

# TLP Sensory Integration Kids 1

(SI Kids 1) #TLP SI002



## Description

TLP Sensory Integration Kids 1 contains musical selections that were recorded because they were fun, simple in structure, short, and very accessible. Focusing on all of these elements means that a child's attention can more easily be captured and maintained.



SI Kids 1 has a significant focus on spatial awareness and sound localization. With new technologies and creative elements in recording and post-production, we are able to provide auditory stimulation in a totally new way than we have ever been able to do before.

One of the main elements that differ from Sensory Integration Classic 1 (TLP SI001) is the incorporation of a combination of new processes called Spatial Surround™ (patent pending). By creating Spatial Surround, the listener is placed in the position of the conductor of an orchestra. In the middle of the orchestra, the conductor will hear sounds more individually, some very close and some a little farther away. Instead of blended sounds as you might hear them in front of the orchestra at a concert, you too will hear sounds more individually as the musicians play them around you. You as the listener can now more clearly determine the spatial properties of the sound.

We add movement to the treatment to create Spatial Surround Dynamic. This is accomplished by processing the music in a multi-channel environment that uses five completely independent tracks. This process allows us to move the sound of each instrument around in a 360 degree field.

Creating this new recording and post-production process has allowed us to experiment with many new treatments. We have closely studied the vestibulocochlear system to see how we can stimulate better function in all areas.

For SI Kids 1, we designed the movement of the instruments to mirror physical exercises that have shown to be effective in stimulating the vestibular system. These movements follow a very distinct, repetitive pattern of lateral and rotational flow. We then disrupt the pattern to gain the listener's attention and to promote continued active listening.

SI Kids 1 emphasizes the 0-750Hz frequency range using long powerful sound waves that most greatly affect the vestibular system. Fun, simple music recorded with specific emphasis on instruments strong in low and mid range frequencies, such as the cello and viola, have been used to enhance and support stimulation to and awareness of the body. Special relationships were created between instruments with greater attention given to those in the lower frequencies. This is furthered through the use of low pass filtration to help imprint the lower frequencies onto the frequency map of the auditory cortex. This zone supports the other frequency zones for speech and language and the overtone

zone. Consider the 0-750Hz zone as a foundation for all higher frequencies. A solid foundation in the lower frequencies helps improve processing overall.

Because of the new elements included on SI Kids 1, we wanted a method of audio bursting that matched the effects created with all the new techniques. The timing and frequency of the new audio bursting create sufficient pauses allowing for periodic rest. This adds to active listening by creating anticipation. This increases the novelty of the experience which is important to exciting neurons.

Our growing interest in and use of multi-channel sound allows us to provide the listener with an additional exercise in spatial perception. To provide Spatial Surround without further purchase of a Surround Sound system or other audio equipment, ABT has partnered with Dolby Laboratories and is using Dolby Headphone technology for TLP Sensory Integration Kids 1.

This technology works by creating an acoustical model based on how the ear and brain localize sound. Through its powerful signal-processing algorithm, it generates audio clues modeled from real life. Your ears and brain perceive the sound of a five-speaker home theater system when in fact you are listening over headphones already approved for TLP!

Dolby Headphone technology provides several advantages over earlier attempts to provide multi-channel sound via headphones. First, the technology simulates the sound of speakers that are clearly outside the listener's head. This gives the effect of listening in a room where sounds may come from different directions and reflect off various surfaces.

Second, the system is universal to all listeners and does not require special settings to accommodate for individual hearing differences. Third, is its relative simplicity, as the technology can be included directly on our CD with no degradation of quality. And last, no special headphones are required. According to Dolby, their headphone technology replaces the effect of regular headphone listening with a spacious, natural sound field you can enjoy for extended periods of listening.

In previous recordings we have used various techniques to train spatial awareness. The use of our Spatial Surround with Dolby Headphone technology will further enhance the sound stimulation techniques incorporated in The Listening Program. This completely new form of stimulation provides another vital element that will help the listener gain important clues about their world leading to more accurate processing of sensory information.

## **Listening Recommendations**

While SI Kids 1 contains music specially suited for young children, this does not mean it is less intensive than SI Classic 1, or that older children or adults will not thoroughly enjoy it. Because of the additional treatments and multi-channel sound, it is a next step in stimulating sensory awareness. Although SI Kids 1 contains many dynamic sonic treatments, with the Dolby Headphone technology listening compliance is improved as it reduces listener fatigue, due to the more natural listening experience it creates.

In general, it is recommended you start with SI Classic 1 then move to SI Kids 1. To see if the listener is ready for the Spatial Surround Dynamic treatment, have them listen to an A track from SI Kids 1 and see if they are comfortable with the movement of the sound. If so, you may begin with this CD. If they are not, prepare them with SI Classic 1 then move into SI Kids 1.

Encourage the listener to attend to where the sound is in the spatial field. Is it in front and to the right, in back and to the left, moving from side to side, around them clockwise or counterclockwise? Where is the cello moving in relation to the movement of the flute? At first, many listeners will not be able to localize the sounds. That is a good indication they are in need of this CD. Over time as the listener develops the ability to localize the movement of the sound that indicates that their spatial awareness and sound localization are improving.

This CD should be used for Preparatory Listening prior to beginning a Standard TLP Schedule for those people who have problems related to the vestibular system and integration of sensory input. Although this is not an all inclusive list issues that may be helped include: balance, movement, coordination, rhythm, body schema, left-right discrimination, spatial awareness, sensory defensiveness, hypersensitive hearing, and emotional regulation. Individuals on the autistic spectrum benefit greatly from this CD as do those who need to a better sense of their body, feeling more comfortable and grounded through the stimulation of the lower frequencies before experiencing CDs with high pass filtration such as those in The Listening Program, TLP1 – TLP8. Additionally, SI Kids 1 may help with athletic ability through improved body and spatial awareness, as well as improved balance and motor integration.

SI Kids 1 can be played in an open sound field though speakers although it is optimized for headphones with the Spatial Surround Dynamic and Dolby Headphone technologies. Listeners may engage in activities or exercises that compliment the music and are encouraged to move about while listening. It can also be incorporated into a sensory integration therapeutic program. As SI Kids 1 can be played through speakers, this makes it ideal for use in a group setting.


Use SI Kids 1 for Preparatory Listening, in Standard Schedule Variations, and independently as needed. Listening times will vary based on the needs of the individual listener. Due to the focus on lower frequencies, extended listening duration may cause fatigue, so we encourage maximum daily listening times of thirty minutes through headphones or one hour through speakers.

For additional listening recommendations review the Modular Design and Listening Schedules PowerPoint Presentation.

### *Special note concerning headphones*

If your clients are investing in headphones for the first time, we recommend that they purchase the higher-end TLP approved headphones to maximize the benefits and for an enhanced listening experience. We suggest the Sony F1 or Grado SR 125 or above headphones that will give an optimal "open-air" experience producing a wide sound stage. In our testing we have found they greatly enhance the new Spatial Surround treatments.

## Technical Design

CD #	Left Channel Balance	Curves
TLPSI002	0	Steep Curve
A Track	B Track	C Track
Full Spectrum blended with Low Pass Filter 0-750Hz	Full Spectrum Audio Bursting Low Pass Filter 0-750Hz	Low Pass Filter 0-750Hz blended with Full Spectrum
Notes: A and C tracks incorporate Spatial Surround™ Dynamic and Dolby Headphone. B tracks contain variable audio bursting.		
The Listening Program technical design is patent pending and protected by international copyrights.		

## Compositions

Segment 1			Time
Track 1A	Mozart Mozart Anonymous Beethoven	Cotillon Allegro Little Pieces No 4 Far in the Wood Minuet in C	( 4:53 )
Track 2B	Traditional US Mozart Traditional US Mozart	Simple Gifts Little Pieces No 5 Simple Gifts (reprise) Little Pieces No 9	( 5:03 )
Track 3C	Mozart Bach Traditional	Little Pieces No 3 Minuet in G Nature's Goodnight	( 5:29 )
<b>Total</b>			<b>( 15:25 )</b>
Segment 2			Time
Track 4A	Traditional Mozart Mozart	The Ash Grove Little Pieces No 7 Little Pieces No 2	( 4:50 )
Track 5B	Mozart Traditional English Mozart Mozart	Little Pieces No 11 Oh Dear! What Can the Matter Be? Serenade No 5 Polonaise Minuet in C	( 6:02 )
Track 6C	Mozart Traditional	Serenade No 1 Little Bo-Peep	( 4:43 )
<b>Total</b>			<b>( 15:35 )</b>

<b>Segment 3</b>		<b>Time</b>	
Track 7A	Traditional English Beethoven	London Bridge is Falling Down Minuet in G	( 5:11 )
Track 8B	Mozart Mozart	Toy Symphony Finale Serenade No 2	( 5:27 )
Track 9C	Mozart Mozart	Little Pieces No 16 Two Minuets	( 5:44 )
<b>Total</b>		<b>( 16:22 )</b>	
<b>Segment 4</b>		<b>Time</b>	
Track 10A	Schumann Traditional Traditional English Mozart	Soldiers March Polly Put the Kettle On Dance to Your Daddy Little Pieces No1	( 5:10 )
Track 11B	Mozart Martini	Toy Symphony Allegro Gavotte	( 5:11 )
Track 12C	Mozart Mozart Traditional US	Minuet from A Little Night Music German Dance No1 in C Mocking Bird	( 4:40 )
<b>Total</b>		<b>( 15:01 )</b>	
<b>CD Total</b>		<b>( 63:46 )</b>	