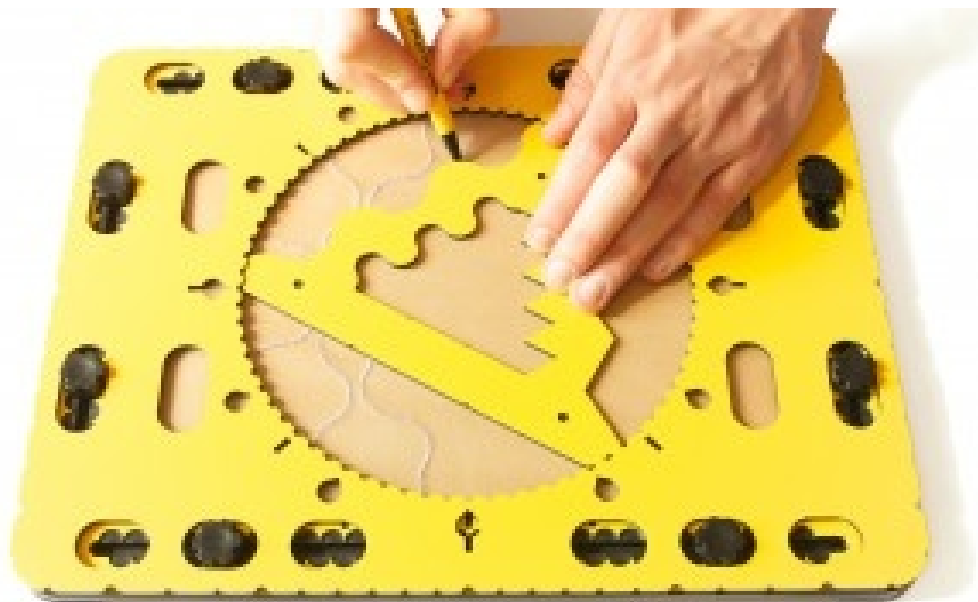


Blista-Brailletec gGmbH
Tom-Mutters-Str. 11
D - 35041 Marburg - Germany
Tel. +49-(0)6421-8020 Fax +49-(0)6421-80214
e-mail: brailletec@brailletec.de
Internet: www.brailletec.de

HW-76820
CircleFrame

CircleFrame



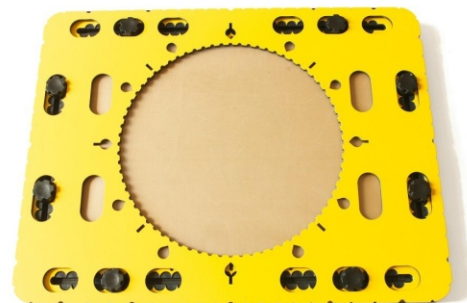
Manual

Circle Frame

Clever accessories to increase the potential of the TactiPad drawing board

The CircleFrame is one of the smart accessories for the TactiPad. Besides regular freehand drawings, the CircleFrame enables you to make drawings in which circles have the main focus.

Draw beautiful repeating patterns, pie charts, clocks with hour and minute hands or mathematical functions with ease. You can use the zigzag triangle, the small triangle or wedge as one of the three tools to create your objects in the circle of the Circle Frame.



Details of the CircleFrame

In the middle of the CircleFrame is a large circle with a diameter of 20 centimeters. This is the actual drawing area for your drawings. Along the edge of this circle you find clear tactile markings every five degrees which form a large protractor. When using the drawing tools, they can be aligned with the edge of this circle.

Around the outside of the circle there are extra markings: a teardrop shape for every 30 degrees, a line for every 45 degrees, or a combination of both where they coincide at 0, 90, 180 and 270 degrees.

In the outer edge of the CircleFrame, notches are made which, seen from the center of the circle, lie on the same line as the degree markings along the inner edge of the circle.

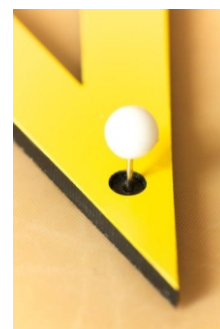
Because the circle is exactly in the middle of the circle frame, the frame is horizontally and vertically symmetrical. Therefore, there is no difference in shape between the yellow and black side. The orientation of the CircleFrame on the TactiPad therefore needs no consideration.

Slots in the outer part of the CircleFrame fit over the eight adjustable buttons on the TactiPad. Place these buttons five centimeters from the corners of the drawing surface. The CircleFrame can then be placed in three different positions: in the middle of the drawing board with the edges coinciding with those of the TactiPad, or in two positions left and right of the center.

Drawing tools - holes, indents and hooks

Extra grip and a clever design make the accompanying drawing tools easy to use. These tools can be positioned along the edge of the inner circle. Small, well-marked holes are positioned at the corners of the tools. If extra stability is needed, small pins can be inserted, attaching the drawing tools to the rubber surface of the drawing board.

At various places along the edges of the drawing tools there are so called pen-stops. These tactile indicators are small protruding points or indentations that indicate special positions on the tool. By hooking into or against them with your pen, they provide information about the position in the drawing.



Zigzag triangle - Beautiful repeating patterns

The large zigzag triangle fits perfectly against the edges of the circle and can rotate freely due to its rounded corners. One of its corners is slightly wider than the other two and using the notch in the middle, it can be lined up with the degree indicators along the circle.

Circle Frame

This tool has a few different options for drawing patterns. One side provides a smooth wave pattern, at the opposite side you will find a zigzag pattern, and the final outer side is a straight line. This straight side can be used to create an equilateral triangle by repeating it three times with a rotation of 120 degrees. This side also has two pen-stops that indicate the length of a line segment needed to draw a hexagon, which can be created by rotating the zigzag triangle six times by 60 degrees.

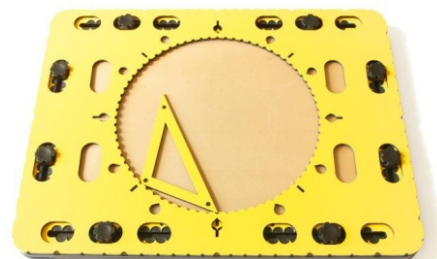
The inner sides represent the same patterns but in a smaller scale.



Small triangle - Creative variation with cardboard templates

The small triangle tool is intended for your own drawing templates out of cardboard or other sturdy material. The sides of the triangle have specific lengths. If you place one of them against the edge of the circle in the CircleFrame, they exactly span an arc of 45, 60 or 90 degrees. By rotating the triangle respectively 8, 6 or 4 times along the circle's edge, it will end up in the starting position again. When you give the side of your template one of these lengths, it will fit a number of times in the full 360 degrees of the CircleFrame too.

Cutting out a shape from the center of your templates and using this as an outline allows for infinite variation in shapes and patterns. Recurrence and/or partial overlap will give your drawing even more appeal. When placed against the circle, the degree indications can be used to determine the amount of rotation and overlap of the patterns.



Wedge tool 1 - Radius, center and pie chart

The wedge-shaped drawing tool has a rounded edge that matches the curve of the circle in the CircleFrame. This rounded side covers an arc of 45 degrees. You can keep it in place with one or two fingers in the round hole in the tool and press it against the edge of the circle.

The other two sides of this tool end in a flattened point. One of these sides is straight and ends in a very small point that serves as a pen-stop. This pen-stop exactly coincides with the center of the circle. With this straight side you can draw both the center and the radius of the circle.

The other side of the wedge is slightly curved inward. This side has pen-stops that indicate the radius per centimeter seen from the center of the CircleFrame. The small block between the penstops of 2 and 3 centimeters is used to position the compass base.



The wedge tool can be used to draw pie charts, which are often used to present information in fields such as mathematics, economics and geography. The quantity that each sector represents corresponds with an arc of a certain number of degrees. By determining the angle between two radii on the inside of the circle, you can draw the pie chart very accurately. Many other mathematical concepts in which degrees and angles play a key role, such as vectors or polar and trigonometric functions, can be explained and drawn as well using the CircleFrame.

Circle Frame

Rubber bands as radii

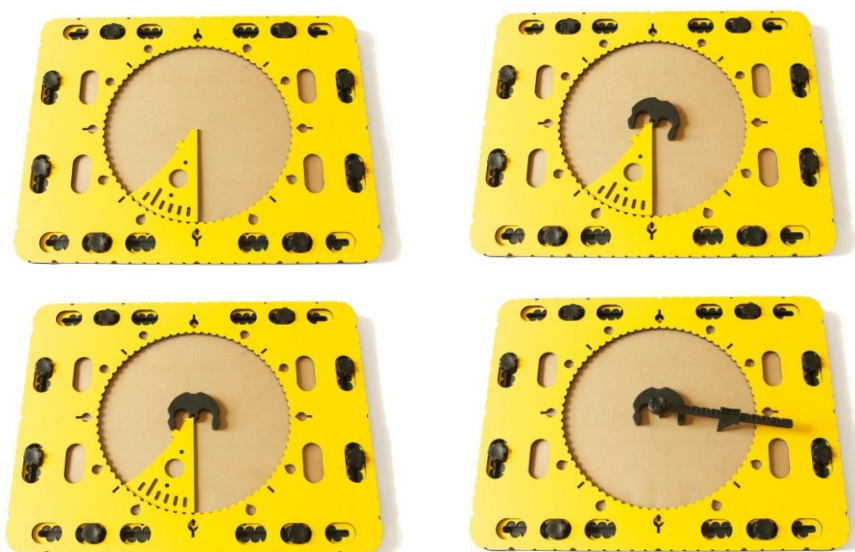
In addition to the wedge tool, rubber bands can also form a tactile diameter or the center of the circle. Indentations are placed around the outside of the CircleFrame in which the rubber bands can be attached. These indentations are positioned so that the rubber bands exactly coincide with the degree indications along the circle. This way, the rubber bands intersect exactly in the center of the circle when they are attached around the CircleFrame. Slightly wider indents make the positions for 0, 30, 45, 60, 90 degrees, etc. easily recognizable.

Wedge tool 2 - Combining the compass with the CircleFrame

Another function of the wedge tool is to position the compass in the center of the Circle Frame. You can achieve this by placing the wedge tool anywhere against the edge of the circle with the compass base against the flattened tip of the wedge. The center of the compass base now hooks around the pen-stop at the tip of the wedge tool.

By slightly turning the base counterclockwise, it will catch the small protruding block on the curved side of the wedge. This way, the compass base is exactly in the middle of the circle. By removing the wedge tool and placing the compass arm into the base, you can now draw a circle precisely in the center of the CircleFrame.

You can also combine the compass with the edge of the circle. The indents per five degrees are semicircular and have the same diameter as the needle of the compass. After placing the compass base on the CircleFrame, you can slide the needle of the compass into one of the indents along the edge. The center of the arcs are now exactly on the circle. By drawing multiple arcs along the edge of the circle, you can create incredible repetitive geometric patterns.



Circle Frame

Wedge tool 3 - the hands of a clock

Around the circle of the CircleFrame, multiples of 30 degrees are indicated by drop-shaped indentations. These make up for the twelve hours of the clock.

To draw a clock hand, you can use the wedge tool. Along the rounded side you will find grooves at an angle corresponding to 1 minute, or 6 degrees. The longer groove of 2 centimeter indicates the position of 5 minutes or 1 hour later. After placing the wedge tool with the rounded side against the edge of the circle and aligning the straight side with one of the hour indications, you can measure the minutes and draw the hands of the clock as radii and have it set at any desired time.

