusively for MultiTalker Network use with **inspiro**.



SmartLink+

This sleek and easy-to-use Dynamic FM transmitter is the ultimate wireless microphone. Designed for users who demand nothing but the best, SmartLink+ features Bluetooth connectivity for effective mobile phone and MP3 player use, a hearing instrument remote control, three intelligent microphone beam settings (SuperZoom, Zoom and Omni) and Phonak's SoftLanding technology, ensuring that the user doesn't hear a distracting bang when the transmitter is placed on a hard surface. A useful audio input also allows users to plug in and enjoy TV, PC and other media devices wirelessly.



ZoomLink+

This versatile Dynamic FM wireless microphone enables better hearing and understanding across a wide range of situations - from family gatherings and parties to restaurants, shopping malls and classrooms. It features adaptive FM advantage (AFMA) technology for listening in noisy environments, three microphone beam settings, Phonak's exclusive SoftLanding technology, an audio input for wireless multimedia use, and a quick-charging battery.



EasyLink+

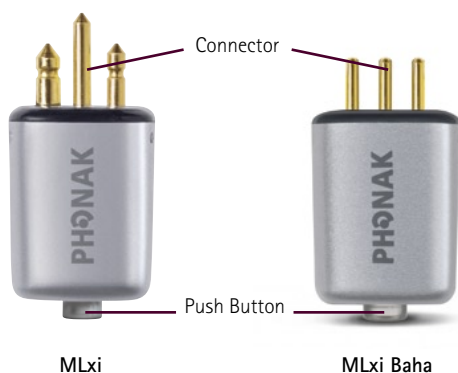
Ultra-simple to understand and use, the EasyLink+ is an effective, single-button Dynamic FM microphone that is suitable for users of every age. With just one press for On/Off switching and a fixed microphone beam setting, EasyLink+ offers the crystal-clear performance benefits of Dynamic FM such as adaptive FM advantage (AFMA) technology, in addition to Phonak's protective SoftLanding technology, the ability to plug into a multimedia system for effective wireless listening, and super-quick battery charging.

FM receivers

MLxi/MLxi Baha

The MLxi/MLxi Baha is a universal Dynamic FM receiver.

Overview



Frequency Management

MLxi/MLxi Baha is a multichannel receiver and can be synchronized to any desired channel by the synchronization feature of the transmitter or by the WallPilot. As default, MLxi comes with a pre-programmed default channel. Every time the system is turned On, it will come on to this default channel. The default channel can be changed by FM SuccessWare if required. It is also possible to change the startup behavior of MLxi/MLxi Baha to "use last used channel". If this option is chosen, MLxi/MLxi Baha will start up on the last channel used.

AutoConnect and Fitting with FM SuccessWare

AutoConnect is a feature of MLxi. This feature measures very precisely the impedance of the audio input and automatically sets the output to match that of the input. Due to the higher input impedance range of cochlear implants, AutoConnect may not find the correct matching parameters. Because of this, it is recommended to program the MLxi. Programming of the MLxi for the specific processor will disable the AutoConnect feature and the output parameters of MLxi match the impedance of the selected processor and no additional FM gain is required.

If no FM SuccessWare is available for programming the MLxi you may experience:

- Hearing a strong tone burst on startup
- Freedom BW and 3G speech processor having incorrect FM levels
- Harmony/Auria and Freedom Bodyworn showing incorrect Monitoring results

On the following processors AutoConnect works fine:

- MED-EI OPUS2
- All speech processor using MicroLink CI S.

Please refer to page 32 to learn how to program the MLxi for a specific processor.

Monitoring

MLxi/MLxi Baha is able to communicate with the **inspiro** Dynamic FM transmitter. When running the Monitoring option of **inspiro**, data from the receiver such as battery status and actual channel can be obtained. Range of the communication link is usually 20 cm. Due to the strong magnetic field of the cochlear implant coil, the distance may be lower.

Connector

MLxi features a universal euro connector which ensures compatibility to virtually all behind the ear (BTE) hearing instruments and CI systems.

MLxi Baha features a smaller 3-Pin connector which is compatible to most Baha sound processors.

Push Button

The push button of MLxi is by default disabled and has no function. Activation of the push button can be carried out by FM SuccessWare or by an **inspiro** Dynamic FM transmitter. The enabled push button then operates as an On/Off switch. For some speech processors, enabling the push button may have further functions. Please read the corresponding notes in the Fitting Guidelines section.

MicroMLxS

The MicroMLxS is an universal Classic FM receiver.

Overview



Connector

MLxi features an universal euro connector, which ensures compatibility with virtually all behind the ear (BTE) hearing instruments and CI systems.

Switch

Three positions can be selected On the switch:

- OFF
- Low impedance output
- High impedance output

The switch can be set to the two green dot position for most processors. Please refer to the detailed Fitting Guidelines to find out the recommended switch position for your speech processor.

Frequency Management

MicroMLxS is a multichannel receiver and can be synchronized to any desired channel by the synchronization feature of the transmitter or by the WallPilot. MicroMLxS comes with a pre-programmed default channel. Every time the system is turned On, it will come on to this default channel. The default channel can be changed by the FM SuccessWare if necessary.

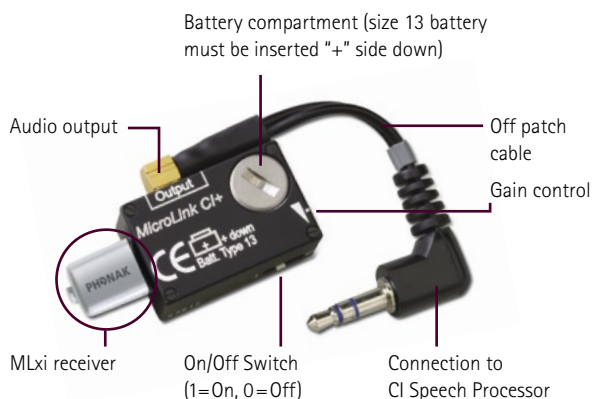
FM advantage

The MicroMLxS comes with an internal gain setting of 10dB. With most hearing systems, this provides an optimal loudness, or "FM advantage" for the FM signal over environmental inputs. In some cases, with hearing instruments and cochlear implants, this internal gain needs to be adjusted. This change can be made with the FM SuccessWare.

MicroLink CI S

The MicroLink CI S is an interface to connect a universal FM receiver, such as MLxi or MicroMLxS, to a variety of speech processors

Overview



Gain Control

The MicroLink CI S interface has a screw-set or wheel gain control. It is recommended that the gain is set to the minimum position for the initial system hookup. Gain can be increased by rotating the control in the clockwise direction. Once the receiver is plugged into the speech processor, some adjustment of the MicroLink CI S gain and/or the cochlear implant speech processor may be required. Speech testing in quiet using the FM transmitter only should yield similar results as the same test presented through the CI processor microphone. If results are poorer through the FM systems, it may be necessary to increase FM level with the gain control on the side of the MicroLink CI S interface. Retest until the input level of the FM signal is optimized for speech discrimination. If this level is exceeded the patient may begin to experience some distortion and performance will deteriorate.

For children the screw-set may be preferred, so that gain can be set without concern that the control will be changed inadvertently. Adults may prefer to have the volume control wheel for adjustment in different environments.

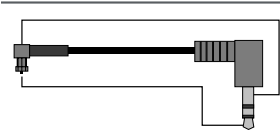
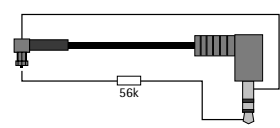
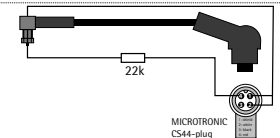
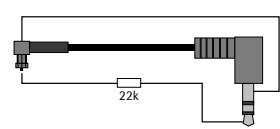
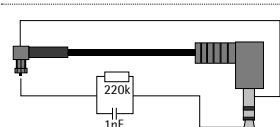
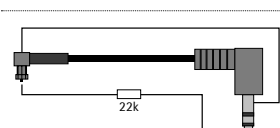
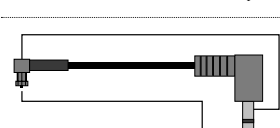
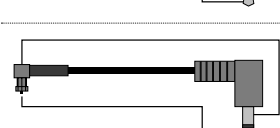


MicroLink CI S with gain wheel

MicroLink CI S with screw set volume control (childproof)

Patch Cables

To achieve the predicted performance with your MicroLink CI S and cochlear implant, the correct patch cable must be connected. Please use the following list to select the correct cable.

Blue long	Cochlear ESPrin BTE	
White	MED-EL TEMPO+/OPUS1 (remote battery pack)	
Red	MED-EL TEMPO+/OPUS1/ DUET1/ DUET2 (angled battery pack)	
Blue-Red Long	Advanced Bionics Platinum BTE Advanced Bionics CII BTE	
Orange	Cochlear SPrint Cochlear Spectra 22 (SN > 340.000)	
Blue-Red Short	Advanced Bionics PSP (Platinum bodyworn)	
Black	Advanced Bionics Clarion 1.2	
Blue Short	Cochlear Spectra 22 (SN < 340.000) Advanced Bionics Clarion S-Series	

MicroLink Freedom

The MicroLink Freedom is a design-integrated Classic FM receiver for the Cochlear Nucleus Freedom BTE speech processor

Overview



Frequency Management

The MicroLink Freedom is a multichannel receiver and can be synchronized to any desired channel by the synchronization feature of the transmitter or by the WallPilot. The MicroLink Freedom comes with a preprogrammed default channel. Every time the system is turned On, it will come on to this default channel. The default channel can be changed by the FM SuccessWare if necessary.

FM advantage

The MicroLink comes with an internal gain setting of 16 dB. For most users, this provides an optimal signal quality for the FM signal over environmental inputs. In exceptional cases, this internal gain needs to be adjusted. This gain change can be made with the FM SuccessWare. The FM advantage is not affected by this gain setting of the MicroLink Freedom but can be adjusted in the speech processor by changing the audio mixing ratio.

MyLink+

The MyLink+ is a Dynamic FM receiver and can be used with cochlear implants featuring a T-coil

Overview



Frequency Management

MyLink+ is a multichannel Dynamic FM and can be synchronized to any desired channel by the synchronization feature of the transmitter or by the WallPilot. MyLink+ comes with a pre-programmed default channel. Every time the system is turned On, it will come on to this default channel. The default channel can be changed by FM SuccessWare if required. It is also possible to change the startup behavior of MyLink+ to "use last used channel". If this option is chosen, MyLink+ will start up on the channel used before switching Off.

Using T-coil

Activate your T-coil program in your processor to receive the FM signal from MyLink+. Some speech processors offer a T only program. In that case no environmental cues are passed on by the speech processor microphones.

Volume control

The up/down volume control makes it easy to adjust the FM level to the most comfortable level. It is recommended to set the volume to the minimum the first time the system is switched On. After activating the whole system, the volume can be increased gradually with the "+" button until the right FM volume is achieved. Any change in volume setting is stored and the MyLink+ resumes at the latest used volume setting when switching Off and On again.

Monitoring

The MyLink+ is able to communicate with the **inspiro** Dynamic FM transmitter. When running the Monitoring option of **inspiro**, data from the receiver such as its serial number and actual channel can be obtained. The range of the communication link is about 20 cm.

Special note

The orientation of the T-coil in the speech processor, and interferences from electrical appliances nearby, may compromise the excellent sound quality of MyLink+.

MyLink

The MyLink is a Classic FM receiver and can be used with cochlear implants featuring a T-coil

Overview



Volume control

The up/down volume control makes it easy to adjust the FM level to the most comfortable level. It is recommended to set the volume to the minimum the first time the system is switched On. After activating the whole system, the volume can be increased gradually with the "+" button until the right FM volume is achieved. Any change in volume setting is stored and the MyLink resumes at the latest used volume setting when switching Off and On again.

Special note

The orientation of the T-coil in the speech processor, and interferences from electrical appliances nearby may compromise the excellent sound quality of MyLink.


Frequency Management

MyLink is a multichannel FM receiver and can be synchronized to any desired channel by the synchronization feature of the transmitter or by the WallPilot. MyLink comes with a pre-programmed default channel. Every time the system is turned On, it will come on to this default channel. The default channel can be changed by FM SuccessWare if required.

Using T-coil

Activate your T-coil program in your processor to receive the FM signal from MyLink. Some speech processors offer a T only program. In that case no environmental cues are passed on by the speech processor microphones.

Choose the right FM receiver for your cochlear implant or Baha sound processor



Cochlear Implant/Baha Model		MLxi	MicroMLxS	MicroLink Freedom	MicroLink CI S with MLxi or MicroMLxS	MyLink+	MyLink	MLxi Baha
Advanced Bionics	Harmony	■	■			■	■	
	Auria	■	■			■	■	
	Clarion CII BTE				■			
	Platinum BTE				■			
	Platinum (PSP) bodyworn				■			
	Clarion S-Serie				■			
	Clarion 1.2				■			
Cochlear	Nucleus® Freedom™ BTE			■		■	■	
	Nucleus® Freedom™ bodyworn controller	■	■			■	■	
	ESPrin 3G BTE	■	■			■	■	
	ESPrin /SPrint /Spectra				■			
Cochlear Baha®	Baha® BP100	■	■			(■)*	(■)*	
	Baha® Divino							■
	Baha® Intenso							■
	Baha® Compact							■
MED-EL	OPUS2	■	■			■	■	
	DUET2				■	■	■	
	TEMPO+/OPUS1 /DUET1				■			
Neurelec	digisonic Digi SP 'K, bodyworn	■	■					
	digisonic Digi SP BTE	■	■					

* With external Telecoil

Miscellaneous

Headset checker

Headset with a Euro plug to plug in any universal receiver



MicroLink Freedom test adaptor

Adaptor for MicroLink Freedom with Euro jack



MLxi Baha test adaptor

Adaptor for MLxi Baha with Euro jack



Fitting guidelines

Introduction

Successful application of an FM system with cochlear implants depends on several clinical-adjustable parameters. In the receiver, the FM gain may influence speech recognition. Within the speech processor, the input dynamic range (IDR), microphone sensitivity and audio mixing ratio may affect performance. Recent studies have evaluated the best settings for optimal FM performance.

With Dynamic FM, the need for adjusting processor parameters in noise should be negligible. Even in very noisy situations, there should be no need for a different mixing ratio since the FM gain is up to 14 dB higher than in quiet. If, however, in some special situations FM only is required, please follow the guidelines below.

Using Dynamic FM (MLxi receiver and Dynamic FM transmitter)

Since the Dynamic FM system adjusts the FM gain according to the surrounding noise, one setting can be applied which is beneficial in both calm and noisy situations. It is recommended that the MLxi is pre-programmed for the specific processor type in order to be sure FM levels are appropriate. Please refer to the section "AutoConnect" on page 6 for more information. On most speech processors no special steps have to be taken to achieve maximum Dynamic FM benefit! The only exceptions are speech processors from Cochlear Corp. For Cochlear speech processors it is strongly recommended to activate the auto sensitivity control (ASC) in the FM specific program.

Please see the overall recommended processor setting in the table below:

Brand	Audio mixing ratio	Additional remarks
Cochlear	1:1	Employ mapping from normal listening program without FM. Enable ASC for the FM program.
Cochlear Baha®		Divino, Intenso, Compact: Turn AGCO as high as it is tolerable for the patient. A maximum AGCO is to be preferred.
Advanced Bionics	50/50	Employ mapping from normal listening program without FM.
MED-EL		Employ mapping from normal listening program without FM.
Neurelec		Employ mapping from normal listening program without FM.

Using Classic FM

When using a Classic FM system, speech understanding in noise may be poorer than with Dynamic FM since the receiver does not automatically adjust the gain. Programming a high gain value in the MicroMLxS is not the solution, as it may be perceived as too loud and distorted in quiet environments.

As a solution, a different audio mixing ratio for the FM program may be selected or the microphone sensitivity may need to be altered depending on the listening situation and the processor type.

The next table shows what can be done to improve listening in noise.

Cochlear	Enabling ASC will already show significant better speech understand in noise. If this is not enough, an audio mixing ratio of 2:1 or 3:1 may be considered.
Advanced Bionics	Program the FM gain of the receiver as high as it is tolerable by the CI user. The +14 gain setting is recommended (Schafer et al, 2008). If listening performance in noise is still poor, an audio mixing ratio of 30/70 may be considered.
MED-EL	DUET1/ OPUS1/ TEMPO+: Reduce microphone sensitivity
Neurelec	May change the mixing ratio. For Digi SP and Digisonic BTE, the sensitivity potentiometer remains accessible to optimize hearing performance while using the FM system.

Note that when a 30/70 or 1:3 audio mixing ratio is employed, input to the processor microphone is attenuated by 10dB. Therefore, when FM is not in use, the listener should return to an equivalent (e.g. 1:1 or 50/50) audio mixing ratio to avoid listening with an attenuated processor microphone.

Achieving FM only

In some cases, adults prefer an FM only setting to focus on the primary signal delivered over the FM channel.

The table below shows how to achieve FM only.

Cochlear Corp	Select the highest possible mixing ratio or reduce the microphone sensitivity to 1.
Cochlear Baha®	BP100: Select the optional DAI program Divino, Intenso, Compact: move switch of MicroMLxS to one dot.
Advanced Bionics	Select AUX only audio mixing setting
MED-EL	MED-EL processors are DPAL no hearing instruments. MIX or EXT mode is controlled by the impedance of the connected device or cable. OPUS2: the switch of MicroMLxS shall be moved to one green dot. TEMPO+, OPUS1, DUET1: turn sensitivity control to Off (turned Counter-clockwise past 11:00 position until click is felt). DUET2: Use the MicroLink CI S patch cable for EXT use only. When using remote battery back, set the EXT/MIX switch to EXT.
Neurelec	Digi SP and Digisonic BTE: reduce microphone sensitivity Digi SP'K: change audio mixing ratio.

Evaluating an individual setting

In any case, the ideal parameter setting varies from user to user. As a starting point, the recommended settings should be used. The FM benefit should then be evaluated through speech-recognition assessment in the clinic, as well as questionnaires filled out by the recipient, family members and teachers.

Cochlear Nucleus® Freedom BTE



List of required parts

- 1** Nucleus Freedom speech processor
- 2** Nucleus Freedom standard size controller
- 3** MicroLink Freedom

Pre-Fitting

- Enable the auto sensitivity control (ASC) and use an audio mixing ratio of 1:1 for the dedicated FM program. Keep the same pre-processing strategies (e.g. ADRO or BEAM) as used in the default program.

Fitting with the user

1. Turn all equipment Off.
2. Remove the Freedom battery rack by pulling it out of the controller.
3. Insert three 675 batteries designed for use with cochlear implants into the MicroLink Freedom battery rack.
4. Plug the MicroLink Freedom into the controller.
5. Press the select button to power up the speech processor.
6. The Freedom processor will automatically detect the presence of the MicroLink Freedom. The recipient will hear the environment through the processor microphone and the FM combined.
7. Test the patient's speech recognition in quiet at normal sensitivity with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions.

8. When FM is not in use, press both sides of the increase/decrease button to toggle back to M only. This will resume normal processor microphone function. To re-engage the FM, toggle with the button until "EA" flashes on the display and the M remains active.
9. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Recommendations

To avoid interference, the following channels are recommended to be used with the MicroLink Freedom

N Band: N09, N12, N13, N16, N17, N18, N52, N57, N61, N62, N64, N65, N68, N73, N76

H Band: H06, H07, H16, H17, H18, H19, H20, H47, H48, H57, H59, H77, H78, H79, H85, H86, H87, H88, H89, H90

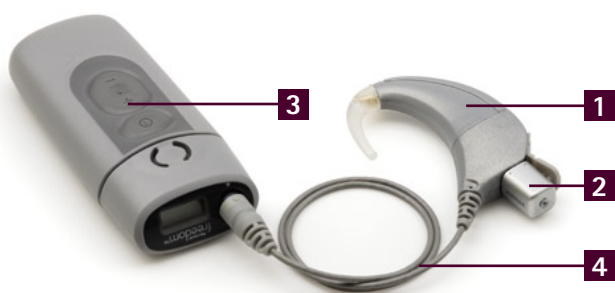
The MicroLink Freedom can be programmed with the FM SuccessWare. Insert the Freedom BTE processor with the MicroLink Freedom attached into the FM programming interface. Make sure the processor has good batteries and an FM (EA) program is selected. Instead of inserting the MicroLink Freedom into the BTE speech processor, programming can also be carried out with the MicroLink Freedom test adaptor.

Listening check

- Attach the Cochlear monitoring headphones to the receptacle in the bottom of the MicroLink Freedom. Turn the system On by pressing the select button on the Nucleus Freedom. Ensure that the MicroLink Freedom is plugged into the speech processor and EA is displayed. Now you can listen for about one minute to both, the processor microphone and the FM signal when speaking into the FM transmitter. The signal quality of the monitoring phones or through the test adaptor does not reflect the sound experienced by the implant user.
- Insert three batteries into the MicroLink Freedom and plug it into the MicroLink Freedom test adaptor. Plug the test adaptor into the headset checker (see page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.

The audio frequency response experienced this way is different for the MicroLink Freedom compared to e.g. MLxi. This is perfectly normal and does not interfere with proper functioning. The microphone input through the socket at the bottom of MicroLink Freedom is disabled.

Cochlear Nucleus® Freedom Bodyworn



List of required parts

- 1** Nucleus Freedom speech processor
- 2** MLxi or MicroMLxS
- 3** Bodyworn controller
- 4** Bodyworn FM cable

Pre-Fitting

- Enable auto sensitivity control (ASC) and use an audio mixing ratio of 1:1 for the dedicated FM program. Keep the pre-processing e.g. ADRO strategy when used in the default program.
- When using MLxi, it should be programmed for the Cochlear Freedom Bodyworn (see page 32).

Fitting with the user

1. Turn all equipment Off.
2. If you haven't already done so, remove the ear level controller by twisting it from the processor.
3. Twist on the body worn FM cable. Plug the cable into the proper receptacle on the body worn controller. Attach the FM receiver to the ear level end of the FM cable. If you are using MicroMLxS, move the switch to the double green dot position.
4. Turn the body worn controller On by pressing and holding the select button. Ensure that an "X" appears in the upper right corner of the display. If not, press and hold the up

and down button at the same time until "EA" flashes and an "X" appears in the display.

5. Test the patient's speech recognition in quiet at normal sensitivity with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.
6. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Recommendations

To avoid interference, the following channels are recommended to be used with the MicroLink Freedom

N Band: N09, N12, N13, N16, N17, N18, N52, N57, N61, N62, N64, N65, N68, N73, N76

H Band: H06, H07, H16, H17, H18, H19, H20, H47, H48, H57, H59, H77, H78, H79, H85, H86, H87, H88, H89, H90

Listening check

- Attach the Cochlear monitoring headphones to the receptacle next to the FM receiver. Turn the system On by pressing on the select button. Ensure that "X" is displayed on the body worn controller. Now you can listen to both, the processor microphone and the FM signal when speaking into the FM transmitter. After about one minute the headphones disable themselves. Note that the signal quality of the monitoring phones or through the test adaptor does not necessarily reflect the sound experienced by the implant user.
- Plug the MLxi or MicroMLxS into the headset checker (see page 12). Turn On the headset checker and FM transmitter.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

Cochlear ESPrit 3G



List of required parts

- 1** ESPrit 3G speech processor
- 2** FM 3G adapter
- 3** MLxi or MicroMLxS

Pre-Fitting

- Enable auto sensitivity control (ASC) and use an audio mixing ratio of 1:1 for the dedicated FM program. Keep the pre-processing e.g. ADRO strategy when used in the default program.
- It is recommended that the monitoring earphones are disabled in P1 to conserve power for the FM system. Failure to do this may result in intermittency for CI of FM. The headphones may still be used in P2.
- When using MLxi, it should be programmed for the Cochlear ESPrit 3G (see page 32).

Fitting with the user

1. Turn all equipment Off.
2. Set the switch at the bottom of the 3G to the "M" position.
3. Plug in the FM 3G adaptor into the socket at the bottom of the 3G.
4. Move the switch On the FM 3G adaptor to position "FM+M".
5. Attach the receiver to the FM 3G adaptor. If MicroMLxS is used, move the switch to the double green dot position.

6. Switch the speech processor into program 1 (P1 on the dial).
 - a. For children: disable sensitivity control
 - b. For adults: enable sensitivity control to achieve FM only
7. Now turn the FM transmitter On.
8. Test the patient's speech recognition in quiet at normal sensitivity with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.
9. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- Attach the Cochlear monitoring headphones to the receptacle at the side of the FM 3G adaptor. Typically P2 is designated for the monitoring headphones and allows you to listen to both, the processor microphones and the FM signal. If you do not hear anything when using the monitoring phones turn the processor Off and On to P2 and try again. Note that the headphone cable may pick up some interference and therefore may be noisier than the actual input to the recipient.
- Plug the MLxi or MicroMLxS into the headset checker (see page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

Cochlear ESPril/ESPril 22



List of required parts

- 1** ESPril speech processor
- 2** ESPril audio cover
- 3** Accessory adaptor cable
- 4** Blue long cable
- 5** MicroLink CI S
- 6** MLxi or MicroMLxS

Pre-Fitting

- Enable auto sensitivity control (ASC) and use an audio mixing ratio of 1:1 for the dedicated FM program. Keep the pre-processing e.g. ADRO strategy when used in the default program.

Fitting with the user

1. Turn all equipment Off.
2. Attach the ESPril audio cover to the processor.
3. Attach the accessories adaptor cable to the audio cover.
4. Connect the blue long cable to the accessories adaptor cable and to the MicroLink CI S.
5. Plug the FM receiver into the MicroLink CI S. If MicroMLxS is used, move the switch to the double green dot position.
6. Turn the volume of the MicroLink CI S to the minimum.
7. To avoid transient sounds, turn On the FM transmitter, then MicroLink CI S, then speech processor in that order.

8. Gradually increase the gain of the MicroLink CI S to a comfortable level.
9. Determine speech recognition ability in quiet at normal sensitivity with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.
10. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue, blue red, black or white patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter. By speaking into the transmitter's microphone you should hear your voice through the speaker.

Cochlear SPrint/Spectra 22



Note: Picture shows SPrint

List of required parts

SPrint	Spectra 22, SN > 340.000	Spectra 22, SN < 340.000
1 MLxi or MicroMLxS	MLxi or MicroMLxS	MLxi or MicroMLxS
2 Orange cable	Orange cable	Blue short cable
3 MicroLink CI S	MicroLink CI S	MicroLink CI S
4 SPrint processor	Spectra 22 processor	Spectra 22 processor

Pre-Fitting

- Enable auto sensitivity control (ASC) and use an audio mixing ratio of 1:1 for the dedicated FM program. Keep the pre-processing e.g. ADRO strategy when used in the default program.

Fitting with the user

- Turn all equipment Off.
- Connect the specific patch cable into the speech processor and the MicroLink CI S.
- Plug the FM receiver into the MicroLink CI S. If MicroMLxS is used, move the switch to the double green dot position.
- Turn the volume of the MicroLink CI S to the minimum.
- To avoid transient sounds, turn On the FM transmitter, then MicroLink CI S, then speech processor in that order.

- Gradually increase the gain of the MicroLink CI S to a comfortable level.
- Determine speech recognition ability in quiet at normal sensitivity with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.
- Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

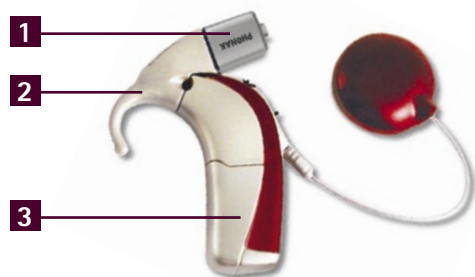
Notes

For the Spectra22 with serial number <340.000, the CI microphone will be MUTED when an external device such as the MicroLink CI S is plugged in.

Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue, blue red, black or white patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter On. By speaking into the transmitter's microphone you should hear your voice through the speaker.
- SPrint has a headphone output. Attach the monitoring headphones to this output to listen to the processor microphone and FM signal in parallel.

Advanced Bionics Auria/Harmony



List of required parts

- 1** MLxi or MicroMLxS
- 2** iConnect™ Adaptor, available in two sizes
- 3** Auria/ Harmony speech processor

Pre-Fitting

- Set audio mixing ratio to 50/50.
- When using MLxi, it should be programmed for the Advanced Bionics Auria/ Harmony speech processor (see page 32).

Fitting with the user

1. Turn all equipment Off.
2. Remove the standard earhook by twisting it Off.
3. Hold the iConnect at the base and firmly press until it clicks onto the speech processor.
4. Insert a size 10 zinc air battery into the iConnect.

Note: Only ZeniPower® batteries, available for purchase through Advanced Bionics are certified for use with the standard-sized iConnect.

5. Turn the volume down On the speech processor to avoid transient sounds.

6. Switch the speech processor to the dedicated FM program with audio mixing ratio 50/50.
7. Plug the MLxi or MicroMLxS into the iConnect. If MicroMLxS is used, move the switch to the single green dot position.
8. Gradually turn the volume On the speech processor up to the normal level (usually 12:00).
9. Test the patient's speech recognition in quiet with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.
10. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- Plug the MLxi or MicroMLxS into the headset checker (See page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

Advanced Bionics Platinum BTE/CII BTE



List of required parts

- 1** MLxi or MicroMLxS
- 2** MicroLink CI S
- 3** Auxiliary audio earhook with cable, available in two earhook sizes
- 4** Platinum BTE/CII BTE speech processor
- 5** Blue-red long cable

Pre-Fitting

- Set audio mixing ratio to 50/50.

Fitting with the user

1. Turn all equipment Off.
2. Attach the auxiliary audio earhook to the speech processor.
3. Connect the blue-red long cable to the auxiliary audio earhook cable and to the MicroLink CI S.
4. Plug the FM receiver into the MicroLink CI S. If MicroMLxS is used, move the switch to the double green dot position.
5. Turn the volume of the MicroLink CI S to the minimum.
6. To avoid transient sounds, turn On the FM transmitter, then MicroLink CI S, then speech processor in that order.
8. Gradually increase the gain of the MicroLink CI S to a comfortable level.

9. Determine speech recognition ability in quiet with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.
10. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter. By speaking into the transmitter's microphone you should hear your voice through the speaker.

Advanced Bionics PSP / Clarion S-Series / Clarion 1.2



Picture shows PSP

List of required parts

	Platinum Sound Processor (PSP)	Clarion S-Series	Clarion 1.2
1	MLxi or MicroMLxS	MLxi or MicroMLxS	MLxi or MicroMLxS
2	Blue-red short cable	Blue short cable	Black short cable
3	MicroLink CI S	MicroLink CI S	MicroLink CI S
4	PSP	Clarion S-Series SP	Clarion 1.2 SP

Pre-Fitting

- Set audio mixing ratio to 50/50

Note: the audio mixing feature is not available for Clarion S-Series and Clarion 1.2 processors.

Fitting with the user

- Turn all equipment Off.
- Connect the specific patch cable into the speech processor and the MicroLink CI S.
- Plug the FM receiver into the MicroLink CI S. If MicroMLxS is used, move the switch to the double green dot position.
- Turn the volume of the MicroLink CI S to the minimum.
- To avoid transient sounds, turn On the FM transmitter, then MicroLink CI S, then speech processor in that order.

- Gradually increase the gain of the MicroLink CI S to a comfortable level.
- Determine speech recognition ability in quiet with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.
- Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Note

For the Clarion S-Series and Clarion 1.2 processors, the processor microphone will be MUTED when an external device such as the MicroLink CI S is plugged in

Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter. By speaking into the transmitter's microphone you should hear your voice through the speaker.

MED-EL OPUS2



List of required parts

- 1** OPUS2 speech processor
- 2** FM Battery Pack Cover
- 3** MLxi or MicroMLxS

Fitting with the user

1. Turn all equipment Off.
2. Replace the standard battery cover by the FM Battery Pack Cover.
3. Plug the FM receiver into the bottom of the FM Battery Pack Cover. The MicroMLxS is usually used in the two green dot position.
4. Switch the speech processor and FM transmitter On.
5. Test the patient's speech recognition in quiet with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.
6. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Additional information

When MicroMLxS is used, the switch acts as following:

- a. Two green dots: FM + M
- b. One green dot: FM only (processor microphones attenuated)

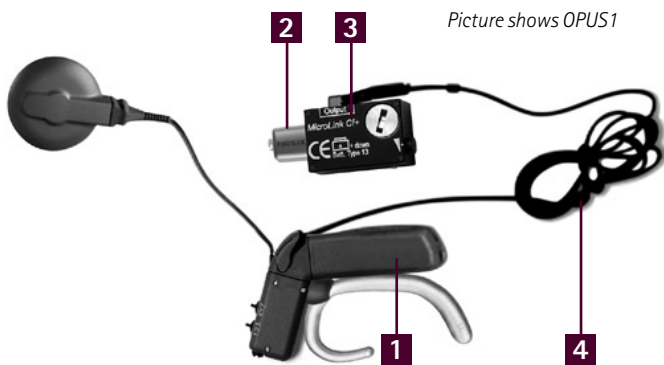
When MLxi is used and the push button is enabled, the push button acts as following:

- a. Long press: switch MLxi On or Off respectively
- b. Short press: switch between FM + M and FM only in case a non Dynamic FM transmitter is being used.

Listening check

- Plug the MLxi or MicroMLxS into the headset checker (See page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

MED-EL DUET1 / DUET2 / OPUS1 / TEMPO+ with angled battery pack



List of required parts

- 1** Speech processor with Angled Battery Pack
- 2** MLxi or MicroMLxS
- 3** MicroLink CI S
- 4** Red cable

Fitting with the user

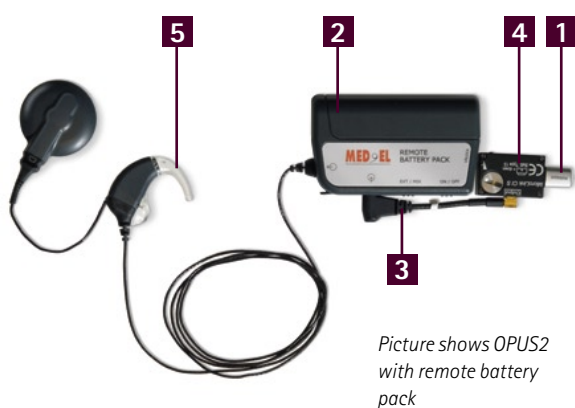
1. Turn all equipment Off.
2. Connect the red cable to the MicroLink CI S and to the back of speech processor. Make sure the cable is attached correctly to the processor. Please check the processor user guide.
3. Plug the FM receiver into the MicroLink CI S. When using MicroMLxS, switch it to the double green dot position.
4. Turn the volume of the MicroLink CI S to the minimum.
5. Turn On the MicroLink CI S, speech processor and FM transmitter.
6. Gradually increase the gain of the MicroLink CI S to a comfortable level.
7. Determine speech recognition ability in quiet with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.

8. Evaluate FM benefit as well as the appropriateness of FM settings, through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter. By speaking into the transmitter's microphone you should hear your voice through the speaker.

MED-EL OPUS1/OPUS2/TEMPO+ with remote battery pack



Listening check

- The best way to listen to the FM signal is to plug the MicroLink CI S with the blue patch cable into a loudspeaker. Make sure there is a good battery inside the MicroLink CI S. Then turn On the MicroLink CI S and FM transmitter. By speaking into the transmitter's microphone you should hear your voice through the speaker.

List of required parts

- 1 MLxi or MicroMLxS
- 2 Remote Battery Pack
- 3 White cable
- 4 MicroLink CI S
- 5 Speech processor

Fitting with the user

1. Turn all equipment Off.
2. Connect the white cable to the MicroLink CI S and to the Remote Battery Pack.
3. Plug in the FM receiver into the MicroLink CI S. When using MicroMLxS, switch it to the double green dot position.
4. Turn the volume of the MicroLink CI S to the minimum.
5. Turn On the Remote Battery Pack and switch it into MIX-Mode.
6. Turn On the MicroLink CI S and FM transmitter.
7. Gradually increase the gain of the MicroLink CI S to a comfortable level.
8. Determine speech recognition ability in quiet with the FM signal. Ensure that results are similar to implant alone condition. MicroLink CI S gain may need further adjustments.
9. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Neurelec Digi SP and Digisonic BTE



List of required parts

- 1** Digi SP/ Digisonic BTE speech processor
- 2** MLxi or MicroMLxS

Pre-Fitting

- When using MLxi, it should be programmed for the specific speech processor using FM SuccessWare (see page 32).
- The Digi SP and Digisonic BTE processors provide two additional programs (P3/P4) dedicated to an auxiliary input connection. These two programs need to be adapted to different sound environments according to the procedure below.

Fitting with the user

1. Switch Off all equipment.
2. Plug the FM receiver directly into the auxiliary ("AUX") input of the processor. When MicroMLxS is used, move the switch to the single green dot position.
3. Switch the processor On in P1 or P2. The processor automatically detects the presence of the receiver and switches to the specific P3/P4 to be set for the first use.
4. Use the implant programming software to adapt these specific programs (copy P1/P2 into P3/P4 and authorize the auxiliary input). Adapt the appropriate audio mixing ratio of the FM and processor microphone.

5. Test the patient's speech recognition in quiet with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, it may be necessary to modify the input gain (microphone and/or FM) until comparable performance is achieved.
6. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- The environmental and FM signals can be checked using the dedicated function in the implant programming software.
- Plug the MLxi or MicroMLxS into the headset checker (See page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

Neurelec Digi SP'K



List of required parts

- 1** Digi SP'K speech processor
- 2** MLxi or MicroMLxS

Pre-Fitting

- When using MLxi, it should be programmed for the specific speech processor using FM SuccessWare (see page 32).
- The Digi SP'K processor provides different programs that can be configured for use by any auxiliary system. These programs need to be adapted to different sound environments following the procedure below.

Fitting with the user

1. Switch Off all equipment.
2. Plug the FM receiver directly into the auxiliary ("AUX") input of the processor. When MicroMLxS is used, move the switch to the single green dot position.
3. Switch the processor On in the position defined for the use of the auxiliary system. The processor automatically detects the presence of the receiver.
4. Use the implant programming software to adapt these specific programs (copy the programs and authorize the auxiliary input). Adapt the appropriate audio mixing ratio of the FM and processor microphone.

5. Test the patient's speech recognition in quiet with the CI alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, it may be necessary to modify the input gain (microphone and/or FM) until comparable performance is achieved.
6. Evaluate FM benefit as well as the appropriateness of FM settings through speech-recognition assessment in the clinic and standardized questionnaires completed by the recipient, family members and teachers.

Listening check

- The environmental and FM signals can be checked using the dedicated function in the implant programming software.
- Plug the MLxi or MicroMLxS into the headset checker (See page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Plug the MLxi or MicroMLxS into an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

Cochlear Baha® BP100



List of required parts

- 1** Cochlear Baha® BP100
- 2** MLxi or MicroMLxS

Fitting with the user

1. Turn all equipment Off.
2. Plug the MLxi into the Baha sound processor.
3. Switch On the Baha sound processor.
4. In all programs, the output of the FM receiver is mixed with the signal of the Baha microphones.
5. Test the patient's speech recognition in quiet at normal sensitivity with the Baha alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.

Listening check

- Plug the MLxi or MicroMLxS into the headset checker (See page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.

Cochlear Baha® Divino / Baha® Intenso / Baha® Compact



Listening check

- Use the MLxi Baha adaptor to connect the MLxi Baha to the headset checker (see page 12). Turn On the headset checker and FM transmitter and you should hear the FM signal.
- Use the MLxi Baha adaptor to connect the MLxi Baha to an audioshoe attached to a hearing instrument. Turn On the hearing instrument and switch it to the FM program if required.

List of required parts

- 1 Cochlear Baha®
sound processor
- 2 MLxi Baha

Fitting with the user

1. Plug the MLxi Baha into the Baha sound processor. Make sure that the white circled pin of MLxi Baha lines up to the red circle on the hearing instrument.
2. Switch On the Baha sound processor and FM transmitter.
3. For optimum dynamic FM benefit, turn the AGCO potentiometer on the Baha sound processor as high as it is tolerable for the patient.
4. Test the patient's speech recognition in quiet at normal sensitivity with the Baha alone and then through the wireless FM system only (out of range of the processor microphone). Performance should be similar between these two conditions. If the FM is too loud or too soft, the FM programming software from Phonak may be required to optimize the FM volume level.

Additional information

Enabling the push button will have following effects:

- a. Long press: switch MLxi Baha On or Off respectively
- b. Short press: switch between FM+M and FM only in case a non Dynamic FM transmitter is being used.

FAQ



Speaker for listening test, e.g. Radio Shack Mini Amplifier Speaker.

How do I perform a system check?

- Some manufactures offer monitoring headphones, which can be connected to the processors. The headphones usually allow listening to the processor microphones and FM signal in parallel.
- Phonak offers a headset checker which has a euro plug. Here you can plug in all universal FM receivers or another receiver over the dedicated adaptor.
- The universal FM receivers can also be plugged into an audioshoe connected to a hearing instrument. Make sure there is a battery inside the hearing instrument and that the hearing instrument is in the FM program.
- You can check the MyLink+/ MyLink using headphones connected to the headphone output or via a hearing instrument which is in T-coil mode.
- MicroLink CI S can be tested by plugging it into a desktop speaker using the blue, blue-red, black or white cable. See the picture at the top of this page. Make sure there is a good battery inside the MicroLink CI S.

I performed the listening test but am still not able to hear the FM signal. What should I do?

- Make sure all equipment has a battery and that batteries are not exhausted.
- When using MLxi, it may be possible that the push button is enabled. If so, to activate the MLxi, you must press the push button for two seconds.
- Make sure transmitter and receiver are on the same channel. Synchronize the receiver if required.

What do I do if there is static or a poor operating range?

- Make sure the external antenna is attached to SmartLink+ or the microphone cable of **inspiro** is un-wrapped to have a operating range of about 50 feet (15 meters).
- Try another FM channel. Change the FM channel on the transmitter. After changing the channel, you need to synchronize the receiver to the new channel. If required, test all available channels of the transmitter for an interference free channel.
- In some rare cases, the strong magnetic field of the CI coil may interfere with the radio frequency used for the FM transmission. If changing the channel does not help to eliminate the static, you may consider a body worn solution with MicroLink CI S or the MyLink+/MyLink.

The FM level is too soft or too loud

- Check if the MLxi has been programmed for the specific speech processor. If not, program the MLxi as explained in the section "programming a receiver with FM SuccessWare". When you are using MicroMLxS, check if the switch is on the recommended position.
- As a second step check the mixing ratio of the speech processor.
- As a third step, you can adjust the internal gain of the receiver which can be done by the programming software FM SuccessWare.

There is a tone every time I switch MLxi On.

This is a normal tone generated by MLxi at every startup. This tone can be deactivated when you program the MLxi for the specific processor as described in the section "programming MLxi/MicroMLxS".

When Monitoring a receiver, I get "replace audio boot". What shall I do?

This only happens when the MLxi has not been programmed for the specific processor. Then, the feature AutoConnect is enabled and due to the broader range of input impedance of CI processors, the MLxi may detect an impedance which is out of its range. If this message is displayed after Monitoring it can be ignored. If you want to avoid this message, please program the MLxi for the specific processor by FM SuccessWare.

Can I monitor a MicroMLxS, MicroLink Freedom or MyLink?

No. they are Classic FM receivers and do not feature Monitoring.

What can I do in the case of static when using MyLink+ or MyLink?

The transmission from MyLink+/MyLink to the speech processor is based on magnetic fields. Any electrical appliance can generate magnetic fields which are picked up by the T-coil of the hearing instrument. To eliminate such interferences the client should avoid these sources of interference or consider an FM receiver that is directly connected to the speech processor.

For more FAQs please visit:
www.phonak.com/FAQ

Programming a receiver with FM SuccessWare

MicroMLxS, MyLink+, MyLink and MicroLink Freedom are pre-programmed and ready to be used. However even when the fitting instructions in this brochure are followed closely it might be necessary to change the default channel, adjust the FM Advantage (FM gain) and/or the Confirmation Beep level. For MLxi it is recommended to program this with FM SuccessWare prior to use with a CI speech processor, in order to achieve optimum interface matching characteristics. The following CI models can be chosen from the drop-down list in the FM SuccessWare in order to facilitate the adjustments:

- Advanced Bionics Clarion
- Advanced Bionics Harmony/Auria
- Advanced Bionics Platinum
- Cochlear ESPril 3G
- Cochlear Esprit/Spectra/SPril
- Cochlear Freedom body worn
- Med El DUET2
- Med El OPUS1/DUET1/Tempo+
- Med El OPUS2
- Med El OPUS2 remote batt. pac
- Neurelec digisonicBTE/Digi

For most CIs with a body worn speech processor, FM can be used in combination with the MicroLink CI S and the designated Patch Cables (see chart on page 9). In the print screens from the FM SuccessWare on the following two pages we show the MicroLink CI S "representing" all the CI models above.

Programming options

Programming interfaces

Via the FM programming interface



All receivers can be programmed by the FM programming interface:

1. Make sure all equipment has a battery and switch everything On.
2. Connect the universal receiver to the processor or MicroLink CI S and put it in the programming interface.
3. Select the option "via the programming interface" when FM SuccessWare asks for communication with the receiver.

Via inspiro

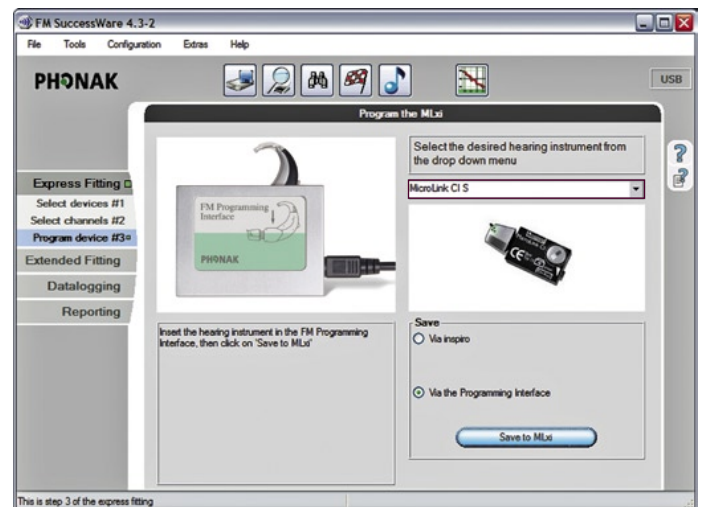


MLxi, MLxi Baha and MyLink+ can be programmed through inspiro:

1. Make sure all equipment has a battery and switch everything On.
2. Connect the universal receiver to the processor or MicroLink CI S and place it in front of **inspiro**.
3. Select the option "via **inspiro**" when FM SuccessWare asks for communication with the receiver.

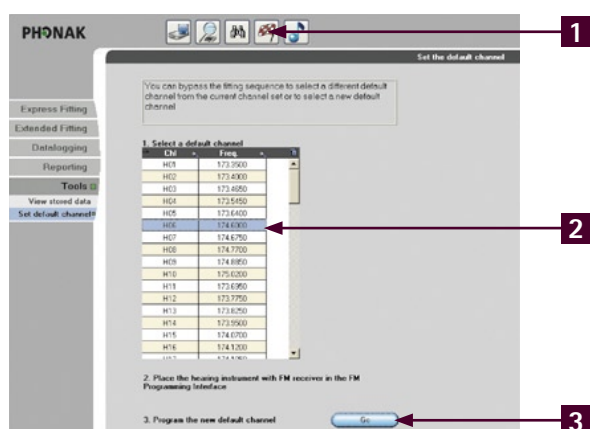
Programming MLxi

1. Click Express Fitting.
2. Select MLxi and click "Next".
3. Choose "Detect receiver channel" or manually select the desired channels and define the default channel, then click "Next".
4. Select the specific processor from the drop-down list in the upper right corner.



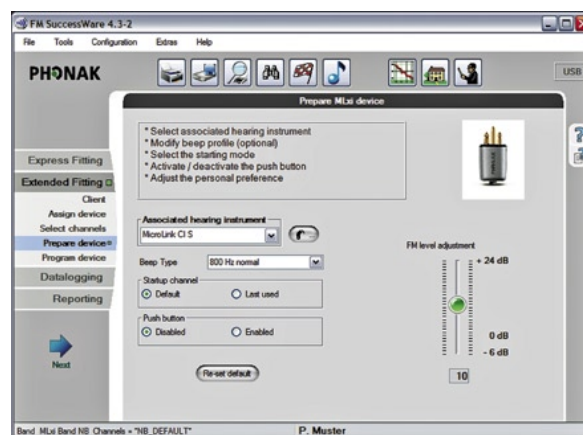
5. Prepare the receivers as described in the section: "programming interfaces" and press "Save to MLxi".

Changing the default channel



- 1 Click on the flag icon at the top of the screen.
- 2 Select the new channel that you would like the FM receiver to start up with.
- 3 Prepare the receivers as described in the section: "programming interfaces" and press "Go".

5. Choose "Detect receiver channel", or manually select channels as well as a default channel. Then click "Next".
6. Select the specific processor from the drop-down list. Do not choose "UNKNOWN". Adjust the FM Advantage as required. Other options can also be changed (e.g. the beep type). The screen may be different depending on the receiver you use. Click on "Next".



Changing the FM gain or other settings

1. Please note that altering the FM gain of an FM receiver may not have the same effect as it would if the receiver were connected to a hearing instrument.
2. Click on the menu "Extended Fitting".
3. Enter the client's name and additional information and click on "Add", then "Next".
4. On the next screen, click "Assign device" on the right and choose your receiver, or click on the "Detect receiver" button (make sure you have prepared the receivers as described in the chapter "Programming Options"). Then click on "Next".

7. Prepare the receivers as described in the section: "Programming interfaces" and press "Save Now...".

For more information about using the Phonak FM SuccessWare, please contact your local Phonak FM specialist.

Notes

Notes



Online resources

Phonak's professional homepage:
www.phonakpro.com

Your online comprehensive FM support tool for schools:
www.eSchoolDesk.com

The latest set-up tips for FM systems in combination with cochlear implants and hearing instruments:
www.phonak.com\FM_Configurator

Check quickly if your C.I. or hearing instrument is FM compatible:
www.phonak.com\mix

Cochlear
www.cochlear.com

Advanced Bionics
www.advancedbionics.com

MED-EL
www.medel.com

Neurelec (MXM)
www.neurelec.com

www.phonakpro.com