

# Oticon ♦ Amigo



child  
friendly  
hearing  
care



## FM made friendly

**oticon**  
PEOPLE FIRST

# Amigo

## FM made easy - **inside and outside** the classroom

Children depend on FM in noisy situations, but existing systems don't always yield optimal performance. To be truly effective, FM solutions must be simple to program, easy to use, and 100% reliable. They should also provide complete certainty that the speech signal is being clearly received.

The new Oticon Amigo FM family fulfils all of these requirements. Amigo solutions promise better performance and more peace of mind than any other FM systems on the market.

As a multi-purpose solution for home or school use, the Amigo T10 offers:

- > > > > > **CERTAINTY:**  
**Removes all doubt that the child can hear**
- > **DURABILITY:**  
**Significantly less down time**
- > **VOICE PRIORITY:**  
**A clean and consistent speech signal**
- > **CONVENIENCE:**  
**Programming in the palm of your hand**



The Amigo multi-purpose transmitter



The Amigo multi-channel receiver





## Amigo at a GLANCE

### Amigo R2 RECEIVER

The Amigo multi-channel receiver is compatible with virtually all BTE hearing aids and can be connected to Cochlear Implants.



- ..... LED status indicator
- ..... Euro-pin connector
- ..... 3-position mode switch
- ..... Euro-pin rotation lock
- ..... Channel seek/toggle

- > *Multi-channel capabilities*
- > *Low receiver current drain of 2.0 mA*
- > *Receiver sleep mode*
- > *Programming range ~ 30 cm.*
- > *FM transmission range ~ 30 m*
- > *SNR: 50 dB*

## Amigo T10 TRANSMITTER

The Amigo multi-purpose transmitter provides an easy and friendly interface for using and fitting FM.



- > AAA standard NIMH batteries
- > Multi-band FM capability
- > Fail safe charging sensor
- > Full channel flexibility
- > True low-frequency directionality
- > FM transmission range ~ 30 m
- > Fixed directionality index of 8.5 dB AI-DI
- > Four operational modes

# How do you **know** that the **child** can **hear**?

## **What good is FM technology if you can't be SURE that it works?**

Today's FM systems have a major drawback in that they provide no confirmation that the equipment is functioning properly or that the child is hearing the signal. Young children can't be expected to give teachers on-the-spot feedback; the FM solution should do that.

And that's exactly what Amigo does with a unique, built-in Light Emitting Diode (LED) in the receiver. When the light is on, the teacher KNOWS that the system is working and that the child can hear their voice. The LED confirms that:

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- > **The hearing-aid battery is functioning**
- > **The receiver is ON**
- > **The transmitter and receiver are both working perfectly**
- > **The child is on the right channel**



## ***Amigo provides on-the-spot feedback***

*Only Amigo can make you feel confident that young children are getting the input they need.*





*The unique channel seek function ensures that transmitter and receiver are on the same channel.*

## How Amigo SHOWS that the child can hear

Young children typically find it difficult to provide accurate feedback on the performance of their FM system. But with Oticon Amigo, they don't have to. With the unique LED and channel seek function, the receiver provides clear confirmation that the child can hear. This allows teachers to focus on teaching – and their students to focus on learning.

**SEEING that the FM solution is functioning**  
Amigo's red LED confirms that the Amigo transmitter and receiver are working and synchronised to the same channel. And its backward or forward positioning offers visibility from any angle. The LED can be programmed to shine constantly or blink every two seconds. It can also be completely disabled - a feature ideal for older students seeking a more discreet solution.

The Amigo T10 transmitter offers frequency synthesis at the touch of a button, giving it multi-frequency capabilities.

With the unique channel seek function on the Amigo R2 receiver, you can rest assured that the T10 and the receiver will always be on the same channel.



**The red LED shows that:**

- > The hearing-aid battery is functioning
- > The receiver is ON
- > The transmitter and receiver are working perfectly
- > The child is on the right channel



**ENSURING optimal hearing**

To ensure that the child's receiver retains the correct channel setting, the Amigo receiver can be programmed to wake up in the last channel used. This prevents accidental channel changes.

If necessary, all of the transmitter's switches can be disabled, so changing functionalities can only take place with the help of a teacher.



*The Amigo LED is very flexible: it can be positioned so the light is visible from the back as well as the front.*

# Downtime is wasted time

## **Classrooms are tough. Why can't FM solutions be tougher?**

Classrooms are challenging environments. Teachers and audiologists shouldn't have to spend too much time on troubleshooting, and children shouldn't have to wait while FM systems get repaired. Teaching time is far too precious to squander on system downtime.

Such demanding conditions are no match for Amigo. From the exterior casing to the internal components, Amigo is the toughest FM solution ever made.

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- > **Withstands accidental dropping**
- > **Moisture repellent**
- > **Fail-safe battery recharging**



***We believe in Amigo – so should you!***

*We know that teachers need reliable FM solutions. We believe so much in Amigo that we are ready to back every product up with an extended warranty plan.*





## Amigo makes DOWNTIME a thing of the PAST

Classrooms and staffrooms put special demands on FM systems. Fortunately, Amigo solutions are exceptionally well protected – both internally and externally. The mechanical design

and construction; the exceptional battery consumption, and the fail-safe charging system all help to make FM system downtime a thing of the past.



- 1 The switch can tolerate 100,000 presses – corresponding to 10 years of use.



- 1 Gold plated Euro-pins make the connections corrosion resistant.
- 2 Ultrasonically welded seams cannot come apart.



- 1 Accelerated heat tests confirm the device is capable of withstanding conditions, both indoors and outdoors.

### Accident PROOF

Amigo FM products can be accidentally dropped on the floor without suffering permanent damage. The Amigo receiver is very light and has been ultrasonically welded together, making the unit extremely robust and resilient.

### Moisture REPELLENT

The T10 promises to be a long-term teaching companion thanks to its durable finish. The rubber-coated button and strong surface lacquer make it moisture repellent and highly resistant to wear and tear. The Amigo receiver boasts similar moisture-resistant benefits: the shell has been welded together, and the few apertures that do exist are tightly sealed.

### LONG battery life

Amigo receivers boast an automatic Sleep-mode function that conserves battery power. Whenever more than 60 seconds elapse between signals, the receiver shuts down all functions, with the exception of a small signal sensor. This procedure reduces battery consumption by more than 50%. The instant the FM signal returns, all systems are re-activated. And the LED light confirms this change.

### FAIL-SAFE charging

The Amigo T10 uses two rechargeable AAA NiMH batteries that can be exchanged with standard Alkaline batteries if necessary. The battery charging sensor prevents Alkaline batteries from being accidentally recharged. The battery lifetime of the rechargeable batteries is more than 8 hours, enabling the transmitter to provide constant support throughout the school day.



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...at Amigo T10 is  
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- ① The 3-position switch can be toggled 10,000 times.
- ② The channel switch can tolerate 50,000 presses.



- ① The gold-plated battery springs prevent corrosion.
- ② The battery springs ensure fail-safe charging by detecting battery type.

# A **clear** focus on **speech**

## **Classrooms are so noisy. How can the child ever get a clear speech signal?**

A clear signal means more than just sending sounds from A to B; it means ensuring that only the most relevant ones are transmitted to the child. But in classroom environments this can be very difficult due to the sheer number of competing noise sources.

Amigo cuts through irrelevant noise with the aid of four advanced directional microphones - the equivalent of eight microphone ports. With such a powerful microphone array the T10 homes in on the primary signal more effectively than any other directional solution on the market.

The T10 is also very selective: in Focus mode it captures only the voices appearing directly in its 'listening zone'. And in Super Focus mode it cuts even more peripheral noise out of the child's sound picture. With an impressive 8.5 dB AI-DI, Amigo provides a very high SNR - a benefit children will really notice.

> > > >

- > **Superior directionality**
- > **Better speech input**
- > **Better sound quality**
- > **Suppressing multiple noise sources simultaneously**



### ***Reducing noise from several noise sources***

*Thanks to its unique directional qualities the Amigo T10 reduces multiple noise sources simultaneously - whether they are static or speech modulated.*





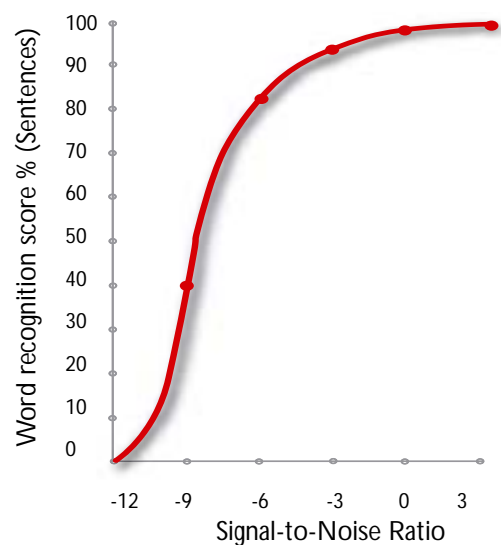
Placed on a table in Omni mode, the T10 picks up the voices of the child's classmates.

## How Amigo DEFEATS NOISE

Amigo's directional microphones capture any speech coming from directly in front, and automatically attenuate noise coming from the sides and behind. Having secured the desired speech cues, the T10 applies advanced digital sound processing techniques to make them audible to the child. Excellent sound quality is further ensured through reducing internal circuit noise, where an SNR of +55dB makes Amigo the quietest directional solution on the market.

**HIGHER DIRECTIONALITY across the board**  
Amigo's array of four directional microphones (the equivalent of eight microphone ports), combined with an advanced digital processing algorithm, achieves an AI-DI of 8.5 dB.

The higher directionality maximises the SNR, making the primary speech signal much easier to hear.



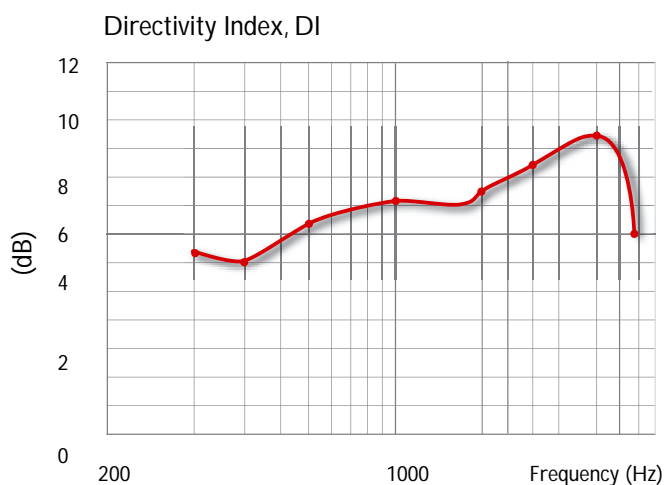
*From H. Gustav Mueller and Mead Killian: An easy method for calculating the Articulation Index. Hearing Journal, Vol. 43, No 9, September 1990.*

### **BETTER SPEECH input**

To maximise the child's ability to hear and understand speech, Amigo T10 provides access to the full range of speech and suprasegmental cues.

Amigo uses digital signal processing to extend the response in the low frequencies and at higher directional settings. Where other FM systems typically roll off the low frequencies the T10 makes no compromises whatsoever.

A maintained frequency response improves the speech input, which leads to better speech intelligibility, speech production and language development.



*Amigo T10 provides high directivity in both the high and the low frequency speech input.*

### **SUPERIOR SOUND quality**

Amigo's low equivalent input noise level means that children can hear what they need to hear without having to struggle with internal circuit noise. And this is regardless of the Amigo receiver gain settings.

### **Less distraction from noise**

In classrooms the T10 is less likely to pick up irrelevant noise because the polar plots are designed to focus only on the sounds that really count.

### **Three operating MODES**

The Amigo T10 transmitter has three directionality modes: Omni, Focus and Super Focus. These three modes are controlled by only one button. This makes T10 very easy to operate for children, parents and teachers. In addition, T10 connects directly to an external audio source such as a TV, PC or MP3 player.

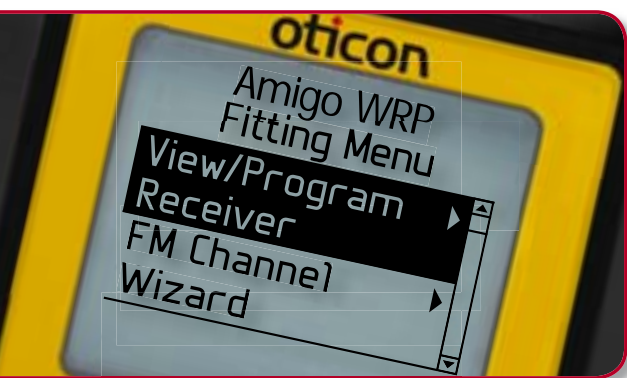
# A fitting tool in the palm of your hand

## Why can't FM programming be quicker and easier?

Programming and fitting FM systems can be cumbersome and time-consuming. Cumbersome because of all the extra hardware, cables and software. And time-consuming because channel management and troubleshooting involve a lot of trial and error. This forces you to spend more time on equipment and less time on counselling.

Amigo is the only FM solution to offer full programming and diagnostics capabilities in the palm of your hand. This all-in-one solution helps you solve problems quickly.

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- > **All programming functions in one unit - so no other equipment is needed**
- > **The Amigo programmer allows wireless programming of the receiver on the ear**
- > **FM channel wizard guides you in proactive channel management**



### ***No hassle. And no time consuming complications***

*The Amigo programmer boasts a wealth of programming and diagnostics features. All are easily accessible through easy-to-use menus designed to save time in a busy daily schedule.*





## Why Amigo is EASY to FIT and PROGRAM

Amigo FM solutions are pre-programmed to suit the needs of the vast majority of users. But if you should need to customise the receiver and transmitter, you'll find the process easy. All programming and troubleshooting can be performed via the Amigo FM programmer.

### **GET IT RIGHT the first time**

Channel management doesn't have to be complicated: Amigo's channels are all pre-programmed, and the built-in FM Channel Wizard makes channel management and diagnostics extremely easy.

The Channel Wizard helps you in three important ways:

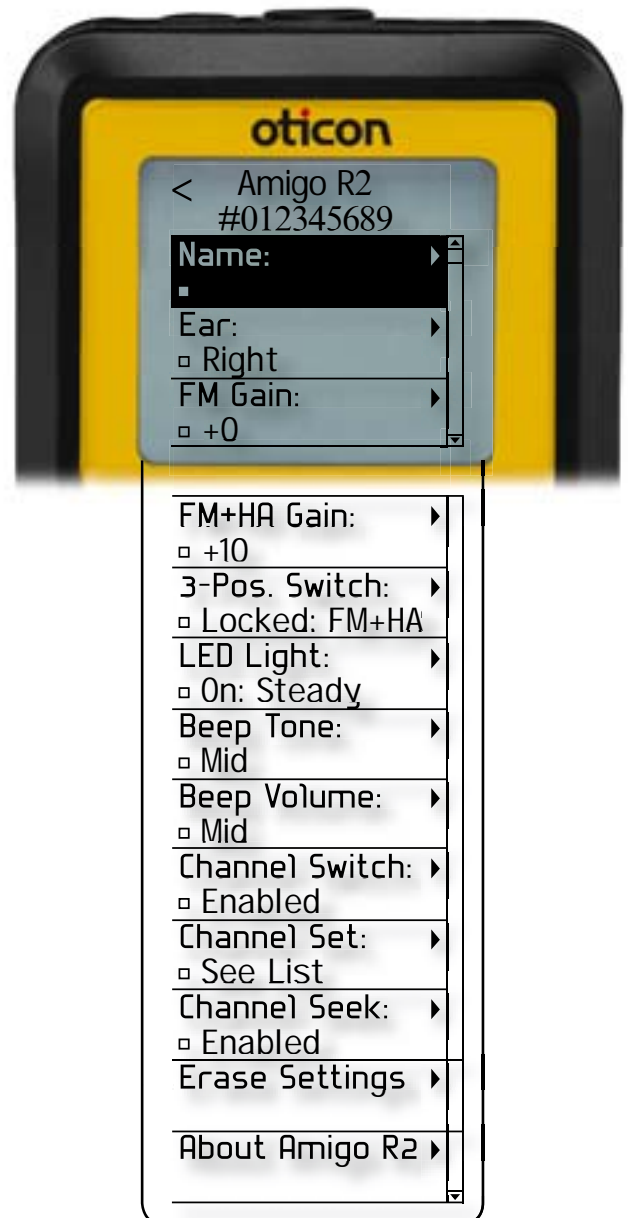
- > **Monitor Single Channel**  
With the earphones plugged into the programmer you can monitor the signal quality on a specific channel.
- > **Scan & Select Primary Channel**  
The programmer will scan the environment for interference and offer a list of interference-free channels.
- > **Scan & Select Team Teaching Channels**  
The programmer will scan the environment for interference and suggest primary and secondary team teaching channels.



## Fitting RECEIVERS – Live

Fitting receivers can be performed live on the child's ear at school, or inside a test box at your clinic. This eliminates today's tedious trial-and-error process of receiver fitting. All Amigo functionalities can be customised to suit different age groups:

- > Small children will need a high level of tamper resistance and system transparency.
- > Young children will most often use the default setting (based on the ASHAA\* standard of +10 dB FM gain).
- > Older children will want to handle the various functions themselves.



### **Full compatibility**

*CI: Amigo receivers can be connected to CI processors*

*BTE: Amigo receivers are compatible with all BTEs*

*FM: Amigo FM solutions are compatible with FM systems*

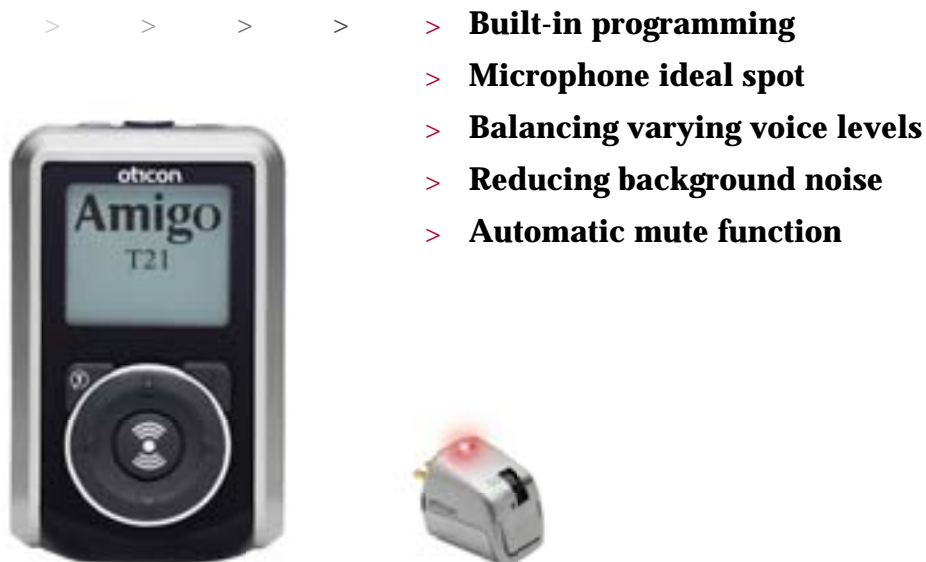
\* American Speech-Language-Hearing Association

# Amigo Classroom FM has never been easier

## Helping teachers to teach and children to learn

While the T10 is the perfect all-round solution, the Amigo T20/T21 is the ultimate educational tool. Whether it's a standard setup with just one teacher or a team-teaching arrangement for a pre-school class, these transmitters make teaching and learning much easier. Additionally, T20/T21 is ideal for parents whose children are too young to handle the T10.

Intuitive technology promises trouble-free programming and fitting, and intelligent sound processing techniques secure a crystal-clear signal for the child. And, thanks to its unique construction, Amigo is tough enough to withstand even the harshest schoolroom treatment, so it provides day-long support, week in and week out. The benefits include:



- > **Built-in programming**
- > **Microphone ideal spot**
- > **Balancing varying voice levels**
- > **Reducing background noise**
- > **Automatic mute function**

## ***Amigo supports Team Teaching***

*With a simple touch of the  $\text{\textcircled{P}}$  button, Amigo T21 makes Team Teaching easy. The solution offers full channel flexibility to accommodate local channel management programs.*





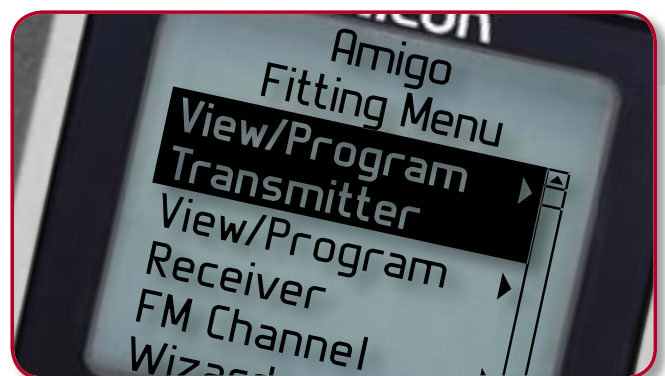
## How Amigo SUPPORTS teachers and children

The Amigo T20 and T21 support the teacher with in-the-palm programming, wireless fittings - even automatic compensation for poorly positioned microphones! To support the child, Amigo customises the signal with the aid of intelligent Voice Detection and Noise Management systems. And when no speech is present, Amigo keeps the sound quality comfortable by automatically shifting into Mute Mode. So, teachers can feel confident that their students will always receive the stimulation they need in order to develop their language, academic and social skills.

### **Program TRANSMITTER - directly**

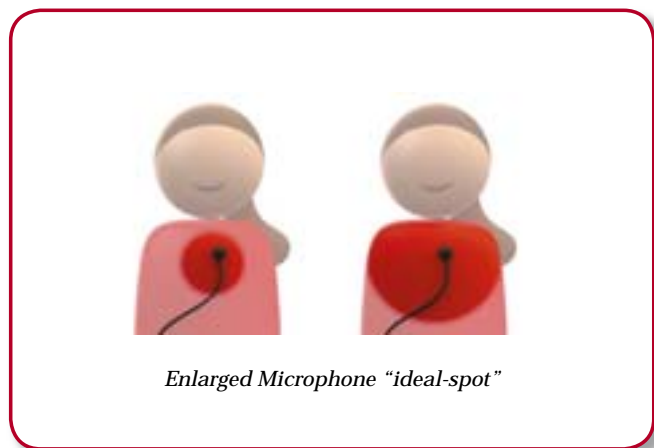
In programming mode the transmitter provides a complete FM toolkit for the professional. Fitting is done wirelessly - i.e. no cables or

other equipment are needed. You can enter school and classroom information and thereby customise the transmitter to the individual who will be using it. You can also disable more complex functions like Team Teaching, individual FM channels and advanced digital audio processing.



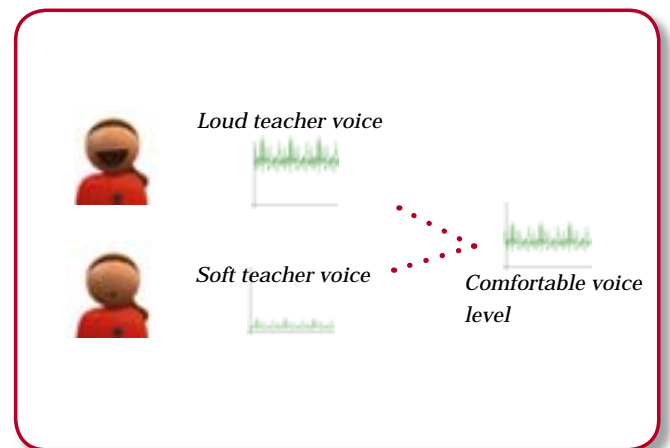
### **MICROPHONE ideal spot**

Amigo also compensates for the varying signal levels caused by microphones being placed in locations other than the 'ideal spot'. So no matter how the microphone is positioned on the teacher's upper body, the signal will remain clear.



### **BALANCING varying voice levels**

Amigo monitors the output level to fit the needs of the child. Whether the teacher's voice is dynamic and booming or calm and quiet, Amigo makes adjustments to keep the signal comfortable and consistent.



### **REDUCING background noise**

Amigo analyses the audio signal for the presence of speech and noise. Whenever the harmonics and modulation patterns of speech and noise appear, Amigo will immediately detect them and attenuate accordingly. This strategy preserves the integrity of the speech signal for optimum intelligibility. With Amigo, teachers won't have to compete with noisy heating or cooling systems or the sounds of traffic passing by, because all of these noises will be gently reduced.

### **TRANSMITTING only what matters**

Amigo constantly scans for the presence of speech and if the teacher isn't speaking it automatically attenuates the microphone signal, so the child doesn't have to listen to papers shuffling or other incidental noises. This makes it easier for them to concentrate and participate in class.



# Making it **easier** to **help children** achieve their full potential

Children deserve every opportunity to explore the world, perfect their skills and achieve their full potential. Helping them in the pursuit of these goals are devoted parents, audiologists and teachers. And these dedicated caregivers merit all the support they can get.

## **An attentive partner**

Oticon makes a contribution by developing genuinely child-friendly hearing solutions. The needs of the child and family drives our innovation. And even though our solutions are as sophisticated as can be, they are also practical and exceptionally easy to use.

Technology is only a part of the solution where children are concerned. We aim to give people the support tools they need to ensure that the formative years of the children in their care are as fruitful and as rewarding as possible.

That's what "**child friendly hearing care**" is all about!



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*At [www.oticon.com](http://www.oticon.com) visitors can explore topics related to the world of FM.*





# Meet the Amigo Family

## Oticon Amigo T20

The Amigo T20 is a body-worn transmitter for use in classrooms. The transmitter also serves as a programming and fitting unit through a special menu.



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## Oticon Amigo T21

The Amigo T21 transmitter offers the same functions as the Amigo T20 with the addition of a built-in Team Teaching function.



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## Oticon Amigo R1

The Amigo R1 is a standard multi-channel receiver that can be used with most BTE's and CI's from any manufacturer via its universal Euro connector.



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## Oticon Amigo R2

The Amigo R2 offers all the functionalities of the R1, plus a manual Channel Seek functionality.



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## Oticon Amigo R7

The Amigo R7 is a dedicated receiver for the SUMO hearing aid family. The receiver offers the same functionality as the R2.



## **Oticon Amigo T10**

The Amigo T10 transmitter is a multi-purpose transmitter that can be used inside and outside the classroom.



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## **Oticon Amigo WRP**

The Amigo Wireless Receiver Programmer (WRP) allows wireless fitting of all Amigo receivers. Additionally it offers FM channel wizard functionality for pro-active channel management.



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## **Amigo microphone options**

Amigo comes with a high quality omni-lapel microphone. In addition, three types of optional microphones are available - all with a built-in external antenna in the microphone cord:

- Lavalier microphone
- Directional lapel microphone
- Boom microphone



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## **Oticon Amigo FM-CI**

The Amigo FM-CI adaptor offers full compatibility with body-worn CI processors.



# People first



We believe that it takes more than technology and audiology to create the best hearing instruments. That's why we put the individual needs and wishes of people with hearing loss first in our development of new hearing care solutions.