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(54) **AUTOMATED EMBROIDERY STITCHING**

(75) Inventor: **Kuan-Lan Oliver Wang, San Jose, CA (US)**

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Correspondence Address:
TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834 (US)

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(57) **ABSTRACT**

(73) Assignee: **Softfoundry, Inc., San Jose, CA (US)**

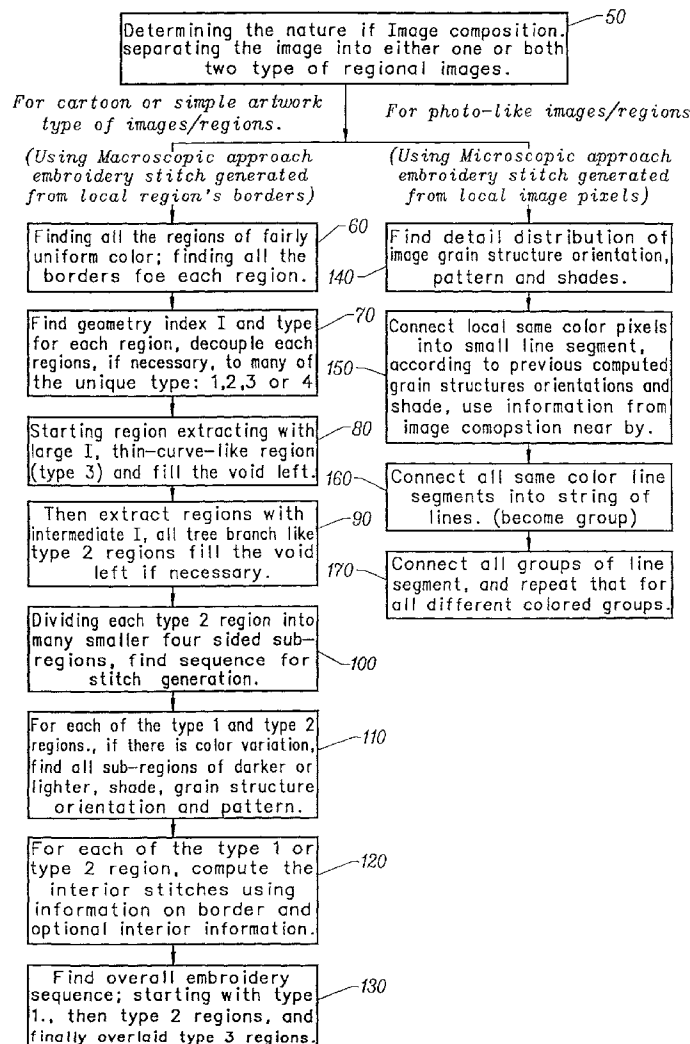
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A method for embroidering includes receiving a digitized representation of an image, determining grain structures for a plurality of locations in the digitized representation, the plurality of locations including a first location and a second location, embroidering a representation of the first location using cross stitch patterns, when a grain structure for the first location indicates a bi-directional grain structure, and embroidering a representation of the first location using uni-directional stitch patterns, when the grain structure for the first location indicates a uni-directional grain structure.

Related U.S. Application Data

(63) Continuation of application No. 09/286,109, filed on Apr. 2, 1999, now Pat. No. 6,370,442.



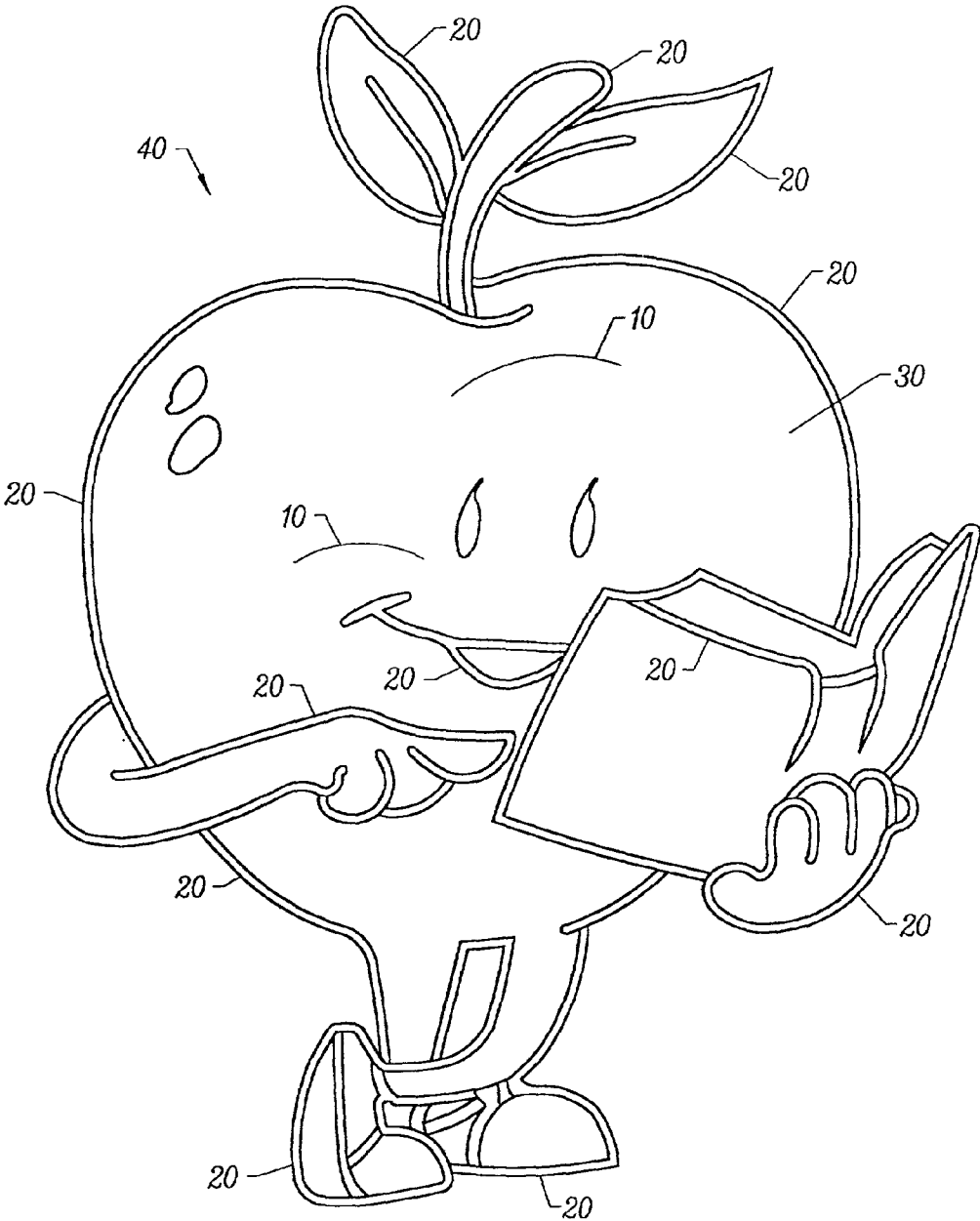
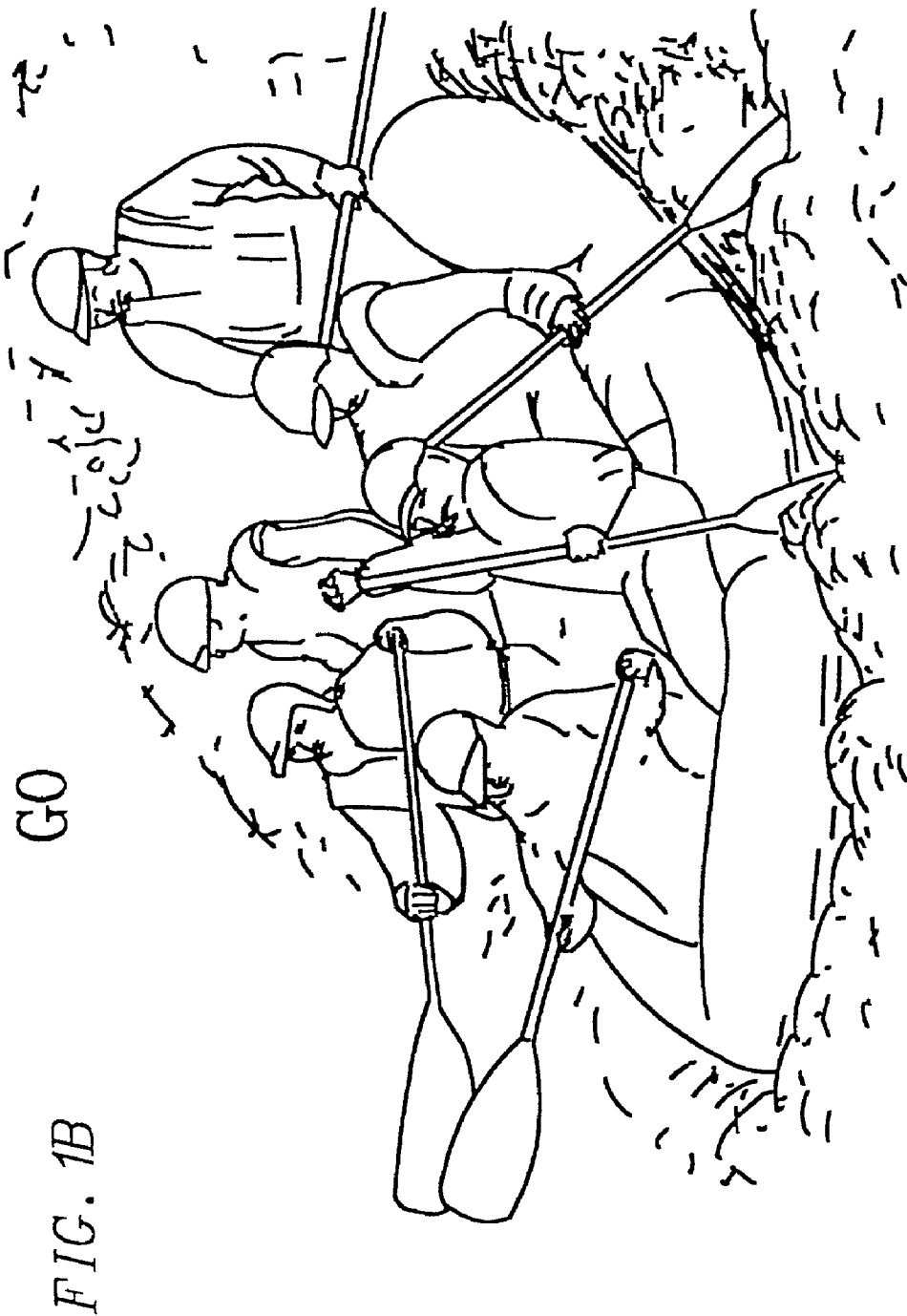


FIG. 1A



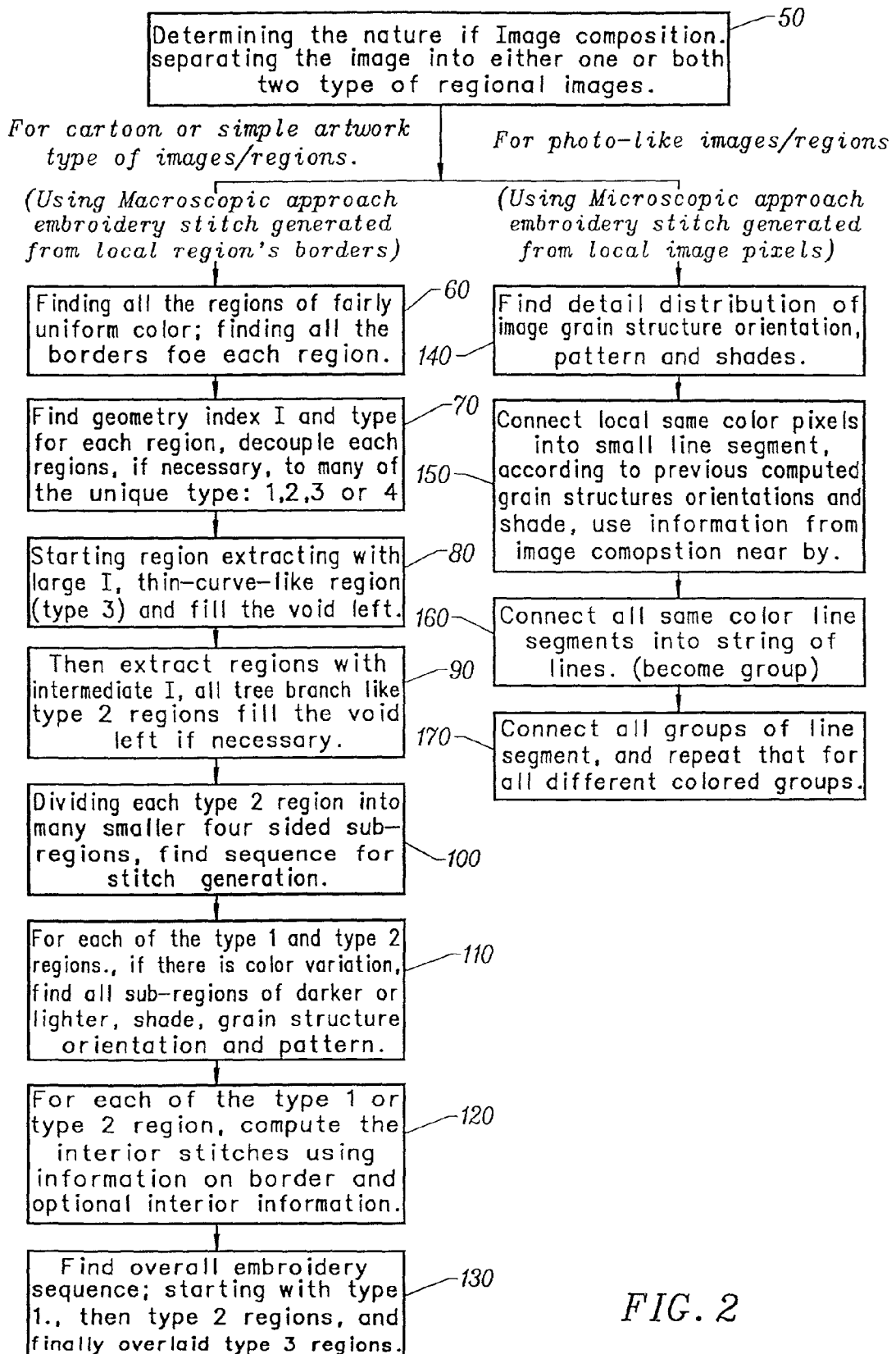


FIG. 2

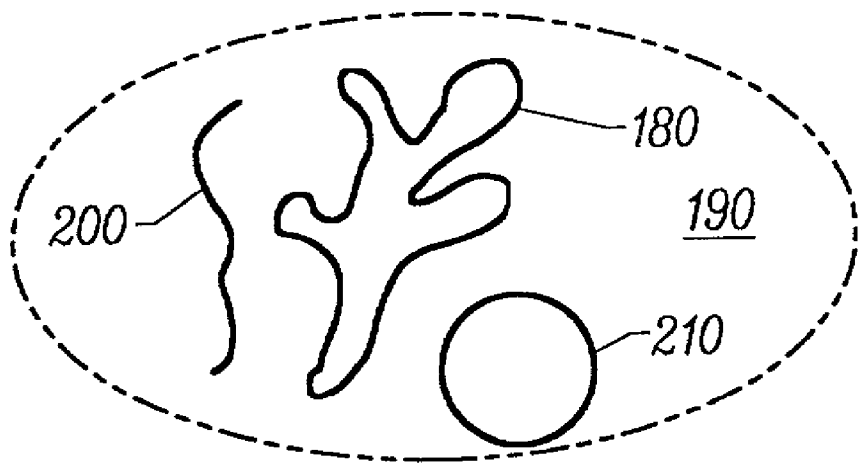


FIG. 3A

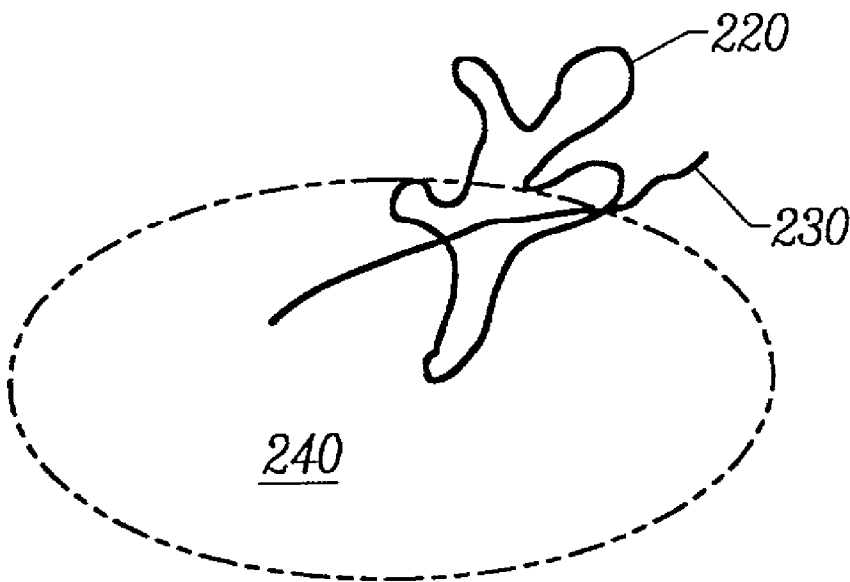
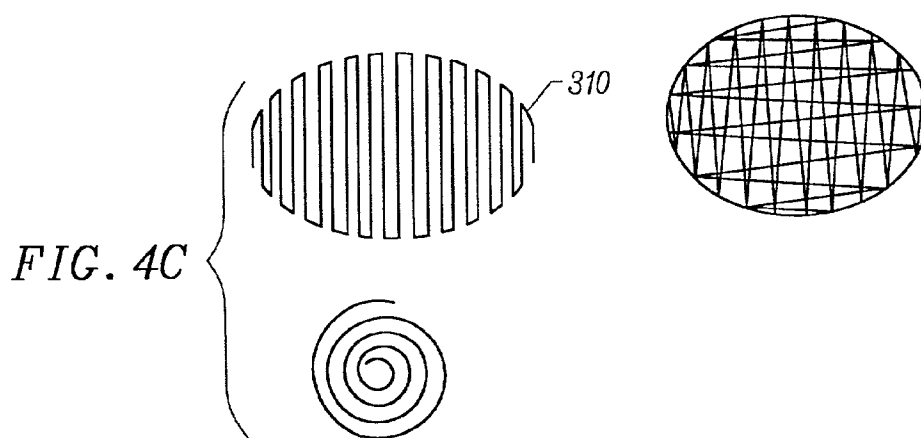
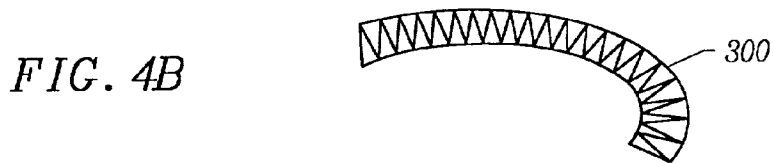
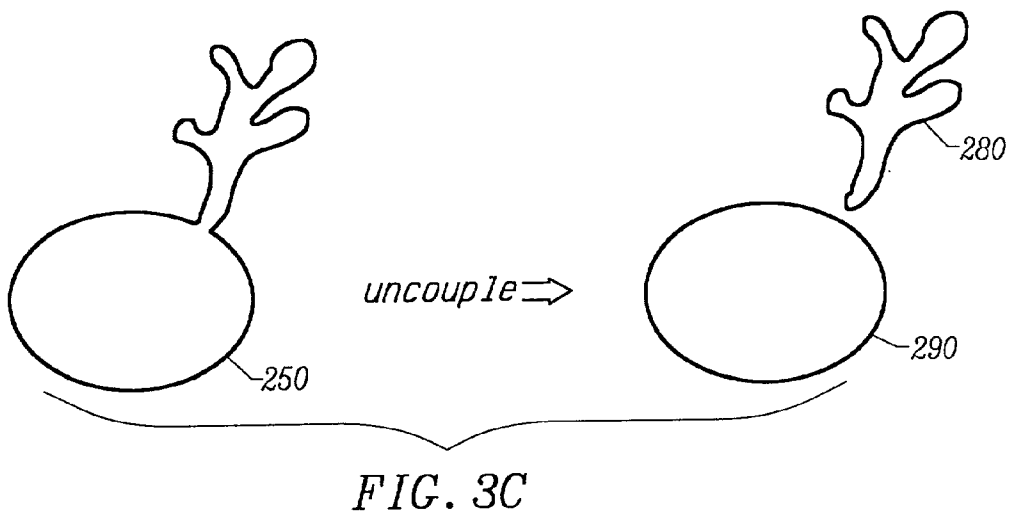


FIG. 3B



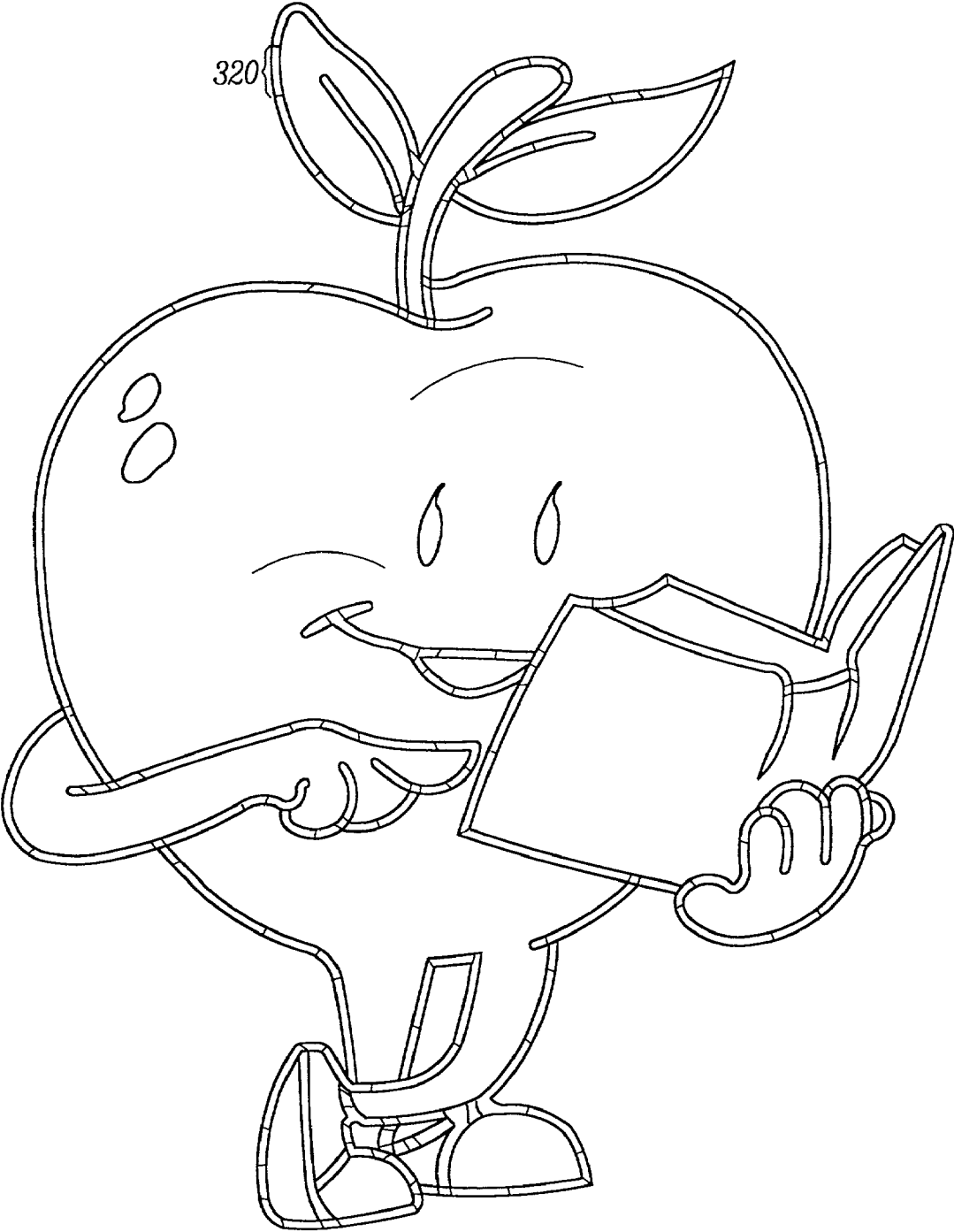


FIG. 5

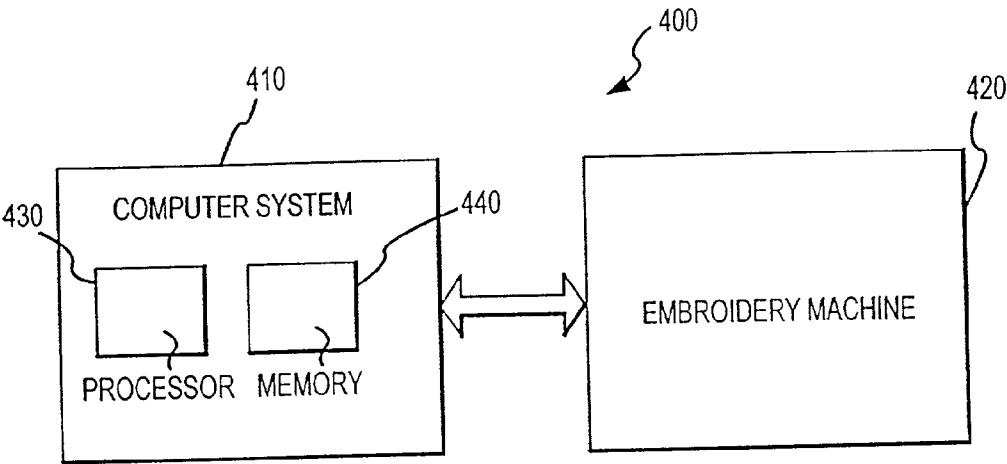


FIG.6

AUTOMATED EMBROIDERY STITCHING

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Ser. No. 60/081,333 filed Apr. 10, 1998, incorporated by reference herein, for all purposes.

BACKGROUND OF THE INVENTION

[0002] With the advent of computer digitizers and embroidery machines, users of embroidery machines and embroidery software have become more conscious of the need to reduce the time, labor, cost and user experience and expertise needed to convert images into embroidery stitch sequences. An embroidery machine is a device which can accept as input a series of movements and other actions (e.g., X/Y move, color change, thread trim, etc.) which correspond to a stitch sequence and sew color stitches onto fabric in an orderly fashion.

[0003] Before the use of computer software for assistance with generating stitch sequences for input to embroidery machines, a user needed to simulate the process used by hand embroiderers and sewing machine operators. In particular, the user needed visually to select various spots for receiving distinctive color and then to approximate those desired colored spots laying down series of stitch segments and sequencing the series of stitches. This process is extremely time-consuming and requires great experience.

[0004] Up to several hundred thousands of stitches or more are required to represent an image. Because of the need to use many different colored thread to cover many different areas many times, and the need to improve the embroidery machine's productivity, there is an additional requirement to organize the overall stitch sequence in an efficient way so as to minimize machine-stop events such as colored thread change and thread trim. Typically, several days of labor are required to describe manually a single, ordinary image as an adequate embroidery stitch sequence.

[0005] Since the days of purely-manual stitch sequence construction, some workers have used computer digitization software to perform a tedious step-by-step task of inputting information from an image into a computer. These techniques involve the use of digitizer tablets or computer monitor screens for detailed step-by-step digitizing tracing or selecting of distinctive borders from different areas of an image to identify the borders. Conventionally, a user must select these border edges in sequence to inform a computer that certain border curves can form a region. This process is still time consuming and inconvenient. Once regions are identified, simple computer software can be used to aid in generating certain types of stitch sequences for filling in the regions in a rudimentary manner.

[0006] Edge detecting algorithms are sometimes used to automate the process of edge identification from a computer image file. However, the edges detected by these approaches are usually broken and therefore do not form a closed region ready for stitch generation. These broken edges conventionally need to be corrected manually before individual embroidery stitches can be computed from these regions' borders and be placed within these regions following the user's instruction.

[0007] One approach to generate these embroidery stitch sequences is to divide the image into many smaller but fairly uniform colored regions if such regions can be found, and then according to the individual geometry of these regions, to pick different style of machine thread sequence to lay threads such that these regions are covered. The threads generated in each region are in a very orderly way and almost parallel to neighboring threads. There are several problems associated with this approach. One problem is that the stitches generated in this way are too orderly and lack the fine appearance from most of the images. Secondly, very few images available today can be divided into regions of similar color in an obvious way, and thirdly, even for a simple images with clear borders of uniform colored regions, it may have hundreds of smaller regions that need to be inputted into computer for stitch generation, which is very labor-intensive and time-consuming both in digitizing along the regions' borders and in selecting each of these small region's borders to form the region.

[0008] Many images (e.g., photographs) are represented by bitmaps of a vast amount of different colored pixels distributed in a very mixed and complex manner. There is no art today to automatically convert an arbitrary image bitmap into a series of embroidery stitches in an efficient manner. The only existing approach for generating embroidery stitches from this type of image is to hand-lay individual stitch threads, one by one, locally in reference to the local details of image. Since this approach needs significant experience and vast amounts of labor for each task, it is not generally practical in the machine embroidery industry. The stitches resulting from such hand-placement and hand/sequencing usually have no fixed order, appear to be very random, and frequently cross one another, to the detriment of embroidery machine efficiency and in direct contrast to the types of stitches currently capable of being generated automatically or with machine assistance.

[0009] Images exist today in the form of photos, paintings, artworks, prints, fabrics, or even computer files. The methods to convert such images to bitmap data are well-known arts. A bitmap is an N by M points of color pixel data, either residing in a computer's volatile memory (e.g., random access memory, or RAM) or nonvolatile memory (e.g., hard disk). Bitmaps on one extreme could be highly organized with a single color repeated in every pixel. Bitmaps on the other extreme could be completely random in pixel color, shade, and distribution. Thus, one can say that images as bitmaps exist in nearly infinite possibilities. The existing efforts to automate or partially automate stitch generation achieve only a limited degree of success, and for only a very limited range of image complexity/randomness.

[0010] Improved methods and systems are needed for automatic and/or machine-assisted embroidery stitch generation from an image. In particular, such improved methods and systems should reduce needed time and human labor, especially skilled labor, during the stitch-sequence generation phase. Furthermore, the stitch sequences generated from such improved methods and systems should allow for efficient stitching by embroidery machines. In addition, such improved methods and systems should be operable for a vastly greater range of image types.

SUMMARY OF THE INVENTION

[0011] An automated image processing method and system for generating a representation of an input image. One

application is for reducing time and labor for constructing, e.g., computer embroidery stitches from an input image.

[0012] According to another embodiment, a method for embroidering includes receiving a digitized representation of an image, determining a plurality of regions of the image in response to the digitized representation, and determining a geometric index for each region in the plurality of regions of the image. The method also includes determining a region type associated with each regions from the plurality of regions in response to the geometric index for each region, the region types including a first region type and a second region type, embroidering representations of regions from the plurality of regions associated with the first region type; and thereafter embroidering representations of regions from the plurality of regions associated with the second region type.

[0013] According to an embodiment of the present embodiment, a method for embroidering includes receiving a digitized representation of an image, determining grain structures for a plurality of locations in the digitized representation, and the plurality of locations including a first location and a second location. The method also includes embroidering a representation of the first location using cross stitch patterns, when a grain structure for the first location indicates a bi-directional grain structure, and embroidering a representation of the first location using uni-directional stitch patterns, when the grain structure for the first location indicates a uni-directional grain structure.

[0014] According to another embodiment, an article of manufacture having embroidery sewn thereon uses one of the methods described above.

[0015] According to another embodiment, an embroidery system includes a processor, and a processor readable memory. The processor readable memory includes code that directs the processor to retrieve a digitized representation of an image, and code that directs the processor to determine a plurality of regions of the image in response to the digitized representation of the image. The memory also includes code that directs the processor to determine a geometric index for each region in the plurality of regions, code that directs the processor to determine a region type associated with each region from the plurality of regions in response to the geometric index for each region, the region types including a first region type and a second region type, code that directs the processor to direct embroidering representations of regions from the plurality of regions associated with the first region type, and code that directs the processor to direct embroidering representations of regions from the plurality of regions associated with the second region type after the representations of regions from the plurality of regions associated with the first region type.

[0016] According to another embodiment, a computer program product for a computer system including a processor comprises code configured to direct the processor to receive a digitized representation of an image, and code configured to direct the processor to determine grain structures for a plurality of locations in the digitized representation, the plurality of locations including a first location and a second location. The computer program product also includes code configured to direct the processor to direct embroidering of a representation of the first location using cross stitch patterns, when a grain structure for the first

location indicates a bi-directional grain structure, and code configured to direct the processor to direct embroidering of a representation of the first location using uni-directional stitch patterns, when the grain structure for the first location indicates a uni-directional grain structure. The codes reside on a tangible media.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] In order to more fully understand the present invention, reference is made to the accompanying drawings.

[0018] **FIGS. 1A and 1B** illustrate example input images.

[0019] **FIG. 2** is a flowchart of a method according to a specific embodiment of the present invention.

[0020] **FIGS. 3A-3C** illustrate samples of different types of regions in coexistence.

[0021] **FIGS. 4A-4C** illustrate samples of different types of machined stitches.

[0022] **FIG. 5** illustrates an example of subdivided type 2 regions.

DESCRIPTION OF THE SPECIFIC EMBODIMENTS

[0023] A specific embodiment of the present invention is directed to a method for automatic computer embroidery stitch generation from an image, for reducing the time and color required to digitize an image. For best results, input images should be clear and large with fine resolution for a meaningful representation with embroidery stitches.

[0024] **FIGS. 1A and 1B** illustrate example input images. In **FIG. 1A**, there is shown a cartoon-like image with qualitatively different features labeled **10**, **20**, **30**, and **40** which, as described below, variously correspond to Type 1, Type 2, and Type 3 image regions. In **FIG. 1B**, there is shown a photograph-like image that also includes cartoon-type elements (bold text). **FIG. 1B** shows a scene with people in a boat, and textured water splashing all about. Any other photograph that shows detailed variety in color, texture, pattern, orientation, etc, such as of a cat, would also have made a fine example picture.

[0025] **FIG. 2** is a flowchart of a method according to a specific embodiment of the present invention. **FIG. 2** includes steps **50**, **60**, **70**, **80**, **90**, **100**, **110**, **120**, **130**, **140**, **150**, **160**, and **170**.

[0026] **FIGS. 3A-3C** illustrate samples of different types of regions in coexistence. **FIG. 3A** includes a Type 3 region **200**, a Type 2 region **180**, and a Type 1 region **210** within a Type 1 region **190**. **FIG. 3B** includes a Type 3 region **230** over and intercepting a Type 2 region **220** and over and intercepting a Type 1 region **240**. **FIG. 3B** also includes a Type 2 region (**220**) intercepting a Type 1 region (**240**). **FIG. 3C** includes a region **250** that is then uncoupled into a Type 1 region **270** and a Type 2 region **280**.

[0027] **FIGS. 4A-4C** illustrate samples of different types of machined stitches. **FIG. 4A** illustrates running stitches, which are suitable for Type 3 regions. **FIG. 4B** illustrates zigzag stitches, which are suitable for Type 2 regions. **FIG. 4C** illustrates various filled stitches, which are suitable for Type 1 regions.

[0028] FIG. 5 illustrates an example of Type 2 regions which have been further subdivided into smaller regions.

The Nature of an Image or Region

[0029] In general, an image can be as simple as a cartoon drawing (FIG. 1A) or as complicated as mixture of artwork and photos (FIG. 1B). According to the present invention, the complexity/randomness, or "nature", or "composition," of an input image or regions within the input image is automatically determined. This is shown in Step 50 of FIG. 2 for the specific embodiment.

[0030] According to the present invention, separate methods appropriate to each level of complexity/randomness are employed. In the specific embodiment of FIG. 2, two levels of complexity/randomness are handled by two branches of method steps, namely Steps 60-130 and Steps 140-170.

[0031] For determining the nature of an input image (e.g., Step 50), measurement entropy which is used in the study of deterministic chaos can be adopted. See Reference [2].

[0032] A large class of images result from photographing 3-dimensional real objects such as people, animals, plants, and scenery. These images are composed of mixtures of light signals from large numbers of randomly oriented surfaces which emit, reflect, absorb, and transparently or translucently transmit colors. In such images, the elements seem random but actually all have something in common, e.g. a same lighting source, a same nature of material in certain area(s), etc. The theory of deterministic chaos can be adopted.

[0033] The specific embodiment take as its starting point, an image to be analyzed for finding the inherent properties of different regions, in order to apply pertinent ways to generate computer stitches. In the specific embodiment, an image can be divide into chosen small regular regions for determining its properties, according to, e.g., known image processing techniques. If there is enough similarity in neighboring regions, they can be grouped into larger regions for further processing. If certain region exhibits regularity, technique revealed later in this paper can be used to extract simple images out.

[0034] Consider each smaller region. According to definition of measurement entropy for nonlinear dynamic system, the K entropy is the most important measure of chaotic system, it measures the average rate of loss of information, if K is 0, then the system is fully deterministic; if K is infinity, then the system is completely random. Otherwise, the system is deterministic chaos.

[0035] According to definition:

$$K = \lim_{\epsilon \rightarrow 0} \lim_{t_2 \rightarrow \infty} \frac{1}{t_2 - t_1} I_\epsilon[t_1, t_2]$$

where

$$I_\epsilon[t_1, t_2] = - \sum_{(i)} P(i_1, i_2, \dots, i_n) \ln P(i_1, i_2, \dots, i_n)$$

[0036] and $P(i_1, i_2, \dots, i_n)$ is when after the state space was reconstructed into n dimensional space with unit length of ϵ ,

and when time between t_1 to t_2 was divided into n intervals, the joint probability of its state falling into these grids.

[0037] For image processing, the data can be viewed as the information from a dynamic system in different stages. Following Reference [3]. Approximate entropy is an efficient way to compute for measurement entropy.

[0038] Typically, the data making up a time series $\{x(t_i)\}$, $i=1, \dots, N$, are of lower dimension than the actual dynamics.

[0039] After the state space reconstruction using the delay vector of embedding dimension M, the series of M dimension vectors are:

$$X(1), X(2), \dots, X(N-(M-1)L)$$

[0040] where

$$X(i) = x(i), x(i+L), \dots, x(i+(M-1)L); i=1, 2, \dots, N-(M-1)L$$

[0041] define as delay vector.

[0042] N is the total sampling point count and L is the sampling interval count.

[0043] Define the distance between vector $X(i)$ and $X(j)$ as:

$$d_M[X(i), X(j)] = \max_{1 \leq k \leq M} |x(i+(k-1)L) - x(j+(k-1)L)|; k=1, 2, \dots$$

[0044] Define:

$$C_i^M(r) = \frac{1}{N-M+1} \times \text{varying } J, \text{ under the condition of } d[X(i), X(j)] \leq r$$

(the total numbers count of J 's for

and :

$$\Phi^M(r) = \frac{1}{N-M+1} \sum_{i=1}^{N-M+1} \ln C_i^M(r)$$

[0045] Approximate entropy $ApEn(M, r, N)$ can be defined as

$$ApEn(M, r, N) = \Phi^M(r) - \Phi^{M+1}(r)$$

[0046] Values of M, r, N and L can be chosen to adjust the sensitivity for detecting different image natures, where $M=2$, $r=0$ to 15, $N=500$ to 1000, $L=1$, can yield satisfactory results for common image types. In other embodiments of the invention, other ways to approximate entropy may be used.

[0047] The above expression is used to evaluate the local nature of images ranging from the simple cartoon artwork to complicated photos. For example, values of the expression may be compared with predetermined threshold value(s), and values to one side of a threshold would indicate one nature and values to the other side would indicate another nature. Once the nature of image is identified for many sub-areas of the image (Step 50 of FIG. 2), methods from the specific embodiment of the present invention, e.g., macroscopic stitch generation or microscopic stitch generation, can be applied to designated area of image for automatic stitch generation.

[0048] Macroscopic Stitch Generation

[0049] In Step **60**, the cartoon-like or simple artwork type of image is partitioned into regions of fairly uniform color, and a border is determined for each region.

[0050] For cartoon-like or simple artwork type of image, well-known techniques such as the quantification of each image pixel based on RGB or UVW space is used to assign a quantified number to each pixel. Examples of such well-known image processing technique is discussed in Reference [1]. The result of such calculation assigns a quantified number to each pixel. Scanned samples of already embroidered work can be processed by this same method.

[0051] For every pixel in the image, compare the quantified number with that of all adjacent pixels. If the difference of this number is small enough, based, e.g., on comparison with a predetermined threshold, one can say that their color are similar and can be merged into a same region. This process is repeated until all the pixels are used and all the regions are formed. It is relatively easy to find all the pixels on the border of each region and therefore each region has pixels on the border and pixels not on border.

[0052] In Step **70**, a metric (or multiple metrics, in other embodiments) is computed for each region that is indicative of its geometric quality. From this metric, the each region can be classified according to a geometry classification system. In the specific embodiment, the metric measures the "thinness" of a region's shape.

[0053] One can perform the pixel count P_B for border pixels and the pixel count P_A interior area pixel including border pixel for each region. A geometry index I can be formally defined as, e.g.,

$$\frac{P_B}{P_A}$$

[0054] This is a preferred formulation of the geometry index I . The higher the index, the more "thin" is the region, and the lower the index, the more "thick," or "full," is the region. Other metrics for geometry indices may be used to determine "thinness."

[0055] For example, any expression that tends to get larger (or smaller) as P_B exceeds P_A would have some utility. For example:

$$\frac{P_B}{P_A}$$

[0056] The macroscopic approach of the specific embodiment takes each region's geometry index I as its starting point. From these indices I , the regions are classified into some number of geometry types, e.g., by comparison with threshold values, along with other considerations. The threshold may be predetermined by testing the specific system in question with a variety of input and finding the values that give good performance.

[0057] With illustrative reference to **FIG. 1A**:

[0058] 1. Regions labeled **10** (type 3) are thin curve-like region with very high index I value;

[0059] 2. Regions labeled **20** (type 2) are thicker in local width compared with region type 3, therefore moderately high index I value; and Regions labeled **30** (type 1) are relatively large area and with similar dimension when measured on two perpendicular axes, the value of index I is small; and

[0060] 3. A region labeled **40** (type 4) has pixels on the exterior edge of the image and upon further analysis may be recognized as background region.

[0061] **FIG. 1A** is an example of just one simple image for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that a vast number of images are suitable for use in conjunction with the present invention. More specifically as non-exhaustively illustrated in **FIG. 3**, the first 3 types of regions can be nested or intersected or separated with each other in many ways and in lots of images; any combination of two types of regions mentioned previously are also considered suitable for the present invention. For ease of future of operation, some region can be split into 2 or more different Type 2 or Type 1 regions, judging by the geometry difference in different portions of this region. If all region's colors add up to exceed allowable colors from the designated embroidery machines, similar colored regions can be forced to have a same color, to thereby reduce the overall number of colors used.

[0062] In the specific embodiment, if local coexistence of Type 3 of area (thin curve-like) with Type 1 or Type 2 of areas, Type 3 area is always embroidered last and overlaid on previously embroidered Type 1 or Type 2 areas.

[0063] In Step **80** of the specific embodiment of present invention, all Type 3 regions are extracted first and are fitted with spline curves. In later steps of stitch generation, these curves will be organized and embroidered last such that they can be overlaid on previously embroidered Type 1 and/or Type 2 areas. A representation of actual embroidery stitch for Type 3 areas is called running stitches is shown as **290** in **FIG. 4A**. The pixels belonging to extracted Type 3 area, i.e., the void can be changed to the color number of adjacent region's pixels, be ready for next round of operation.

[0064] In the specific embodiment, slight color variations are allowed within Type 1 and/or Type 2 regions. The techniques to be cited later in this paper can be used to obtain detailed image grain structures and orientations shading distribution directly from the original input image, which has not been quantized into regions each of uniform color. This image nature information is then saved and later is used for stitch generation within these areas. This is a powerful feature which greatly adds to the quality of the output embroidery for many types of input images.

[0065] In Step **90**, once all the Type 3 regions were identified and extracted, the next step in the specific embodiment is to operate on Type 2. Many pairs of spline curves are derived and fitted across all local width (**FIG. 5**), each Type 2 region is divided into many 4 sided sub-regions **320**. Once these 4 sided sub-regions are adjusted along the border to reasonable geometry, zigzag or satin stitches (**FIG. 4B**) **300**

are generated for each sub-region, and hence for the whole Type 2 region, according to known methods in the art.

[0066] In the specific embodiment of this invention, the following criteria can be used to evaluate a Type 2 region:

- [0067] 1. The area of this region is relatively small.
- [0068] 2. The geometry index I is relatively large.
- [0069] 3. The region is completely fit into other region.
- [0070] 4. The region is in between two or more regions of the same color.

[0071] If the subjected Type 2 region satisfies most of these criteria, this region can be set as an option to be extracted out and later be overlaid as stitches on top of stitches previously embroidered from other regions. In that case, the pixels which used to be in this Type 2 region (i.e., the void) can be changed to the color of adjacent regions. Thus, there is a step of determining whether the Type 2 region should be overlaid on top of other stitches.

[0072] In the case of a Type 2 region is in between the border of 2 or more Type 1 regions of same color, if this Type 2 region is extracted out for generating overlaid stitches, the present invention takes these bordering Type 1 regions and group them into one Type 1 region.

[0073] In the next Steps 110 and 120 embroidery stitches within each of the Type 1 regions (FIG. 4C) 310 are computed. With or without the use of previously computed image composition ("image nature") information, Type 1 region may have one or more Type 2 regions embedded within.

[0074] In Step 130, the specific embodiment provides a means to find the image information composition and be used as a reference for generating embroidery stitches directory from the border of this region.

[0075] The specific embodiment of this invention can find its application in automatic stitch generation from a scanned sample of actual embroidery work. The local image grain directions described later, in conjunction with the finding of regions and borders can be adopted.

[0076] As to the region of Type 4 (background region) 40, it is usually optionally omitted and need not be of concerned. If there is a need to also generate stitches for any or all of this type of region, the method used is identical to those described previously for Type 1 or Type 2 regions.

[0077] Microscopic Stitch Generation

[0078] As stated previously, a large fraction of the images in the form of computer bitmaps are taken from photos of complicated 3-D objects. Using the method described previously, bitmaps can be found as deterministic chaos, in this case, both the pixels distribution and edge extraction are very fragmentary and it is very difficult to use it to generate embroidery stitches. Even if some of the images can be approximated by identifying regions for stitch generation by the method stated previously, the resulting stitches could appear too orderly and plain.

[0079] The specific embodiment of present invention use a method to link local adjacent pixels for forming the embroidery stitches directly, without the need to find borders

of region containing these local pixels. Using a high resolution computer monitor as an example, each pixel is about 0.25 mm, comparable to embroidery thread width, between 4 and 20 pixels could be linked to a line segment, which is comparable to the machine embroidery stitch length, commonly between 1 mm to 5 mm. Thus the automatic steps needed are to find the distribution, stitch length and sequence for all different colored stitch segments. This is a difficult problem and has likely not been previously unexplored.

[0080] Image Grain Structure Determination

[0081] In Step 140, the image grain structure is determined.

[0082] Applying the well-known technique of two-dimensional DFT, Reference [1], A 2-dimensional discrete Fourier transform (DFT) of a sampled 2-D signal $h(k_1, k_2)$ is given by

$$H(n_1, n_2) = \sum_{k_1=0}^{N-1} \sum_{k_2=0}^{N-1} h(k_1, k_2) e^{-j2\pi/N^* (n_1 k_1 + n_2 k_2)} \\ = DFT\{h(k_1, k_2)\}$$

where $n_1 = 0, 1, 2, \dots, N-1$

and $n_2 = 0, 1, 2, \dots, N-1$

[0083] In discretized form, k_1, k_2 is the location number of local pixels; in continuous form, using u, v instead of n_1, n_2 , define a power $H(u, v)$ as:

$$T(u, v) = \log_{10} (1 + |H(u, v)|)$$

[0084] for slowing down the decreasing of spectra in increasing frequencies.

[0085] Repeatedly apply DFT to predetermined locations of images over its adjacent region, $T(u, v)$ values are now computed for each predetermined location point within this image.

[0086] Transform $T(u, v)$ into the polar coordinates of (r, ϕ)

[0087] Define

$$T(r) = \sum_{i=1}^n T(r_i, \phi_i)$$

[0088] where

$$\Phi_{i+1} - \Phi_i = \pi/n \text{ and } r = r_1, r_2, \dots, r_n$$

[0089] means, for each r value, one can find H value around the circular path of fixed r .

[0090] Similarly, define

$$T(\phi) = \sum_{i=1}^n T(r_i, \phi)$$

[0091] where

$$r_{i+1} - r_i = w/2n \text{ and } \phi = \phi_1, \phi_2, \dots, \phi_n$$

[0092] means, for each ϕ value, one can find H value along the r direction.

[0093] One can now investigate the curve of $T(\phi)$ VS. ϕ and find number of wave peak, denote it as N. Following result can be recorded:

[0094] a. if N is equal to 1 or 2, then it is clear that there is Uni. Or bi-directional grain structure around this point. In this case, the grain directions can be easily determined;

[0095] b. if $T(r)$ is constant, then it indicates that there is no directional grain existing at this point;

[0096] c. if $T(r)$ fluctuates, it indicates that images near this point are very fragmentary and spotty; and

[0097] d. finally, if N is changing rapidly from point to point in a small region of image, it indicates that there is a pattern in this region and one can repeatedly use the same technique of DFT over a refined grid to find detail of this pattern.

[0098] The specific embodiment of present invention utilizes previous findings as in a, b, c and d, for reference to derive the pixel linking and line forming process in the following manners.

[0099] Case a: local pixels are linked parallel to the local grain direction found previously and it also means that parallel stitches are created for Uni.-directional grain and cross stitches are generated for bi-directional grain.

[0100] Case b: local pixels are linked parallel to a fixed given direction. The result could either be one direction stitches or bi-directional stitches.

[0101] Case c: local least square method are adopted, for pixels distributed in local (x, y) random stitches could be found.

[0102] Case d: pixels will be linked to closely follow the details of patterns.

[0103] Each line segment can be made short (using fewer pixel) or long (using more pixels) according to the local color intensity of these pixels. Thus, shorter stitches have more dense stitching needle points can contribute to darker shade and, longer stitches have fewer needle points can contribute to lighter shade.

[0104] In the specific embodiment of this invention, a large number of individual same colored short line segments in the same area can be connected together by tie-in pairs of most closely situated end points from each line segment 150. Many of the as-tied end points can be merged into one point if the distance between them is too small. This line linking process is continued until the current end point can not find

a nearest end point with acceptable distance. This process can temporally be hold and the already connected line segments can form a group 160. The process is continued until all the line segments are used in forming many groups.

[0105] One note worth taken is that the starting and end point of any group of lines can be switched or made to coincide as one point (in this case, one extra underlay line of stitch is generated under this group of lines.) This property of changeable starting and ending point in a group of lines is very important as it provides more flexible ways to connect group of lines. Interactive test could be used to find the right sequence of connecting all various group of lines from different color, such that the occurrence of long exposed connecting line between groups are minimized 170.

[0106] The embroidery field can sometimes still be considered as an art and without any fixed and unique way for stitch preparation. The system and method described herein can process a large class of input images. For certain images, a better final result can be achieved after making slight modification to either the stitch sequence generated by the specific embodiment or to the image itself (for reprocessing by the present invention).

[0107] The invention has now been explained with reference to specific embodiments. The present invention relates to methods and systems for deriving information from images and generating command sequences from such information for creating stylized renditions of those images. A particular application is to machine embroidery wherein the present invention generates embroidery stitch sequences and optionally operates an embroidery machine using the generated stitch sequences as an input.

[0108] Other embodiments will be apparent to those of ordinary skill in the art in view of the foregoing description. For example, the "stitch sequences" could also correspond to a generic line-art representation of images, which have aesthetic appeal even when printed on other media or when displayed on a computer display.

[0109] It is envisioned herein that the present invention will find its implementation in a software program on a computer-readable storage medium within a computer system, wherein the computer system may be coupled to send its output to an embroidery machine and which computer system may form a part of an automated embroidery system. Such an embodiment is therefore to be considered within the scope of the present invention. Other embodiments are described in the attached appendices.

[0110] The scope of the invention is therefore indicated by the appended claims rather than the foregoing description and all changes that come within the meaning and range of equivalents thereof are intended to be considered as being embraced within their scope. It will be appreciated by those skilled in this particular art that the present invention can be embodied in other specific forms without departing from the spirit or essential characteristics thereof.

#5k

Welcome to AutoStitch

Thank you for using AutoStitch, the world's most powerful automatic embroidery-stitch generation and design system. AutoStitch integrates image processing, automatic stitch generation, an object based system, powerful editing, and true 3D VR preview into one easy-to-use product.

For novice users, simply get the image then select the generation button once for creating stitch, presto! Stitches are created automatically within minutes and ready to use it on machine.

For professional users, AutoStitch has very complete editing features for users to fine-tune the computer generated stitches to suit individual's preferences.

What is AutoStitch

AutoStitch is an advanced embroidery-stitch design system for Microsoft Windows®95 and Window®NT that has revolutionized the way users design their embroidery stitches.

With AutoStitch, the user can employ desktop computers to quickly finish his designs, high quality designs which a year ago were possible only by using a digitizer or mouse manually. In other words, AutoStitch helps the user to create, edit, calculate, and save designs, *automatically*.

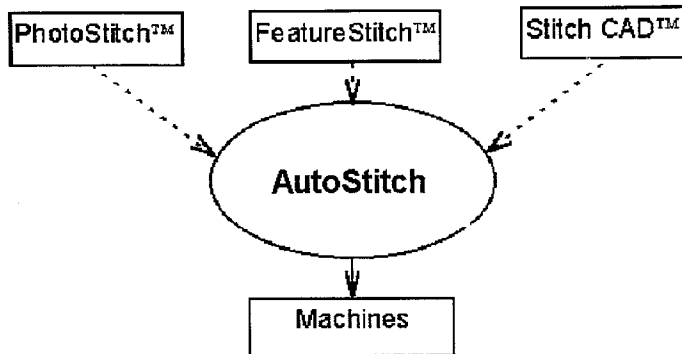
Once the image or design has been created or imported into AutoStitch, the program can automatically calculate the stitch for your design an ability that places AutoStitch far ahead of its competitors.

AutoStitch provides a new level of creativity for embroidery designs:

- Automatic scanner input with image enhancement
- Multiple methods of image insertion and editing
- Dual views for image processing and stitch generation
- Automatic image analysis for stitch type, stitch region generation, and sequencing
- Advanced CAD natural input*
- Convenient and powerful editing tools
- Object based 32 bit design for Windows®95 and Windows®NT
- Area list for manual sequence change, view, and operation control
- True 3D virtual reality viewing
- Ability to automatically convert millions of clipart and thousands of fonts into embroidery stitch
- Photo realistic 3D image rendering

AutoStitch is the core system for stitch generation, optional PhotoStitch, FeatureStitch systems should be used to process photos before using AutoStitch.

```
# topic-1
$ welcome to AutoStitch
^ Welcome to AutoStitch
# topic-2
$ what is AutoStitch
^ What is AutoStitch
```



* optional Stitch CAD™ system
#sk

Getting Around

When you run AutoStitch, you will normally find two sub-windows, a menu bar, five toolbars, a color list bar, and a status bar on the screen.

- Sub-window
- Menu bar
- Status bar
- Color List bar
- Toolbar

Left-click an object to select.

You can drag a rectangular frame by left-clicking or holding down the Ctrl key and then dragging. Left-click can also be used to select several consecutive or inconsecutive objects.

Left-clicking one or several objects twice will transfigure and rotate the selected object(s) manually and auto-visually.

Right-clicking once will activate an area or a line.

Dragging a rectangular frame or holding down the Ctrl key and then right-clicking will select several consecutive or inconsecutive area(s) or line(s).

Right-clicking one or several objects twice will retrieve the relevant shortcut menu of the activated area(s) or lines.

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System Requirements

The minimum system requirements for your computer to run AutoStitch are:

- 30MB hard disk space to install AutoStitch
- Pentium processor
- 32MB of RAM

topic-3

\$ getting around

k Getting Around

topic-4

\$ system requirements

k System Requirements

- A monitor and video card capable of displaying 1024x768, 65536 color resolution
- A windows-compatible mouse
- Microsoft Windows 95, Windows NT
- Parallel port for security dongle

To improve overall AutoStitch performance, you may want to consider upgrading your system hardware, e.g. Pentium II, Pentium PRO processor, 64MB or more for RAM, large screen monitor, etc.

The AutoStitch system is not designed for use on Windows 3.x operating systems.

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Optional Equipment

- Color-scanner
- Color-printer

#Sk

Technical Service

If you encounter any problems while installing or using this product, please contact your ZSK representative or use our web site support system to see the latest news, tips, or to submit your complaints, suggestions or encountered bugs.

#Sk

Install AutoStitch

#Sk

Create a Shortcut

If you want to create a shortcut to the AutoStitch program on your Windows95 or Windows NT desktop, follow the steps below:

1. Right-click your mouse in a blank space of the desktop.
2. Click New, and then select Shortcut.
3. Enter the path for the AutoStitch program in the command line, or click the Browse button to appoint the path for the AutoStitch program, and then click Next.
4. Enter a name for the shortcut such as "AutoStitch", and then click the Finish button.

A new icon will be created on your Windows95 or Windows NT desktop. Double-click the new icon to run the AutoStitch program.

Tip:

You can also create a shortcut to the AutoStitch program by:

1. Finding the AutoStitch.exe file under the AutoStitch directory using Windows Explorer.

topic-5
 \$ optional equipment
 k Optional Equipment
 # topic-6
 \$ technical service
 k Technical Service
 # topic-7
 \$ install AutoStitch
 k Install AutoStitch
 # topic-8
 \$ create a shortcut
 k Create a Shortcut

2. Right-click the file and then select Copy.
3. Right-click a blank space on the desktop.
4. Select Paste Shortcut.

#5k

Getting Help

AutoStitch provides the user with plentiful help information, which helps the user to understand the various commands and operations of AutoStitch. Help is available through the following ways in AutoStitch.

- Use "Help Topics" in the "Help" menu to browse among all the help topics.
- Press F1 to browse among all the help topics.
- Use "Search" command  in "Help" menu to search for your desired help topic.
- Click the Question Mark button on the upper-right corner of the dialog box to get your desired help options.

- Use "Help" menu
- Get help in the dialog box

Use Help Menu

To browse AutoStitch Help topics, Select Help topics from Help menu. Two tabs "Directory" and "Index", are on the top of the Help topic dialog box.

Click Index tab, you can enter your desired help topic or select one in the list box, and then click Display button.

"Directory" tab classified the help topics according to its classification. Double-click the book-like icon  which is in front of every help topic to view the detailed help topics. If the book-like icon appeared again, double-click it again until the question mark icon  appears. Double click any help topic, you can get your desired help text window.

In help text window, you can see some words or phrases are underlined with dotted lines or real lines, which are called "Key Words". Move the cursor to the "Key Words", the cursor will become a hand. Click the "Key Words", the definition or some relevant information about it will appear on the screen.

- If the "Key Words" are underlined with dotted line, it indicates that the displayed help information will disappear if you click any position on the screen.
- If the "Key Words" are underlined with real line, it indicates that to click "Back" button can return to the previous help text window and to click "Directory" can return to the help topics window.
- To return to the present AutoStitch window, click the "Close" button  which is on the upper-right corner of this window.
- To return to the help topics window and go on searching for your desired help topic, click the "Directory" button which is on the top of the window.

Get help in the dialog box

Having opened a dialog box, you can click the Question Mark  button which is on the upper-right corner of this dialog box if you are not familiar with the function of some buttons or options.

topic-9
 \$ getting help
 k Getting Help
 # topic-9-10
 # topic-10-11

When click this button, the cursor becomes an arrow with a question mark. After that, click any option whose relevant information is desired in the dialog box, AutoStitch will offer you an indication box, which contains the relevant information about this option. To close the indication box, click any position on the screen and the user can go on to do other operations. ^{#5k}

Starting AutoStitch

Use the following method to start AutoStitch.

- If the AutoStitch program is installed in the Start menu, click the Start menu, and locate the AutoStitch sub-menu. Point the cursor to it and then click AutoStitch.
- If the AutoStitch program exists only on the hard disk, you can:
 - (1) Click the Start menu, point the cursor to the Program menu, locate the Windows Explorer sub-menu and click it.
 - (2) Change the drive, locate the directory in which AutoStitch exists and then double-click to open it. Locate the AutoStitch.exe file, double-click it.
- You can also run the AutoStitch program by clicking the Start menu, select Run, and then enter its path or click the Browse button to appoint the path for the AutoStitch program, click OK to run the program.
- If you created a shortcut to the AutoStitch program, double-click the shortcut's icon to run the program.

Resize

After the user inserts an object, its size may need to be modified. Use Resize to fulfil this operation.

1. Left-click to select an object that you'd like to resize.
2. Select Resize from the Edit menu.
3. In the pop-up Resize dialog box, double-click the width and height input box under the New Size option and type your desired value. Once you have checked the Maintain aspect ratio checkbox, type your desired value in one input box. Now click another input box, the calculated width or height will appear automatically by a certain proportion and in response to the height or width you entered. Thus, the user doesn't need to enter the height and width value independently.
4. Click OK.
5. Click Generate.

Tips:

1. AutoStitch also provides the user with a convenient and auto-visual way of resizing. The user does not have to select Resize from the Edit menu, instead one can do it directly in the Object View window.
2. To resize several objects at the same time and to the same relative proportions, group these objects first and select them as a whole to resize. After this operation, ungroup them. Considering the accuracy of ungrouping, this method is often applied to characters.

topic-11-12
 \$ starting AutoStitch
 k Starting AutoStitch
 # topic-11-13
 \$ resize
 k Resize

3. AutoStitch also provides the user with a convenient and auto-visual way of resizing. The user does not have to select Rotate from the Edit menu, instead one can do it directly in the Object View window.

Note:

While using Resize, you must left-click to select an object and you can only left-click to select one object to participate in the operation at one time.

#Sk

A convenient and auto-visual way of resizing

AutoStitch also provides the user with a convenient and auto-visual way of resizing. The user does not have to select Resize from the Edit menu, and can do it directly in the Object View window.

1. Left-click to select an object in the Object View window.
2. Eight black points will appear outside the object, move the cursor to any one of them, the cursor will become a double-head arrow; one points inside and another outside.
3. Drag the cursor according to the arrow direction to resize the present object.
 - To reduce the object, drag the cursor toward the inside-arrow direction.
 - To enlarge the object, drag the cursor toward the outside-arrow direction.
 - To change the width and height of the present object, drag any one of the four points in the four corners.
 - To enlarge or reduce the height of the object, drag any one of the two points lying on the horizontal lines.
 - To enlarge or reduce the width of the object, drag any one of the two points lying on the vertical lines.
4. Click Generate.

Tip:

To resize some objects by X or Y direction, if users hold down the Ctrl key and then drag the mouse to resize, the size of these objects will not be changed, instead, what is changed is the distance between these objects in X or Y direction. However, the spacing problem in X or Y direction should be existing when you perform this operation, otherwise the operation is meaningless. In addition, holding down the Ctrl key and then dragging the mouse can only change the distance between these objects in X or Y direction. This function is valid only when you drag them by X or Y direction. It is invalid if you drag them in a diagonal line.

#

Sub-window

- The left-side sub-window is called the Picture View window, which is used to display the source picture of the design file. When there is a source picture in the Picture View window, double-click the window to edit it. Only one source picture can be displayed in the Picture View window at one time.
- The right-side sub-window is called the Object View window, which is used to form various design files, stitch files, or some other files. When there is an object in the Object View window, use the various functions of AutoStitch to edit it. Several objects can exist in the Object View window at the same time.

Left-clicking can activate either Picture View window or Object View window, but only one of them can be activated at one time.

To close the activated Picture View or Object View windows, click the  button. If one clicks the  button in the Picture View window, the window will close; the Object View window will then enlarge to fit the whole

topic-11-14

\$ a convenient and auto-visual way of resizing

* A convenient and auto-visual way of resizing

topic-11-15

AutoStitch window. To return the original Picture View window, click the  button on the upper right corner of the Object View window. The Picture View and Object View window can exist at the same time, but they can not be closed at the same time.

- Move the cursor to point to the split bar which lies between the two sub-windows, the cursor will become . By dragging it towards the arrow directions, the size of the two windows will be adjusted.

Menu bar

The Menu bar contains the File, Edit, View, Insert, Outline/Block/Stitch, Accessories, and Help menus, and they have their sub-menus under them.

Tip:

If the menu bar is not displayed on the screen because of an error in operating, double-click the gray double-line bar which is on the left-side of the menu bar and equal to the title bar in this menu bar.

Status bar

Once there is a generated object in the Object View window, the color list bar will display all the color blocks of the object in the present window.

Color List bar

Once there is generated object existing in the Object View window, the color list bar will display all the color blocks of the object orderly in the present window.

Scanning Picture

The following ones are only basic principles other than absolute criteria. Everything should be proceeded from the actual situation.

1. Avoid scanning magnified dithered pictures which are originally very small, for it is quite likely to get bad effect.
2. Often a picture should be scanned in its original size, and its dpi should be neither too large nor too small. If different sizes are desired, we recommend you to use AutoStitch's Resize function.
3. A color picture is often scanned in its true colors (millions of colors), and you should avoid using 16 colors and 256 colors to scan it.
4. A black-and-white picture can be scanned in Black and White, for its scanning effect is probably better than that of true colors.
5. The recommending way of scanning is to save the scanned picture as a disc file and then to process it further. Thus, you can make necessary modifications outside AutoStitch and try different options to process it repeatedly, otherwise you'll probably get different effects after each scanning.

topic-11-16

topic-11-17

topic-9-18

topic-19

topic-20

s load a design

k Load a Design

Load a Design

AutoStitch provides the user with several ways to load a Design. You can load a design:

- Using the Load dialog box
- Using the most Recent Files list
- Using My Computer or the Windows Explorer
- Using Drag-and-Drop
- Using the Run dialog box

#

Using Load dialog box

Load dialog box is a standard dialog box with some fundamental features.



Step by step Instructions

Tip:

To load a design that you have used recently, select Recent Files at the bottom of the File menu, and then click its name.

Note:

When you first use the Load dialog box, the AutoStitch folder is the default folder. The AutoStitch folder is located at the root level and is a good place to store the designs and databases you are currently working on.

#

Step 1: Access Load dialog box



There are two ways to access the Load dialog box:

- You can click Load Design  from the File menu.
- You can click on the Load Design button  in the Toolbar.

#

Step 2: Select file's folder



Using the following controls to select a folder:

- Look In box
- Up One Level button
- Contents List box

#

Look In box

Look In box lists the currently-selected folder and all the folders above it, including the Windows system folders (Desktop, My Computer, etc.).

topic-20-21

topic-21-22

topic-21-23

topic-23-24

To select a folder:

1. Click on the drop down box to open it.
2. Click on your desired folder to select. If the folder is invisible, use the scrollbar to move through the list.

#

Up One Level button

Clicking on Up One Level button  takes you to the folder that directly contains the current folder. For example, if the current folder is C:\AUTOSTITCH\DESIGNS, clicking on the button will take you to C:\AUTOSTITCH.

#

Contents List box

The Contents List box displays the contents of the folder that is currently selected in the Look In box.

To select a folder:

1. Click on your desired folder. If the folder is invisible, use the scrollbar to move through the list.
2. Click on the Open button. AutoStitch will update the Look In box and the Contents List box.

#

Step 3: Select File Type

Select the file type from the File Of Type.

1. Click on the drop down box. AutoStitch will open it.
2. Click on your desired file type to select. If the file type is invisible, use the scrollbar to move through the list.

#

Step 4: Select file

Click on your desired file to select in the Contents List box. If the file list is too long to fit in the box, use the scrollbar to move through it.

#

Step 5: Select Load button

To load the design file, click on the Load button.

#

Using the most Recent Files list

The most Recent Files list contains the names of the files that have been opened most recently by AutoStitch. The list appears at the bottom of the File menu, just above the Exit menu. A number of files appear under the Recent Files sub-menu.

Notes:

topic-23-25

topic-23-26

topic-21-27

topic-21-28

topic-21-29

topic-20-30

1. If you have just installed AutoStitch, the list will be empty.
2. You can select a design from the list by clicking on it.

Using My Computer or Windows Explorer

If the file's extension is associated with AutoStitch, you can Load the design by double-clicking on it. Associated file types use the AutoStitch design icon .

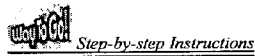
Using Drag-and-Drop

You can load design by "dragging" them from My Computer or Windows Explorer and "dropping" them on any of the following:

- *AutoStitch's Main window*
- *AutoStitch's executable file(.EXE)*
- *A shortcut to AutoStitch's executable file*

Step by step:

The steps shown here walk you through dragging-and-dropping design to the Main window. The access for dragging-and dropping to .EXE or a shortcut is essentially the same.



Step-by-step Instructions

Step 1: Position windows



- Position the My Computer or Windows Explorer window and AutoStitch Main window so that you can see both of them.
- My Computer or Windows Explorer window should be on top since you will use it to "grab" the file.
- Only a small part of the AutoStitch Main window, just the Titlebar, needs to be visible.

Step 2: Find the design



Find the design in My computer or the Window Explorer. For further assistance, see the application's document.

Step 3: Grab the design



1. Point at the file with your mouse.
2. Press and hold the primary mouse button

topic-20-31

topic-20-32

topic-32-33

topic-32-34

topic-32-35

topic-35-36

Primary mouse button

On a two-button mouse, the primary button is the one that you use more often. For most users, it is the left button. If you are left-handed, your buttons may be reversed, in which case the primary button would be on the right.

Step 4: Drag the design  

Drag the design to the AutoStitch Main window by moving your mouse.

Step 5: Drop the design 

You drop the design by releasing the mouse button. The AutoStitch Main window will move to the foreground.

Using Run dialog box

You can add design name to the command line after the AutoStitch executable filename in Windows' Run dialog box.

Create a Design

AutoStitch provides four ways to create designs:

- *Creating a new Design by Inserting*
- *Pasting from the Clipboard*

Notes:

1. If you are new to AutoStitch, click the New Design button . After that you can begin creating a new design.
2. Once you have performed any operations in the Object View window, clicking the New Design button will bring forth the message "Save Change to ...?" on the screen. If you want to save those operations of the previous design, click Yes. (If you save the new design, the Save As dialog box will be displayed. If the design that you want to save is already the present one, the Save As dialog box will not be displayed and instead the design will be saved directly.) If you want to give up the operations of the previous design, click No. If you clicked the New Design button by mistake, click Cancel to continue working.
3. The Object View window can run only one design for a time. If you want to create another new design or load another design, you must close and save the current design being worked upon.
4. When you use the New dialog box for the first time, the Design's folder is the default folder. The Design's folder is located under the AutoStitch folder, which is a good place to store designs and databases you are currently working on.

#Sk

topic-32-37
 # topic-32-38
 # topic-20-39
 # topic-40
 \$ create a design
 ^ Create a Design
 # topic-41
 \$ merge mask into stitches

Merge Mask into Stitches

It is necessary to have a sense of unevenness in embroidery, so AutoStitch provides the user with Merge Mask into Stitches, which enables the user to create denser stitches in some special areas where you have inserted something like letters, curves and areas etc. so as to achieve this effect of unevenness.

1. Click Generate.
2. Select Merge Mask into Stitches from the Stitch menu.
3. The new window will pop up and replace the previous window.



Insert Curve To Insert one or several curves into areas which are filled with complex fill.



Insert Closed Curve To insert one or several areas into areas which are filled with complex fill.



Insert TrueType Font Border To insert one or several letters into areas which are filled with complex fill.



Move Bottom To move the present mask that has been selected by left-clicking to the bottom among all the masks of the design.



Move Top To move the present mask that has been selected by left-clicking to the top among all the masks of the design.



Save Mask To save all the present masks as an AutoStitch Mask File (*.MSK).



Load Mask Loads existing Mask Files into the present mask window.



New Mask Deletes all the masks of the present design and creates a new mask.



Apply/Exit Exits the mask window. The created mask is saved and applied to the present design.



Exit Exits the mask window. However, the created mask is only saved in the mask window and not applied to the present design. You can also press the Esc key to achieve the same effect.

4. Right-click to select a mask and then press the Spacebar key. Now, the Mask Area Property dialog box will pop-up, and in this dialog box, you can check None, Male, Female, and Split, among the Mask options under the General mark according to your requirements.

- check None: the mask will not be functional.
- check Male: the mask will become convex.
- check Female: the mask will become concave.
- check Split: the Split mask will be added in the Mask Area Property dialog box. Select your desired split pattern and the masking area will adopt the relevant split pattern.

If the selected mask is a single line, you can check None, Male, or Female, among the mask options in the pop-up Mask Line Property dialog box according to your requirements. Meanwhile, you can type the relevant width value in the Width input box.

5. You can view the effect you have created by clicking Display Stitch Position or the Quick View and using Zoom In.

Tip:

The mask that has been selected by left-clicking can be Resized, Rotated, Transfigured, etc. In addition, you can modify the properties of the selected mask by right-clicking.

Notes:

1. While using mask, it works only in an area which is filled with complex fill.
2. While defining the middle point of a curve or an area, left-clicking shows that the point is one of the consecutive; right-clicking shows that the point is a broken point. And these two insertion states can be finished by pressing the Enter key and canceled by pressing the Esc key.
3. Once a mask is merged into the stitches of the present design, the effect of masking can be deleted by Undo. You can use New Mask or left-click the mask and then press the Del key to delete the effect of masking. If the mask is merged, New Mask can only delete the superficial mask and the created masking effect will still exist.
4. The differences between  and : the former will merge the mask into the stitches of the present design while exiting, but the latter does not merge the mask into the stitch while exiting.

#\$k

Creating a new Design by Inserting

If you want to insert a new object in Object View window, you can:

1. Select the sub-menu from the Insert menu.
2. Click proper button in the toolbar.

AutoStitch provides three ways to insert an object :

- *Insert a TrueType Font*
- *Insert an Image File*
- *Insert a Picture From Scanner*
- *Insert a AutoCAD DXF File*
- *Insert a Column Area*
- *Insert a Shape*

Tip:

You can insert a second object into an open design.

#\$k

Importing a Design

AutoStitch provides the user with Importing a Design which is used to import design or stitch files that have been previously done.

When you haven't closed the design the Import function can import the formerly-created or other companies' Design File (*.ASD) or Stitch File (*.PXP, *.EXP, *.DST, etc.) into the computer so that they overlap upon or lie beside the original design.'



Step by step Instructions

Note:

-
- # topic-40-42
 - \$ creating a new design by inserting
 - k Creating a new Design by Inserting
 - # topic-40-43
 - \$ importing a design
 - k Importing a design

1. Importing a Design can import a design or stitch file created in another application. Click your desired file format in the File Of Type box that lists folders and files. You can also type the extension in the File Name box, for example, type *.EXP, to find Melco stitch files.
2. Importing a Design is different from Loading Design. Load Design can only load Design Files (*.ASD). Even if you select All Files (*.*) and see the stitch file, you can not load it; the warning message "Not an AutoStitch Design file" will appear. In addition, while using Load Design, if the design in the current window has not been saved, "Save change to..." will remind you of it. Therefore, you should first close and save the design in the original window, and then load the new design file. "Import" can import not only Design Files but also Stitch Files through choosing the File Of Type.

#5k

Insert a TrueType Font

If you want to insert several letters from any TrueType Fonts in the Object View window, just use Insert a True Type Font.

The Text Insert dialog box on the screen will provide you with the options of Style, Size, Color, Content, Bold and Italic, of the inserting characters. Then all the operational results will be displayed on the Preview.



Step by step Instructions

#

Step 1: Access Text Insert dialog box



There are two ways to access Text Insert dialog box

- Click the TrueType Font  sub-menu from the Insert menu.
- Click on the Insert Font button  in the toolbar.

#

Step 2: Input characters



You can input the desired characters including Chinese characters, English letters, symbols, etc. In addition, you can also insert a blend of characters and symbols so long as your computer supports them.

Tips:

1. The maximum number of characters that are allowed to be input are one hundred.
2. The characters can be upper case letters, lower case letters, or a mixture of the two.

#

Step 3: Select Style



Click on the drop down box of the Style option under Text Property, all the styles that your computer supports will now appear in the list. Click on your desired style. If the style is not visible, use the scrollbar to move through the list.

Notes:

topic-42-44

s insert a TrueType font

k Insert a TrueType Font

topic-44-45

topic-44-46

topic-44-47

1. The default of the style is Arial. After you select a style, this style will become highlighted in the Style option.

2. If your desired style is not visible, click the scrollbar to move through the list. Click Help from the Windows Start menu and then double-click How To \ Change Windows Settings \ Add or Remove Fonts. Then click the icon that represents the detailed information you want.

#

Step 4: Select size



Click on the Size option under Text Property. All the available sizes of the font will now appear in the list. Select the desired one and click on it. If the size is not visible, use the scrollbar to move through the list.

Tip:

1. The allowed range of sizes is 25.40~127.00.
2. You can enlarge or reduces the object manually after inserting.

Left click to select the object and then you will see the cursor become double-head arrow. If you drag any one of the eight point toward the direction which the arrow outside the frame points to, both the frame and the object will become larger. If you drag any one of the eight point toward the direction which the arrow inside the frame points to, both the frame and the object will become smaller.

Notes:

1. The default of the size is 25.40. After you select any size, this size will become highlighted in the Size option.
2. You can only select sizes which appear in the list -- you cannot change or input the size value manually.

#

Step5: Select color



Click on the Color button under Text Property, and the basic 48-types of colors will now appear on the screen. Select one of them and then click OK.

Tips:

1. If you want to save the first defined color, you should begin by selecting a black column before selecting the second defined one. Otherwise, the second one will replace the first one.
2. AutoStitch provides its users with 16 custom colors at one time. If you go beyond this limit, the extra ones will replace original ones.

Notes:

1. If you are not satisfied with the basic 48 colors which are offered to you, click the Define Custom Colors button. Now, use the mouse to click a desired color on the palette; in the same column, drag the right arrow to alter the shades of available colors.
2. If you are familiar with mixing colors, input the proper matching value in the columns of Hue, Sat, Lum, Red, Green, and Blue. Your desired color will now be made available.

topic-44-48

topic-44-49

3. Color/Solid displays the final color. You can choose one of them or double-click the Solid to gain the same color as the Color area. Click on the Add to Custom Colors button. The selected color will now be filled into one of the custom color columns automatically.

4. Click the custom color column with the color you defined, and then click OK.

This way of selecting colors will be practicable with all the characters or symbols in the Content.

Step 6: Decorate characters

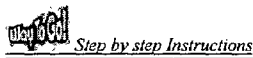
The Bold and Italic boxes under Text Property offer you two ways of highlighting. If you want to use the two options, check one or both of them in the check box and your selections will now be highlighted with a check mark. To undo these options, click them again.

Step 8: Confirm

After highlighting or modifying the selected characters, click OK. The outline of all the characters will now be displayed in the Object View window. ^{#5k}

Insert an Image File

Insert Image dialog box on the screen will provide you with all the image files that AutoStitch supports.



Note:

The image that you insert should not be too small, otherwise AutoStitch will offer you a warning message "The image is too small to generate outline".

Step 1: Access Insert Image dialog box

There are two ways to access Insert Image dialog box.

- You can click Image File  sub-menu from the Insert menu.
- You can click on Insert Image button  in the toolbar.

Step 2: Select file's folder

Using the following controls to select a folder.

- Look In box
- Up one level button
- Contents List box

topic-44-50

topic-44-51

topic-42-52

s insert an image file

k Insert an Image File

topic-52-53

topic-52-54

topic-52-55

Step 3: Select file type

You select the file type from the File Of Type.

1. Click on the drop down box. AutoStitch will open it.
2. Click on the File Of Type that you want to select. If the file type is not visible, use the scrollbar.

Note:

To open an image file created in another application, click the desired file format in the File Of Type box. You can also type the extension in the File Name.

Step 4: Select file

Click on your desired file in the contents list box. If the list is too long to fit in the box, use the scrollbar to move through it.

Note:

When you first use the Insert Image dialog box, the AutoStitch folder is the default folder.

Step 5: Select Insert button

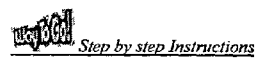
To insert a selected image file, click on the Insert button, and then the Image Processing dialog box will pop up.

Tip:

If you are certain about the content of an image file, double-click the filename directly to insert it. If you are not clear about it, click the filename, and then the image file will be displayed in the right window, check it. You can click each one of the listed image files. After finding out the desired one, click the Insert button to insert it.

Insert a Picture From Scanner

If your computer is equipped with a scanner and you wish to insert the newly-scanned object into the Object View window, Select the Picture From scanner sub-menu from the Insert menu.



Note:

The image that you scan into AutoStitch should not be too small: its width should be not less than 4cm and its height should be not less than 3cm, and the maximum multiple of enlargement should be more than 200. Otherwise AutoStitch will offer you a warning message "The image is too small to generate outline".

[#] topic-52-56

[#] topic-52-57

[#] topic-42-58

^{\$} insert a picture from scanner

^k Insert a Picture From Scanner

Step 1: Activate Scanner

There are two ways to activate a scanner in AutoStitch.

- Select the Picture From Scanner  sub-menu from the Insert menu.
- Click on the Insert From Scanner button  in the toolbar.

Notes:

1. The warning message "A Twain error occurred" and "error in scanning file" will be displayed on the screen if your scanner is not properly connected to your computer or not properly working. Click OK to cancel the operation. After that, you should connect your scanner to your computer or re-install the scanner's device driver.
2. If your scanner is properly installed to your computer, the scanner will be activated automatically. (The title bar will be highlighted and the window will always be on top.) The title bar of AutoStitch will be dim and can not be activated until scanning is completed.
3. If you want to exit the application without scanning, the warning message "Error in Scanning file" will be displayed on the screen. Click OK to cancel the operation.

Step2: Object Scanning

1. Put the object that you want to scan into the scanner.
2. Click on Prejudge button.
3. Adjust the default values of the application in order to get the final desired effect of scanning.
4. Use the mouse to select your desired parts of the object or the whole object and click the Close button. The Image Processing dialog box will then pop up.

Tips:

1. You can select Insert Picture >From Scanner repeatedly.
2. GRP*.bmp under the Temp directory does not stand for any special bmp file. It is only a temporary file and does not exist at all. GRP*.bmp will appear under the Temp directory when any *.ASD file is opened. Once the *.ASD file is closed or deleted, the relevant GRP*.bmp will disappear.
3. If some ASD file contains several images (which have been obtained from scanning or Inserting an image) the relevant GRP*.bmp will appear under the Temp directory.
4. You can open a GRP*.bmp file in certain other applications.

All the above-mentioned operations will not be executed if the relevant ASD file is closed or deleted.

Notes:

1. Once finished scanning, the scanner window will be closed automatically. Meanwhile, AutoStitch will be reactivated (the title bar will be re-highlighted). The scanned object will now be inserted and displayed.
2. Once finished scanning, a temporary file, GRP*.bmp, will appear automatically in the Temp sub-directory which is under the AutoStitch directory. All scanned content is stored in this temporary file.

topic-58-59

topic-58-60

3. If the scanning effect is satisfactory, click Save button, and this file will be saved. If not, click New button and click No or Close the AutoStitch window.

4. The image that you get from scanning will not become a corresponding *.bmp file.

5. Make sure that image or the image window is large enough for generating stitch. The Image should not be enlarged after scanning.

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Insert a AutoCAD DXF File

Insert AutoCAD DXF dialog box will list all the DXF files that your computer contains on the screen.



Step by step Instructions

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Step 1: Access Insert AutoCAD DXF dialog box



- Select AutoCAD DXF File  from the Insert menu

#

Step 2: Select file's folder



- Look In box
- Up one level button
- Contents List box

#

Step 3: Select file type



Select the file type from the File Of Type.

1. Click on the drop down box, AutoStitch will open it.
2. Click on the File Of Type that you want to select. If the file type is not visible, use the scrollbar.

Note:

To open a CAD file created with a different application, click your desired file format in the File Of Type box. You can also type the extension in the File Name input box.

#

Step 4: Select file



Click on your desired file in the contents list box. If the list is too long to fit in the box, use the scrollbar to move through it.

Note:

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- # topic-42-61
 - \$ insert a autocad dxf file
 - k Insert a AutoCAD DXF File
 - # topic-61-62
 - # topic-61-63
 - # topic-61-64
 - # topic-61-65

When you use the Insert AutoCAD dialog box for the first time, AutoStitch folder is the default folder.

Step 5: Select Open button

To insert your selected CAD file, click on the Open button, the CAD file will now be displayed in the Object View window.

Insert a Shape

Insert a shape is another insert function that AutoStitch provides you to insert several shapes, such as a line, area, solid rectangle, solid ellipse, and so on.

1. Select Insert menu.
2. Click proper sub-menu from Shape.

- Inset a Line
- Insert an Area
- Insert a Rectangle
- Insert an Ellipse

Merge

AutoStitch provides the user with Merge according to users' different requirements, which can merge not only several areas of the same or different colors into a new area but also several lines of the same or different colors into a new object.

- Merge Areas
- Merge Lines

Pasting from Clipboard

When you paste a new image from Clipboard, AutoStitch loads the clipboard image in the Object View window. To paste as a new image, you can:

- Select Paste  from the Edit menu
- Click Paste  button in the toolbar, or
- Press <CTRL>+<V>.

File format converters supplied with AutoStitch®

topic-61-66
topic-42-67
s insert a shape
k Insert a Shape
topic-68
s merge
K Merge
topic-40-69
s pasting from the clipboard
k Pasting from the Clipboard
topic-70

AutoStitch provides file format converters for the applications listed in the following table.

File converters supplied with AutoStitch

File format	Comments
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Insert a second object into an open Design

On Insert menu, click your desired file type.

- Insert a TrueType Font
- Insert an Image File
- Insert a Picture from a Scanner
- Insert a AutoCAD DXF File
- Insert a Column Area
- Insert a Shape

Split Stitches

Split Stitches enables you to split a string of stitches into two strings of stitches which a defined needle point lies in. The string of stitches before and after this point form two areas respectively, so split stitches can split not only a string of stitches but also an area.

1. Generate the object.
2. Click the Edit Mode button and the Display Stitch Position button on the toolbar.
3. Left-click the needle point at which you want to split the string of stitches, and then you will see a red cross cursor located at this point.
4. Select Split Stitches from the Stitch menu. Now the stitches were splitted.

Tip:

You can only split a string of stitches one area at a time. If you want to split a string of stitches into several strings of stitches, you must repeat the operation.

Notes:

1. The selected area must have been generated, and the operation should be under Edit Mode.
2. After Split Stitches, the running direction of the stitches is not changed, though the string of stitches is split into two strings of stitches.
3. After Split Stitches, the string of stitches before and after the split point form two new areas respectively, and the stitches within the two areas are consecutive.

- # topic-71
- # topic-72
- \$ split Stitches
- ^ Split Stitches
- # topic-73
- \$ troubleshoot loading designs

Troubleshoot Loading Designs

What do you need help with?

- The Load dialog box does not list the design I am looking for
- The password I type to load a design does not work

The Load dialog box does not list the design I am looking for

- Check in the Load dialog box, make sure that you are typing the correct name of the design in the File Name box.
- Make sure that you have the correct design format (*.ASD) selected in the File Of Type box.
- Make sure that you are looking in the correct drive and in the correct folder.

The password I typed to load a design does not work

Passwords are case sensitive. Check to see whether CAPS Lock is turned on, or retype the password to make sure that you have not mistype it.

Step 7: Change the Layout

Click the Layout button which is on the right of the Content input box and define the baseline for the inserting true type fonts.

In the pop-up Layout window, choose a sort of baseline in the baseline dropdown box. If you want to choose one baseline outside Anyshape, you need to offer related length, angle or radius.

Click anyone button under Direction to ensure the true type fonts to be arranged along the baseline.

Tip:

To change these true type fonts or the position of one of them along the baseline, you can use Text Layout under the Edit menu.

Note:

After selecting Anyshape in the Baseline dropdown box and clicking OK, the users need to define the shape of the baseline by themselves. Left-clicking creates the corner point and right-clicking create the smooth point of the baseline. Having finished defining, press Esc key to exit the state of defining baseline. Now the ready-for-inserting characters will be arranged according to the given baseline.

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Text Layout

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- ^k Troubleshoot Loading designs
 - [#] topic-73-74
 - [#] topic-73-75
 - [#] topic-73-76
 - [#] topic-77
 - ^s text layout
 - ^K Text Layout

To modify the position of some texts which have been arranged along certain baseline, you can use Text Layout to realize it.

1. Left-click the object that you've applied Text Layout, and then left-click this object again or click the Text Layout button in the toolbar, the text layout editing state will be carried out automatically. At that time, all the accessible baselines of all the type texts will be displayed in the current Object View window, and the base point with which each type text intersect with its baseline will be displayed with green color.
2. Left-click to drag the red triangle mark around the baseline so as to change the shape of the baseline.
3. Left-click to drag the red triangle mark around the shadow frame so as to change the height of all the text arranged along the current baseline.
4. Left-click the base point of the type text that you are going to alter its position so that it becomes red. Move the cursor to this red point and hold down the left mouse button to move it, now the type text will move along the baseline in the direction toward which you are dragging to alter its position on the baseline.
5. To change the position of all the type texts on a baseline, you may first left-click anyone base point on the baseline, and then hold down Ctrl key move the cursor to point to the red point, and hold down the left button to move it. Now you will see all the type texts on the baseline will move in the direction that you are dragging toward.
6. Left-click the button  in the right side of the shadow frame to re-enter Insert Text dialog box and reset every options. Now you'll find the options which belongs originally to Layout dialog box have been placed in Insert Text dialog box.
7. Right-click to finish the operation. The modifications are canceled the moment that you press the Esc key to exit the modify state.
8. Click Generate.

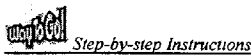
Notes:

1. To enter Text Layout editing state, first select Layout button while inserting texts, and then left-click the object that you've applied layout twice after inserting texts.
2. If the type of the baseline is Any type in the Layout, AutoStitch will not provides the function of changing the shape of the baseline after entering Text Layout editing state.
3. Hold down Ctrl key and then left-click several basepoints along the baseline one by one so that they become red. Now if you drag one of the red basepoints, all the texts in which have red basepoints will move as a whole along the current baseline.

Saving a Design step by step

To save any changes to the active design, you can:

- Select Save Design  from File menu.
- Click on Save Design button  in the toolbar.



Note:

If you are saving a new file, AutoStitch will open Save As dialog box.

Step 1: Select or Create file's folder



Selecting a folder

Using the following controls to select a folder:

- Save In box
- Up One Level button
- Contents List box

Creating a folder

1. Select the folder that contains the new folder. See the above section.
2. Click on the Create New Folder button.

Creating a new folder

To add a folder to the currently-selected folder:

1. Click on Create New Folder button. AutoStitch will add a "new folder" item to the Contents List box.
2. Type a name for the new folder. You can edit the name as you would do to any other text.
3. Press<Enter>. AutoStitch will create the new folder, add it to the Contents List box, and highlighted it.
4. Press <Enter> again. AutoStitch will open the new folder.

Save In box

Save In box lists the currently-selected folder and any folders above it, including the Windows system folders (Desktop, My Computer, etc.). To select a folder:

1. Click on the drop down box to open it.
2. Click on your desired folder to select it. If the folder is not visible, use the scrollbar to move through the list.

Contents List box

Contents List box displays the contents of the folder that is currently-selected in the Save In box. To select a folder:

1. Click on your desired folder to select it. If the folder is not visible, use the scrollbar to move through the list.
2. Click on the Save button. AutoStitch will update the Save In box and the Contents List box.

Step 2: Select File Type



Select file type from the File Of Type box.

topic-78-79
 # topic-79-80
 S creating a new folder
 k Creating a new folder
 # topic-79-81
 # topic-79-82
 # topic-78-83

1. Click on the drop down box to open it.
2. Click on your desired file type (*.ASD) to select it. If the file type is not visible, use the scrollbar to move through the list.

Step 3: Enter design name



Enter a name for the new design in the File Name Text box. Don't worry about the file extension, AutoStitch will add it automatically.

1. Double-click in the text box.
2. Type the file name in it.

Step 4: Select Save button



Click on Save button. One of two possibilities will happen:

- AutoStitch will save the design and close Save As dialog box.
- You will be asked if you want to replace an existing design.
 - Click on the Yes button to replace it.
 - Click on the No button to leave the design intact and return to Save As dialog box.

Frame/Original Point

In embroidery, a frame is usually needed to be installed on the cloth beforehand. If the user also wants to install such a form, use Frame/Original Point. In addition, if you need to define the position of the original point while stitching in advance, you can also use Frame/Original Point.

1. Select Frame/Original Point from View menu.
2. To employ a frame, you can choose one frame type in the Frame type dropdown box which is in the pop-up Frame/Original Point dialog box. In addition, you can modify the frame according to your requirements, for instance the length, the height and the radius. To display the frame in the Object View window, check Show Frame checkbox.
3. To define the position of the original point, type your desired values in X and Y input box under Original Point in the pop-up Frame Original Point dialog box. To display the mark of the original point in the Object View window, check Show Original point checkbox.

Tip:

To define the original point, you can do it not only through inputting values in the dialog box but also through directly dragging its mark.
Point the cursor to the mark of the original point, the cursor will become a moveable mark. Hold down the left button, the original red cross become a X/Y axis, and then hold down the left button to move the cursor. Thus, the mark of defining the original point will move a little bit along the X and Y direction so as to redefine the original point.

topic-78-84
topic-78-85
topic-77-86
s frame/original point
K Frame/Original Point

#\$K

Switch to Simple Mode/Professional Mode

To meet the different requirements of each user, AutoStitch provides two mode: Simple Mode and Professional Mode. The user can switch between the two modes simply by clicking Switch to Simple/Professional Mode from View menu in each mode.

In Simple Mode, AutoStitch provides the user with a series of basic operation functions. The user can perform various operations on the files and database, but only simple operations such as editing, setting, viewing, etc. are allowed to be done to the current design. The series of operations about the outline, block and stitches of the current design are not allowed.

In Professional Mode, AutoStitch provides the user with some powerful and convenient functions on the basis of some basic functions. The user can use not only all the functions offered in Simple Mode but also the editing, settings and viewing to do some high-level operations on the current design. In addition, the user can perform various flexible editing operations to the outline, block and stitches of the current design so as to perfect the design.

#\$k

Adding a Design into DataBase

Add into Database enables the user to add .ASD or .PXP files in the present Object View window into an appointed Database.

1. Select Add into Database  from the File menu or click Add into database  in the toolbar.
2. In the pop-up database dialog box:
 - The Information option is used to display relevant information about the present .ASD or .PXP file. It will be displayed only after the present .ASD or .PXP file has been generated. In the Classification drop down box, you can input your designated classification name.
 - The Database option is used to designate the database that the present .ASD or .PXP file will be added into.
 - (1) If this database is an existing one, you can type the whole path and database name directly into the Add input box or click the Select button in the Open dialog box and select this database.
 - (2) If this database is not an existing one, click the New button in the pop-up New Database dialog box and type the new database name into the Database name input box and the location of the new database in the Location input box or click the right-side button  and select the drive and path of this new database in the pop-up Choose Directory dialog box.
 - Some options in the lower part of the dialog box are used to designate the filename, file type, and path of the Design in this created or selected database.
 - Click OK.

Notes:

1. When you use New to create a new database, you can only define a classification name by typing. When you use Select to select an existing database, you can define a classification name not only by typing but also by selecting one in the Classification name list.

topic-77-87

\$ switch to simple mode/professional mode

K Switch to Simple Mode/Professional Mode

topic-77-88

\$ adding a design into database

k Adding a Design into DataBase

2. While typing any character in File name, if the present design has been saved, the name of the design, its location, and file type, will be displayed in File name, Location, and Files of type; if it has not been saved, its file name will be named as Untitled and its location is the present AutoStitch.

3. If you use File of Type to designate the file type, a design can have .ASD or .PXP.

4. Using Windows Explorer, you will find the created database is in the designated path and an index file .idx (you can't delete this .idx file while the relevant .SLB exists.) of the same filename will be created at the same time. You can use Lib Manager under the AutoStitch directory to open this database, and now you will find your designated design has already been saved in it, and its relevant properties are the same with those you have designated.

5. PXP can not be saved as .ASD, but .ASD can be saved as .PXP.

#Sk

Exporting a Design

You can transform the current design into a Stitch File (*.PXP, *.EXP, *.DST, etc.) by using the Export function.



Step-by-step Instructions

Notes:

1. You can import a design or a stitch file created in another application, work on it in AutoStitch, and then save it in its original format. For example, you can import a Melco stitch file (*.EXP), edit it in AutoStitch, and then save it in either AutoStitch or Melco stitch file format.

2. Although both "Save Design" and "Export" are supported to save the design in AutoStitch; "Save Design" saves the design as a Design File while "Export" saves the design as a Stitch File.

3. After using Export, the objects in the original design will be grouped together into a new group while transforming it into a stitch file.

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Printing a Design

1. Select Print Sample  from the File menu.

2. To specify the portion of the design you want to print, click an Option under Page Range. If you click Pages, you must also input your desired page numbers or page ranges. Print the active design from the Print dialog box.



Step-by-step Instructions

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Step 1: Before Printing the Design

Before printing the design you can setup your current printer firstly. Select Print Setup from File menu. Its settings determine the paper source, paper size, properties and etc.

topic-77-89

\$ exporting a design

k Exporting a Design

topic-77-90

\$ printing a Design

k Printing a Design

topic-90-91

Print Setup

Step 1: Access Print Setup dialog box

Print Setup settings determine the paper source, paper size, properties, and choose the type of your current printer. You can change the print setup from the Print Setup dialog box

You can access the dialog box by:

- Selecting "Print Setup" from the File menu.

#

Step 2: Select printer

Click a Name under Printer.

- Use drop down box to choose the printer.
- To set printer-specific options, click on the Properties button.

#

Step 3: Select Paper Size and Source

You can select paper size and source from the drop down boxes in the paper group box.

Note:

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For some printers, one or both of the drop down boxes may be unavailable.

Step 4: Set Page Orientation

There are two page orientations, portrait and landscape.

- Printing in portrait orientation places the top of the design against one of the page's narrow sides.
- Printing in landscape orientation places the top of the design against one of the page's wide sides.

To select an orientation, click on its text or option button in the Orientation Group box.

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Step 5: Select OK button

Click on OK button. AutoStitch will close Print Setup dialog box and save the new settings.

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Step 2: Access Print dialog box

topic-91-92
\$ print setup
k Print Setup
topic-91-93
topic-91-94
topic-91-95
topic-91-96
topic-90-97

- You can select Print Sample from File menu.

Step 3: Select Printer



You can select printer from Printer drop down box. The drop down box lists all of the output devices that are available to your system. For example, in addition to the available printers, it will also include any fax software that is installed on your computer.

1. Click on the drop down box to open it.
2. Click on your desired printer to select. If the list is too long to fit in the box, use the scrollbar to move through it.

Step 4: Set Printer Properties (Optional)



If you want to change the selected printer's properties, click on the Properties button. AutoStitch will open properties dialog box for the selected printer. For help, using the dialog box, and try pressing <F1>.

Step 5: Set the Print to File checkbox



The Print To File checkbox determines if the output is sent to the selected printer or to a printer file. If you want to...

- Send the output to the selected printer, make sure that the checkbox is empty.
- Send the output to a print file, mark the checkbox. You will be prompted for the filename later. You can then print this design at a later time.

Step 6: Enter the Number Of Copies



If your printer supports multiple copies, you can print more than one copy of a design at a time. If your printer does not support multiple copies, the Number Of Copies spin control will be grayed out.

- You can type the number of copies into the spin control, or you can use arrow buttons to set the value.
- To scroll to a higher or lower value, point at the appropriate button and press and hold the primary mouse button.

Step 7: Select OK button



When you are ready to print, click on OK button. One of two possibilities will happen, depending on the setting of the Print To File checkbox:

- If the option is off, AutoStitch will send the design to the printer.
- If the option is on, AutoStitch will open the Print To File dialog box. For more help, press<F1>.

topic-90-98
topic-90-99
topic-90-100
topic-90-101
topic-90-102
topic-77-103
\$ saving a design

Saving a Design

- You can save the active design by clicking .
- You can save a copy of the active design with a different name or in a different location.

What do you want to do?

- Save an existing Design
- Save a new, unnamed Design
- Save another copy of a Design
- Save a Design that was created in another application
- Save a Design automatically as I work

Save Design button  (Main Tool Bar)

Save the active design file with its current file name, location, and file format.

Save an existing Design

To save the changes to the active design, you can:

- Select Save Design  from the File menu.
- Click on Save Design button  in the toolbar.

Save a new, unnamed Design

1. Click .

2. To save the design in a location other than the AutoStitch folder, click a different drive name or folder name.

To save the design in a new folder, click .

3. In the File Name box, type a name for the design. You can use long, descriptive filenames if you want.

4. For information about naming files in AutoStitch, click Save.

To get more information by step,  click

Naming files

To make it easier to find your files, you can use long, descriptive filenames. The complete path to the file, including drive letter, server name, folder path, and filename, can contain up to 255 characters. File names cannot include any of the following characters: forward slash (/), backslash (\), greater-than sign (>), less-than sign (<), asterisk (*), question mark (?), quotation mark ("), pipe symbol (|), colon (:), or semicolon (;).

k Saving a Design
topic-103-104
topic-103-105
topic-103-106
topic-103-107

Save another copy of a Design

Use Save Design As to save a design for the first time, or to change the name/location of a design or to save the current design with a password. Save Design As allows the design to be saved as a format. To use Save Design As:

1. On File menu, click Save Design As.
2. In the File Name box, type a new name for the design. You may name your design anything you wish as long as the name is not more than eight characters long, and with a three letter extension.
3. Select your desired type to save the design as.
4. Click on your desired directory to keep the design in.
5. Click on Save to save the design.

Tip:

To save the copy in a different location, click a different drive name or folder name. To save the copy in a new folder, click .

Merge 3D Wrap

To merge a defined wrap into the activated motif fill area, the user can employ AutoStitch's Merge 3D Wrap.

1. Right-click to activate an area, and then click Properties button in the toolbar or press the Space bar.
2. In General tab, click Motif Fill stitch type. If motif fill does not appear, drag the scroll bar to make it visible.
3. Click the newly-joined Motif Fill tab and make proper settings for the Motif which is ready to join the current area.
4. Click Generate.
5. Select Merge 3D Wrap from Stitch menu.
6. In the pop-up Select 3D Wrap dialog box, choose a wrap type. If your desired type is not visible, drag the scroll bar to make it visible. If it remains invisible, the user need to edit one in the 3D Wrap Model Editor.
7. After clicking OK, the user will enter Merge 3D Wrap window automatically, and the wrap type that you have just selected will appear in it. Dragging anyone of the eight points around the wrap by holding down the left button can change the size of the wrap. Click the wrap once more and point the cursor to anyone of the four rotating marks, the wrap will be rotated in response to it.
8. Having finished these elementary editing operations, move it by holding down the left button to the motif fill area and make them overlap each other completely.



: click it to open 3D Wrap data file so as to reselect a wrap type



: Click it to save the current modifications of the wrap as 3D Wrap data file and enter its file name in the pop-up Save As dialog box.

topic-103-108

topic-103-109

s merge 3D wrap

k Merge 3D Wrap



: Click it and then point the cursor to a point within the wrap and drag it, the height of this point will be altered. (for example, convex or concave)



: Click to exit the Merge 3D wrap window. The created wrap is saved and applied to the present design.

Tip:

After Merge 3D Wrap, you can click Quick View button to view the effect.

Notes:

1. Merge 3D Wrap is valid only when the area is activated motif fill area.
2. Only one wrap can be selected at one time while merging 3D wrap.
3. While defining the height of a point within the wrap, i.e. Modify Height Definitions of the Wrap button is checked, you can not resize or rotate the current wrap.

#

Save a Design that has been created in another application

1. On File menu, click Save Design As.
2. In the File Name box, type a new name for the design.
3. In the Save As Type box, click the format in which you want to save the file.
4. Click Save.

#

Save a Design automatically as I work

1. On View menu, click Interface Preference.
2. Check Auto-Save Design check box.
3. In the Minutes box, double-click it and input the interval at which you want AutoStitch to save the design.
4. When you finish working on the design, click  to save it.

Note:

The automatically saved Design is saved in a special format and location until you save them. When you restart AutoStitch after a power failure or other problems that occurred before you saved your operations, AutoStitch will open automatically.

#5k

Insert a Rectangle

If you want to insert a solid rectangle, you can:

-
- # topic-103-110
 - # topic-103-111
 - # topic-112
 - ^s insert a rectangle
 - ^k Insert a Rectangle

1. Select Insert menu, and then click Rectangle  from the Shape sub-menu or click Insert Rectangle button  in the toolbar.
2. Now the cursor will become a pencil with a plus. Left-click to define any one corner of the rectangle, drag the mouse and hold down the Ctrl key without releasing it. When you think the size of the inserting rectangle is Ok, left-click to finish this operation.
3. Click Generate .

Tip:

To insert solid square, drag the mouse without holding down the Ctrl key.

Note:

Right-click or press Esc key to cancel this operation.

#Sk

Insert an Ellipse

If you want to insert a solid ellipse, you can:

1. Select Insert menu, and then click Ellipse  from the Shape sub-menu or click Insert Circle(Ellipse)  in the toolbar..
2. Now the cursor will become a pencil with a plus. Left-click to define any one point of the circumference, drag the mouse and hold down the Ctrl key without releasing it. When you think the size of the ellipse is Ok, left-click to finish this operation.
3. Click Generate .

Tip:

To insert solid circle, drag the mouse without holding down the Ctrl key.

Note:

Right-click or press Esc to cancel this operation.

#Sk

Working folder

The folder in which your files will appear while using either Load or Save As command (File menu). If you select another folder while loading or saving an image file, that location becomes the working folder. You can specify a working folder if you load or save files by using a particular folder.

#Sk

Model Copy

```
# topic-113
s insert an ellipse
k Insert an Ellipse
# topic-113-114
s working folder
k Working folder
# topic-115
s model copy
k Model Copy
```

AutoStitch provides the user with a new way to copy, called *Model Copy*. It can not only copy the originally-selected area, but can also enlarge or reduce it in proportion, or copy it after being rotated a certain number of degrees.

1. Insert an image or some characters into the Object View window.
2. Right click or drag a frame by holding down the right button to select one or several areas.
3. Select Model Copy from  the Edit menu or click Model Copy  in the toolbar. Now you will find the original cursor becomes a pencil with a plus.
4. Left-click twice to create two points in the Object View window, and the two points can be positioned inside or outside the selected area. Now you will find the original black line becomes a green line, which has its own direction and length. We define it as Reference Line.
5. Left-click twice to create two points in other space within the Object View window, and the line segment formed by the two points also has its own direction and length. This line and the Reference Line perhaps are different in length and rotating angle. After clicking, you will find the original black line disappears, and a copied area is created there. The scale between the new area and the original one in size is equal to the scale between this line and the Reference Line in length. The number of degrees which the copied area has rotated in reference to the original area is equal to that of the original two drawn lines.
6. Right click to exit Model Copy. You will find the cursor resumes its original shape.

Tip:

After model-copying you will find the newly created units grouped together automatically.

Notes:

1. As long as you do not right-click, many line segments can be created and they will model-copy many selected areas according to the Reference Line.
2. While model-copying, the position, size, etc., of the originally-selected area remains unchanged, and meanwhile, some new areas of different size and position are created according to certain requirements.
3. While model-copying, you must right-click to select one or several areas. Model-copy will not work on objects that you select by left-clicking.

Prevent losing work and recover lost Design

You can protect your work by saving a temporary copy of a design periodically as you work. To be able to recover work after a power failure or other problem has occurred, you must have previously selected the Auto-Save Design.

What do you want to do?

- Save a Design automatically as I work
- Recover a Design that was saved automatically

Quick View

topic-116
 \$ prevent losing work and recover lost design
 k Prevent losing work and recover lost Design
 # topic-117
 \$ quick view
 k Quick View

AutoStitch provides the user with Quick View which enables the user to preview the design quickly. The effect that you view in the Quick View window is the very effect after embroidery, that is, what you see is what you get.

1. Generate the object.
2. Select View menu, and then click Quick View  from the Simulate View sub-menu or click the Quick View button  on the toolbar. You will now see the effect that you can get out of the embroidery machine later.
3. Click mouse or press any key to cancel this state.

Note:

Before using the Quick View button, you must generate the object and switch it to the Stitch View, otherwise it can not be displayed.

#5k

Recover a Design that was saved automatically

To be able to recover work you lost as a result of a power failure or other problem, you must have previously selected the Auto-Save Design check box.

1. Restart AutoStitch.

Design that was open at the time of the problem is displayed.

2. When you see a message asking whether you want to replace the existing file, click Yes.

Only changes you made after the last automatic save are lost.

#5k

Create Linelike Area(s) from Line(s)

Linelike Area(s) from Line(s) enables the user to create a relatively closed line-like an area through one or several defined lines.

1. Right-click or drag with the right button to select one or several lines.
2. Click Outline menu, and then select Linelike Area(s) from Line(s) from the Create sub-menu.
3. Input the width of the would-be line like area into Area Width in the pop-up Convert Line to linear area window. The default value is 2 mm, i.e. the distance between the selected line and the border of the created linelike area is 2 mm. Thus, the width of the whole linelike area is 4mm.

Notes:

1. You can perform this operation only when you right-click to select line(s) and the menu becomes highlighted.
2. You can perform this operation on one or several lines at the same time.

topic-116-118

^s recover a design that was saved automatically

^k Recover a Design that was saved automatically

topic-201-119

^s create linelike area(s) from line(s)

^k Create Linelike Area(s) from Line(s)

3. Having finished this operation, the created linelike area will be activated automatically, and becomes an independent area. The originally-selected line and the created linelike area belong to different groups.

#5k

Create Area's Border from Lines

Area's Border from Lines enables the user to create a relatively closed area's border through one or several defined lines.

1. Right-click or drag with the right button to select one or several lines.
2. Click the Outline menu, and then select Area's Border from Lines from the Create sub-menu.

Notes:

1. You can perform this operation only when you right-click to select line(s) and the menu becomes highlighted.
2. You can perform this operation on one or several lines at the same time.
3. Having finished this operation, the created area's border will be activated automatically and becomes an independent area. The originally-selected line and the created area's border belong to different group.
4. The line that you use to create an area's border can be either a closed or an open curve. The former can create an area's border directly, but the latter can create it after the starting and the ending points are linked automatically. A straight line can not create an area's border.

#SK

3D Wrap Manager

AutoStitch provides the user with several Editors. 3D Wrap Manager is one of them with many powerful functions. The user can edit 3D wrap freely in 3D Wrap Manager so that they can be employed in some motif fill areas of the design.

1. Select 3D Wrap Manager from Accessories menu.
2. In Wrap Editor window, you can choose the offered wrap type in the left list box to modify and also you can create another wrap type by yourself.
3. Drag the cursor and position it between Smooth and Sharp so as to define the degree of smoothness of the current wrap which is closely related to the height of those different points in the wrap.
4. While editing wrap, click Quick View in dialog box to get a simulate view.

- modify an existing wrap type

(1) Left-click the name of the wrap type in the list box, and the right window will display the wrap.
 (2) If the current wrap is displayed together with some blue points and anyone of these blue points will present its height when the cursor points to it, that means the current wrap can be modified. Double-clicking the point with its height, and type the related height of this point. 0 means the wrap is horizontally, negative value concave and positive value convex. To cancel this modification, press Esc key.

topic-201-120
 \$ create area's border from lines
 k Create Area's Border from Lines
 # topic-121
 \$ 3d wrap manager
 k 3D Wrap Manager

(3) To save the modifications of the current wrap, click save. In the pop-up Save As dialog box, if the wrap name that you have just typed in is the same with an existing wrap, the shape of the newly-modified wrap will replace the original one. If you type in a new name, it is equal to create a new wrap.

- Create a new wrap type

(1) click New, and in the pop-up New Wrap dialog box choose one type of wrap control points so as to define the number of control points in each column and row within the newly-created wrap.

(2) In the New Wrap's name input box, type in the name of the new wrap. It is also ok to type it in when you save it in the end. Our advice for the user is to name the newly-created wrap with a graphic name and it is better that this name is different from any existing wrap's name, otherwise, the new one will replace the old one.

Tip:

The use of wrap type:

- (1) Right-click to activate a motif fill area.
- (2) Select Merge 3D Wrap from Stitch menu.
- (3) Choose one wrap type among the existing ones and merge it into the current motif fill area.

#5k

Troubleshoot saving and closing Design

What do you need help with?

- The file format in which I want to save a Design does not appear in the Save As Type box

The file format in which I want to save a Design does not appear in the Save As Type box

- Make sure that your desired file format is included with AutoStitch.
- If the file format is included with AutoStitch, install the necessary format converter that you need. For more information,  click

Install or remove individual components of Microsoft Office

1. Close all the open applications.
2. If the Office Shortcut Bar is available, click the area with the small button at the extreme left or top of the Office Short Bar, and then click Add/Remove Programs. If the Office Shortcut Bar is unavailable, point to Settings on the Windows Start menu, and then click Control Panel. Double-click Add/Remove Programs, and then click the Install/Uninstall tab. Click Office application, and then click Add/Remove.
3. Follow the instructions on the screen.

Notes:

topic-77-122

^s troubleshoot saving and closing design

^k Troubleshoot saving and closing Design

topic-122-123

topic-123-124

1. If you installed the application originally from a network file server or a shared folder, run that copy of the Setup program.
2. To add or remove components of Office on Windows NT, start Office Setup is the same as you first install Office, and follow the instructions on the screen.

#SK

Redo command

The Redo Command allows the user to easily recover from undo during editing. The Redo feature allows the user to undo an undo.

- If you find your undo operation wrong, select Redo from the Edit menu or you can also click the Redo button.
- You can redo several previous undo operations by repeatedly clicking this button.

Tips:

1. In this version you can redo actions at one time:

Click the arrow next to  to view a list of the most recent actions you can redo. Select the action you want to redo. If you do not see the action, scroll through the list. Drag the mouse to include all the actions you want to redo or click the last action of the series actions you want to redo. When you redo the last action, you also redo all actions above it in the list.

2. If you later decide you didn't want to undo an undo, click .

Note:

The Redo menu items/button become dimmed when they are unable to be run.

#

Redo

Redo command reserves the last undo to the active object. It can restore the last steps of previous undo operations. To use the Redo command, you can:

- Select Redo  from the Edit menu, or
- Click on the Redo button  in the toolbar, or
- Press <Ctrl> + <Y>.

#

Preview the contents and properties

1. On File menu, click Load Design .
2. In Look In box, click the drive and the folder that contains the design you want to view.
3. In the large box, click your desired design.

topic-122-125
 \$ redo command
 K Redo Command
 # topic-122-126
 # topic-127

4. To view such details as design size and date last modified, click .

Image Processing dialog box

After clicking Insert to insert an image file or clicking Close to insert a picture from scanner, the *Image Processing dialog box* will pop up. This dialog box provides the users with some options for the settings of the inserted image.



Step-by-step Instructions

Step 1: Choose Image Type

It offers you two Image Types: Cartoon and Scanned. The default state is the highlighted one of the two types determined through auto-judgement. Usually, the user doesn't need to alter the default option. In addition, the inserted image will be displayed and refreshed in the right-side small window.

Step 2: Set the Maximum Color Number

Under the default state, Auto-Judge is checked automatically. That is to say, it judges the number of colors automatically according to the inserted image, and at this moment, the input box which is under it is dimmed.

Tips:

1. If you want to reduce the number of colors on some special occasions, you can uncheck Auto-judge check box and then type in your desired number of colors in the input box. To use several colors in the image, click Pick Color. In the pop-up Image Manager dialog box, click to select your desired color. Click OK, and then type in the number of colors in the left-side input box.
2. If you wish to define the number of colors by yourself, left-click the Auto-Judge checkbox to uncheck it, and then an input box becomes highlighted. The default number of colors is 10, but you can double-click that input box to type a new value to alter the default value. For instance, if the value you type is 5, the number of colors will be reduced to 5 by neglecting similar colors automatically while generating the object.

Notes:

1. If you only type in a value in the input box, the applied colors are defined according to similar color after generating. If you pick color and then type in a related value, your defined colors will be employed after generating. If you did not type in a related value after picking color, it is equal to use Auto-judge and the number of colors are not reduced after generating.
2. The range of values allowable in the input box is 2-256. If your input value is more than 256 or less than 2, AutoStitch will offer you the warning message "Please enter an integer between 2 and 256."

Step 3: Define Background

topic-128
 s image processing
 k Image Processing
 # topic-128-129
 # topic-128-130
 # topic-128-131

Define Background provides you with two options which determine whether there are stitches in the background or not.

The default state is Auto-judge background color. That is to say, it judges the color of the background automatically. There is no stitch in the framed background, but there are stitches in the unframed background which has the same color with the background. At this moment, the right-side color button is dimmed.

Tip:

The user can define a new color as the background color. Left-click the Auto-Judge background color checkbox to uncheck it. Now the Color button becomes highlighted. Then left-click the Omit all regions of background checkbox to check it. Now, click the Color button and select a color from the pop-up Color window to be the background color.

Notes:

1. Once you select Omit all regions of background checkbox, and the selected color is the same with some area or several areas, there are no stitch in these areas which have the same color with the background after generating. If the selected color is different from all the colors of the object, there are stitches throughout the object where it is needed.
2. When both Omit all regions of background and Auto-judge background Color checkboxes are not checked, and you appoint a new color in the Color window, there are stitches throughout the object where it is needed after generating, no matter whether the newly-appointed color is different or not with some area or several areas of the object.

Step 4: Adjust Image Color Similarity

In an object, when the boundary of an area is very smooth (there are different colors on both sides of this boundary, and the color of the boundary is a transitional one), you can drag the pointer of the Image Color Similarity toward Distinguish. If the boundary of an area is very crude and sensitive, you should drag the pointer of the Image Color Similarity toward Similarity. The default state of the Image Color Similarity is that the pointer lies in middle point of Distinguish and Similarity.

Step 5: Adjust Image Noise Level

Generally speaking, when inserting an image directly or scanning a picture into AutoStitch, the computer may create a certain degree of noise. For this reason, AutoStitch provides the user with Image Noise Level to adjust the embroidery effect so as to get an optimum design.

You can designate the diameter of those areas that you want to ignore by dragging the pointer of the Image Noise Level. The nearer the pointer is to Noisy, the larger the diameter that you want to ignore. The nearer the pointer is to Clear, the smaller the diameter that you want to ignore. In short, the diameter of those areas that you want to ignore is always less than your defined value.

Step 8: Confirm

After finishing the above-mentioned series of operations, click OK to start inserting according to requirements.

If you click OK directly without changing any options, it will insert an image according to its default values.

- # topic-128-132
- # topic-128-133
- # topic-128-134
- # topic-135
- ^s insert a line
- ^k Insert a Line

Insert a Line

The user can use Insert a Line to insert a broken line, smooth curve, line segment of a blend of the two, and regional boundary lines.

1. Click Insert menu, and then select Line  from the Shape sub-menu or click Insert Line  in the toolbar.
2. The cursor becomes a pencil with a plus. Move the cursor to your desired position, right or left click to determine the starting point of the inserting line. Again move the cursor to the proper position, and right or left click to determine the broken points or consecutive points of the line segment or the regional boundary line ... click repeatedly until you press the Enter key to stop the insert operation.

Tips:

1. Once you select Insert a line, the insert operation will be started, and will last until you press the Enter key. However, you can cancel the operation at any time by pressing the ESC key.
2. If the inserted line segment or regional boundary line is unsatisfactory, left-click to select it and press the Del key to delete it. Also, you can right-click to select it and modify it in many ways.
3. You can use Insert a Line to draw a regional boundary of an area as long as you link the start point and the end point. But, this operation is different from Insert an area.
4. Each newly inserted object is an independent group.

Notes:

1. While inserting line segments or regional boundary lines, if the middle point of these lines are all created by right-clicking, they are called turning points. If all created by left-clicking, they are consecutive ones. Of course, you can create these points sometimes by left-clicking and sometimes by right-clicking, and the line segments or boundary lines will be a mixture of broken lines and smooth curves.
2. While inserting a line segment (broken line or smooth curve), left-clicking or right-clicking to determine the start point and the end point does not make any difference to a line segment. As to a regional boundary, however, it determines the smoothness of this point.

Insert an Area

The user can use Insert an Area to insert smooth or unsmooth areas.

1. Click Insert menu, and then select Area  from Shape sub-menu or click Insert Area  in the toolbar.
2. The cursor becomes a pencil with a plus. Move the cursor to the desired position, and then left-click or right-click to determine the starting point of the inserting area. Again move the cursor to proper position and then right-click or left-click to determine the broken points or consecutive points of this area ... click repeatedly until you press Enter key to stop the operation.
3. Before finishing inserting an area, you need not to link the starting point and the ending point manually. Once you press the Enter key, AutoStitch will judge if they are broken points or consecutive points automatically and link the starting point and the ending point together to form a complete closed area.

Tips:

[#] topic-136

^s insert an area

^k Insert an Area

1. Once select Insert an area, the insert operation will be started and will last until you press Enter key. However, you can cancel the operation at any time by pressing the ESC key.
2. If the inserted area is unsatisfactory, left-click to select it and press the Del key to delete it. Also, you can right-click to select it and modify it in many ways.
3. Every newly-inserted object is an independent group.

Note:

1. While inserting an area, if the middle points are all determined by right-clicking, these points are broken points. If they are all determined by left-clicking, they are consecutive points. Of course, you can determine these middle points by partially left-clicking and partially right-clicking, thus they will form an area which is partially smooth and partially unsmooth.

2. This operation is different from Insert a regional boundary of an area by using the Insert a line function.

Warning:

While using this function, the user is not allowed to press the Enter key to conclude the operation if the user has determined only two points i.e. a starting point and ending point. If you did so, the inserted area will not appear. After all, at least three points are needed to define an area.

#

The difference between using Inserting an area and inserting a regional boundary of an area by using Insert a line

1. To form a closed curve, the starting point and the ending point of the former will become linked automatically by using Insert an area, but those of the latter must be linked manually.
2. Before generating, they look almost the same. But after generating, you will find that the former forms an area which is full of stitches and the latter is only a hollow area and there are stitches only on the boundary in it.
3. While selecting, you can select the former by clicking any point inside the area, but you can only select the latter by clicking its boundary.

#Sk

Troubleshoot printing

What do you need help with?

- When I try to print a Design nothing happens
- Design runs off the edge of the page
- The Print Sample command on the File menu is dimmed

#

When I try to print a Design nothing happens.

- First, make sure whether a problem exists with your printer setup in Windows or in AutoStitch by using the Windows Print Troubleshooter. On the Windows Start menu, click Help. Click the Index tab, and then enter "print troubleshooting". Click Display, and then follow the instructions in the Windows Print Troubleshooter.

topic-141-1

topic-138

^s troubleshoot printing^k Troubleshoot printing

topic-138-139

- If your Windows printer setup looks alright, check your AutoStitch printer settings. Make sure that the selected printer matches the printer you are using. On the File menu, click Print, and then click the name of the printer you want to use in the Name box. Make sure that the page range you have selected in the Print dialog box corresponds to the pages you want to print.

Design runs off the edge of the page

- Make sure that you have selected the correct printer.
- Make sure that you have selected the correct paper size by clicking Print Setup on the File menu.

Fill a Hole

AutoStitch provides the user with Fill a Hole which enables the user to delete the inner contour of an area.

1. Right click or drag with the right button to select one area.
2. Select Fill a Hole  from the Outline menu or click Fill Hole  in the toolbar, and then you will find the cursor becomes a hand. Point the cursor to the selected area. If an area has inner contour and the inner contour is highlighted with red, delete an inner contour is valid in this area.
3. Left-click this highlighted area, you will find the inner contour which you deleted disappears.

Tip:

When using Fill a Hole, it is valid only when the inner contour is highlighted with red.

Notes:

1. When using Fill a Hole, only one area can participate in the operation at one time, and you must right-click to select it. During the process of deleting, right-clicking will cancel this operation.
2. Press the Esc key to escape this operation.
3. When left-clicking to determine the inner contour that you want to delete, the inner contour must be highlighted with red when the cursor points to the inner contour; otherwise the operation is invalid.

The Print Sample command on the File menu is dimmed

- Your printer may not be selected, or the printer driver may not have been installed properly. On the Windows Start menu, click Help. Click the Index tab, and then search for "printer drivers, installing".
- If your printer is already selected, select a different printer to see whether the command becomes available.
- If the command is still dimmed, re-install your printer driver according to the instructions in Microsoft Windows Help.

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s fill a hole

k Fill a Hole

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Add To / Subtracting From

To add an object or an area to an existing selection, press and hold down the Ctrl key while selecting the new object or area.

To remove an object or an area from an exiting selection, press and hold down the Ctrl key while selecting the object or area, which has already been selected.

In AutoStitch, left-click to select an object, and right-click to select an area.

Undo

Undo Command reserves the last edit to the active object. It can restore the last steps of previous operations such as inserting, deleting, editing ,orientation alteration, color alterations, etc. To use the Undo Command, you can:

- Select undo  from Edit menu, or
- Click on the Undo button  in the Toolbar, or
- Press <Ctrl> + <Z>.

Delete Command

Delete Command removes the currently activated objects or areas from the Object View window. The Delete Command does not send data to the Windows Clipboard. To use the command, you can:

1. Select an object in the window by clicking on the object or right click on area, or click on the area item in Film.
2.
 - You can select Delete from Edit menu, or simply
 - Press .

Note:

The key is a shortcut to this function.

Cutting, Copying, and Pasting

AutoStitch offers three basic commands: cut, copy, and paste.

- [Cut Command](#)
- [Copy Command](#)
- [Paste Command](#)

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 # topic-145
 \$ delete command
 k Delete Command
 # topic-146
 \$ cutting copying and pasting
 k Cutting Copying and Pasting

Cut Command

Cut command is available only when the activated object contains a selection. The Cut Command removes selected objects from the Object View window and sends the current object or selection to the Window Clipboard for use in another window. To use Cut command, you can:

1. Click on the object in the Object View window you wish to remove.
2.
 - Select Cut  from the Edit menu
 - Click Cut  in the toolbar, or
 - Press <Ctrl> + <X>.
3. The object is removed from the window and placed in the Clipboard.

Copy Command

Copy command sends the currently activated object or selection to the Windows Clipboard without affecting the original object in the Object View window. The Clipboard contents can then be used elsewhere by using the Paste function. To use Copy command, you can:

1. Click on the object in the Object View window you wish to remove.
2.
 - Select Copy  from the Edit menu
 - Click Copy  in the toolbar, or
 - Press <Ctrl> + <C>.

The object is copied onto the Clipboard.

3. The original object remains in the window.

Paste Command

Retrieves Clipboard contents that have been cut or copied. Places the contents into the current window. To use Paste command, you can:

1.
 - Select Paste  from the Edit menu
 - Click Paste  in the toolbar, or
 - Press <Ctrl> + <V>.

topic-146-147

\$ cut command

k Cut Command

topic-146-148

\$ copy command

k Copy Command

topic-146-149

\$ paste command

k Paste Command

2. The contents of the Clipboard are placed into the Object View window, with the center point as the object origin. The contents of the clipboard become an object in the window.
3. Select the object with your mouse and move it into your desired position.

Tip:

Having finished Paste command, the new object will appear in the Object View window.

1. Left-click it.
2. Drag it to any position within the window by holding down the left button.

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Auto-Arrange Entry Position

Auto-Arrange Entry Position will provide the user with the optimum sequence of the In/Out point. "Optimum Sequence" refers to rearrange In and Out points of two adjacent areas automatically so that the distance between the In and Out points becomes the shortest one, but it does not change the stitch sequence.

1. Generate the object in the Object View window.
2. Select Auto-Arrange Entry Position  from the Accessories menu.

Tips:

1. You can right-click to select one area of the object to see its In/Out points. If the distance between the two adjacent areas is not optimum, once you use this function, you will see their positions rearranged.
2. If the alternation of the In/Out points that you made manually is not satisfactory, you can use this function to optimize them.

Note:

The changes will take effect only after generating, and it will affect all the objects in the Object View window.

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Undo Command

The Undo command allows the user to easily recover from mistakes during editing. The Undo feature allows the user to undo most operations that modify an image.

- If you find your operation wrong, select Undo  from the Edit menu or you can also click the Undo button .
- You can undo several previous operations by repeatedly clicking this button.

Tips:

1. In this version you can undo several actions at one time:

topic-150
 \$ auto-arrange entry position
 k Auto-Arrange Entry Position
 # topic-151
 \$ undo command
 k Undo command

Click the arrow next to  to view a list of the most recent actions you can undo. Select the action you want to undo. If you do not see the action, scroll through the list. Drag the mouse to include all the actions you want to undo or click the last action of the series actions you want to undo. When you undo the last action, you also undo all actions above it in the list.

2. If you later decide you didn't want to undo an action click the redo button .

Note:

#Sk The Undo menu items become dimmed when they are unable to be run.

Move object(s) a short distance within a window

1. Select the object(s) you want to move .
2. To move the selection, drag the selection where you want to paste or be located.

Note:

#Sk If you drag the selection beyond the visible window, your design will scroll in the same direction.

Move or copy object(s) long distances or to other Designs

1. Select the object(s) you want to move or copy.
2. To move the selection, Select Cut from Edit menu.
To copy the selection, Select Paste from Edit menu.
3. If you want to move or copy object(s) to another design, close the current design, and then load the design in which you want to paste.
4. Click where you want your object(s) to appear.
5. Select Paste from Edit menu.

Use the mouse to scroll through a Design

After scrolling, click the location where you want to start working.

To	Do this
Scroll up one screen	Click above 
Scroll down one line	Click 

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\$ move object(s) a short distance within a window

k Move object(s) a short distance within a window

topic-153

\$ move or copy object(s) long distances or to other design

k Move or copy object(s) long distances or to other Designs

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Scroll up one line

Click 

Scroll down one screen

Click below 

Scroll left

Click 

Scroll right
#Sk

Click 

While embroidering, if the small area is embroidered directly on the cloth, the small area is called un-floated area. If the small area is embroidered upon the embroidered substratum area, the small area is called floated area.

Different users may have different needs, so AutoStitch provides you with Float Area(s) and Un-Float Area(s).

1. Switch to Outline View.
2. Right-click one area which has been floated.
3. Select Un-Float Area(s) from the Outline menu.
4. Right-click the area which encloses these small areas, and then click Generate.
5. Select Auto-Arrange Embroidery Order from the Accessories menu.
6. You can click Quick View to view the effect you have created.

Tip:

If you want to view whether the small area is floated or not, right-click the larger areas which enclose the small areas. If the border of the small area is flashed with blue and white dotted lines, it shows that the small area is not floated, and the large area(s) will make room for the small area(s). If the border of the small area is not flashed with blue and white dotted lines, it shows the small area is floated and the larger area will not make room for the small area.

Notes:

After this operation:

1. You must regenerate the larger areas which enclose the small areas so as to create stitches according to the new blocks.
2. You must select Auto-Arrange Embroidery Order, otherwise the should-be un-floated area(s) may be covered by the substratum area(s).
3. You can only un-float one area at a time; you must un-float them one by one if you want to un-float several areas.

#Sk

Protect a Design

- Assign a protective password, which prevents unauthorized users from opening the design or stitch file.

Caution:

If you assign password protection to the design and then forget the password, you cannot open the design, remove protection from it, or recover data from it, it is a good idea to keep a list of your passwords and their corresponding file names in a safe place.

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Require a password when a Design is Loaded or accessed

topic-157

\$ protect a design

k Protect a Design

topic-158

\$ require a password when a design is opened or accessed

k Require a password when a Design is opened or accessed

1. Load the Design.
2. On the File menu, click Save Design As.
3. Click the Password Protect checkbox.
4. In the Password dialog box, type a password in the Enter box.
5. In the Password dialog box, type the password again in the Confirm box, and then click OK.
6. Click Save.

Password

Prevents access to the protected design by unauthorized users. A password can contain any combination of letters, numerals, spaces, and symbols, and it can be up to 15 characters long. As you type a password, AutoStitch displays an asterisk(*) for each character you type. Passwords are case-sensitive.

Change or delete a password

You must know the password to load the design.

1. Load the design and type its original password.
2. On the File menu, click Save Design As.
3. To change the password, check the Password Protect checkbox and type the new password twice, and then click OK.

To delete the password, make sure that the Password Protect checkbox is unchecked.

4. Click Save.

Troubleshoot protecting a Design

- *The password I typed to load a Design does not work*

The password I typed to load a Design does not work

Passwords are case-sensitive. Check to see whether the CAPSLOCK key is on, or retype the password to make sure you did not mistype it.

Flip

topic-158-159
 # topic-160
 \$ change or delete a password
 k Change or delete a password
 # topic-161
 \$ troubleshoot protecting a design
 k Troubleshoot protecting a Design
 # topic-161-162
 # topic-163
 \$ flip
 k Flip

Flip can turn one or several selected objects according to certain requirements. There are two ways to *Flip* in AutoStitch. The Flip command reverses a object or selection's orientation along the vertical and horizontal axes:

- Vertical Command
- Horizontal Command

Note:

This operation functions only on the selected object.

Vertical Command

Can flip one or several selected objects vertically.

1. Select one or several objects that you want to flip.
2. Select the Edit menu then click the Flip Vertically  sub-menu from the Flip. You can also click Flip Vertically  button in the toolbar. Thus the selected objects will flip 180 degree vertically.

Notes:

1. The Vertical command reverses the image or selection vertically so that what was on the top becomes the bottom, and vice-versa. To use the command, select Flip from Object menu and then select Flip Vertically from the Flip sub-menu.
2. If you selected several objects, every object will flip 180 degree vertically and independently; if you select one object, the whole object will flip 180 degree.
3. If you flip an object two times on the same axis, the object will resume its original state.

Horizontal Command

Can flip one or several selected objects horizontally.

1. Select one or several objects that you want to flip.
2. Select the Edit menu, and then click the Flip Horizontally  sub-menu from the Flip. You can also click Flip Horizontally  button in the toolbar. Thus, the selected objects will flip 180 degree horizontally.

Notes:

1. The Horizontal command reverses the image or selection horizontally so that what was on the left side becomes the right side, and vice-versa. To use this command, select Flip from Object menu and then select Flip Horizontally from the Flip sub-menu.
2. If you selected several objects, every object will flip 180 degree horizontally and independently; if you select one object, the whole object will flip 180 degree.
3. If you flip an object two times on the same axis, the object will resume its original state.

#Sk

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^s rotating an object

^k Rotating an Object

Rotating an Object

The Rotate command allows you to rotate an object by a specified number of degrees.

1. Left-click to select an object.
2. Select Rotate from the menu and then click the proper sub-menu or click the proper button in the toolbar.

There are several ways to Rotate an image in AutoStitch.

- Left 90 Degrees
- Right 90 Degrees
- Manually

Left 90 Degrees  is a counter-clockwise 90 degree revolution accomplished by clicking the Left 90 Degree button.

Right 90 Degrees  is a clockwise 90 degree revolution accomplished by clicking the Right 90 Degree button.

Manually  sub-menu (Specified Rotation)

Input your desired number of degrees in the pop-up Free Rotate dialog box, and then click OK. The object which you selected will rotate the specified number of degrees. The default number of degrees is 0.

Tips:

1. If you wish the object to rotate clockwise, the number of degrees should be positive. If you wish the object to rotate counter-clockwise, the number of degrees should be negative.
2. The number of degrees entered may be an integer, decimal, or fraction.

You can rotate the object by using the mouse to drag and set the degrees of rotation.

3. AutoStitch also provides the user with a convenient and auto-visual way of rotating. The user does not have to select Rotate from the Edit menu, instead one can do it directly in the Object View window.

#Sk

Group/Ungroup Command

Group/Ungroup command can group or ungroup the objects/sections you have previously selected.

1. Left-click one or several objects/sections. You will see them enclosed by eight points.
2. Select the Group/Ungroup  from the Edit menu or click the Group/Ungroup button  in the toolbar.

Tips:

1. If you want to select several objects/sections consecutively, use the mouse to drag a rectangular frame to enclose all the objects/sections. If you want to select several objects/sections simultaneously other than consecutively, click the first object/section and then hold down the Ctrl key to click every desired objects/sections. (To hold down the Ctrl key and click means to add new objects/sections and to reserve the previously-selected objects/sections.)

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^s group/ungroup command

^k Group/Ungroup Command

2. If you want to cancel all the selected objects/sections, click the blank space outside these objects. If you want to select a new object/section, click it.
3. If you want to select one group, click any elements of the group. It will not work if you click the blank space among these elements. If you want to select one ungrouped element, click the element itself. Once several elements are selected at the same time, all the operations you do afterward will function to them all.

Notes:

1. Group/Ungroup command can only function when the selected objects/sections are enclosed by eight points, otherwise the command will be dimmed.
2. The effect of Group/Ungroup relies on the state of the selected objects/sections. If they are already grouped, click the command to eliminate the grouping so that the object explodes into many individual objects. If they are ungrouped, clicking the command so that the selected objects are grouped together.
3. The scope of validity of Group/Ungroup depends on the numbers of the selected objects/sections. To group or ungroup one object is to group or ungroup every element of this object. To group or ungroup several objects is to group them into a bigger one or ungroup them into several smaller objects.

#Sk

Align

Align can arrange several selected objects according to certain requirements. Usually for align a string of alphabets. In this case, user should use the group/ungroup operation to treat this string. There are eight ways to Align in AutoStitch.

- Align by Top
- Align by Bottom
- Align by Left
- Align by Right
- Align by Baseline
- Align by Horizontally Center
- Align by Vertically Center
- Align by Curve
- Align by Arc

Tip:

You can align after selecting several objects. In addition, you can also align after ungrouping an object and selecting several elements of it.

Notes:

1. When you have not selected any objects/sections or have only selected one, the previous seven ways cannot be used.
2. In the process of Align, the newly-selected objects/sections will be aligned by the first-selected one.

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 \$ align
 ^ Align
 # topic-168-169

Align by Top

Can align selected objects by the top line.

1. Select several objects.
2. Select Edit menu and then click the Align By Top  sub-menu from the Align. You can also click Align Top button  in the toolbar.

Notes:

1. The selected objects are aligned by the top line in which the upper three points of the eight ones around the first-selected object locate, but their x-coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this select, click the black space of the Object View window.

#

Align by Bottom

Can align the selected objects by the bottom line.

1. Select several objects.
2. Select Edit menu, then click Align By Bottom  sub-menu from the Align. You can also click Align Bottom button  in the toolbar.

Notes:

1. The selected objects are aligned by the bottom line in which the bottom three points of the eight ones around the first-selected object locate, but their x-coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this select, click the black space of the Object View window.

#

Align by Left

Can align the selected objects by the left line.

1. Select several objects.
2. Select Edit menu, and then click Align By Left  sub-menu from the Align. You can also click Align Left button  in the toolbar.

Notes:

1. The selected objects are aligned by the left line in which the left three points of the eight ones around the first-selected object locate, but their y-coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the black space of the Object View window.

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Align by Right

Can align selected objects by the right line.

1. Select several objects.
2. Select Edit menu, and then click Align By Right  sub-menu from the Align. You can also click Align Right button  in the toolbar.

Notes:

1. The selected objects are aligned by the right line in which the right three points of the eight ones around the first-selected object locate, but their y- coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the black space of the Object View window.

#

Align by Baseline

Can align the selected objects by the baseline.

1. Select several objects.
2. Select Edit menu, and then click Align By Baseline  sub-menu from the Align. You can also click Align Baseline button  in the toolbar.

Notes:

1. The selected objects are aligned by the baseline of the first-selected object.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the blank space of the Object View window.

#

Align by Horizontally Center

Can align the selected objects by the horizontally center line.

1. Select several objects.
2. Select Edit menu, and then click Align By Horizontally Center  sub-menu from the Align. You can also click Align Horizontally Center button  in the toolbar.

Notes:

1. The selected objects are aligned by the horizontally center line in which the two horizontal middle points of the eight ones around the first-selected object locate. But their x-coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the black space of the Object View window.

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Align by Vertically Center

Can align selected objects by the vertically center line.

1. Select several objects.
2. Select Edit menu, and then click the Align By Vertically Center  sub-menu from the Align. You can also click Align Vertically Center button  in the toolbar.

Notes:

1. The selected objects are aligned by the vertically center line in which the two vertical middle points of the eight ones around the first-selected object locate. But their y-coordinates remain unchanged.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the black space of the Object View window.

Align by Curve

Can align selected objects by the given curve.

1. Select several objects.
2. Select Edit menu, and then click the Align By Curve  sub-menu from the Align. You can also click Align Curve button  in the toolbar.
3. Now, the original cursor will become the shape of a pen. To draw a curve, left-click any place you want in the Object View window to define the start point of the curve. Move the cursor with mouse to any place in the Object View window and left-click to define the middle point of the curve. Move the cursor and right-click to end this curve. At this time, right-click a spot as the end point of the curve. The selected objects will align by this curve.

Notes:

1. The selected objects are aligned by the self-drawn curve and both their x/y-coordinates will change a little bit. Sometimes objects will convert according to certain requirements.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the black space of the Object View window.

Zoom

Zoom enables you to zoom in or out of the image in the Object View window. There are five ways to zoom in AutoStitch.

- Last Zoom
- Zoom In
- Zoom Out
- Natural Size
- Zoom Object

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\$ zoom
k Zoom

- Zoom All

Tips:

1. If you want to operate the entire design in the Object View window, Last Zoom, Natural Size, and Zoom All can be performed by clicking the command. To perform Zoom in and Zoom out, you need to click not only the command but also any one position in the Object View window. If you want to operate part of a design in the Object View window, only Zoom In and Zoom Out will work. Click the command, and drag a rectangular frame to enclose the operative object, the selected object will be zoomed in or zoomed out and placed in the center of the window.
2. The difference between these two ways: the former can use any one of the five ways and zoom in or out proportionally; the later can only use Zoom In or Zoom Out and the object always lies in the center of the Object View window, but the change is not proportional. The smaller the rectangular frame you drag is, the bigger the multiple of zoom in or out; on the other hand, the larger the rectangular frame you draw is, the smaller the multiple of zoom.

Notes:

1. You should select the command before selecting the objects which you want to zoom.
2. Zoom All, Zoom In and Last Zoom are likely to make the size of the images to go beyond the limit of the Object View window.

#

Last Zoom

Can regenerate the last zoom size chosen prior to the current view in the Object View window.

Select the View menu and then click the Last Zoom  sub-menu from the Zoom. You can also click Last Zoom button  in the toolbar.

Notes:

1. The effect is just like Zoom Undo/Zoom Redo, but takes only one step.
2. It affects all the images in the Object View window.
3. It can be used together with Zoom In and Zoom Out.

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Zoom In

Zoom In is used to magnify an object or even a part of an object to ease the editing process and see more clearly.

- Zoom In by clicking
- Zoom In by dragging a rectangular frame

Tip:

You can right-click any place in the Object View window to cancel the working state of Zoom In.

Notes:

1. The effect of zoom in will last until you click Zoom In button again or switch to Zoom Out button.

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2. Zoom In can be used together with Zoom All, Last zoom, and Natural Size at the same time.
3. This effects the window only and does not change the size of the object.

#

Zoom In by clicking

1. Select View menu and then click Zoom In  sub-menu from the Zoom. You can also click Zoom In button  in the toolbar. The cursor will change to a magnifying glass with a plus sign to identify Zoom In.
2. Click or repeatedly click the Object View window so that all the images are magnified to a suitable proportion.
3. Release the left mouse button and the object or even the part of the object will be magnified to fill the window.
4. Once you select the Zoom In feature, you may perform the process repeatedly without selecting it again. It will deselect when another function is selected .

Notes:

1. It affects all the images in the Object View window.
2. Each click will enlarge the images by 20% from the previous size, but the maximum enlargement scale is 3200%. If the maximum value is reached, the function will no longer work.

#

Zoom In by dragging a rectangular frame

1. Select View menu and then click the Zoom In  sub-menu from the Zoom. You can also click Zoom In button  in the toolbar. The cursor will change to a magnifying glass with a plus sign to identify Zoom In.
2. Within the Object View window, start a selection by left-clicking and dragging the mouse. A rectangle should be drawn, showing the area you want to zoom. You can drag the rectangular frame once or several times repeatedly so that the image will be magnified proportionally.
3. Release the left mouse button and the object or part of the object will be magnified to fill the window.
4. Once you select the Zoom In function, you may perform the process repeatedly without selecting it again. It will deselect when another function is selected .

Notes:

1. All the images in the Object View window will be enlarged, but the selected object(s) will be displayed in the center of the Object View windows.
2. Each enlargement has no proportional association, but the smaller the rectangular frame you drag is, the bigger the multiple of zoom in is.

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Zoom Out

Zoom Out is used to reduce an object or even a portion of an object.

• Zoom Out by clicking

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- Zoom Out by dragging a rectangular frame

Tip:

You can right-click any place in the Object View window to cancel the working state of Zoom Out.

Notes:

1. The effect of zoom out will last until you click the Zoom Out button again or switch to the Zoom In button.
2. Zoom Out can be used together with Zoom All, Last zoom, and Natural Size at the same time.
3. This affects the window only, it does not change the size of the object.

#

Zoom Out by clicking

1. Select the View menu then click the Zoom Out  sub-menu from the Zoom. You can also click the Zoom Out button  in the toolbar. The cursor will change to a magnifying glass with a minus sign to identify Zoom In.
2. Click or continually click the Object View window so that all the images are lessened to a suitable proportion.
3. Once you select the Zoom Out function, you may perform the process repeatedly without select it again. It will deselect when another function is selected.

Notes:

1. It functions on all the images in the Object View window.
2. Each click will reduce the images by 20% from the previous size, but the minimum shrinkage scale is 10%. If the minimum value is reached, it will stop reducing.

#

Zoom Out by dragging a rectangular frame

1. Select the View menu then click the Zoom Out  sub-menu from the Zoom. You can also click the Zoom Out button  in the toolbar. The cursor will change to a magnifying glass with a minus sign to identify Zoom Out.
2. Within the Object View window start a selection by pushing the left mouse button down and while holding it down drag the mouse. Draw a rectangle showing the size you want the object scaled to. You can drag the rectangular frame once or several times continually so that the image is reduced proportionally.
3. Release the left mouse button and then the object is redrawn to the size of the rectangle.
4. Once you select the Zoom Out function, you may perform the process repeatedly without selecting it again. It will deselect when another function is selected.

Notes:

1. All the images in the Object View window will be reduced, but the selected object(s) will be displayed always in the center of the Object View windows.

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2. Each shrinkage has no proportional association, but the smaller the rectangular frame you drag is, the bigger the multiple of zoom out.

Natural Size

Natural Size is used to scale the object shown in the Object View window to the virtual embroider-out size.

Select View menu and then click Natural Size  sub-menu from the Zoom. You can also click the Natural Size button  in the toolbar. The object is redrawn to the natural size of the object.

Notes:

1. It affects all the images in the Object View window.
2. The effect will not last, and it works only on an object whose current measurements are not the same as its natural size. Otherwise, there will be no change in your selected object.
3. It can be used together with Zoom In and Zoom Out.
4. Natural Size assumes that the monitor is properly adjusted.

Zoom All

Can size all the objects to the Object View window.

Select View menu and then click Zoom All  sub-menu from the Zoom. You can also click Zoom All button  in the toolbar. The object will be redrawn to fit within the Object View window.

Tip:

When the cursor points to the frame between the Picture View window and the Object View window, the cursor turns into . By dragging it to the left or right, you can adjust the size of the two windows.

Notes:

1. It affects all the objects in the Object View window.
2. When the object is not displayed in the Object View window after a series of operations (except cut and delete), you can use Zoom All to redisplay the object in the central part of the window.
3. The effect of zoom all will not last, and it works only when the design is not fully displayed in the Object View window or not placed in the center of the Object View window.
4. It can proportionally enlarge or reduce the images with the size of the Object View window.
5. It can be used together with Zoom In and Zoom Out.
6. This affects the window only, and does not change the size of the object.

Pan

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s pan

k Pan

Pan provides the user with a quick repositioning of the view in the window. The Pan command permits you to view an area of a window centering around a circle with a crosshair in the middle in the window.

1. Select Pan  from the View menu. You can also click the Pan button  in the toolbar.
2. The cursor turns into a panning cursor that looks like a circle with a crosshair in the middle -- identifying Pan.
3. Place the cursor in the Object View window where you want to reposition the object, and click one time. The object is re-drawn with spot on the object where you clicked the mouse be positioned in the center of window.

Note:

1. When you drag the object and hold down on the left button, you will find that the whole object or part of it will be displayed in the Object View window and can not be moved out of the window no matter how you drag the object. (The premise is to drag the object without releasing the left button)
2. If you insist on moving the object out of the window, you need to drag them individually, and you should not hold down the left mouse button at the moment. In addition, when you want to select a partially-displayed object by dragging a rectangular frame, you will find that the object will move up and down or left and right so that you can finally enclose the object. It will be more convenient than using Zoom All and then dragging a frame to select the object.

The above-mentioned conditions are due to the fact that AutoStitch imperceptibly provides the user with an Auto-Pan, which can move the screen automatically with object.

#Sk

Ruler

Ruler is used to determine the width and height of your image. You can also determine the length of stitches, or the diagonal measurements of your design.

1. Select Ruler  from the View menu. You can also click the Ruler button  in the toolbar.
2. Place the cursor (the cursor changes to a ruler with a plus), at the point you wish to start measuring from.
3. Click and hold down the left mouse button, and drag the cursor to the point you wish to measure to. The status Bar at the bottom of the screen displays the measurements in both the X (horizontal) and Y (vertical) directions in the Pos frame of the status bar, and measurements are shown in inches or mm on the left side of the status bar.

Note:

If the Status bar is disabled, the Ruler is still available but there is no place for measurements to be displayed.

#Sk

Select

Selecting an object or even selecting several areas is the first step in a variety of editing tasks. You can move, copy, delete, Flip, Rotate an object, or Rotate several areas which are selected, and more.

topic-188
\$ ruler
k Ruler
topic-189
\$ select
k Select

- Add To / Subtracting From
- Selecting an entire object
- Select All Areas
- Select All Lines
- Select By color
- Removing a selection
- Inverting a selection

#

Select an entire object

To select the entire objects, select the Edit menu, and then click Select All from the Select sub-menu. You will find all the objects in the Object View window will be selected automatically.

#

Removing a selection

To remove a selection from the activated object(s):

- Select the Edit menu, and then click Select None from the Select sub-menu.
- You can remove a selection by left-clicking the blank space outside the object in the Object View window.

#

Inverting a selection

To swap a selected area and a non-selected area, select Edit menu, and then click Invert Selection from the Select sub-menu.

#\$k

Exit

Selecting this item from the File menu will exit AutoStitch while closing all of its open windows and bring you to the Window Program Manager. If you have an object in the Object View window, and changes have been made to it, you will be prompted to save the changed object before exiting.

#\$k

Outline View

Outline View is used to enable or disable the outline of the object in the Object View window. Select Outline View  from the View menu or click on the Outline View button  in the toolbar. If it has been selected, the object will be displayed in the form of a real outline.

Notes:

1. When you first launch AutoStitch, outline view is on by default.

topic-189-190

topic-189-191

topic-189-192

topic-193

\$ exit

^k Exit

topic-194

\$ outline view

^k Outline View

2. You can switch among Outline View, Block view, and Stitch view, but only one of the three views can be activated at a particular time.

3. You can switch among the three views before doing any operations.

#Sk

Block View

Block View is used to enable or disable the view of blocks which are inside the generated column fill area of the object in the Object View window, usually for one color geometry entity with large border to area ratio.

Select **Block View**  from the View menu or click on the Block View button  in the toolbar. If it has been selected, the object will be displayed in the form of a real outline with blocks inside the column area.

Notes:

1. When you first launch the AutoStitch, Outline View is the default status. Even if you select Block View, the object will continue to show the real outline until you generate and select it again.

2. Only geometry entity (area) for column stitch generation will show blocks.

3. You can switch among Outline View, Block view, and Stitch view, but only one of the three views can exist at one time.

4. You can switch among these three views before doing any operations.

5. Column and complex fill are different stitch types, the block view status will display to you which area would be filled by column and which area would be filled by complex fill. If some area of the object is cut into several blocks with a red line, it means that this area will be filled by column and at the same time without underlay. Those areas that have not been cut into blocks by red line, will be filled by complex.

To embroider according to the outline, if you use column, the direction of the stitch will surely change. Cutting it into blocks, the stitches with the same direction will be grouped into one block. Therefore, the directions of stitches of the adjacent blocks are different.

#Sk

Stitches View

Stitches View is used to enable or disable to view the object's stitches as thin lines in the Object View window.

Select **Stitches View**  from the View menu or click on the Stitches View button  in the toolbar. If it has been selected after generating, the object will be displayed in the form of stitches, otherwise the object will be displayed in the form of a dotted outline.

Notes:

1. When you first launch AutoStitch, Outline View is the default status. If you select Stitches View without generating, the program will show you the dotted outline without any stitches inside. But if you select generate first, then the Stitches View will be used after generating automatically, and this view will last until switched to one of the other two view types.

2. You can switch among Outline View, Block view, and Stitches view, but only one of the three views can exist at one time.

3. You can switch among these three views before doing any operations.

topic-195

\$ block view

^k Block View

topic-196

\$ stitches view

^k Stitches View

4. The stitch type filling the object depends on whether the object is cut into blocks or not. (You can select the Block View to view the blocking condition.) This is the best embroidering effect that AutoStitch can provide you. Of course, this may not be the final effect, and you can modify it according to your requirements to get the desired effect.

#\$k

Generate

Can generate the stitches of newly-inserted objects or update the stitches of those modified objects. (For instance, you can enlarge or reduce the object, or alter the outline of the object manually by dragging the mouse, and then select Generate to update the stitches.)

1. Select Generate  from the Accessories menu or click on the Generate button  in the toolbar.
2. Now you will see the stitches inside of the object which you have selected and the Stitch View button is checked automatically.

Tip:

After modifying objects, you should use Generate. For example, if you reduce or enlarge the object manually, the stitches will appear to be too dense or too thinly scattered you need to regenerate the design.

Notes:

1. If some units are selected (only by holding down the Ctrl key and right-clicking or dragging a frame without releasing the right button and at this time it is not necessary for you to use Ungroup first) and you click Generate, AutoStitch will only generate or update the stitches of those units and leave others unchanged.

If no units are selected (even if you used Ungroup first and then select some units by holding down the Ctrl key and left-clicking or dragging a frame without releasing the left button) and you click Generate, AutoStitch will generate or update the stitches of all the units which you have not deleted before.

2. If you insert or move or delete individual stitches in the Stitch View window, Generate will again do nothing to these changes.

#\$k

Auto-Arrange Embroidery Order

Will provide the user with the optimum embroidery order. The optimum order is defined as the least number of times for color change trims and finding out the nearest In/Out point of two adjacent areas automatically, so as to save time and reduce costs.

1. Generate the object in the Object View window.
2. Select Auto-Arrange Embroidery Order  from the Accessories menu.

Notes:

1. This function works only after using the Generate function.

topic-197

s generate

k Generate

topic-198

s auto-arrange embroidery order

k Auto-Arrange Embroidery Order

2. Changing color or changing the entity sew sequence or floating an area or merging areas and other modifying operations may enhance the trims and the times of changing color and the distance between the input and output points. So Auto-Arrange Embroidery Order button will optimize these conditions.

3. If you do not want the order of the units arranged automatically by AutoStitch, just click on Undo button and arrange the units manually.

#5k

Edit Outline

If you want to edit the outline of the object, you can:

1. Check the Outline View button, and then select Edit Outline Mode  from the Outline Menu or click Edit Mode  in the toolbar. Now the Outline View and the Edit Mode button are both checked, which means you can edit the outline now.
2. Right-click to activate one or two units (units here means area or line) in the Object View window. Now many editing points will appear on the outline of these activated areas/lines, and the user can use these points to edit the outline step by step.
3. Position your cursor in any point of the outline of the selected unit and right-click an editing point of the spline, the tangent of this point and the outline which it lies on will appear, and a green arrow implies the direction of the tangent. In additional, the other two editing points which lie in the right and left side of the current activated spline will also display the tangents and their direction.
4. In the pop-up right-clicking shortcut menu, choose Delete Point, and then the editing points of the activated spline will be deleted. When there are many editing points in an area and some of them are unnecessary, the user can use this way to delete those unnecessary ones. This will not affect the final effect and it helpful for the following operations. Nonetheless, an area must have at least three editing points for the spline.
5. In the pop-up right-clicking shortcut menu, choose Smooth, and then the outline formed by the three editing points will become a smooth outline.
6. After editing, you can click Generate to view the effect you have created. AutoStitch changes to Stitch View and sets Edit Mode unchecked automatically.

Tip:

When point the cursor to the green arrow which implies the direction of a tangent, a shape-changing mark will appear under the lower left corner of the cursor. Now you can move the cursor to change the shape of the outlines formed by those editing points of the activated spline. If the outline that you are modifying intersected with other outlines, the warning message "Self-cross outline!" will appear on the screen.

Notes:

1. If Edit Mode and Outline View are both checked, left-clicking will no longer work to select an object.
2. While running Edit Mode, you can select two units at most. If two units have been selected, you can edit the shared border of them.
3. If you do not want to select any units, right-click the blank space. If you want to select a new unit, right-click it.

[#] topic-199

^s edit outline

^k Edit Outline

4. Do not make the curves intersect with the same activated entity, otherwise AutoStitch will give you a warning message.

#

Five points

The two red points indicate the part that could be changed on the boundary.

The middle green point of the three is the move point, and you can drag it to change the shape of the boundary.

The other two green points stand for the directions of the curve in that point. You can drag those points to change the direction of the curve.

#Sk

Create

AutoStitch provides the user with many ways to create lines, line-like areas, or an area's border.

- Create Line from Area(s)'s Border(s)
- Create Lines from Area(s)
- Create Line-like Area(s) from Line(s)
- Create Area's Border from Lines

Note:

1. If you select an area, the sub-menu: Line from Area(s)'s Border(s) and Lines from Area(s) under the Create menu are available to you. If you select a line, the sub-menu: Linelike Area(s) from Line(s) and Area's Border from Lines under the Create menu are available to you.

2. The similarities and differences of Convert and Create function.

#Sk

Create Lines from Area(s)

Creates one or several center lines according to the state of the selected unit.

1. Right-click an area or hold down the Ctrl key and right-click the areas. Release the Ctrl key when you finish selecting. You will see all the areas that you have selected filled with a gray color.
2. Click the Outline menu and then select the Lines from Area(s) sub-menu from the Create menu, you will see some center lines (according to the shape of the areas you have selected) inside every selected area.

Note:

The program can run one or several areas at the same time.

#Sk

Create Line from Area(s)'s Border(s)

Can create the outside border or all borders of the selected area.

```
# topic-199-200
# topic-201
$ create
k Create
# topic-201-202
$ create lines from area(s)
k Create Lines from Area(s)
# topic-201-203
$ create line from area(s)'s border(s)
k Create Lines from Area(s)'s Border(s)
```



Step by step Instructions

#

Step 1: Access the Convert area to outline dialog box



1. Right-click an area or hold down the Ctrl key and right click the areas, and release the Ctrl key when you finish selecting.
Select the whole object by right-clicking and dragging the mouse without releasing the right button. If you only want to cancel one unit, hold down the Ctrl key and right click it. You will see all the selected units filled with a gray color.

2. Click the Outline menu and then select the Line from Area(s)'s Border(s) sub-menu from the Create menu.

#

Step 2: choosing the desired state

AutoStitch provides the user with two options.

- Outside border
- All borders

Left-click either of these two options which are under Apply.

#

Outside border

Creates a new closed border according to the original outline of every selected area.

#

All borders

Creates a new outside closed border according to the original outline of every selected area. In addition, if the selected area is dug out inside, an inside closed border will be created according to the inside outline.

#

Step 3: Setting the value of the Outline Offset

1. Input the desired value into the frame.
2. Click OK. The outside border or all the borders of those selected areas will now be displayed in the Object View window.

Tip:

Under the default state, the measure is mm and the offset value is 1. Offset refers to the vertical distance from every point of the border to the original outline of the selected area.

Note:

Under the default state all the inside and outside closed borders are independent and they become new units. In other words, border(s) created under the default state and the originally selected units or objects are not grouped. This means that you can select unit(s) or border(s) individually, therefore Generate at this time only affects all the borders of the selected units instead of the units themselves.

#Sk

-
- # topic-203-204
 - # topic-203-205
 - # topic-205-206
 - # topic-205-207
 - # topic-203-208
 - # topic-209
 - \$ merge areas

Merge Areas

Merge Area enables you to merge two adjacent colored entities (areas) into one area and the outline of the overlapped edges will disappear.

1. Left-click and then hold down the left button to drag an area and make it overlap with another area.
2. Right-click and then hold down the right button to drag a frame to enclose the two areas. Now you will see them overlapped together and the outline of them will be saved and visible, but the outline of the overlapping part will disappear.
3. Click the Outline View and then select the Areas  sub-menu from Merge or click Merge Areas  in the toolbar. Then you will see these two areas merged together and the outline in which the two areas overlap each other will disappear. Thus, the original two areas will merge into one area.

Notes:

1. When you have not select any areas or the number of the selected areas are not two, the Areas sub-menu under Merge will become dimmed and can not be used. In addition, you can only use the right button to select area(s). (If you use the left button to do it, the sub-menu will also become dimmed.)
2. The areas which participate in merging must be two. Merge will not work if the areas are more than or less than two. To merge several areas, you must merge them by two step by step. For instance, select area 1 and area 2, and then merge them into a new area. After that, select area 3 and the one you have just created by merging and then merge them into another one. In this way, all the areas can be merged together.

#5k

Edit Block

If you want to edit the blocks of an area, you can:

1. Generate those units which you want to edit blocks if they are not generated.
2. Click on the Block View button and then click the Edit Mode button  (or select the Edit Block Mode  from the Block menu), and now both buttons are checked.
3. Right-click to select one or several generated area(s). You will see them filled with gray color and red lines. These red lines are called dividing lines.
4. Left-click on one of the dividing lines of the area you want to edit. You will see two green edge points of that dividing line highlighted. You can drag either one green point to move the position of this dividing line or use the Del key to delete this dividing line. In addition, you can also add dividing lines manually. All these operations aim to change the original shape of the blocks.
5. After editing, you can click Generate to view the effect of your operations and then you will find AutoStitch changed to Stitch View and set Edit Mode unchecked automatically.

Warning:

AutoStitch Provides the user with many ways to edit blocks, but the following operations are invalid and not allowed.

- Move Dividing Line warning

^k Merge Areas

[#] topic-210

^s edit block

^k Edit Block

- Delete Dividing Line warning
- Add Dividing Line warning

Notes:

1. You can edit only one dividing line in one area.
2. If Edit Mode and Block View are both checked, left click will no longer be used to select object(s) until you cancel Edit mode.
3. It will be fulfilled only after generating.

#

Drag

If you want to select an object by dragging a rectangular frame, you must enclose the object with this frame, otherwise the object will not be selected.

#Sk

Add a Dividing Line

After generating objects, the user will see the blocks which AutoStitch provides in the Block View. Generally speaking, it is only a recommendation. Of course, you can use Edit Block to move, add or delete the dividing lines of the object manually. The function of Add a Dividing Line is to allow users to draw a new dividing line in a block so as to change the shape of the original block as well as the direction of the local stitches.

1. Under Edit Block state, right-click one generated unit.
2. Select Add a Dividing Line  from the Block menu or click Add a Dividing Line  in the toolbar.
3. Left-click to define the starting point of the line which you are drawing, drag the mouse until the line intersects with two borders of a block and then left-click to define the ending point. At this moment you will find two green points appeared in the points of intersection, and the regional line will be reduced into a line segment between the two points. The line segment is the new dividing line that you drew, and it will cut the original block into two new blocks.

Tip:

You can delete the newly-created dividing line so as to recover the original state, or move the newly-created dividing line so as to change the shape of the two new blocks.

Note:

You can only right-click to select one unit at a time and do the operation of adding a dividing line, otherwise the Add a Dividing Line menu will become dimmed.

Warning:

In the following cases, you cannot add a dividing line:

If the dividing line you are adding intersects with another existing dividing line, the warning message "Failed to add dividing line" will appear on the screen, which means the operation is invalid. In other words, while adding a dividing line, the two edge points of the adding dividing line must lie within the same block. Usually the line you draw often creates one dividing line but sometimes it is possible that two or more dividing lines are created while drawing a line. Remember every pair of edge points must stay in the same block at the same time.

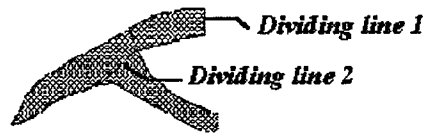
topic-211

topic-212

^s add a dividing line

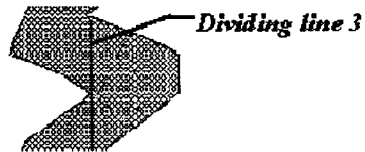
^k Add a Dividing Line

(1) Dividing line 1, which lies in the boundary of an area, can not be deleted.



(2) Dividing line 2, which lies in the common boundary of areas, can not be deleted.

(3) Dividing line 3, shared by three blocks (i.e. three dividing lines look like one dividing line in special cases), can not be deleted. (dividing line 3 is shared from the three red broken lines)



AutoStitch provides the user with many options of the range, type, and some settings of the global underlay. This underlay is applied once to the whole embroidery area.



Step by step Instructions

Notes:

1. It creates a new border of underlay in the selected areas, and neglects the underlay of some small areas, for example, long and narrow areas.
2. If you underlay one or several units or even the whole unit, the color of the underlay is determined by the first color in the color order list that shows in the status bar and has nothing to do with the order of generating.
3. Underlay can be created only when you select stitch area.
4. You should select Generate after creating a global underlay area to generate global underlay stitches.

#

Step 1: Access Global Underlay dialog box

1. Select the whole object or entities of the object that you want to modify its underlay.
2. Select Create Global Underlay Area from the Accessories menu.

Notes:

Step 2: Choosing the range



AutoStitch provides the user with two options of the applied range, and enables you to choose the desired underlay area.

Click to select or deselect "All Area" or "Selected Area". Only one of the two options is highlighted at a time.

Notes:

1. When right-click to select several units or the whole object, "Selected Area" is the default. And when left-click to select the whole object or nothing, "All Area" is the default.

2. As long as you have selected All Area, it will automatically shift to underlay the largest area among all the generated areas and cancel your previously selected units no matter how many units you have selected at the beginning.

#

Step 3: Choosing types



AutoStitch provides the user with many types to edit the underlay.

Left-click to select or deselect Tatami Underlay or Grid Underlay, and only one option of the two is highlighted at one time.

#

Step 4: Underlay setting



AutoStitch provides the user with two underlay settings.

Double-click to select Margin or Spacing in the box and input the desired value. You can change the value of Margin and Spacing individually.

Margin offers the distance from the underlay to the border of the underlay. The bigger the value is, the wider the distance. (It is the same in Tatami and Grid.) And Spacing offers the distance from the first run to the next one. Similarly, the bigger the value is, the wider the distance. As for Tatami, the distance is that of two runs; as for Grid, the distance includes not only the horizontal but also the vertical one.

#

Step 5: Check/Uncheck Disable underlay of all areas



If this option is checked, the global underlay area will be created and the original underlay of the units will be disappeared after generating all the stitches. If this option is unchecked, the global underlay area will be created and the original underlay of the units will not be disappeared.

Note:

If this option is checked and you want the original underlay disappear, you must select all the units to generate.

#

Step 6: Creating relevant underlay



If you want to edit stitches, you can:

1. Generate the object if you have not.
2. Select Display Stitch Position  from the View menu or click Display Stitch Position  in the toolbar to view each needle point for the sake of convenience.
3. Select Edit Stitches Mode  from the Stitch menu or click Edit Mode  in the toolbar. Then you can use Zoom In or Pan to view the region of the stitches which you want to edit more clearly. Now the Stitch View and Edit Mode buttons are both checked, which means that you can edit stitches now.
4. Point the cursor to the needle point where you want to move or add/delete stitches close to it. Click it, and a red cross sign appears. The core of it is the point of stitches that you just click.

- Move Stitches
- Delete Stitches
- Insert Stitches

Note:

[#] topic-224

^s edit stitches

^k Edit Stitches

Once using Edit Mode, the picture in the Picture View window will disappear.

#Sk

Move Stitches

Left-click the red cross sign (the cursor becomes a cursor with a move sign) and move the cursor to every place you want without releasing the left button to reposition the point or to shorten/lengthen the two stitches which include this needle point. Release the left button after reposition.

Tips:

1. You can use the Up/Down key to move the red cross sign so as to know the direction of the running stitches in a certain region.
2. You can use the Ctrl + Home/End key to move the red cross sign to the head or tail of stitches of the whole design, use the Home/End key to move the red cross sign to the head or tail of the stitches of the current unit, and use the Page Up/Page Down key to move the red cross sign 100 stitches up or down.
3. Use Pan or Zoom to help you position the point and view the stitches more clearly.

#Sk

Delete Stitches

To delete stitches, it often starts from the needle point which the red cross sign located and deletes the stitches following this needle point. So before deleting, you should click the needle point of the stitches (it should be the relevant starting needle point of the next following needle points) which you want to delete one or several stitches following it. Press Del key. Beware, press Del key one time only delete two stitches in which the point is located, and the two needle points which are before and after this point will be connected automatically so that all the stitches remain continuous. Click the blank space or stitches without needle point on it to cancel the red cross sign. Click another needle point to reselect the edit point.

Tips:

1. You can use the Up/Down key to move the red cross sign, so that to know the direction of the running stitches in a certain region.
2. You can use the Ctrl + Home/End key to move the red cross sign to the head or tail of stitches of the whole design, use the Home/End key to move the red cross sign to the head or tail of the stitches of the current unit, and use the Page Up/Page Down key to move the red cross sign 100 stitches up or down.
3. Use Pan or Zoom to help you position the point and view the stitches more clearly.

Note:

If you click a needle point, what is deleted is the stitches after this needle point according to the stitch sequence.

#Sk

Insert Stitches

topic-224-225
 \$ move stitches
 k Move Stitches
 # topic-224-226
 \$ delete stitches
 k Delete Stitches
 # topic-224-227
 \$ insert stitches
 k Insert Stitches

You can select the Insert Stitches from the Stitch menu to add one or several stitches.

Insert some irregular stitches

1. Click the needle point which you want to insert one or several stitches around it.
2. Select Insert Stitches  from the Stitch menu. Once you move the cursor it becomes a cursor with a black stitch which comes from the two points (the point you clicked and the previous one). You can move the cursor along this stitch to alter the length, direction or width of the newly created stitches. Without any clicking at this time, you will find the screen moved with the movement of the cursor. If you do not want to finish inserting, left-click and then move the cursor again and again to create the needle points which are between these two points we just mentioned. You will find the inserting stitch before left-clicking is black and the inserting stitch will become the same color with the area in which you are inserting.
3. Right click to finish inserting, the point which you have right-clicked will be connected with the next point, so the region will be filled with consecutive stitches.
4. After inserting, you can use Generate and Play Stitches to view the effect of your operation.

Tips:

1. You can use the Up/Down key to move the red cross sign so as to know the direction of the running stitches in a certain region.
2. You can use the Ctrl + Home/End key to move the red cross sign to the head or tail of stitches of the whole design, use the Home/End key to move the red cross sign to the head or tail of the stitches of the current unit, and use the Page Up/Page Down key to move the red cross sign 100 stitches up or down.
3. Use Pan and Zoom to help you position the point and view the stitches more clearly.

Notes:

1. To insert some regular stitches, you should click the point which will be the next point after inserting. (That is to say the stitches you insert are before the current red cross sign)
2. During inserting, to press Esc key can cancel this process and recover to the normal state.

#Sk

Film

In AutoStitch, we provide the user with Film , which is very convenient for the user to change the sequence or color, etc. of embroidery. You can edit each area of the present design in the Film window, the way of operation and the final effect are the same with that of the Object View window.

The Film window offers you a series of buttons. On the left side of every "film" there are Visible /Invisible  and Lock /Unlock  two kinds of button. The default state is  and . You can get the contrary state of the two buttons by left-clicking. Except the first "film" every "film" has four buttons: Needle up , Change Color , Trim  and Stop Machine .

When we feel that it is necessary to use Needle up, Trim, Stop Machine and find that an area and the following area have different color, the default states, also called suggestive state, will appear. In other words, if the operation is necessary the relevant button becomes highlighted, otherwise these buttons are dimmed. Of course, you can alter the default state by left-clicking each button.

Select the Film from the View menu.

- Visible /Invisible 
- Lock /Unlock 
- Needle up 
- Change Color 
- Trim 
- Stop Machine 

Tips:

1. You can also change the stitch sequence of units.
First, left-click to select an unit, suppose it is No.15, which you want to change sequence, and then left-click to select your desired position and drag No. 15 there without releasing the left button, suppose it is No.5. At this moment, you will find the "films" in the Film window will move upward and downward correspondingly. Then you will find the serial number on the left corner of this unit's "film" has been changed from the original No.15 to the current No.5 and the original No.5 becomes No.6. The rest will rearranged accordingly and automatically. (The serial number indicates the stitch sequence while embroidering.) And the embroidery machine will generate stitches according to the new sequence.
In this way, you can change stitch sequence, reduce the times of trimming lines and changing color.
2. You can hold down the Ctrl key and left-click several inconsecutive units to change the sequence constantly, and finally make these units become a batch of consecutive units in their new positions.
3. You can hold down the Shift key and left-click several consecutive units to change the sequence.
4. Left-click any unit in Film window, and a menu will appear on the screen. To click Move to Top can move an appointed unit from its present position to that of the first area in the whole Film window. To click Move to Bottom can move an appointed unit from its present position to that of the last area in the whole Film window. Click properties and to check visible/lock and commands in the pop-up properties dialog box is equal to check the relevant buttons of the present unit.

Notes:

1. Only after generating can units be displayed in the Film window.
2. to left-click a unit's "film" is equal to right-click the unit in the Object View window. Whichever way you choose, the unit will be displayed prominently and *In & Out points* will be marked.
Want to reselect a new unit in Film, left-click that unit. Want to deselect all the units in Film, right-click the blank space in the Object View window.
3. The series of changes in the Film window except Stop machine will affect the display in the Object View window.
4. The linking line will be displayed with dotted line if there is no trim but needle up between two adjacent units.
The linking line will be displayed with real line if there is no trim and needle up at the same time.
However, the linking line will be displayed as long as there is no trim.

Visible /Invisible

When the stitches that you want to modify are in the overlapping area and perhaps every area has different colors, you can make the irrelevant areas invisible. In Film window, left-clicking  buttons of some unit's "film", and it will become . Thus, the relevant unit will become invisible in the Object View window. (but it will still be reserved in the relevant film) In this way, you can clearly view the area, which you want to modify stitches. After finishing modifying stitches, left-click  of those invisible units to make it become . Thus, those units will again appear in the Object View window.

Needle up

Left-click a Needle up button  of an unit in Film in which you feel necessary to use needle up. When it becomes highlighted , it shows that another needle up command is added before embroidering an area. In the process of embroidery, the thread between this area and previous one is lifted up. Although it is not trimmed, you can trim it manually. When this button becomes dimmed, it shows that the command is canceled. Thus the thread between the two adjacent units is embroidered stitch by stitch instead of being lifted up (Jump Stitch), and you can not trim it manually. (The thread between the two adjacent units refers to the thread from the out point of the previous unit and the in point of the next one.)

Change Color

The default state of Change Color in the Film: if the color of an unit is different from that of the previous one, the Change Color button of it will become highlighted  automatically. If the color of an unit is different from that of the following *batch of units* (these units are all consecutive) the Change Color button of the first unit among them will become highlighted  automatically. It shows that one Change color command is here. Now if you left-click Change Color button, it will becomes dimmed . This shows that the change color command is canceled, and meanwhile the color of the following one or a batch of units will be the same. Now if you left-click Change Color button of some unit, you can modify its color in the pop-up Color window. Left-click "Cancel" to exit this window and cancel the operation as well. Left-click "OK" to exit the window.

Note:

To add or delete the number of colors in Film will directly affect the color list in the status bar. And the color changing in Film will also directly affect the Object View window.

#

A batch of units

Here the so-called a batch of units refer to several consecutive ones under some unit. If they have the same color, they will become a batch of units and the Change Color button on their own "film" will be dimmed expect the first "film". This shows there is no change color command and they have the same color with the one ahead of it.

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Trim

Left-click a Trim button  of an unit in Film in which you feel necessary to use trim. Becoming highlighted  shows that the thread will be trimmed automatically and disappear. Becoming dimmed  shows the trim command is canceled and the thread between two consecutive Film windows will not be trimmed.

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Stop Machine

Left-click Stop Machine button in the “film” of the unit that you want to stop the embroidery. Becoming highlighted shows that a Stop machine command is added and you can do some operations on the embroidering machine after embroidering this unit and before embroidering the next one. If want to cancel this command, you only need to left-click this button to make it dimmed.

Marking “In” & “Out”

The “In” & “OUT” points will be marked automatically if you right-click a unit or left-click a unit’s “film” in the Film window. In a unit, “In” indicate the In point, and “OUT” indicate the Out point. As for two adjacent units in Film the distance between the Out point of a unit and the In point of the following one is the shortest stitching distance. Of course, you can also change the “In” and “OUT” points manually. Point the cursor to the “In” or the “OUT” point, and then the original single-head arrow cursor will become four-heads arrow “move” mark. Left-click and hold down the left button, you will find the cursor becomes the original single-head arrow with “move” mark. Use the mouse to drag “In” or “OUT” or both of them to your desired position, and then release the left button. But your operation will be valid only after you generate it; otherwise the “In” & “OUT” points are changed seemingly and they remain in it’s original position virtually.

Display Stitch Position

Display Stitch will display all the stitches of the generated areas. This operation enables you to position the cursor accurately in the desired point on the basis that all the stitches are displayed. This is not only auto-visual but also convenient.

1. Click Stitch View in the toolbar.
2. Select Display Stitch Position  from the View menu or click the Display Stitch Position  in the toolbar.

Play Stitches

Offers a simulated display of all the generated objects' stitches step by step and from the beginning to the end in the order sequence show in film during mock-up embroidery.

1. Generate the object if you have not already done so.
2. Select Play Stitches  from the View menu or click Play Stitches  in the toolbar, you will find play stitches window appears with some familiar and new buttons compared to the previous window.

Notes:

1. Zoom, Pan, Ruler, and Draw Stitches, buttons in the new window will affect not only the display of the object(s) in this window, but also affect the display of the object in the original window, and vice versa.
2. Generally, Play Stitches displays the object(s) from the starting stitch. But if you are in Stitch Edit, and position the red cross cursor at some needle point, the stitches before the red cross cursor will appear automatically and initially in the Play Stitches window. If you click  now, the stitches behind

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s display stitch Position
k Display Stitch Position
topic-238
s play stitches
k Play Stitches

New buttons in Play Stitches window⁸⁵

 Clicking this button causes the needle point to travel one stitch towards the ending point.

 Clicking this button causes the needle point to travel one stitch towards the starting point.

Besides the above-mentioned two functions, it also combines the function of pause. If you hold down one of them, continuous display stitches going forward or going backward will be available to you until you release the button. When you hold down the button again, it will resume the state in which you stopped the last time.

 To exit the Play Stitches window and to go back to the original one. Equivalent to clicking  on the upper right corner of this window.

 To skip the whole process of display and to directly finish displaying all the stitches of the object(s) from the starting stitch to the ending stitch. At this moment,  is invalid.

 To skip the whole process of display and to directly finish displaying all the stitches of the object(s) from the ending stitch to the starting stitch, i.e. to return to the starting state. At this moment,  is invalid.

Quick forward  and Quick backward  are two special buttons and must be used with at least one of the following five buttons: 10 stitches , 100 stitches , 1000 stitches , next color  and next unit .

Click the 10 stitches button and then click the Quick forward button individually and you'll find the stitches displayed forward by 10 stitches at a time.

Click the 10 stitches button and then click the Quick backward button individually and you'll find the stitches displayed backward by 10 stitches at a time.

Click the Next color button and then click the Quick forward button individually and you'll find the whole design displayed forward according to color list. (If the adjacent two areas are the same in color, they'll be displayed at the same time, if not they'll be displayed one after another according to color list.)

Click the Next unit button and then click the Quick forward button individually and you'll find the whole design displayed forward by units.

If you hold down  or  it will not work, click it singly.

Cut / Split Area(s)

AutoStitch provides the user with many ways to cut/split the existing area(s). The user can cut the selected area(s) into two or more areas or alter the shape of the selected areas according to requirements.

- Cut an Area's Border
- Split Area(s) by a Line
- Cut Area(s) by an Area

Note:

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^s cut/split area(s)

^k cut / Split Area(s)

You must right-click to select the area, but left-click to carry out the operation.

Cut an Area's Border

The user can use this function and the self-defined line to cut an area's border, and part of the line will become a part of the new border of the area.

1. Right-click or drag the right button to select one area.
2. Click the Outline menu, and then select Cut an Area's Border from the Cut/Split Area(s) sub-menu. Now you will find the cursor becomes a needle with scissors.
3. Left-click to define the starting point of this line, and then drag the mouse to position, lengthen, or shorten the line. Again, left-click so as to make this line cut the area into two or more areas. Now you will find some blank space which does not belong to this area originally patched to the area, and part of the border which previously belonged to this area disappears and part of the line you drew becomes the new border of the area.

Notes:

1. If you want to cut an area's border, only one area can participate in the operation at one time. While cutting, you must right-click to select it and left-click to define it. In the process of this operation, right-clicking will cancel the operation.
2. At least two points in the split line must intersect with the outside border of the selected area. In other words, the patched blank area is one outside the selected area.
3. Press the Esc key to cancel this operation.
4. A split line usually can cut the border into consecutive parts of the outside border, but it also can cut the border into several non-consecutive parts of the outside border at the same time.

#

Split Area(s) by a Line

Split Area(s) by a Line enables the user to use the self-defined split line to split one or several areas into two or more areas.

1. Right-click or drag the right button to select one or several areas.
2. Click the Outline menu, and then select Split Area(s) by a Line  from the Cut/Split Area(s) sub-menu. Now you will find the cursor becomes a needle with scissors.
3. Left-click to define the starting point of the split line, and then drag the mouse to position, lengthen, or shorten, the split line, and left-click again to define its ending point. This line will split the area(s) into several parts.
4. Click one part of them, you will find the area split into two or more parts according to the split line, and these parts are independent.

Tips:

1. You can perform this operation on several areas of an object at the same time, and you can also do it on additional areas from different objects.

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2. Left-click to select an object, you can use this function to split the whole object into two. However, the split line must run across the whole object.
Right-click to select an area, you can use this function to split the area into two. However, the split line must run across the this area.
3. You can left / right-click to select every part of the split area.

Notes:

1. When using this function, you must right-click to select one or more areas, and left-click to define the split line.
2. Press the Esc key to cancel this operation.
3. At least two points in the split line must intersect with the selected area.
4. A split line can be used to split several selected areas at the same time.

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Cut Area(s) by an Area

Cut Area(s) by an area enables the user to use an area to split one or more areas into two or more areas.

1. Right-click or drag the right button to select one or several areas.
2. Click the Outline menu, and then select Cut Area(s) by an Area from the Cut/Split Area(s) sub-menu. Now you will find the cursor becomes a hand. Only when it points to those unselected areas, the outline of those areas will be highlighted in red. This indicates that only these areas can be used to cut the selected areas.
3. Left-click an area whose outline is highlighted in red, the cursor will become an arrow with a moving sign, and the area that you have just selected will move with it.
4. Move this area to the originally-selected area(s) and make them overlap each another. Left-click to define the position. Now you will find the selected area(s) is split by the moved area.
5. Click one of the areas, you will find the selected area(s) split into two or more parts according to the shape of itself and the moved area. These parts are independent.

Tips:

1. You can perform this operation on several areas of an object at the same time. You can also do it to areas from different objects.
2. You can left/right-click to select every part of the split area.

Notes:

1. When using this function, you must right-click to select one or more areas, and left-click to define the area that you are going to use to split these selected area(s). In the process of this operation, right-clicking will cancel the operation.
2. Press the Esc key to cancel this operation.
3. An area that you use to split can split several selected areas at the same time.

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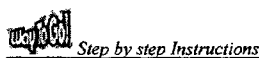
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^{\$} interface preference

^k Interface Preference

If you wish to modify the current interface, select Interface Preference  from the View menu or click Preference  in the toolbar.



Note:

All the settings in the Preference dialog box will function as long as you click OK. Even if you exit AutoStitch and then enter it again, all the settings will remain unchanged unless you input new settings.

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Step 1: Choose Tool Bar

Under the Toolbar, AutoStitch provides you with five checkboxes to check or uncheck five kinds of toolbars.

- Checking the Standard A checkbox makes the Main toolbar visible on its default location (the top of the Picture and Object View window), otherwise it will be invisible.
- Checking the Standard B checkbox makes the View toolbar visible on its default location (the right side of the Object View window), otherwise it will be invisible.
- Checking the Object checkbox makes the Object toolbar visible on its default location (the bottom of the Picture and Object View window), otherwise it will be invisible.
- Checking the Edit checkbox makes the Edit toolbar visible on its default location (the bottom of the Picture and Object View window), otherwise it will be invisible.
- Checking the Other checkbox makes the Other toolbar visible on its default location (the bottom of the Picture and Object View window), otherwise it will be invisible.

Tips:

1. To change the position of the toolbar, double-click the blank space in the toolbar, so that the toolbar becomes an independent window. Left-click the blue title bar, hold down the left button and release it until you drag the dotted window frame to a proper position. In addition, the shape and size of the toolbar window can be changed in order to fit special requirement. Move the cursor to the border of the window, the cursor will become a double-direction arrow. According to your desired, drag it toward one of the two direction.
2. Double-click any toolbar window in the suspended AutoStitch window to make resume its original position.
3. To move toolbar window, you can also double-click the blank space of the toolbar and then right-click the blue title bar. Select Move, a dotted frame of the window will appear. Use the direction keys: Up, Down, Left and Right to move it and press Enter key to make sure.
4. To make the toolbar invisible, double-click the blank space of the toolbar and then click the close button on the upper-right corner or right-click the blue title bar in the present toolbar window and select Property. To select Property is equal to uncheck the toolbar checkbox in the Interface Preference

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Step 2: Choose Linear Measure

Step 3: Choose Background Color

If you are not satisfied with the background color in the window or the background color prevents you from viewing the stitches clearly, for example white, click Color under the Background option and select your desired color to be the new background color.

Note:

The new background color works for all windows in AutoStitch at the same time. For example, if you choose gray to be the new background color, the default background color of the window, the white color, will become gray.

#

Step 4: Choose Auto-Save Design

Step 1: Access the Import dialog box

To access the Import dialog box:

- You can click Import ... from the File menu.

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Step 2: Select the file's folder

Using the following controls to select a folder :

- Look In box
- Up One Level button
- Contents List box

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Step 3: Select the File Type

Select the file type from the File Of Type.

1. Click on the drop down box. AutoStitch will open it.

2. Click on your desired file type. If the file type is not visible, use the scrollbar to move through the list.

#

Step 4: Select the file

Click on your desired file in the Contents List box. If the file list is too long to fit in the box, use the scrollbar to move through it.

#

Step 5: Select the Import button

To import the design file or stitch file, click on the Import button.

#

Step 1: Access the Export dialog box



To access the Export dialog box:

- You can click Export ... from the File menu.

Step 2: Select or Create the file's folder



Selecting a folder

Using the following controls select a folder:

- Save In box
- Up One Level button
- Contents List box

Creating a folder

1. Select the folder that will contain the new folder. See the section above.
2. Click on the Create New Folder button.

Step 3: Select the File Type



Select the file type from the File Of Type box.

1. Click on the drop down box to open it.
2. Click on your desired file type. If the file type is not visible, use the scrollbar to move through the list.

Step 4: Enter the Filename



Enter a name for the new file in the File Name Text box. Don't worry about the file extension, AutoStitch will add it automatically.

1. Double-click in the text box.
2. Type the filename.

Step 5: Choose Machine Settings



Step 6: Select the Save button

Click on the Save button. One of two possibilities will happen:

- AutoStitch will save the design and close the Export dialog box.
- You will be asked if you want to replace an existing file.
 - Click on the Yes button to replace it.
 - Click on the No button to leave the file intact and return to the Export dialog box.

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Select Notes  from the View menu or click Notes  in the toolbar. The Notes editor will appear. Add whatever notes you feel appropriate, then choose one of the following options:

- OK: will save your notes with the design file.
- CLEAR: will erase any existing notes associated with that file.

The following Clipboard functions work with the Windows Clipboard:

- CUT: allows you to highlight part of your notes and send it to the Clipboard
- COPY: allows you to highlight part of your notes and copy it to the Clipboard
- PASTE: allows you to copy notes from the Clipboard and duplicate it in a different design.

Note:

If some designs have used Notes, i.e. type some notes in Notepad about this design and save it, the notepad will be opened automatically and display the relevant information of the previous operation about the design while loading the design next time.

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Design Information

Design Information provides the user with the latest information about the design. After selecting Design Information  from the View menu or click Design Information  in the toolbar, the Design Information dialog box will pop up and display some basic information about the design. There are some settings that the user cannot change; but others can be modified or chosen freely by the user. In addition, AutoStitch provides the user with some buttons that will display the detailed information as long as you click them.

In this dialog box:

- If you have saved the current design, the name of the design will be recorded in Design Name and the date that you last saved it will be registered in Last Saving; otherwise the design is Untitled and Unsaved.
- In the Output Stitch drop down box, the user can choose the stitch types of the output stitches.
- In Design Repeat, you can click the two small buttons indicating more or less behind the input box, or double-click the input box and type your desired value, to define the number of times that you want to repeat the design. Usually the default is 1.
- In Author Name, the user can double-click the input box and type the user's name.
- Under Machine Set drop down box, the user can choose the type of machine that you want to use.
- Buttons:



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Machine Set

The type of machine that you have chosen is the name following Machine Setting File in the pop-up Machine Setting / Editing dialog box.

- The values offered in Steplength, Minutespeed, Delaytime, are the default settings of the specified machine. Generally speaking, different machines has different default settings. You can use the default settings or you can modify them. To do so, double-click the relevant input box and type your desired value.
- In Macro Command, there is also a checkbox beside the input box. If it is checked, the input box will be dimmed, and the machine will embroider according to the natural macro command of the machine. If it is not checked, the input box will become highlighted, and you can type a macro command by yourself. As a result, the machine will embroider according to your input value instead of the macro command of the machine.
- The Original Point option is used to define the original point at the beginning of embroidery.

Tip:

The commands that you can type:

Return (R): return to the original point
 Stop (S)
 Jump (J)
 Trim (T)
 Needle UP (N)

Notes:

1. If the checkbox is not checked and you have not typed the defined macro command either, the command will be regarded as empty while embroidering.
2. If you want to modify parameters of the original machine, click Save As when you finish modifying and then click OK in the pop-up dialog box directly. You should not type or modify the name of the original Machine Setting File. If you want to add a machine type, click Save As when you finish typing the defined parameters. In the pop-up dialog box, type the name of the machine in the input box following the Machine Setting File, and then click OK. Generally speaking, this name is different from that in the Machine Setting drop down box; otherwise it will cover the file of the original machine setting.

#

Color Info.

The pop-up Color Information window will display:

- the number of colors that the design is using.
- the length (M) that the bobbin thread requires.
- the length (M) of the thread of every color.
- the sequence of changing color of the current design, i.e. the serial number of the color list.

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Stitch Info.

The pop-up Stitch Information window will display information about the current design such as Stitch Number, Jump Times, Stop Times, Frames, Needle Up Times, Trim Times, and Change Color times.

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Working Times

The pop-up *Working Time window* will display such information about the current design as the time it needs and the percentage of embroidery efficiency.

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Stitch List

The pop-up *Stitch List window* will display such information about the current design as Design Name, Author, Create Date, Format, Total Stitch Number. In addition, it will list the positions (X,Y) of each stitch throughout the design, including the new positions that are defined after using some command, for instance, Jump.

Click Save and type the filename. You can save the Stitch List of the design as a TXT file.

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Split Editor

AutoStitch provides the user with several Editors. *Split Editor* is one of them. The user can edit splits freely in Split Editor so that they can be employed in complex-fill areas of the design.

1. Select Split Editor from the Tools menu.

2. In the Split Edit window, you can choose the offered split pattern in the right list box to modify and also you can create another split pattern by yourself.

- modify an existing split pattern:

(1) Left-click the name of the split pattern in the list box, and the left window will display the pattern. You can click Line Editor-Straight or Line Editor-Arc to modify the current pattern, and click Undo to cancel the above-mentioned operations.

(2) In the left window, left-click to modify the displayed pattern and right-click to finish it.

(3) If you want to save the split pattern with its original name, click OK and then click YES. If you want to save with another name, click the Save button, and type the new name in the pop-up Save As dialog box.

- create a new split pattern:

(1) Click Line Editor-Straight button or Line Editor-Arc button to create the new split pattern and click Undo to cancel the above-mentioned operations.

(2) Left-click step-by-step to create the split pattern in the left window and right-click to finish it.

(3) Click the Save button, and type the new name in the pop-up Save As dialog box.

You can merge several exiting split patterns together so as to create a new split pattern.

(1) Check the Merge in the current edit checkbox.

(2) Left-click step-by-step the existing split pattern in the list box, you will find that all the split patterns merged together into a new split pattern.

(3) Click the Save button, type the new name in the pop-up Save As dialog box.

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§ split editor

* Split Editor

Tips:

1. You can delete the existing pattern directly in the Split Editor as long as you left-click to select the split pattern in the right list box and press the Del key.

2. The use of Split Pattern:

(1) Right-click to select an area and select Properties from the Outline/Block/Stitch menu or click the Properties button  on the right side of the Object View window. Or, you can press the Spacebar to get the Area Property dialog box after right-clicking the area.

(2) Click General mark, and then check the Enable Split checkbox under Option, now you will find another Split mark is added. Click it, and all the names of the split patterns listed in the Split Editor will displayed in the Split Pattern drop down box. Select one and click OK.

(3) Click the Generate button and click the Quick View button, you will find the selected area decorated with your selected split pattern.

If you are not satisfied with it, right-click to select the area and press the Spacebar. In the pop-up Area Property dialog box, uncheck the Enable Split checkbox, click OK, and then generate it. You will find that the split pattern disappears.

Note:

After clicking Line Editor-Straight and Line Editor-Arc, edit the split pattern by left-clicking and finish it by right-clicking.

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Pattern Editor

AutoStitch provides the user with several editors, and *Pattern Editor* is one of them. The user can edit simple patterns with it so that they can be employed in complex fill areas of future designs.

1. Select Pattern Editor  from the Accessories menu.

2. In the Pattern Editor window, you can modify both the existing pattern and the newly-created pattern.

- modify the existing pattern:

(1) Left-click the Pattern Name drop down box, and select the pattern's name that you want to modify

(2) In the Partition Line Sequence, drag the cursor according to requirements so as to adjust the positions of certain needle points and finally fulfill the subtle modifications of this pattern.

(3) If you want to save this pattern with its original name, click Save, type its original name in the pop-up Save As dialog box, and then click OK. If you want to save it in another name, click Save, type the new name in the pop-up Save As dialog box, and then click OK.

- Create a new pattern:

(1) In Partition Line Sequence, drag the cursor according to requirements so as to adjust the positions of certain needle points. In this way, the new pattern is created.

(2) Click Save, type the new name in the pop-up Save As dialog box and then click OK. Thus, a new pattern name will appear in the Pattern Name box.

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\$ pattern editor

k Pattern Editor

Tip:

The use of Pattern:

- (1) Right-click to select an area and select Properties from the Outline/Block/Stitch menu or click the Properties button  on the right side of the Object View window. Or, you can press the Spacebar to get the Area Property dialog box after right-clicking the area.
- (2) Click the General mark, and then check the Complex Fill checkbox under Stitch Type, and then click the Complex Fill mark. In the drop down box, all the pattern names will be listed in it, select one and then click OK.
- (3) Click the Generate button and then click the Quick View button, you will find the selected area is decorated with your selected pattern.

If you are not satisfied with the pattern, you can again use the options under the Complex Fill mark in the Area Property dialog box to modify it.

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Motif Editor

AutoStitch provides the user with several Editors, and Motif Editor is one of them. The user can use it to edit motif freely so that they can be employed to complex-fill area of the design.

1. Select Motif Editor from Tools menu.
2. In Motif Edit window, you can choose the offered motif in the right list box to modify and also you can create another motif by yourself.
 - modify an existing motif:
 - (1) Left-click the name of the motif in the list box, and the left window will display it. You can click Line Editor-Straight to modify the current motif, and click Undo to cancel the previous operations.
 - (2) In the left window, left-click to modify the displayed motif and right-click to finish it.
 - (3) If you want to saved the motif in its original name, click OK and then click YES. If you want to save it separately in another name, click the Save button, and type the new name in the pop-up Save As dialog box.
 - create a new motif:
 - (1) Click Line Editor-Straight button to create the new motif and click Undo to cancel the previous operations.
 - (2) Left-click step-by-step to create the motif in the left window and right-click to finish it.
 - (3) Click the Save button, and type the new name in the pop-up Save As dialog box.

You can merge several exiting motif together so as to create a new motif.

- (1) Check the Merge into current edit checkbox.
- (2) Left-click step-by-steply the existing motif in the list box, you will find that all the motifs merged together into a new motif.
- (3) Click the Save button, type the new name in the pop-up Save As dialog box.

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^{\$} motif editor
^k Motif Editor

Tips:

1. You can delete the existing motif directly in the Motif Editor as long as you left-click to select the motif in the right list box and press Del key.
2. The use of motif:
 - (1) Right-click to select an area and select Properties from Outline/Block/Stitch menu or click the Properties button  on the right side of the Object View window. Even you can press Spacebar to obtain the Area Property dialog box after right-clicking the area.
 - (2) Click General mark, and then check Motif Fill checkbox under Stitch Type, now you will find an extra Motif Fill mark is added, click it. And all the names listed in the Motif Editor will be displayed in Motif 1 drop down box. Select one as the first motif, now the Motif 2 drop down box which is on the right side of Motif 1 will become highlighted. The name which is displayed in Motif 2 box is the same with that of Motif 1 box and as the second motif. Of course, the user can select the desired one in the Motif 2 drop down box, and then click OK.
 - (3) Click the Generate button and click the Quick View button, you will find the previously-selected motif will fill the selected area as a motif.

If you are not satisfied with it, right-click to select the area and press Spacebar. In the pop-up Area Property dialog box, check Judge Automatically or other checkboxes under Stitch type. After clicking OK and generating it. It will be OK. Also you can use Undo, but you'd better use Undo promptly.

3. The user can save the pattern(s) of the present design in some areas as a motif file so as to expand the types of motif.

Notes:

1. After clicking Line Editor-Straight, edit motif by left-clicking and finish it by right-clicking.
2. In Motif mark, Motif 2 drop down box will become highlighted and allow you to select the second one only when you select the first one in Motif 1 drop down box. In the Preview, the left and right window will display the first and the second motifs respectively. If you adopt the default choice in the Motif 2 box after selecting Motif 1, the pattern of motif 1 will appear both in the left and right preview window as their default. From now on, the motifs which are displayed in the two windows will change correspondingly according to your selection.

#Sk

Save to Motif File

Save as motif file enables the user to save the pattern(s) of the present design in motif file library.

1. Right-click to select a generated area in an object.
2. Click Accessories menu, and then select Save to Motif File from the Motif sub-menu.
3. Type the name of the new motif into the Motif input box in the pop-up Save As Motif dialog box, and then click OK. If the name you are typing is the same as an existing motif, the warning message "File already Exist, Replace" will appear. If you do not wish the existing one to be covered by the new one, click No and then type another new name in Motif input box.

Note:

[#] topic-277

^s save to motif file

^k Save to motif file

Modify Pull Compensation

Modify Pull Compensation enables the user to perform pull compensation adjustment each stitches in local area or global.

1. Generate the object in the Object View window.
2. Right-click to select an area, and then click the Edit Mode button .
3. Select Modify Pull Compensation  from the Stitch menu or click Pull Compensation  in the toolbar.
4. Left-click to select any two needle points in this area, and the string of stitches between the two needle points will become the object of operation. If you use the mouse to drag this string of stitches now, you will find it moves with the mouse, lengthening or shortening. When its position and length are determined, left-clicking will finish the operation.

Tip:

In addition, you can also use the Pull Compensation in the Area Property dialog box to fulfil this operation on all the stitches of a selected area.

- (1) Right-click to select an area and select Properties from the Outline/Block/Stitch menu or click the Properties button  on the right side of the Object View window. Or, you can press the Spacebar to obtain the Area Property dialog box after right-clicking the area.
- (2) Click Pull Compensation mark, double-click Basic input box, type your desired value and then click OK.
- (3) Click the Generate button.

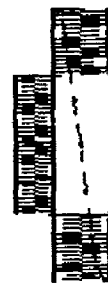
The differences between this way and Modify Pull Compensation are:

- The latter can act on the string of stitches between two defined needle points in an area, but the former can act on all the stitches in an area.

drag it right



drag it left



- select two needle points which lie on different side of an area:

drag it right



drag it left



3. Place the cursor on one of the arrows. Now, the cursor will become a cursor with a steering wheel. Left-click, and hold down the left button to drag the cursor in one of the directions that the double-head arrow points to. The object will rotate with it.

Tip:

You can alter the position of the Center Mark for rotating:

Place the cursor on the center mark, and now the cursor will become a four-headed arrow. Left-click it and hold down the left button to drag the cursor, now the center mark will move with the cursor. If you rotate the object under this state, the object will rotate with the new position of the center mark as the center.

Note:

While rotating in the above-mentioned way, the selected object is rotating with the center mark as the center. You can alter the position of the center mark, but the new position is valid only when you have not left-clicked the blank space to give up the current selection; otherwise, the center mark will resume its original position.

#Sk

A convenient and auto-visual way of transfiguring

AutoStitch provides the user with a simple and auto-visual way of transfiguring, and the user can fulfil this operation directly in the Object View window.

- Transfiguring without changing the height

1. Left-click to select an object in the Object View window.
2. Left-click the selected object again. You will find that four double-direction arrows appear along the four sides of the object's outer frame. The user can use either the top or the bottom arrow to fulfill transfiguring without changing the height.
3. Place the cursor on one of the arrows, now the cursor becomes the same shape as the arrow. Left-click, hold down the left button, and drag it toward any of the two directions. The object will be transfigured without changing its height, and the original rectangular frame will become a parallelepiped.

- Transfiguring without changing the width

1. Left-click to select an object in the Object View window.
2. Left-click this selected object again. You will find that four double-direction arrows appear along the four sides of the object's outer frame. The user can use either the left or the right arrow to fulfil transfiguring without changing the width.
3. Place the cursor on one of the arrows, now the cursor becomes the same shape as the arrow. Left-click, hold down the left button, and drag it toward any of the two directions. The object will be transfigured without changing its height, and the original rectangular frame will become a parallelepiped.

#Sk

Insert a Column Area

The user can use Insert Column Area function to insert several column areas.

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\$ a convenient and auto-visual way of transfiguring

^k A convenient and auto-visual way of transfiguring

topic-283

\$ insert a column area

^k Insert a Column area

Step 6: Access Internal Image Editor



If a user is not satisfactory with the current image and wants to edit it manually it before creating the outline, check Edit manually before image processing. Now all the options above will become invalid with gray color. After clicking OK, it will enter a set-in Internal Image Editor offered by AutoStitch itself automatically.



: Click FreeHand Outline button, and then move the cursor to select an outline at random in the current image.



: Click Rectangle Outline button, and then move the cursor to select a rectangular or a square outline at random in the current image.



: Click Ellipse button, and then move the cursor to select a circular or an elliptical outline in the current image.



: Click Auto Pick Outline button, move the cursor and then left-click an area similarly-colored area will be selected automatically within certain range.



: Click Pick Color button, move the cursor and then select the color of an area in the current image.



: Click Flood Fill in Outline, the currently-selected outline will be filled with the default colors.



: Click Flood Fill out of outline, the outside of the currently-selected outline will be filled with the default colors.

Flood fill in outline and Flood Fill out of outline, these two buttons is valid only when you have selected an outline.



: Click it, and then the present default colors will appear on the screen. Both Auto Pick Outline and Pick Color can alter the colors displayed in this frame. Double-click the color display frame, you can select or edit the colors in the pop-up Color dialog box.



: Click Exit/Apply can save the modifications of the current image and exit the Image Editor window, and then return the Image Processing dialog box.

5. Click one of the areas, you will find the selected area(s) split into two or more parts according to the shape of itself and the moved area. These parts are independent.

Tips:

1. You can perform this operation on several areas of an object at the same time. You can also do it to areas from different objects.
2. You can left/right-click to select every part of the split area.

Notes:

1. When using this function, you must right-click to select one or more areas, and left-click to define the area that you are going to use to split these selected area(s). In the process of this operation, right-clicking will cancel the operation.
2. In carry out this operation, you can apply this function to several activated areas at the same time as long as the digging area adjoins these areas. However, you can choose only one existing area as the dug area at one time.
3. Press the Esc key to cancel this operation.
4. An area that you use to cut can cut several selected areas at the same time.

#SK

Split with a Line

Split with a Line enables the user to use the self-defined split line to split one or several areas into two or more areas.

1. Right-click or drag the right button to select one or several areas.
2. Select Split with a Line from the Outline menu. Now you will find the cursor becomes a needle with scissors.
3. Left-click to define the starting point of the split line, and then drag the mouse to position, lengthen, or shorten, the split line, and left-click again to define its ending point. This line will split the area(s) into several parts.
4. Click one part of them, you will find the area split into two or more parts according to the split line, and these parts are independent.

Tips:

1. You can perform this operation on several areas of an object at the same time, and you can also do it on additional areas from different objects.
2. Left-click to select an object, you can use this function to split the whole object into two. However, the split line must run across the whole object.
Right-click to select an area, you can use this function to split the area into two. However, the split line must run across the this area.
3. You can left / right-click to select every part of the split area.

Notes:

[#] topic-287

^s split with a line

^k Split with a Line

1. When using this function, you must right-click to select one or more areas, and left-click to define the split line.
2. Press the Esc key to cancel this operation.
3. At least two points in the split line must intersect with the selected area.
4. A split line can be used to split several selected areas at the same time.

#

Select All Areas

To select all areas of the objects in the current Object View window, select the Edit menu, and then click Select All Areas from the Select sub-menu. You will find all the areas of objects will be activated automatically.

Note:

To succeed this operation, the premise of it is there must have one area in the current Object View window at least.

#

Select All Lines

To select all lines of the objects in the current Object View window, select the Edit menu, and then click Select All Lines from the Select sub-menu. You will find all the lines of objects will be activated automatically.

Note:

To succeed this operation, the premise of it is there must have one line in the current Object View window at least.

#SK

Create curve Fill

The user can use Create Curve Fill to define one or several curves in an area so as to change the stitch direction of the curve within the area and make them travel with the given curve.

1. Right-click to activate a generated area. Select Create Curve Fill from the stitch menu or right-click the activated area and then select Create curve Fill in the pop-up shortcut menu.
2. In the pop-up create curve fill window, click Insert curve button. The cursor becomes a pencil with a plus. Move the cursor to your desired position, right or left click to determine the starting point of the inserting line. Again move the cursor to the proper position, and right or left click to determine the broken points or consecutive points of the curve. Click repeatedly until you press Enter key to stop the insert curve operation.
3. Repeating operation can insert several differently shaped curves in this activated area.
4. Click Apply/Exit button to apply this operation to the activated area while exiting from the current window, but the operation is given up if you click close button which is on the upper-right corner of the window.
5. Click generate, and you'll find that the stitch direction around the inserted curve is the same with the inserted curve in the current area.

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topic-289
topic-290
\$ create curve fill
K Create Curve Fill

Tips:

- 1. Once you select Insert curve, the insert operation will be started and last until you press the Enter key. However, you can cancel the operation at any time by pressing the Esc key.
- 2. Click the Insert Curve, you can do such simple operations like rotating, shape, etc. to it.

Notes:

- 1. While inserting curves, if the middle point of these curves are all created by right-clicking, they are called turning points. If all created by left-clicking, they are consecutive ones. Of course, you can create these points sometimes by left-clicking and sometimes by right-clicking, and then curves will be mixture of broken lines and smooth curves.
- 2. The final stitch direction in the area is concerned only with the shape of the curve at which the inserted curve and the currently activated area intersected.

#SK

Split with a Curve

Split with a Curve enables the user to use the self-defined split curve to split one or several areas into two or more new areas.

- 1. Right-click or drag the right button to activate one or several areas.
- 2. Click the Outline menu, and then select Split with a Curve. Now you will find the cursor become a needle with scissors.
- 3. Move the cursor according to your desired split curve, the trajectory by which the split curve intersects with the current activate area will be visible. Go on moving the cursor. Once the manually drawn split curve intersects with the activated area, a trajectory will be created and cut the area apart. To conclude this operation, right-click it.
- 4. Click generate, and you'll find the original one area has been divided into several independent areas.

Tips:

- 1. You can perform this operation on several areas of an object at the same time, and you can also do it on additional areas from different objects.
- 2. To cancel the currently-drawing split curve, hold down the left mouse button and meanwhile click the right one. The split curve that is created by holding down the left mouse button and moving the cursor is a continuous split curve no matter how many trajectories they are. If you click the right mouse button now, the whole split curve is cancelled. If you stop holding down the left mouse button while moving the cursor, it means that a continuous split curve is created. If you go on to hold down the left mouse button after that while moving the cursor, it means that another split curve starts forming. Click the right mouse button, it means that only the currently-drawing split curve is cancelled.
- 3. To release the left mouse button and click the right one is to cancel this operation of Split with a Curve, and all the split curves are cancelled as well.

Notes:

- 1. When using this function, you must right-click to activate one or more areas, and left-click to start the split curve.

topic-291
\$ split with a curve
K Split with a Curve

- #SK 2. A split curve can be used to split several activated areas at the same time.

Zoom Object

Can size the selected object(s) to the Object View window.

Select View menu and then click Zoom Object sub-menu from Zoom. You can also click Zoom Object button in the toolbar. The selected object(s) will be redrawn to fit within the Object View window.

Tip:

When the cursor points to the frame between the Picture View window and the Object View window, the cursor changes into $\leftrightarrow$. By dragging it to the left or right, you can adjust the size of the two windows.

Notes:

1. It obviously affects the selected objects in the Object View window. If you select none or all the objects in the Object View window, it is equal to use Zoom All.
2. The effect of Zoom Object will not last, and it works only when the selected object(s) is not fully displayed in the Object View window or placed in the center of the Object View window..
3. It can proportionally enlarge or reduce the object(s) with the size of the Object View window.
4. It can be used together with Zoom In, Zoom Out and Zoom All.

- #SK 5. this affects the window only, and does not change the size of the selected object(s)

Select By Color

The user can use Select By Color to quickly activate the area which has the same color with the selected one.

1. Generate the object(s) in the Object View window, the Color List bar will display all the color blocks.
2. Click one color block in the Color List bar, all the areas which is the same color with the color block will be activated in the Object View window. If only one area is the same color with the color block, only this area is activated. If many, many are activated at the same time.
3. Click another color block in the Color List bar, another one or group of areas will be activated.

Tip:

If the users have activated only one or several areas which have the same color instead of all the areas, click Edit menu and then select Select By Color from the Select sub-menu to activate all the areas of the same color within this object.

Notes:

topic-292
 \$ zoom object
 K Zoom Object
 # topic-293
 \$ select by color
 K Select By Color

1. The Select By Color in the Select sub-menu under the Edit menu is valid only when you activate one or several areas with the same color by right-clicking.
2. Select By Color can help you to activate one or several areas which have the same color with the selected color block at one time, but it can not select areas with different colors at the same time.

#\$K

Set Unit Order By Selecting

Use this function, the user can rearrange the order of the units while stitching according to the user's own choice.

1. Select Set Unit Order By Select from the Accessories menu.
2. Now the cursor becomes a magic wand and then move the cursor according to your desired order while stitching. Left-click to select these units one by one, you'll find these units are selected and numbered one after another according to your selecting order.
3. Having finished arranging the order, press the Enter key and then these units will be generated according to the new order.

Tip:

During the process of operation, you can cancel the operation by pressing Esc key or right-clicking.

Note:

The Set Unit Order By Selecting will work only when you do it to at least two units of an object or two objects in the Object View window.

#\$K

Set Unit Order Freehandly

The users can use Set Unit Order Freehandly to rearrange the stitch order of the units according to their self-drawn lines.

1. Select Set Unit Order Freehandly from the Accessories menu.
2. Now the cursor will become a pen. Hold down the left mouse button to move the cursor so that the self-drawn line connects with these units one by one according to the stitch order.
3. Release the left button after that, thus these units will be re-generated according to the new order.

Tip:

You can cancel the operation half-way by right-clicking.

Notes:

1. Set Unit Order Freehandly will work only when you do it to at least two units of an object or two objects in the Object View window.
2. If you only set the order of an object in the Object View window and a unit of another object, only the order of the objects is changed after generation instead of the unit order.

topic-294
 \$ set unit order by selecting
 K Set Unit Order By Selecting
 # topic-295
 \$ set unit order freehandly
 K Set Unit Order Freehandly

3. While drawing the order-line, you'd better make the line intersects with the objects/units obviously, for instance, thread through them. Thus, you can improve the accuracy of setting order.

#\$K

Insert Trim Between Units

Insert Trim Between Units enables the user to trim the linking threads among units manually which haven't been trimmed while generating, in other words, some times have been inserted in some areas, and accordingly the number of trim in the whole design has increased.

1. Hold down the Ctrl key and right-click to activated those units which have been linked adjacently one by one.
2. Select Insert Trim Between Units from the Stitch menu.
3. Now the cursor becomes a hand. Move the cursor so that it points to the dotted thread which becomes highlighted with red color at the moment. Left-click to make it disappear, thus the linking thread is trimmed and meanwhile the number of trim increased one.
4. Right-click to conclude the operation.

Tip:

Left-click to carry out Insert Trim Between Units operation, and right-click or press Esc key to cancel this operation.

Notes:

1. Insert Trim Between Units will work only when you have activated these units that you want to insert trim by right-clicking.
2. The number of trim that you have added manually will disappear if you generate the units after this operation. Therefore, we advise users not to generate it after this operation.

#\$K

Optimize Trim Number

Optimize Trim Number is a new function to auto-optimize the trim number. It can rearrange a group of consecutive units of the same color in the Film list so as to reduce trim number.

1. Select Optimize Trim Number from the Accessories menu or click Optimize Trim Number in the toolbar.
2. Select Design Information from the View menu or click Design Information in the toolbar. Click Stitch Info. button now you will find the trim number reduced.

Note:

The effect resulted from using Optimize Trim Number may be can not affect every design. Generally speaking, different designs have different effects.

#\$K

topic-296
 \$ insert trim between units
 K Insert Trim Between Units
 # topic-297
 \$ optimize trim number
 K Optimize Trim Number
 # topic-298
 \$ AutoStitch keyboard list-1

AutoStitch Keyboard List — 1

Location	Icon	Function	Hot Key	Guide
<i>File Menu</i>				
		New Design	Ctrl + N	<u>click</u> ▼
		Load Design	Ctrl + L	<u>click</u> ▼
		Save Design	Ctrl + S	<u>click</u> ▼
		Save Design As		<u>click</u> ▼
		Add into DataBase		<u>click</u> ▼
		Load from DataBase		<u>click</u> ▼
		Export		<u>click</u> ▼
		Import		<u>click</u> ▼
		Print Sample	Ctrl + P	<u>click</u> ▼
		Print Setup		<u>click</u> ▼
		Recent Files		<u>click</u> ▼
		Exit		<u>click</u> ▼
<i>Edit Menu</i>				
		Undo	Ctrl + Z	<u>click</u> ▼
		Model Copy	Ctrl + M	<u>click</u> ▼
		Cut	Ctrl + X	<u>click</u> ▼
		Copy	Ctrl + C	<u>click</u> ▼
		Paste	Ctrl + V	<u>click</u> ▼
		Delete	Del	<u>click</u> ▼
		Group / Ungroup	Ctrl + G	<u>click</u> ▼
		Select All	Ctrl + A	<u>click</u> ▼
		Select None		<u>click</u> ▼
		Invert Selection		<u>click</u> ▼
		Align By Top		<u>click</u> ▼
		Align By Bottom		<u>click</u> ▼

^k AutoStitch Keyboard List-1

	Align By Left		click
	Align By Right		click
	Align By BaseLine		click
	Align By Horizontally Center		click
	Align By Vertically Center		click
	Align By Curve		click
	Flip Horizontally		click
	Flip Vertically		click
	Rotate Left 90 Degree		click
	Rotate Right 90 Degree		click
	Rotate Manually		click
<i>View Menu</i>			
	Film	F2	click
	Outline View	F6	click
	Block View	F7	click
	Stitches View	F8	click
	Ruler	R	click
	Pan	P	click
	Notes		click
	Design Information		click
	Interface Preference		click
	Last Zoom	L	click
	Zoom In	I	click
	Zoom Out	O	click
	Natural Size	N	click
	Zoom All	A	click
	Quick View	F11	click
	True 3D View		click
	Cap View		click

FIG. 11

Insert Menu		Refresh	F5	click
		Insert TrueType Font	Ctrl + T	click
		Insert Image File	Ctrl + I	click
		Insert Picture From Scanner		click
		Insert AutoCAD DXF File		click
		Insert Shape-Line		click
		Insert Shape-Area		click
		Insert Shape-Rectangle		click
		Insert Shape-Ellipse		click
Outline / Block / Stitch Menu		Generate	F9	click
		Auto-Arrange Embroidery Order		click
		Auto-Arrange Entry Position		click
		Create Global Underlay Area		click
Outline Menu		Properties	SPACE	click
		Edit Outline	F4	click
		Cut an Area's Border		click
		Split Area(s) by a Line		click
		Cut Area(s) by an Area		click
		Merge Areas		click
		Merge Lines		click
		Create Line from Area(s)'s Border(s)		click
		Create Lines from Area(s)		click
		Create Linelike Area(s) from Line(s)		click
		Create Area's Border from Lines		click
		Delete An Inner Contour		click

		Float Area(s)		click ▼
		Un-Float Area(s)		click ▼
<i>Block Menu</i>				
		Edit Block	F4	click ▼
		Add a Dividing Line		click ▼
<i>Stitch Menu</i>				
		Edit Stitches	F4	click ▼
		Insert Stitches		click ▼
		Split Stitches		click ▼
		Modify Pull Compensation		click ▼
		Merge Mask into Stitches	M	click ▼
		Save as motif file		click ▼
		Display Stitch Position		click ▼
		Play Stitches		click ▼
<i>Tools Menu</i>				
		Split Editor		click ▼
		Pattern Editor		click ▼
		Motif Editor		click ▼
		3D Warp Model Editor		click ▼
		Area Properties Master Sheet		click ▼
		Line Properties Master Sheet		click ▼
		Set Minimum Trim Length		click ▼
<i>Help Menu</i>				
		Help Topics	F1	click ▼
		Search		click ▼
		Keyboard Map		click ▼
		About AutoStitch		click ▼

Tip:

To see AutoStitch Keyboard List - [2click](#) 

To see AutoStitch Keyboard List - 3^{click}

#\$k

AutoStitch Keyboard List — 2

Operation	Icon	Description	Hot key	Remarks
Play Stitches	▶	display the next 1 stitch	Cursor Control Keys—down arrow	
	◀	display the last 1 stitch	Cursor Control Keys—up arrow	
	▶▶	display the next 100 stitches	Dedicated Function keys—PageDown	Numeric Keypad: Pg Dn (But first you must check to make sure that the Number Lock is off.)
	◀◀	display the last 100 stitches	Dedicated Function Keys—PageUp	Numeric Keypad: Pg Up (But first you must check to make sure that the Number Lock is off.)
		display the last area	Cursor Control Keys—left arrow	Numeric Keypad: left arrow (But first you must check to make sure that the Number Lock is off.)
		display the next area	Cursor Control Keys—right arrow	Numeric Keypad: right arrow (But first you must check to make sure that the Number Lock is off.)
Edit Stitches	■	exit the play stitches status	Esc	
		go to the ending needle point of the current area	Dedicated Function keys—End	Numeric Keypad: End (But first you must check to make sure that the Number Lock is off.)
		go to the starting needle point of the current area	Dedicated Function keys—Home	Numeric Keypad: Home (But first you must check to make sure that the Number Lock is off.)
		go to the ending needle point of the whole design	Ctrl + End	Use the End Key in Numeric Keypad: you should turn on the Num Lock key firstly
		go to the starting needle point of the whole design	Ctrl + Home	Use the Home Key in Numeric Keypad: you should turn on the Num Lock key firstly
		go forward one step of the current area	Cursor Control Keys—down arrow	

topic-303
s AutoStitch keyboard list-2
k AutoStitch Keyboard List-2

	go backward one step of the current area	Cursor Control Keys—up arrow	
	move the Object View window downward step by step	Numeric Keypad: down arrow	
	move the Object View window upward step by step	Numeric Keypad: up arrow	
	move the Object View window leftward step by step	Numeric Keypad: left arrow	
	move the Object View Window rightward step by step	Numeric Keypad: right arrow	
Selection	left-click to select several consecutive objects or right-click to select several consecutive areas/lines	Shift + left/right-clicking	
	left-click to select several in-consecutive objects or right-click to select several in-consecutive areas/lines	Ctrl + left/right-clicking	
	Select several areas or lines	Hold down the right mouse button and drag the cursor to enclose your desired areas or lines with the rectangular frame.	To select several areas or lines, you must enclose them with the rectangular frame completely. An area will fail to be selected if part of an area is enclosed.
	Select several objects	Hold down the left mouse button and drag the cursor to enclose your desired objects with the rectangular frame.	To select several objects, you must enclose every object with the rectangular frame completely. An area will fail to be selected if part of an area is enclosed.
Movement	move the selected object downward	Cursor Control Keys—down arrow	

	step by step	
	move the selected object upward step by step	Cursor Control Keys—up arrow
	move the selected object leftward step by step	Cursor Control Keys—left arrow
	move the selected object rightward step by step	Cursor Control Keys—right arrow
Pan	move the Object View Window downward step by step	Numeric Keypad: down arrow
	move the Object View Window upward step by step	Numeric Keypad: up arrow
	move the Object View Window leftward step by step	Numeric Keypad: left arrow
	move the Object View Window rightward step by step	Numeric Keypad: right arrow

Tip:

To see AutoStitch Keyboard List - 1 click 

To see AutoStitch Keyboard List - 3 click 

##k

Create a new database

1. Click New Database from the File menu.
2. In the pop-up New Database dialog box, type your desired name into the Database name input box. Its extension can be neglected, for the extension .SLB can be added to it automatically after typing.
3. Type the location of the new database in the Location input box. Its default location is in the present AutoStitch directory. You can change the location by clicking the right-side button  in the Choose Directory dialog box. In the drop down box of drives, click to select the drive of the newly-created database. In the Directory name list box, double-click to select the path of it. Click OK.

^k Lib Manager
[#] topic-308

Select a database

1. Click Select Database  from the File menu or click Select  in the toolbar.
2. In the pop-up Open dialog box, choose the database which you want to run among all the existing databases.
3. The same with the above-mentioned step 4, and all the .ASD and .PXP items and relevant information will be listed in the Content List box.

Notes:

1. Having established a database, if you haven't added, cancelled, or modified it, exited directly, or opened another database, the new database will not be created.
2. When you open DataBase Manager for the first time, AutoStitch provides the user with a default database, Lib.SLB, under the present path. However, it will not be saved if the user has not performed any operations on it, exited it directly, or opened another database.
3. Any operation in an existing database will be saved automatically while exiting. It is important to mention that the database will continue to exist when you open another database or exist Lib. Manager, though you have made it an empty database by deleting all the items in it.

#

Add .ASD or .PXP file to the present database

1. Click Add Designs  from the File menu or click the Add button  in the toolbar.
2. In the pop-up Add To Database dialog box
 - (1) Select your desired file type in the Type drop down box.
 - (2) Select the location of your desired Design file or stitch file in the Look In drop down box, its default is the present AutoStitch directory, and you can click the button  to select a new path.
 - (3) Now you will find the selected drive and the relevant files listed in the right side list window.

Tip:

Export .ASD or .PXP

1. Open the database in which the .ASD or .PXP file exists.
2. Left-click the .ASD or .PXP file that you want to export.
3. Click Export Designs  from the File menu or click the Export button  in the toolbar.
4. Choose the output location under the Directory drop down box in the pop-up Export dialog box.
5. Click OK.

Search in the present database and display one or several files according to certain requirements.

1. Click Search  from the View menu or click Search  in the toolbar.
2. In the pop-up Search for designs dialog box, click the general mark.
3. In the Wild card input box under Name option, you can type letters and it will search and display all the file names which begin with those letters.
4. In the From and To input boxes under the Height option, you can designate the range of height and all the files within this range will be displayed.
5. In the Classification drop down box, you can designate the classification name and the files that have the same name will be displayed.
6. In the pop-up Search for design's dialog box, click Date Modified, which enables the user to filter the files in the database by date.

If the date is unlimited, check the All Designs checkbox; otherwise check Find All Designs Created or Modified, and then three ways of filtering will be available to you:

- Check between the checkbox and type the exact date including date, month and year; all the files within this period will be listed.
- Check during previous months and type a value or use the arrowlike button on the right side of the input box to modify the present value. If the value is 2, it shows all files saved two months previous to the present month.
- Check during previous days box and type a value or use the arrowlike button to change the present value. If the value is 15, it shows all files saved 15 days previously.

Tip:

If you want to cancel the present filter and to display all the items (.ASD or .PXP file) in this database, select Search from the View menu, in the pop-up Search for Designs dialog box don't do anything and click OK.

#\$k

External Editor

AutoStitch provides the user with an external BMP editor, which enables the user to modify the image in the present Picture View window temporarily so as to get a relevant new design.

1. Hold down the Ctrl key and double-click the image in Picture View window. Now, AutoStitch will search and open the BMP Editor application automatically, and the present image file will also be opened within it.
2. Use the BMP Editor application to modify the image. After that, use Save to save the operations and close this application.
3. Re-activate AutoStitch. Now you will find the newly-modified image displayed in the Picture View window.

Tips:

1. You can get the new design by using Rebuild image from the Accessories menu.
2. Instead of the supplied BMP editor, you may instead use a familiar BMP Editor.
 - Right-click the image in the Picture View window. In the pop-up Add Bitmap Editor dialog box, you will see the default BMP Editor.
 - Click the Remove button to remove the listed BMP Editor application.
 - Click the Add button and find your familiar BMP Editor in the pop-up Browse Files.
 - Select this application and click the Use button.
 - Double-click the image in the Picture View window, and the newly-selected application will open this image.
3. You can use Rebuild image under the Accessories menu to re-create the design in Object View window.
4. Double-click the image in Picture View window can activate the Internal Image Editor.

Note:

The External Editor function has two advantages:

1. Quickly switches to an appointed BMP Editor.
2. This modification will not affect the original image file and it aims to modify the temporary BMP file which records all the contents in the Picture View window under the temp directory.

#\$k

Load from Database

```
# topic-315
$ external editor
k External Editor
# topic-316
$ load from database
k Load from Database
```

Load from Database enables the user to load .ASD or .PXP files of a database into the Object View window.

1. Select Load from database  from the File menu or click Load from database  in the toolbar.
2. In the pop-up Load database dialog box, click the right-side button  to select the location of the database that you want to load the .ASD or .PXP files into.
3. Click one listed file in the Item in database List box, you will find relevant information about this file displayed under this dialog box .
4. To load a new .ASD or .PXP file from the database directly when the design in the present Object View window is open, you should not check Load as new design. On the contrary, if you want to load a new .ASD or .PXP file from the database after closing the design in the present Object View window at the same time, you should check Load as new design.
5. If you select this file and then click OK or double-click this file, the file will be placed into the Object View window.

In addition, the Load from database dialog box offers the user a Filter, which can filter all the files in the selected database. Those files which are in accord with the specifications of the filter will be listed in the Items List box

Tip:

If you want to cancel the present filter and display all the items (.ASD or .PXP file) in this database, select the Search from View menu. In the pop-up Search for Designs dialog box don't do anything and click OK.

#\$k

Import from Database

Import from Database enables the user to import an .ASD or .PXP file in some database into the current Object View window without closing the present design.

1. Select Import from database from the File menu.
2. In the pop-up Import from database dialog box, click the right-side button  to select the location of the database that you want to import the .ASD or .PXP file into.
3. Click one listed file in the Item in database List box. You will find relevant information about this file displayed under this dialog box .
4. If you select this file and then click OK or double-click this file, the file will be placed into the Object View window.

In addition, the Import from database dialog box offers the user a Filter, which can filter all the files in the selected database. Those files which are in accord with the specifications of the filter will be listed in the Items List box

Notes:

1. While Importing from a database, the design in the present window will not be closed, and the file from database will be Imported.
2. The file that can be Imported is .ASD or .PXP.
3. The difference between Load from Database and Import from Database:
The former will load a file from a database after closing the design in the present window, but the latter will load a file from a database directly without closing the design in the present window.

#\$k

Load from Motif File

Load from Motif file means that the user can also insert the existing Motif file into the present window as an object.

1. Click the Accessories menu, and then select Load from Motif File from the Motif sub-menu.
2. In the pop-up Load Motif dialog box, click the Motif name drop down box in which all the existing Motif files are listed. Select the one desired and then click OK.

Tips:

1. You can save or export the loaded Motif file as an .ASD or .PXP file.

topic-318
 \$ import from database
 k Import from database
 # topic-319
 \$ load from motif file
 k Load from Motif file

1. Click Generate.
2. Select Add Trim  from the Stitch menu or click Add Trim  in the toolbar. You will find the cursor becomes a hand.
3. Move the cursor so that it points to the thread that you are going to add trim. If this thread is highlighted with red, it indicates that you can carry out this operation. Left-click the thread.
4. After this operation, you will find that this thread has been wiped out in the Object View window. In addition, another trim command has been added between the two adjacent areas in Film.

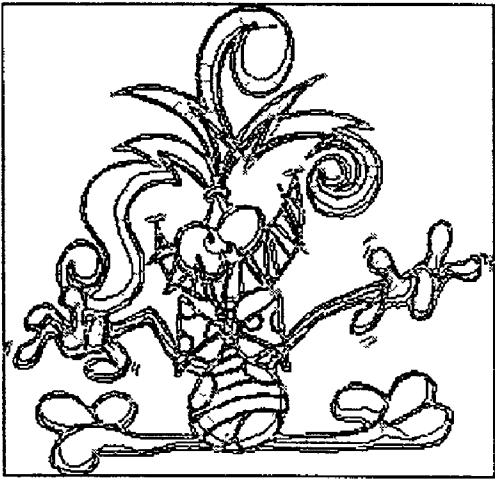
topic-320
\$ rebuild image
^ Rebuild image
topic-323
\$ add trim
^ Add Trim

rotate rotate rotate

Transfiguration

~~rotate~~ rotate

Block View



Outline View



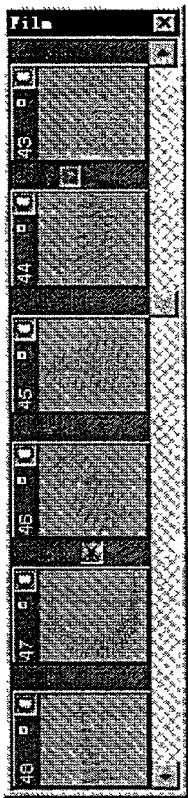
#

Stitch View

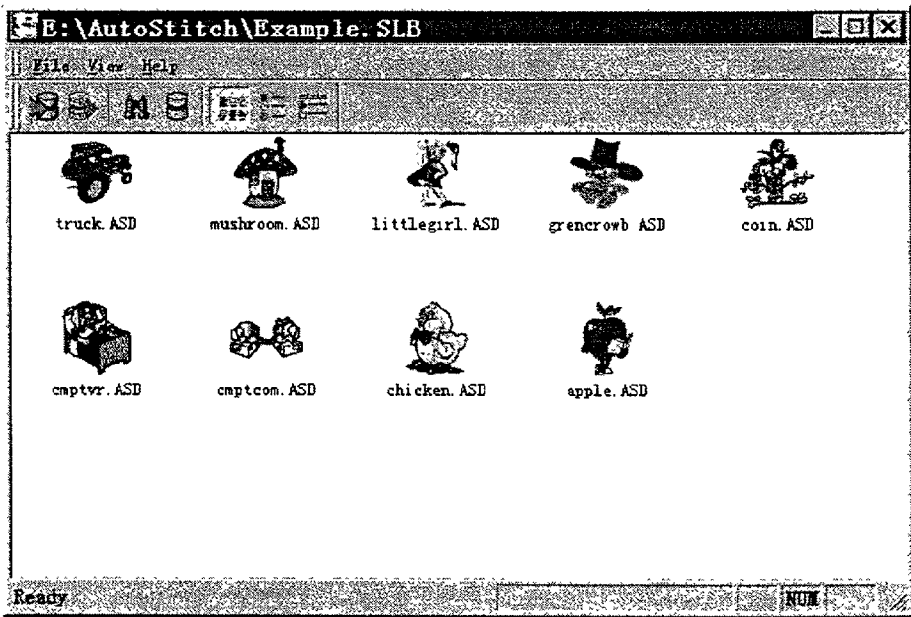


#

Film



DataBase Manager



Align

a l i g
align align
align align
a a a
l l l
i i i
g g g
n n n

Flip

qilt
t!b

Model Copy

model copy
model copy
model copy
model copy
model copy

Cut/Split Area(s)

Cut Cut
Split Split
Cut Cut

Merge

Mergearea



Create

Create Create
Create Create

Fill a Hole

B B

Insert Stitches

Insert
Insert

Split Stitches

Split Split

#

Delete Covered Stitches

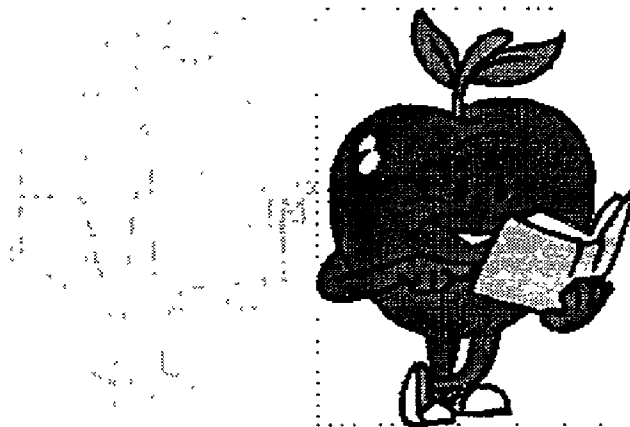
**Cover
Stitches**

**Cover
Stitches**

**Cover
Stitches**

#

Create Global Underlay Area



#\$k

1. In order to delete covered stitches efficiently, right-click to select at least two overlapping areas. Of course, you can select more than two overlapping areas to delete the covered stitches of them at the same time.
2. Not select or left-click to select all the overlapping areas or left-click to select some areas, and then use Delete Covered Stitches, this operation will affect all the overlapping areas.
3. Using Delete Covered Stitches will not change the original group/ungroup state.
4. Using delete Covered Stitches will affect not only those ungrouped overlapping areas but also those grouped overlapping areas.

#\$k

Color Manager

Color Manager can not only change the color of those areas which have the same color but also reduce the colors of the present design.

1. Click Generate.
2. Select Color Manager from the Accessories menu.
3. In the pop-up *Color Manager dialog box*, Auto Arrange Colors checkbox is offered you and AutoStitch can arrange the colors automatically according to judgement.
4. To reduce colors, check Total Colors, enter your desired number of colors in the input box, and this value should be larger than 0 and less than the default value. Once you have reduced the colors to a smaller value, you can not enlarge it in the present dialog box again. Of course, you can also increase the number of colors by way of modifying the properties .
5. To arrange colors manually, check Manually Arrange Colors. The cursor will become a pen while pointing to the following color blocks. Left-click a color block, you can use one of the list-out colors (the colors of the present design) to replace the color. Right-click a color block, you can use any color to replace it.

Left-click a color block, in the pop-up Change Color dialog box to select the color that you want to change it to and then click OK.

Right-click a color block in the pop-up Color dialog box to select the color that you want to change it to, and then click OK.

After exiting these dialog boxes, a double-headed arrow will appear in this color block: the upper part is the original color and the lower part is the changed color.

6. Click Ok. After that, the areas with the color will become the changed color at the same time.

Notes:

1. You can change the color of several areas of different colors at one time.
2. You can reduce the number of colors so that different areas may use the same color. Thus, the times of changing color will be reduce.

#\$K

Dig a Hole

topic-344
 \$ color manager
 k Color Manager
 # topic-345
 \$ dig a hole
 K Dig a Hole

Dig a Hole enables users to dig hole(s) in the currently-activated area(s) with self-drawn areas of various shapes.

1. Check Outline View button and activate area(s) by right-clicking.
2. Select Dig a Hole from the Outline menu, and you'll find that the cursor becomes a pen with a plus. Move the pen to a proper position and left-click to define the starting point of the digging area. Now you can left-click or right click to define the middle points and then press Enter to conclude drawing.
3. If the digging area is not closed, AutoStitch will link the starting point and the ending point of the area automatically after pressing the Enter key. The part in which the digging area and the dug one overlaps will be deleted out of the dug one.
If the digging area is closed and the has an intersecting point after pressing the Enter key, AutoStitch will regard the firstly-formed area as the digging area and the part in which the digging area and the dug one overlaps will be deleted. At the same time, the secondly-formed one becomes invalid automatically.
4. Click Generate.

Notes:

1. In using this function, you must right-click to activate an area as the dug area; left-click or right-click to define the digging area. Of course you can define these middle points by partially left-clicking and partially right-clicking, thus they will form an area which is partially smooth and partially un-smooth.
2. Press the Esc key to cancel this operation.
3. In defining the digging area, if all middle points are defined by right-clicking, these points are corner points; if all the middle points are defined by left-clicking, these points are smooth ones.
4. After this operation, you must generate it, or no stitches will be created.

#SK

Insert Trim In Unit

Insert Trim In Unit enables users to trim the linking threads manually which haven't been automatically judged to be trimmed while generating or to insert extra trims in a unit. This function will increase the trim number of the whole design.

1. Right-click to activate a unit of a design or right-click to activate several units while holding down the Ctrl key.
2. Select the Display Stitch Position and the Edit Mode button in the toolbar.
3. Move the cursor to point to the stitch point before which you're going to insert trim and then left-click, and then you'll find this point marked with red cross.
4. Select Insert Trim In Unit from Stitch menu. Now you'll find the stitch before the marked stitch point trimmed.
5. Right-click to conclude this operation.

Notes:

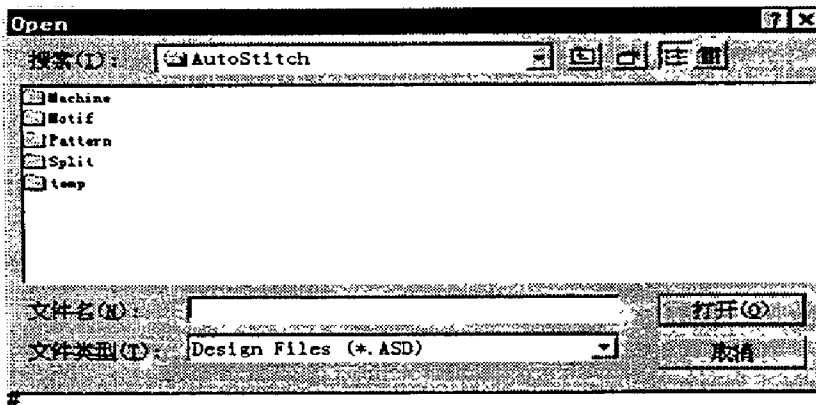
1. Having activated unit(s), you can apply this function to several units at the same time under Edit Mode.

[#] topic-346

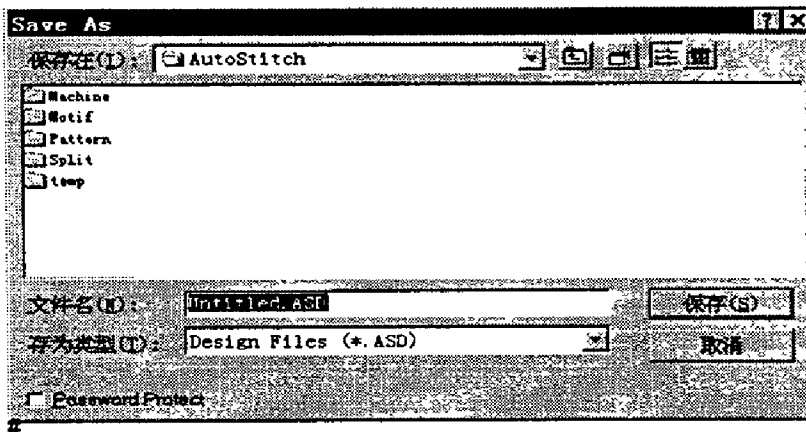
^S insert trim in unit

^K Insert Trim In Unit

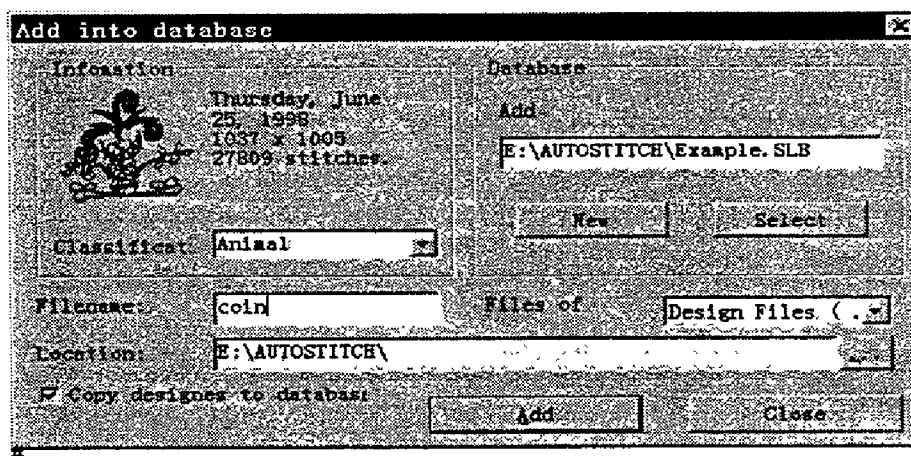
Load Design



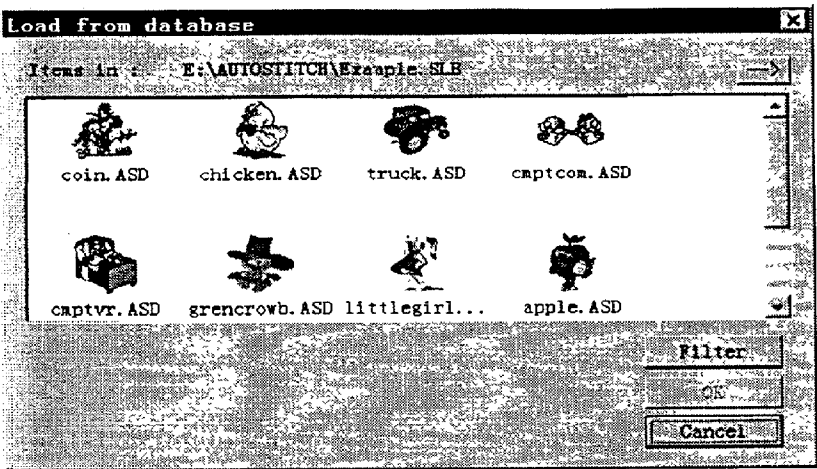
Save Design (As)



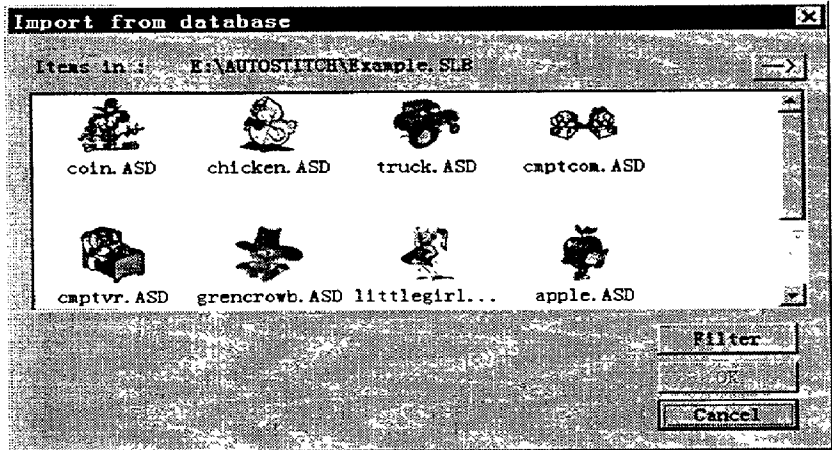
Add into Database



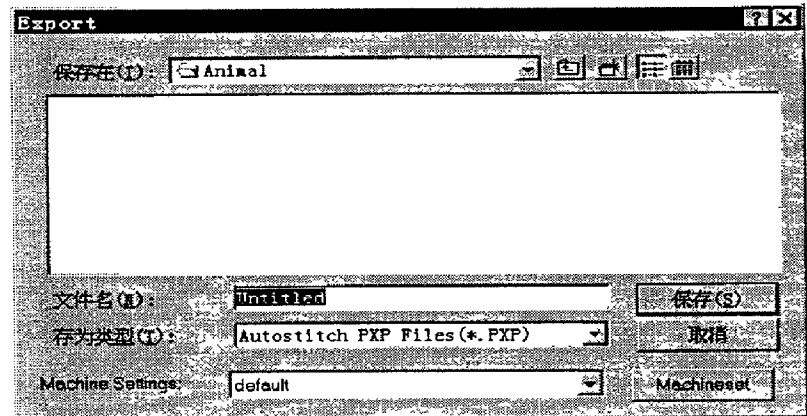
Load from Database



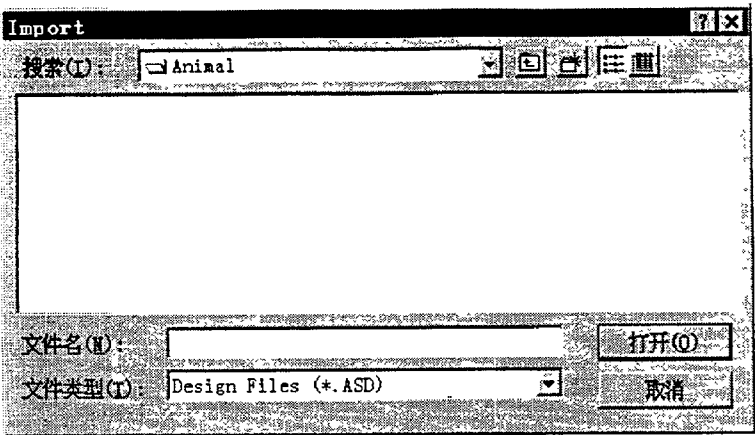
Import from Database



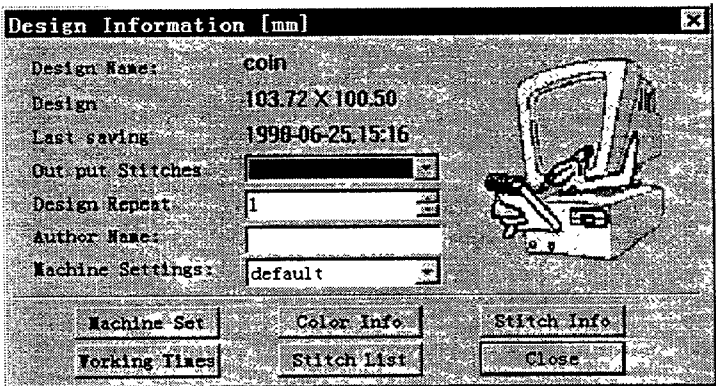
Export



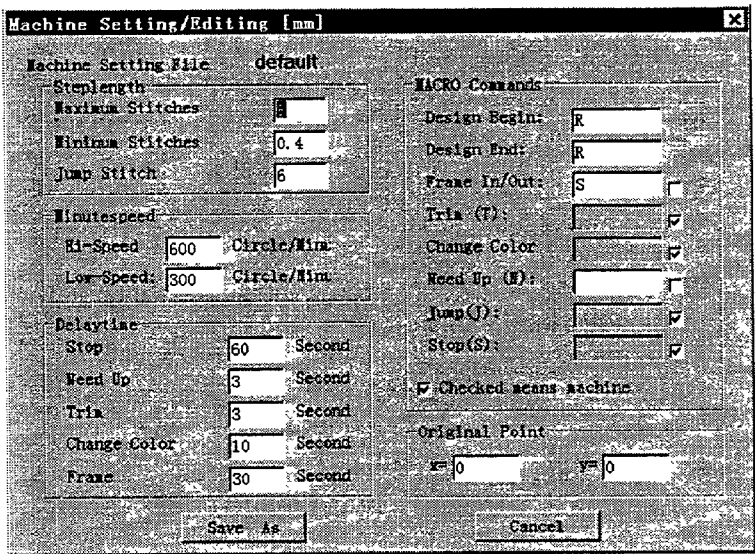
Import



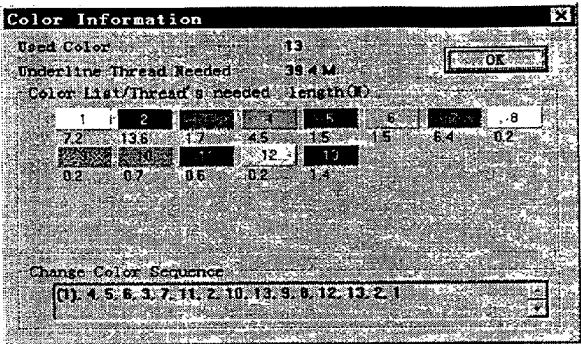
Design Information



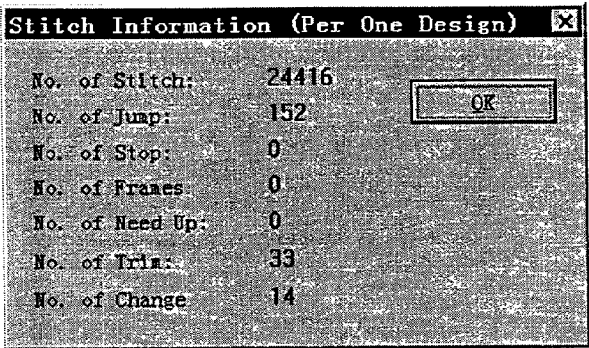
Machine Set



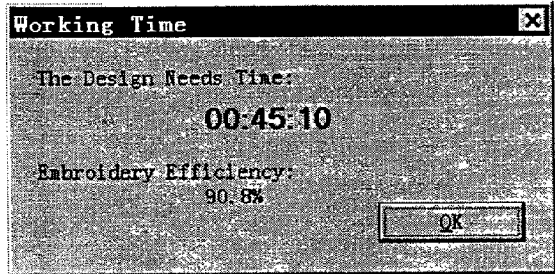
Color Info



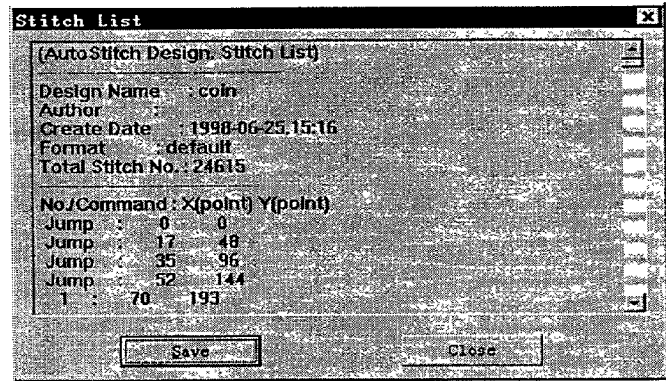
Stitch Info



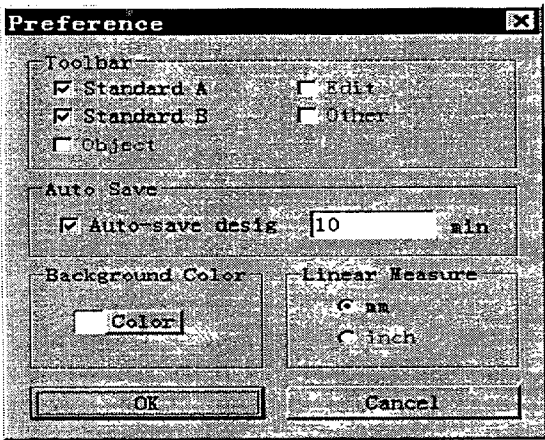
Working Times



Stitch List



Interface Preference



Quick View



True Type Font

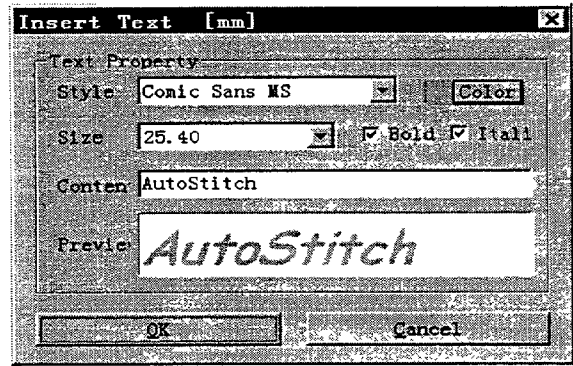
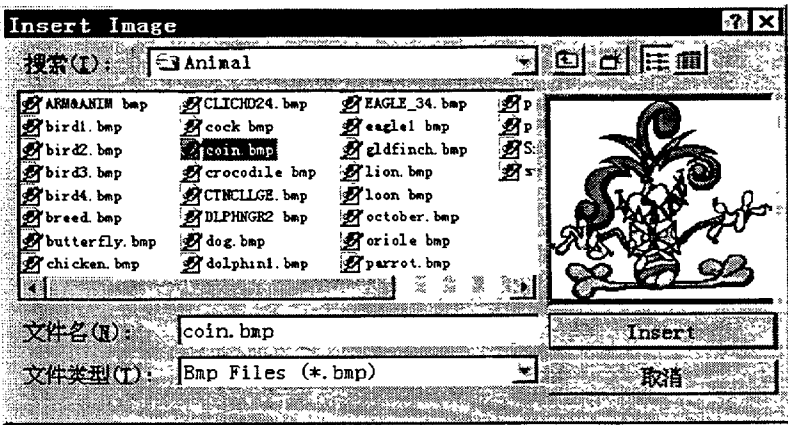
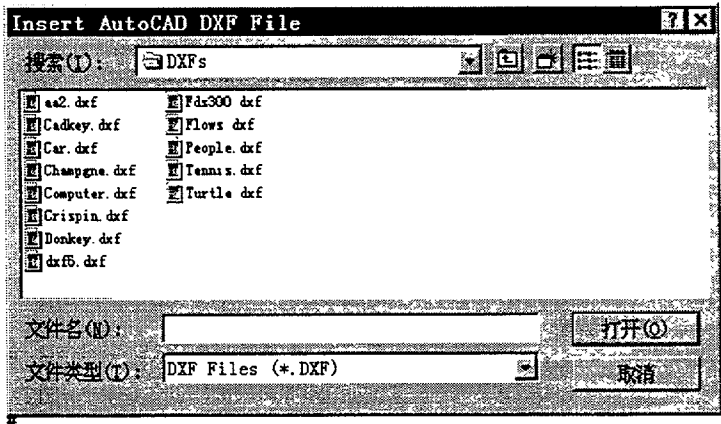


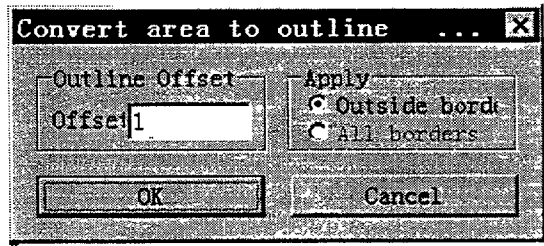
Image File



AutoCAD DXF File



Create Line from Area(s)'s Border(s)



Remove Unit's Stitches by Stitch Number

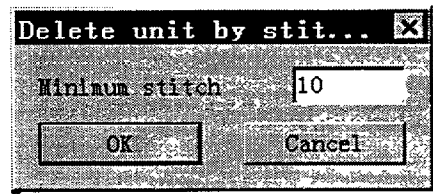
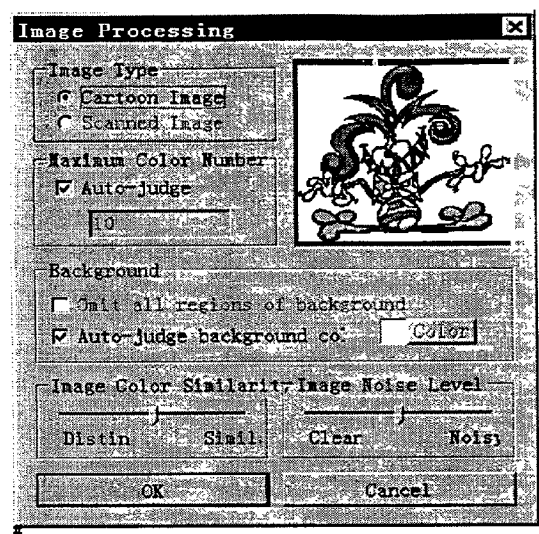
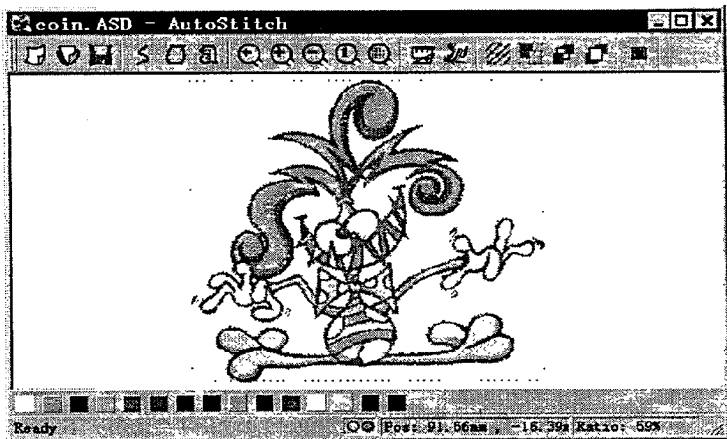


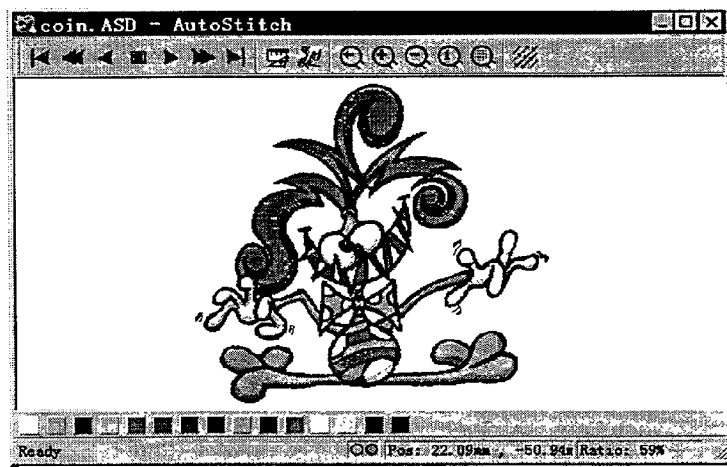
Image Processing



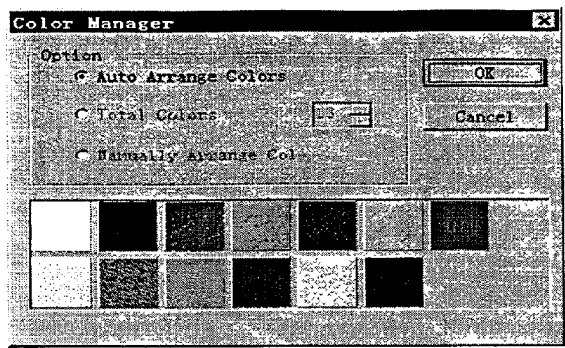
Merge Mask into Stitches



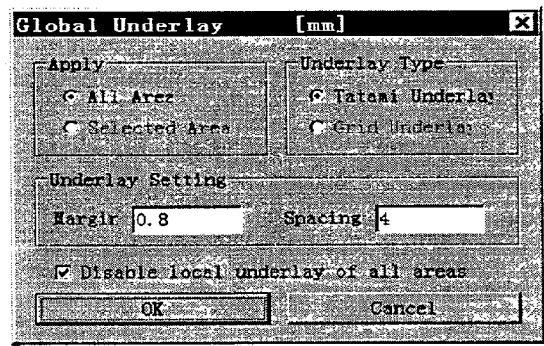
Play Stitches



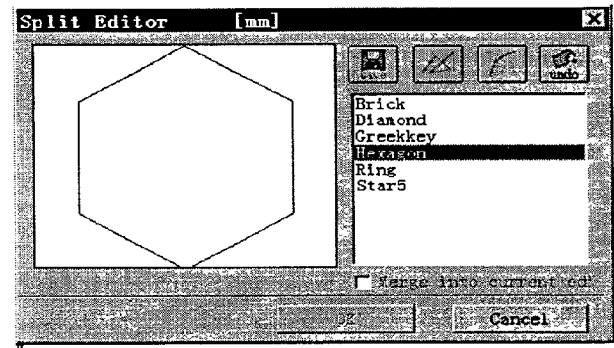
Color Manager



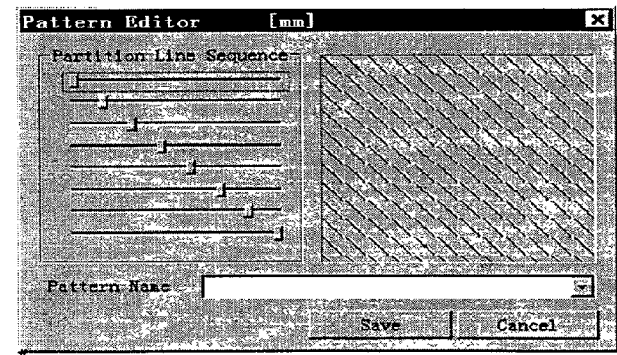
Create Global Underlay Area



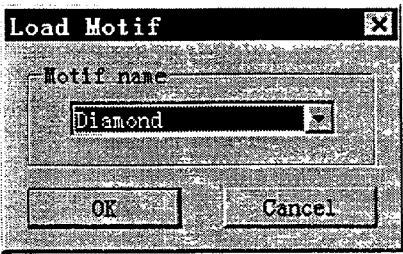
Split Editor



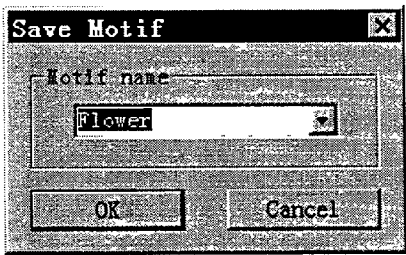
Pattern Editor



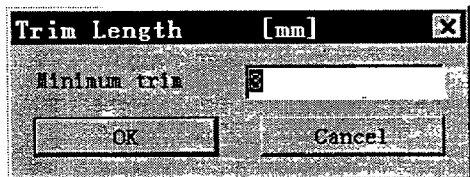
Load from Motif File



Save to Motif File

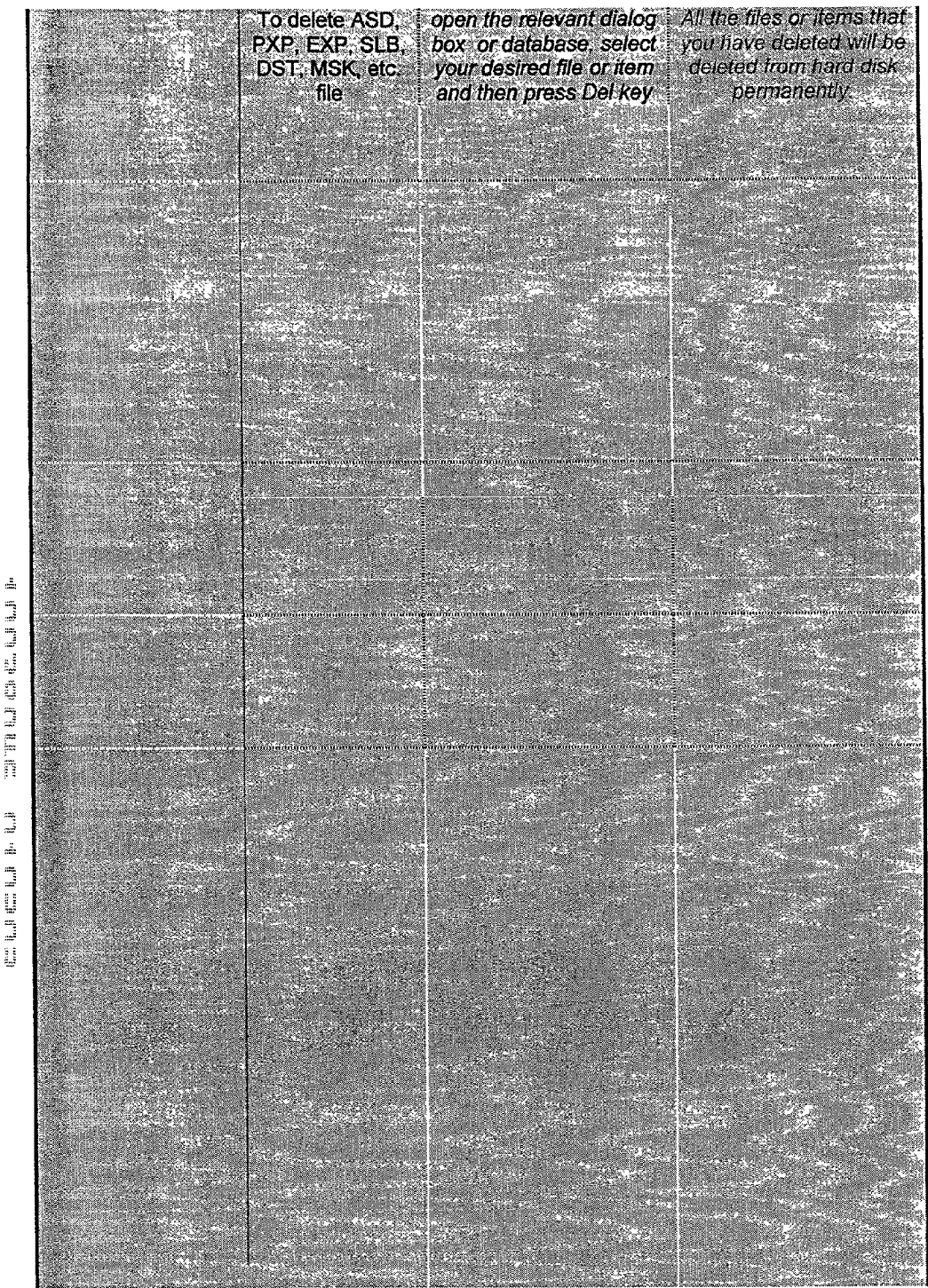


Set Minimum Trim Length



AutoStitch Keyboard List — 3

Shortcut Key	Sphere of application	Description	Remarks
Del key	To delete all the stitches of an area or a line	right-click to select the area or line and then press the Del key	
	To delete an object	left-click to select the object and then press the Del key	
	To delete one or several consecutive or in-consecutive stitches of an area or a line	right-click to select the area or line, click Edit Mode button, and then left-click to define a point. Now press the Del key	The stitches after the defined point will be deleted one by one according to your requirements
	To delete one or several dividing line in an area	right-click to select the area, click Edit Mode button, left-click to select a dividing line, and then press the Del key	Once a dividing line is deleted, the newly formed block must become a reasonable one



Tip:

To see AutoStitch Keyboard List - 1 click 

To see AutoStitch Keyboard List - 2 click 

#Sk

True 3D View

AutoStitch provides the user with True 3D View which enables the user to preview the design. The effect that you view in the True 3D View window is the very effect after embroidery, that is, what you see is what you get.

1. Generate the object.
2. Select View menu, and then click True 3D View from the Simulate View sub-menu. You will now see the effect that you can get out of the embroidery machine later.
3. Click mouse or press any key to cancel this state.

Note:

Before using the True 3D View, you must generate the object and switch it to the Stitch View, otherwise it can not be displayed.

#Sk

Remove Unit's Stitches by Stitch Number

In some designs, there are some areas which are composed by few stitches. Sometimes the number of trim and change color will be increased while embroidering there areas. The user can use Remove Unit's Stitches by Stitch Number and neglect these areas so as to reduce the number of trim and change color.'

1. Click Generate.
2. Select Remove Unit's Stitches by Stitch Number from Stitch menu.
3. In the pop-up *Delete unit by stitch number dialog box*, double-click Minimum Stitch input box and enter a value in it. This value indicates that an area will be neglected if the stitches it contains are less than this value. For instance, suppose the entered value is 10 and the areas, which contain less than 10 stitches will be neglected in the present design.
4. Click Ok.
5. Click Generate.
6. Select Design Information from View. Click Stitch Info button and view the change of the number of trim and change color before and after using Remove Unit's Stitches by Stitch Number.

#Sk

Set Block Direction

The function of Set Block Direction enables the user to define the direction of intersection of some overlapping area, i.e. the order of priority of the two-direction stitches while embroidering. In the Set Block Direction sub-menu, AutoStitch Provides the user with Add guide line and Delete guide line two functions.

- Add guide line
- Delete guide line

Note:

^k True 3D View

topic-380

^s remove unit's stitches by stitch number

^k Remove Unit's Stitches by Stitch Number

topic-381

^s set block direction

^k Set Block Direction

Set Block Direction usually applies to these intersecting areas.

Add guide line

Add guide line is used to add a guide line to the intersecting area so as to change the stitch direction.

1. Click Generate and then click Block View.
2. Right-click to select the whole area which contains the intersecting area.
3. Select Set Block Direction from the Block menu, and then click Add guide line. Now the cursor will become a needle with a plus.
4. Move the cursor to the intersecting area. Left-click to draw a guide line and right-click to end this operation.
5. Click Generate, the stitches which have been defined by the created guide line will be re-created in the intersecting area.
6. Use Play Stitches to view the final effect.

Notes:

1. Having not finished drawing a guide line, you can right-click or press Esc key to cancel this operation.
2. In order to define the order of strokes of the stitches in those intersecting areas, you'd better define one guide line in each intersecting area.

Delete guide line

Delete guide line is used to delete the guide line that you have added to the intersecting area so as to recover the original state, and you can also define another guide line.

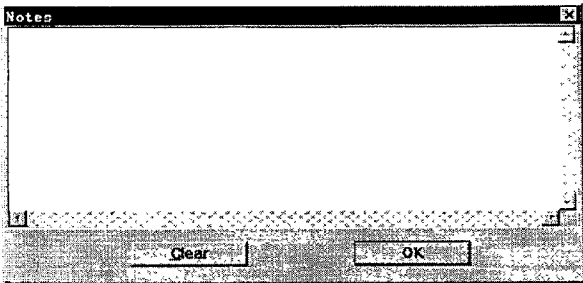
1. Click Block View.
2. Right-click to select an intersecting area which contains the define guide line.
3. Select Set Block Direction from the Block menu, and then click Delete guide line. Now the cursor will become a hand.
4. Move the cursor to point to the guide line, which is now highlighted in blue. Left-click to delete this guide line and then right-click to end this operation.
5. Click Generate directly or click Generate after using Add guide line, you will see the new order of strokes in the intersecting area.
6. Use the Play Stitches to view the final effect.

Note:

Having not finished deleting the guide line, you can right-click or press Esc key to cancel this operation.

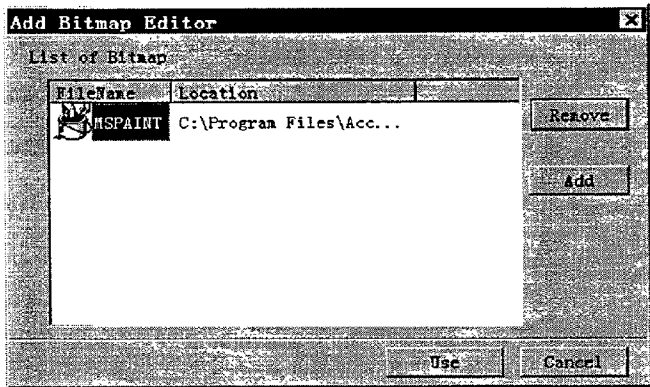
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Notes



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Add Bitmap Editor



Toolbar

AutoStitch provides the user with five toolbars, they are Main, View, Edit, Object, and Other.

- In the Main toolbar, the buttons from the left to the right are: New design, Load Design, Save Current Design, Database Manager, Undo, Outline View, Block View, Stitch View, Edit Mode, Display Stitch Position, Play Stitches, Quick View, and Film, Generate. Here, Outline View, Block View, Stitch View, and Edit Mode, are new and the most important buttons in this version. And in this version, the Object View window is composed by three above-mentioned views and only one of the three is displayed at one time.



- In the View toolbar, the buttons from the left to the right are: Insert Font, Insert Image, Insert From Scanner, Ruler, Pan, Last Zoom, Zoom In, Zoom Out, Natural Size, Zoom All, and Properties.



- In the Edit toolbar, the buttons from the left to the right are: Model Copy, Cut, Copy, Paste, Insert Line, Insert Area, Insert Rectangle, Insert Circle (Ellipse).



- In the Object toolbar, the buttons from the left to the right are: Group/Ungroup, Resize, Align Left, Align Right, Align Top, Align Bottom, Align Baseline, Align Vertical Center, Align Horizontal Center, Align Curve, Align Arc, Flip Vertically, Flip Horizontally, Rotate Left 90 Degree, Rotate Right 90 Degree, and Rotate Manually.



- In the Other toolbar, the buttons from the left to the right are: Add into database, Load into database, Merge Areas, Merge Lines, Fill Hole, Add Dividing Line, Add Trim, Modify Pull Compensation, Arrange Order, Arrange Entry, Notes, Design Information, and Preference.



#5K

 Step by step Instructions

Step 1: Access the Convert Area(s)'s Border to Lines dialog box



1. Right-click an area or hold down the Ctrl key and right click the areas, and release the Ctrl key when you finish selecting.

Step 2: Choosing the desired state



AutoStitch provides the user with two options.

- 1. Check the Outline View button.
- 2. Right-click to activate one or several irregular or un-smooth areas.
- 3. Select Geometry Processing from the Outline menu.
- 4. Now you'll find the outline of those formerly activated areas become regular or smooth.

Notes:

- 1. Geometry Processing can be applied to several right-clickingly-activated areas.
- 2. After Geometry Processing, you should regenerate at least those areas that have participate some steps of operation, otherwise no stitches will be created in these areas.
- 3. AutoStitch provides users with two ways of geometry processing: one is to process the some areas of the design and another is to process the whole design. The Apply Geometry Processing checkbox in the Image Processing dialog box menu allows users to process the outline of the whole design.

Step 3: Setting the value of the Outline Offset

- 1. Input the desired value into the frame.
- 2. Click OK. The outside border or all the borders of those selected areas will now be displayed in the Object View window.

Tip:

Under the default state, the measure is mm and the offset value is 0. Offset refers to the vertical distance from every point of the border to the original outline of the selected area.

Convert Line(s) to Linelike Area(s)

Convert Line(s) to Linelike Area(s) enables the user to convert to a relatively closed line-like an area through one or several defined lines.

- 1. Right-click or drag with the right button to select one or several lines.
- 2. Click Outline menu, and then select Convert Line(s) to Linelike Area(s) from the Convert sub-menu.
- 3. Input the width of the would-be line like area into Area Width in the pop-up Convert Line to linear area window. The default value is 2 mm, i.e. the distance between the selected line and the border of the converted linelike area is 2 mm. Thus, the width of the whole linelike area is 4mm.

Notes:

- 1. You can perform this operation only when you right-click to select line(s) and the menu becomes highlighted.
- 2. You can perform this operation on one or several lines at the same time.

Convert Lines to Area's Border

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Convert Lines to Area's Border enables the user to convert to a relatively closed area's border through one or several defined lines.

1. Right-click or drag with the right button to select one or several lines.
2. Click the Outline menu, and then select Convert Lines to Area's Border from the Convert sub-menu.

Notes:

1. You can perform this operation only when you right-click to select line(s) and the menu becomes highlighted.
2. You can perform this operation on one or several lines at the same time.
3. The line that you use to convert to an area's border can be either a closed or an open curve. The former can convert to an area's border directly, but the latter can create it after the starting and the ending points are linked automatically. A straight line can not convert to an area's border.

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Adjust

Use Adjust to change the outline shape of the currently-selected area(s).

- Adjust Outline with a Line
- Adjust Outline with an Arc
- Adjust Outline with a curve

Notes:

1. Right-click to select area(s) that you want to adjust, and one or several area(s) can participate in this operation at one time.
2. Adjust is valid only on the outline of the area rather than a line.
3. Right-clicking or pressing the Esc key can cancel this operation. After adjusting the outline of the area, right-click or press the Esc key to cancel finish the operation.

Adjust Outline with a Line

Convert part of the outline of the presently activated area(s) into a straight line.

1. Right-click to activate one or several area(s).
2. Select Adjust from the Outline menu and then click Adjust Outline with a Line.
3. Now the cursor will become a pen with a plus. Move the cursor to part of the outline that you want to adjust and left-click to create two green points which will define the part of the outline and divide the outline into two parts. Move the cursor to point to either of them, you'll find that part highlighted with red color, and this shows you can adjust this part. Now, you can left-click or press the Esc key to cancel the operation.
4. Move the cursor to the part of the outline that you want to adjust so that it is highlighted with red. Left-click this part, you'll find it becomes a straight line.

topic-400
\$ adjust
K Adjust
topic-401

5. If you have finished adjusting the outline of all the areas, right-click or press the Esc key to finish the operation.

6. Click Generate.

#

Adjust Outline with an Arc

Adjust Outline with an Arc is to convert part of the outline of the presently activated areas into an arc.

1. Right-click to activate one or several areas.

2. Select Adjust from the Outline menu and then click adjust Outline with an Arc.

3. Now the cursor will become a pen with a plus. Move the cursor to the part of the outline that you want to adjust, and left-click to create two green points which will define the part of the outline and divide the outline into two parts. Move the cursor to point to either of them, you'll find that part is highlighted with red and it shows you can adjust this part. Now right-click or press the Esc key to cancel the operation.

4. Move the cursor to the part of the outline that you want to adjust so that it is highlighted with red. Left-click it and hold down the left button to drag the part of the outline to your desired extent, left-click it and then you'll find part of the outline become an Arc.

5. If you have finished adjusting the outline of all the areas, right-click or press the Esc key to finish the operation.

6. Click Generate.

Note:

If you drag a certain part of the outline so that it intersects with the originally activated area, the warning message "Self-cross Outline" will appear. Click OK to neglect the warning.

#

Adjust Outline with a Curve

Adjust Outline with a Curve is to convert a certain part of the outline into a curve.

1. Right-click to activate one or several areas.

2. Select Adjust from the outline menu and then click Adjust Outline with a Curve.

3. Now the cursor will become a pen with a plus. Move the cursor to the part of the outline that you want to adjust and left-click to create two green points which will define the part of the outline and divide the outline into two parts. Move the cursor to point to either of them, you'll find a part highlighted with red showing you that this part can be adjusted. Now you can left-click or press the Esc key to cancel the operation.

4. Move the cursor to the part of the outline that you want to adjust so that it is highlighted with red. Left-click and hold down the left button to drag the part of the outline to get your desired curve, left-click it and then you'll find the part of the outline becomes a curve.

5. If you have already finished adjusting the outline of all the areas, right-click or press the Esc key to finish the operation.

Note:

If you drag certain parts of the outline so that they intersect with the originally activated area, the warning message "Self-cross Outline" will appear. Click OK to neglect the warning.

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Reshape

In the process of embroidery, users sometimes hope to vary the shape of some characters or designs so as to get a better effect. For this reason, in order to satisfy the needs of the majority of users, AutoStitch provides the users with a new function, Reshape, which allows users to get many different reshaping effects. In addition, the user can drag some given points in these models to change the extent, direction and final effect of reshape.

1. Left-click to select an object.
2. Select Reshape from the Edit menu.
3. In the pop-up Model Dialog box, click to select your desired reshape model in the left-side list box. If your desired one is invisible, drag the scrollbar so that you can see it, and then click to select it.
4. The reshape model that you have selected will be displayed in the right-side preview window. If satisfied, click OK.
5. At this time, you'll find the selected reshape model displayed with a red dotted frame, and the previously selected object is reshaped according to the selected reshape model. In addition, you will find one or several black points (we call these Control Points) located in certain position of the dotted frame of the reshape model, which are used to change the extent, direction and final effect of reshape.
6. Point the cursor to anyone of these black points, the cursor will become a two-direction-arrow or four-direction-arrow cursor under different circumstances. Drag the cursor toward the arrow direction, the reshape model will change to some extent on the basis of its original shape so that the object in this reshape model changes with it. In this way, a new effect is available.
7. If satisfied, press the Enter key.
8. Click Generate.

Tip:

To use Reshape on an object, only one reshape model can be used at one time, but an object can use different reshape models repeatedly at different times so as to get an overlapping effect.

Notes:

1. In Reshape operation, you must left-click to select one object, and only one object can participate in this operation at a time.
2. In the Model dialog box, each displayed reshape model has at least one red point. Here the point(s) are used to indicated the position of these Control Points which can change the extent, direction of reshape, i.e. those black points on the dotted reshaping frame in the Object View window. However, the red points in the model display are only used to indicate the position and can not be dragged; those black points on the dotted reshaping frame in Object View window can be dragged.
3. Depending on the extent and direction of reshape, AutoStitch provides each reshape model with several Control Points in different positions and each Control Point varies in the direction that you can drag it towards. Therefore, users can choose suitable reshape model and Control Points to reshape.

Align by Arc

Can align selected objects by the given Arc.

topic-404
 \$ reshape
 K Reshape
 # topic-406

1. Select several objects.
2. Select the Edit menu, and then click the Align By Arc sub-menu from Align. You can also click Align Arc in the Toolbar.
3. Now the original cursor will become a pen. To draw an Arc, left-click any place you want in the Object View window to define the starting point of the Arc. Move the cursor with mouse to any place in the Object View window and then left-click to define the ending point of the Arc.
4. Now part of an arc-line will appear between the two points. Point the cursor to the arc line and move up-and-down, you'll find the direction and radian measure of the arc line altered with the movement of the cursor.
5. Left-click to define the final direction and the radian measure of the arc line.

Tip:

You can right-click before defining this arc decisively or press the Esc key to cancel the align by arc operation.

Notes:

1. The selected objects are aligned by the self-drawn arc and both their x/y-coordinates will change a little bit. Sometimes objects will convert according to certain requirements.
2. When several objects are selected simultaneously, this operation will affect all of them. If you want to cancel this selection, click the blank space of the Object View window.

#

Step 7: Apply Geometry Processing

Once Apply Geometry Processing is checked, AutoStitch will automatically identify those irregular or un-smooth areas and process their outlines geometrically. Geometry processing at this stage is to process the outlines of all the area in the current design which have been identified as irregular or un-smooth.

Note:

AutoStitch provides users with two ways of geometry processing: one is to process the whole design and another is to process some areas of the design. The Geometry Processing from the Outline menu allows users to process the outline one or several areas.

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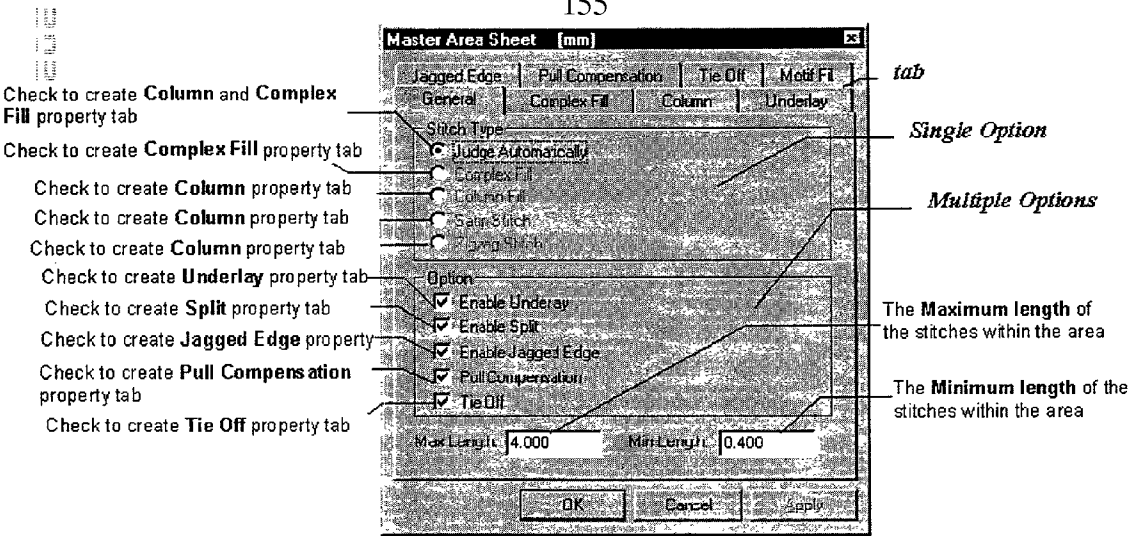
Grid

Use this function, Grid, to determine the exact location of the component parts of your design.

1. Select Grid from the View menu.
2. In the pop-up Grid dialog box, three displays style of grid, None, Dot, Line, are listed in Style option. Choose to display the grid as dots at the intersections of lines or as the full intersecting lines or display none. Select your desired display style.
3. In the Spacing input box, enter the distance value of dot grid or line grid. The bigger the value is, the bigger the grid spacing.
4. Click the Color button, select one suitable color to change the grid color.

5. To check Snap to grid in the Grid dialog box means that you can move the selected object grid by grid. This function is not affected by grid style, even if the grid is displayed.
6. Click OK to accept the settings in the Grid dialog box, click Cancel to give up the present modification and use its original settings.

If you are looking for a design on a network computer and the drive does not appear in the Look In box, minimize the AutoStitch windows, after that, double click the Windows Explorer and then click Map Network Drive. In the Drive box, click the drive letter you want to use to connect to the network computer, enter its path in the Path box, and then click OK.



Complex Fill tab

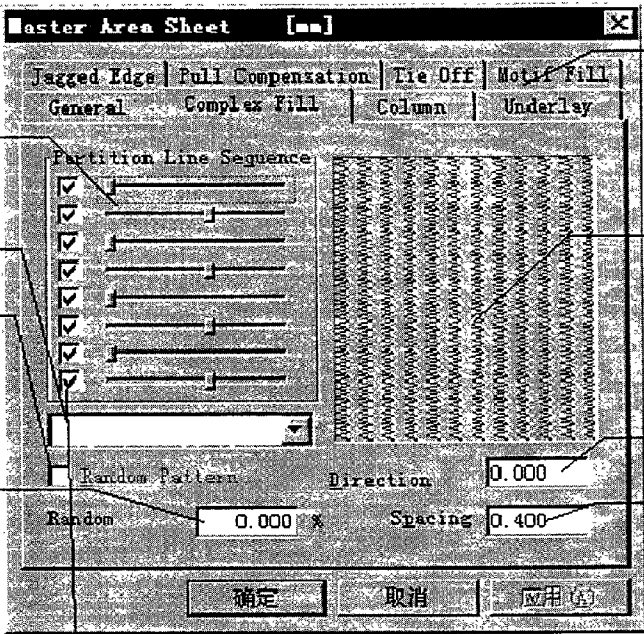
Adjust the needle point of each line so as to adjust the complex design

Lists all the existing pattern names. Select a pattern as the regional pattern

Check to use disorganized stitches

Under the state of checking **Random Pattern**, control the degree of the needle points' mal-position in each line

Vertical dashed line



tab

Preview

The **Direction** of the Complex Fill

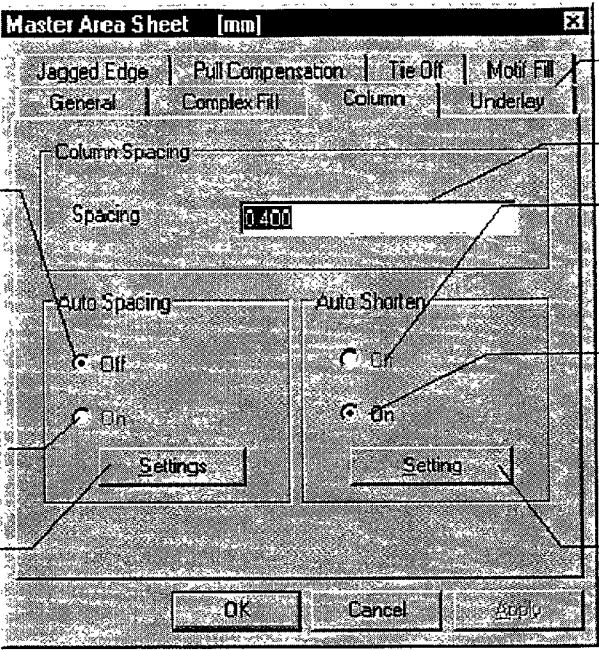
The **Spacing** of the Complex Fill

To check anyone of the eight checkbox means to check all the checkboxes(including itself) before this checkbox automatically. Meanwhile, all the checkboxes following it will be unchecked. Now the Tatami of each checked lines will be created and the cursor within it is used to adjust the design.

Check to close the **Auto Spacing** and the **Column Spacing** use the defined value.

Check to start using the **Auto Spacing**. That **Column Spacing** has or has not something to do with above-mentioned value is judged automatically according to the **Settings**.

Set the spacing in the column



tab

The **Spacing** of Column

Check to close the **Auto Shorten**, the stitches are not shortened automatically while making a turn.

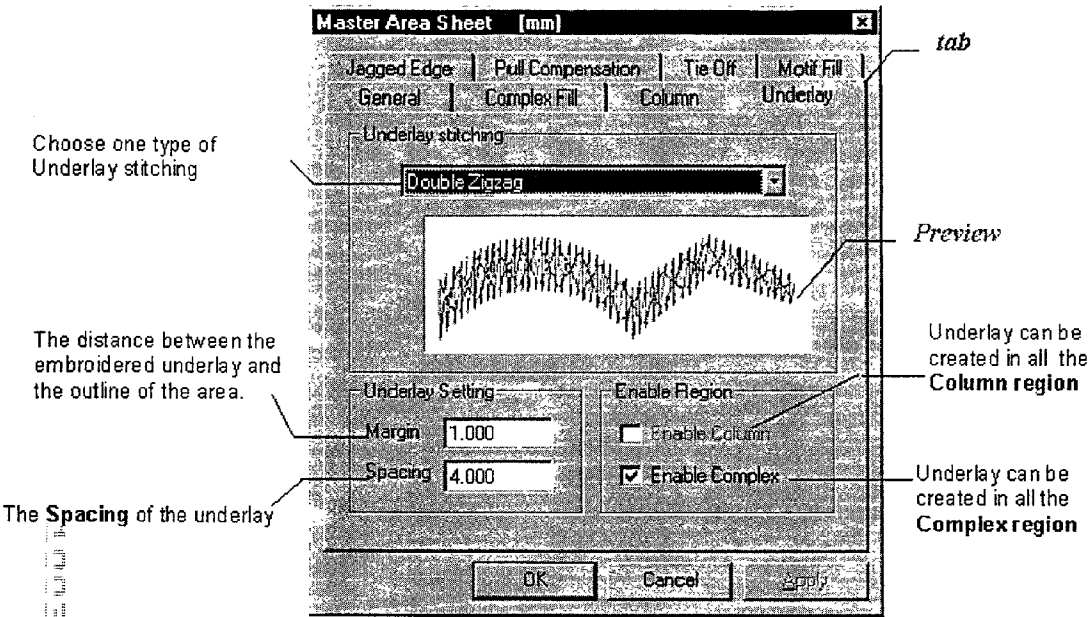
Check to start using the **Auto Shorten**. According to the **Settings** and the shape of the corner, the stitches will be shortened automatically.

Set the shorten in the column

Tips

#

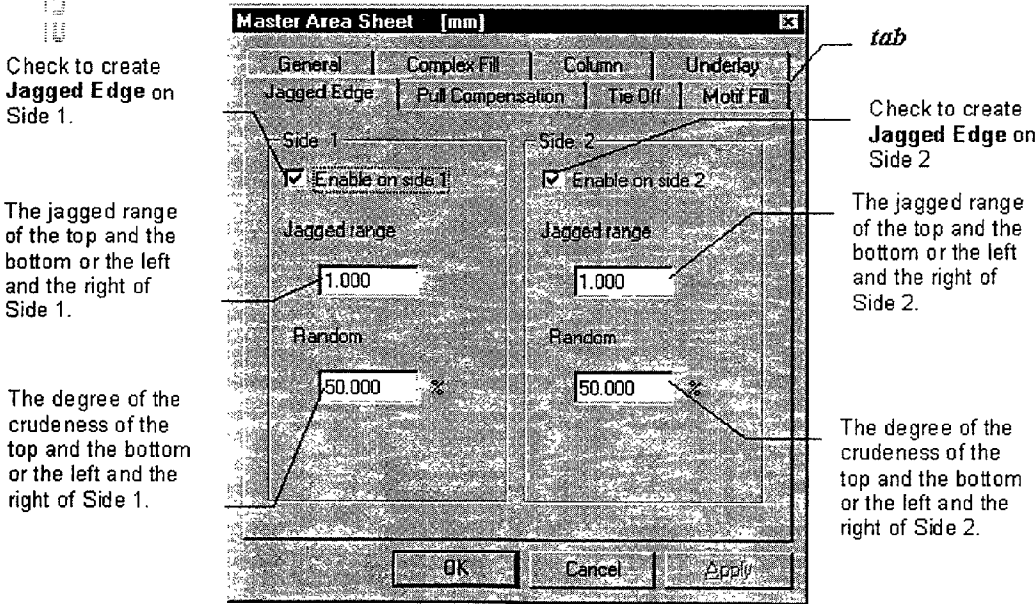
- To see more information about Auto Spacing Settings, [click !\[\]\(569ff5d1aa9137b5defb690d1175fea6_img.jpg\)](#)
- To see more information about Auto Shorten Settings, [click !\[\]\(59bff645cb030955f45f21c74e7ddbd4_img.jpg\)](#)



Tip:

Under the Enable Region option, if checked both of the two multiple options, both column and complex areas will be underlayed; if checked none, both column and complex areas will not be underlayed.

Jagged Edge tab



Pull Compensation tab 159

Master Area Sheet [mm]

General

Complex Fill

Column

Underlay

Jagged Edge

Pull Compensation

Tie Off

Motif Fill

Full Compensation

Limitation

0.400

Percentage

10

%

确定

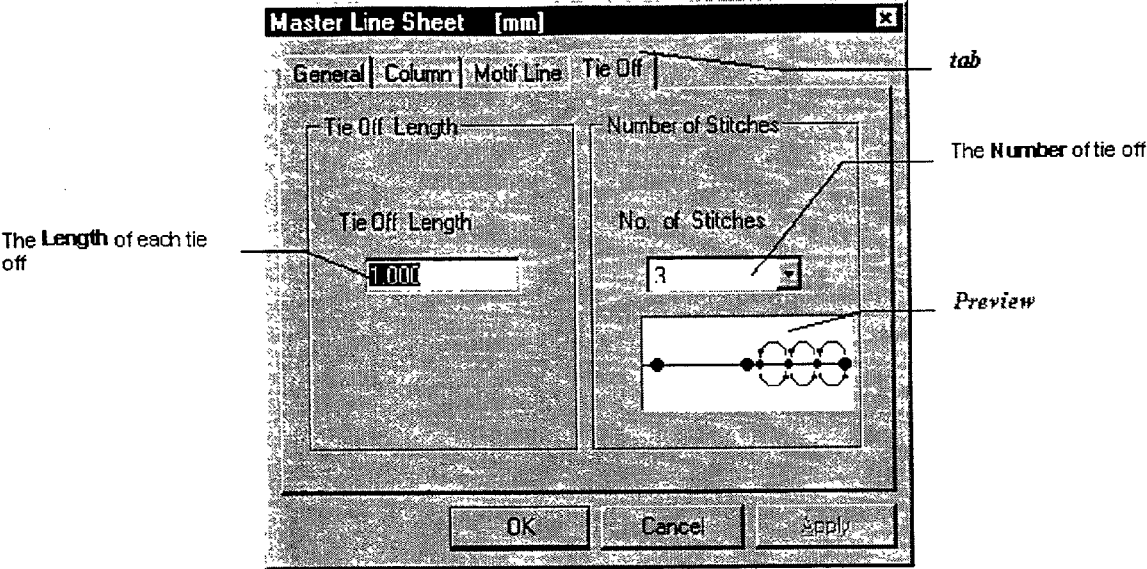
取消

应用(A)

tab

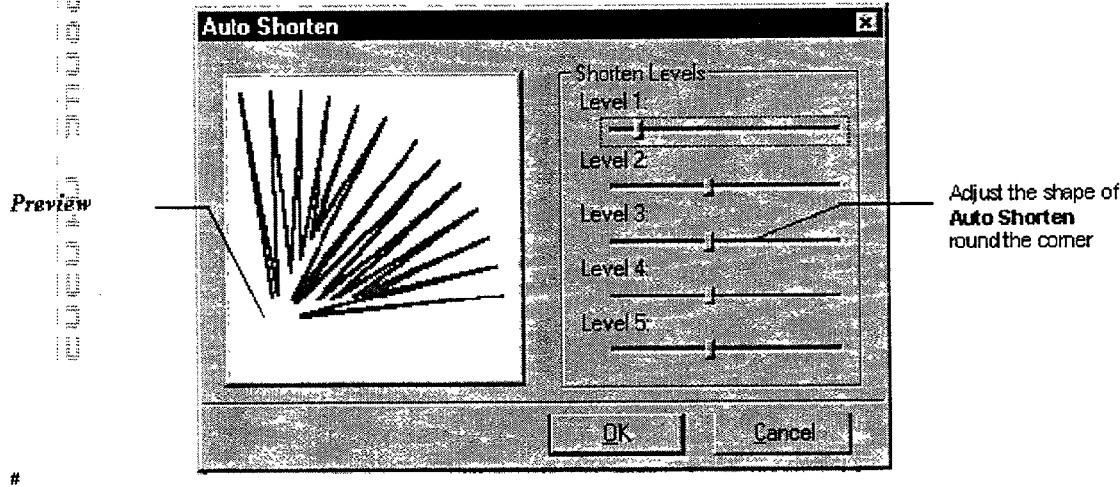
Define the **Limit Value** that you will use to create Pull Compensation

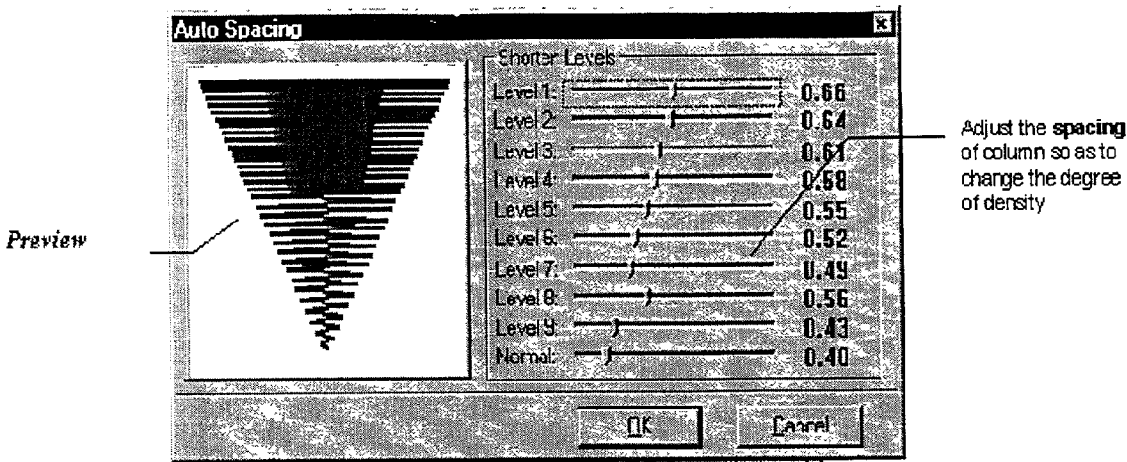
Define the **Percentage** that you will use to create Pull Compensation to the line within the area



#

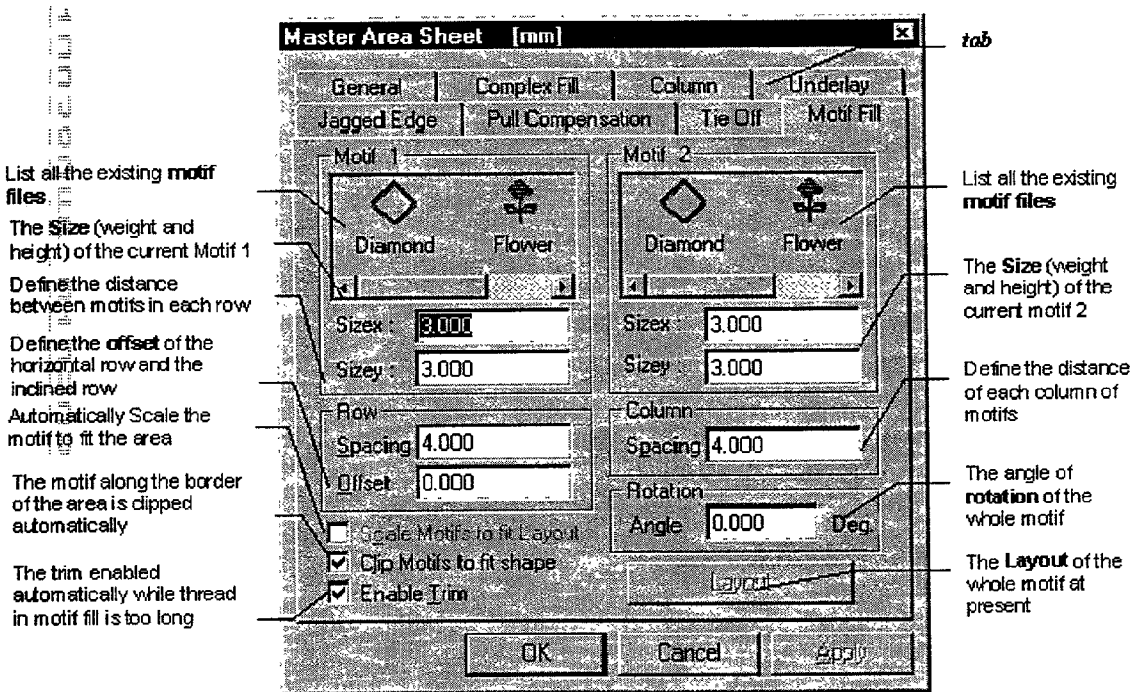
Auto shorten





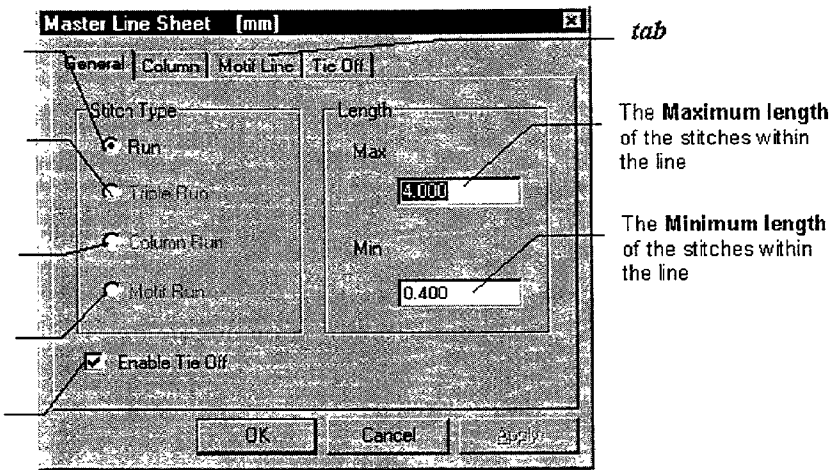
#

Motif Fill tab



#SK

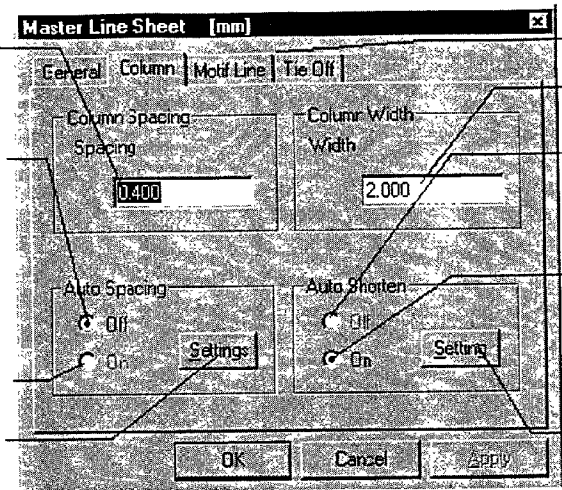
- Check to create the digitized line by going forward only.
- Check to create the digitized line by going forward, backward, then forward again
- Check to create **Column** property tab, stitch with column and with this line as the center
- Check to create **Motif Line** property tab and arrange motifs along this line
- Check to create **Tie Off** property tab



The **Spacing** of Column
Check to close the **Auto Spacing** and the **Column Spacing** use the defined value

Check to start using the **Auto Spacing**. That **Column Spacing** has or has not something to do with above-mentioned value is judged automatically according to the **Settings**.

Set the spacing in the column



tab

The **Width** of Column

Check to close the **Auto Shorten**, the stitches are not shortened automatically while making a turn.

Check to start using the **Auto Shorten**. According to the **Settings** and the shape of the corner, the stitches will be shortened automatically.

Set the shorten in the column

Tips

To see more information about Auto Spacing Settings, [click](#)

To see more information about Auto Shorten Settings, [click](#)

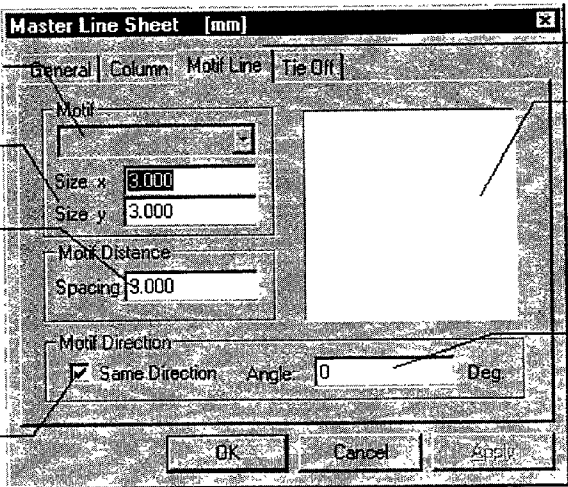
Motif Line tab

List all the existing motif files

The **Size** (weight and height) of the Motif

The distance of every two motifs

Check to arrange all the motifs by one direction (determined by the defined Angle value). Uncheck to arrange all the motifs toward the tangent line of this line.



tab

Preview

The **rotating angle** of all the motifs on their original basis

List all the existing motif files

The **Size** (weight and height) of the Motif

The distance of every two motifs

Check to arrange all the motifs by one direction (determined by the defined Angle value). Uncheck to arrange all the motifs toward the tangent line of this line.

Master Line Sheet [mm]

General | Column | Motif Line | Tie Off

Motif

Size x 3.000

Size y 3.000

Motif Distance

Spacing 3.000

Motif Direction

☒ Same Direction Angle: 0 Deg

OK Cancel Apply

tab

Preview

The rotating angle of all the motifs on their original basis

Check to create the digitized line by going forward only.

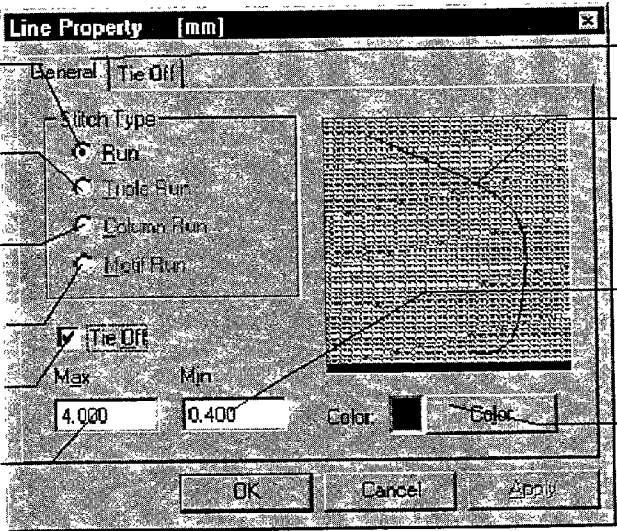
Check to create the digitized line by going forward, backward, then forward again.

Check to create **Column** property tab, stitch with column and with the current line as the center.

Check to create **Motif Line** property tab and arrange motifs along the current line

Check to create **Tie Off** property tab

The **Maximum length** of the stitches within the current line



tab

Preview

The **Minimum length** of the stitches within the current line

Click to **change** the **color** of the activated line

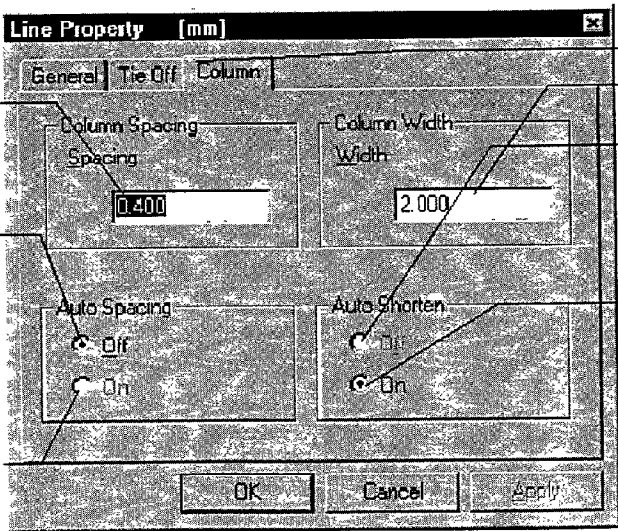
#

Column tab

The **Spacing** of Column

Check to close the **Auto Spacing** and the **Column Spacing** use the defined value

Check to start using the **Auto Spacing**. That **Column Spacing** has or has not something to do with above-mentioned value is judge automatically according to the Settings.



tab

The **Width** of Column

Check to close the **Auto Shorten**, the stitches are not shortened automatically while making a turn

Check to start using the **Auto Shorten**. According to the Settings and the shape of the corner, the stitches will be shortened automatically.

#

Select one of the existing motif files as Motif

The **Size** (weight and height) of the Motifs

The distance of every two motifs

Check to arrange all the motifs by one direction (determined by the defined Angle value). Uncheck to arrange all the motifs toward the tangent line of the current line

#SK

Line Property [mm]

General Tie Off Motif Line

Motif

Diamond

Size x 3.000

Size y 3.000

Motif Distance

Spacing 4.000

Motif Direction

☒ Same Direction

Angle: 0

Deg.

Preview

OK Cancel Apply

tab

Preview

The rotating angle of all the motifs on their original basis

Check to create **Column** and **Complex Fill** property tab

Check to create **Complex Fill** property tab

Check to create **Column** property tab

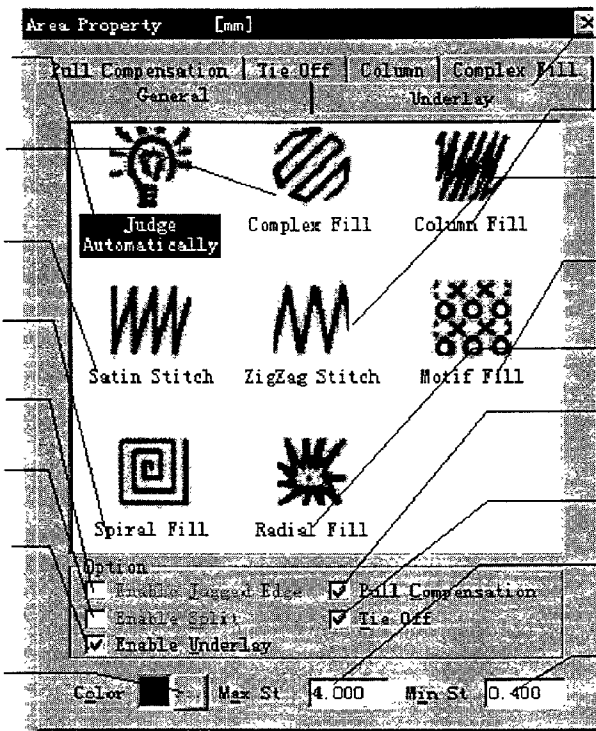
Check to create **Spiral** property tab

Check to create **Jagged Edge** property tab

Check to create **Split** property tab

Check to create **Underlay** property tab

Click to **change** the **color** of the activated area



tab

Check to create **Column** property tab

Check to create **Column** property tab

Check to create **Motif Fill** property tab

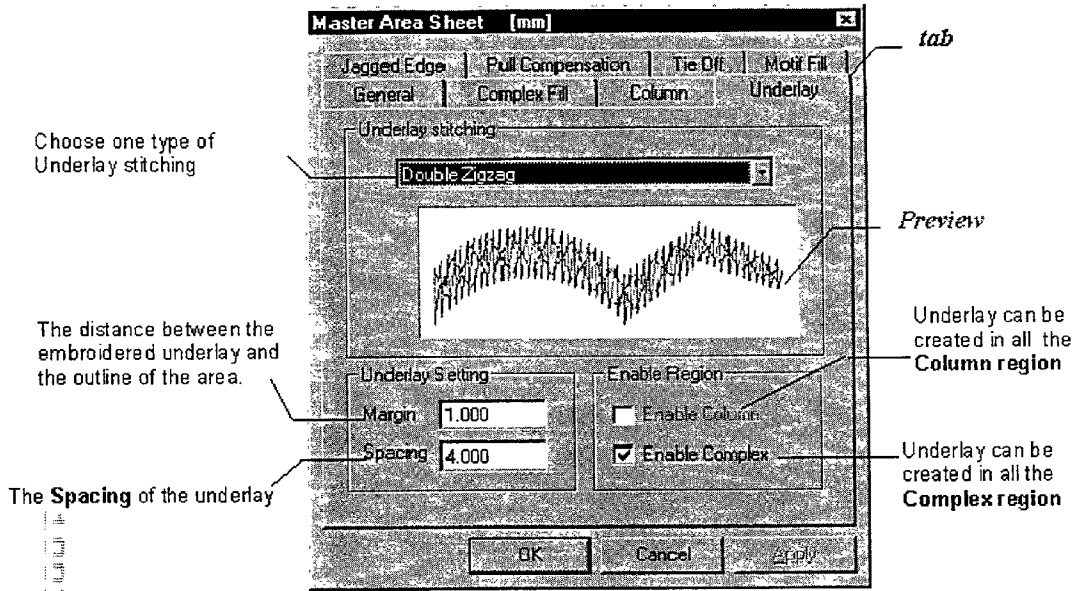
Check to create **Radial** property tab

Check to create **Pull Compensation** property tab

Check to create **Tie Off** property tab

The **Maximum length** of the stitches within the area

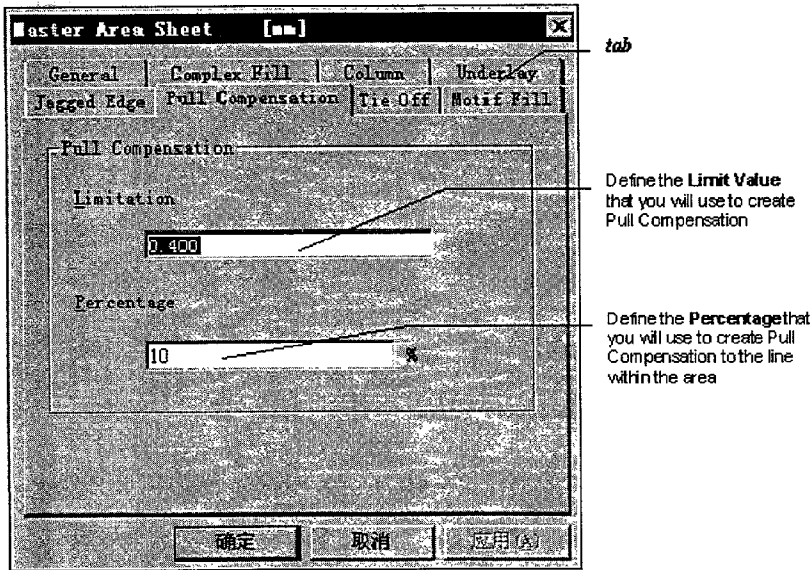
The **Minimum length** of the stitches within the area



Tip

Under the Enable Region option, if checked both of the two multiple options, both column and complex areas will be underlayed; if checked none, both column and complex areas will not be underlayed.

Pull Compensation tab



The Length of each tie off

Master Line Sheet [mm]

General

Column

Motif Line

Tie Off

Tie Off Length

TieOff Length

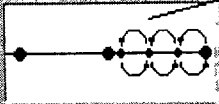
1.000

Number of Stitches

No. of Stitches

3

Preview



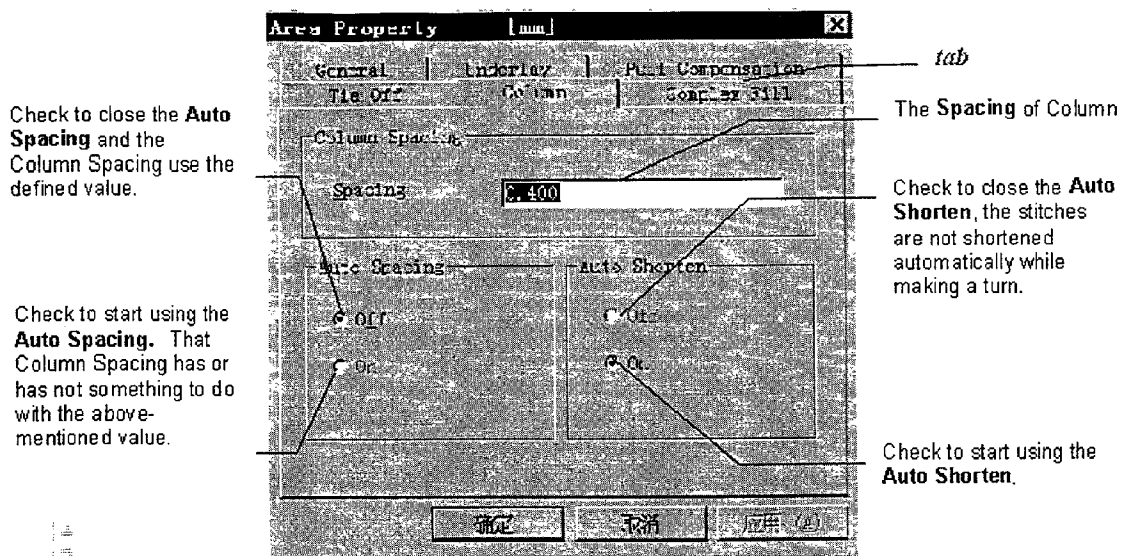
OK

Cancel

Apply

tab

The Number of tie off



Complex Fill tab

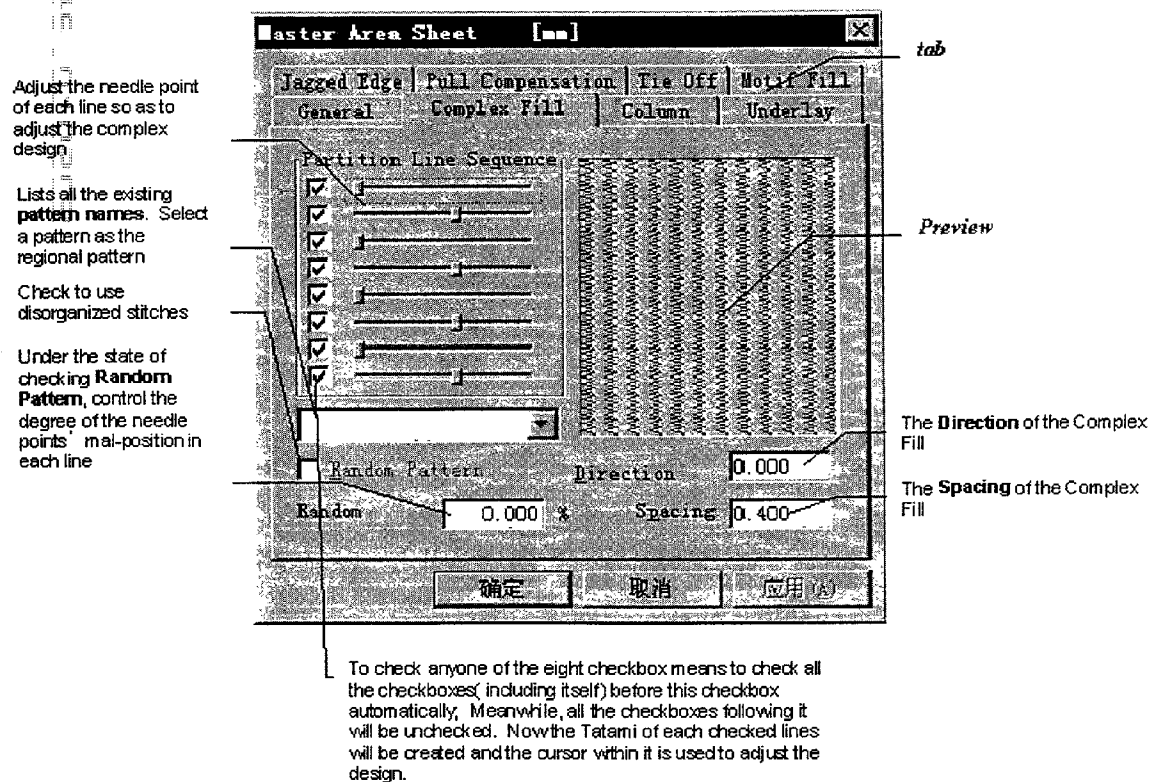


FIG. 10

Check to create **Jagged Edge** on Side 1.

The jagged range of the top and the bottom or the left and the right of Side 1.

The degree of the crudeness of the top and the bottom or the left and the right of Side 1.

Master Area Sheet [mm]

General

Complex Fill

Column

Underlay

Jagged Edge

Pull Compensation

Tie Off

Motor Fill

Side 1

☒ Enable on side 1

Jagged range

1.000

Random

50.000 %

Side 2

☒ Enable on side 2

Jagged range

1.000

Random

50.000 %

OK

Cancel

Apply

tab

Check to create **Jagged Edge** on Side 2

The jagged range of the top and the bottom or the left and the right of Side 2.

The degree of the crudeness of the top and the bottom or the left and the right of Side 2.

Select one of the existing split files as split

The **Size** (Weight and height) of the current split

Define the distance between splits in each column

Define the **offset** of the vertical column and inclined column

Reset the above items according to their default value

Tip.

Area Property [mm]

GeneralUnderlayPull Compensation

Tie OffRadialSplit

HexagonRingStar

Size

Size X10.000

Size Y9.497

Column Spacing10.000

Offset0.000

Direction Rotation

90.00

Deg

Row Spacing9.497

Offset0.000

ResetLayout

OKCancelApply

tab

Preview of the Split

The angle of **rotation** of the whole split

Define the distance between splits in each row

Define the **offset** of the horizontal row and inclined row

The **Layout** of the whole split at present

To see more information about Layout, [click](#) 

Layout window

Drag this dotted frame to move the splits that lie in the top and the bottom row. Move the splits vertically so as to change the **Row Spacing**. Move the splits horizontally so as to change the **Row Offset**.

Drag this dotted frame to move the splits that lie in the left and the right column horizontally so as to change the **Column Spacing**.

Area Property [mm]

General Underlay Pull Compensation Split

Split Layout [mm]

Column Spacing: 10.00 Offset: 0.00

Row Spacing: 9.50 Offset: 0.00

Ratio: 1

Accept Cancel

OK Cancel Apply

tab

Only displayed the changes you have created in these aspects

Zoom In all the splits that have been displayed in the layout window

Zoom Out all the motifs that have been displayed in the layout window

Control the **ratio** of the **Column Spacing**, **Row spacing** and **Row Offset** of the current splits that have been displayed in the layout window

#

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Motif Fill tab

List all the existing **motif files**

The **Size** (weight and height) of the current Motif 1

Define the distance between motifs in each row

Define the **offset** of the horizontal row and the inclined row

Automatically Scale the motif to fit the area

The motif along the border of the area is clipped automatically

The trim enabled automatically while thread in motif fill is too long

Master Area Sheet [mm]

General Complex Fill Column Underlay

Jagged Edge Pull Compensation Tie Off Motif Fill

Motif 1

Diamond Flower

Size: 3.000

Size: 3.000

Row Spacing: 4.000

Offset: 0.000

Scale Motifs to fit Layout

Clip Motifs to fit shape

Enable Trim

Motif 2

Diamond Flower

Size: 3.000

Size: 3.000

Column Spacing: 4.000

Rotation Angle: 0.000 Deg

Layout

OK Cancel Apply

tab

List all the existing **motif files**

The **Size** (weight and height) of the current motif 2

Define the distance of each column of motifs

The angle of **rotation** of the whole motif

The **Layout** of the whole motif at present

To see more information about Layout, [click](#) 

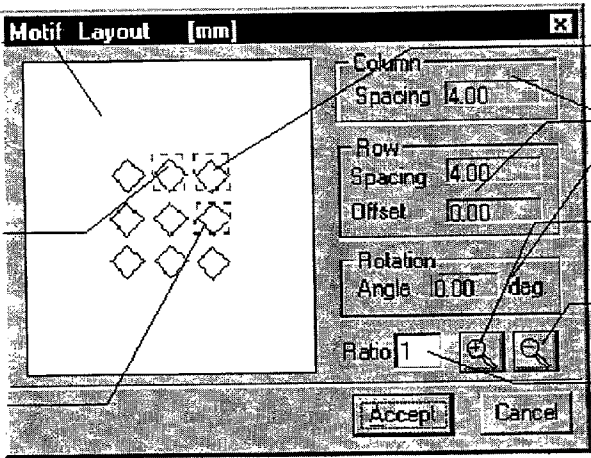
#

Motif Layout

Layout window

Drag this dotted frame to move the motifs that lie in the top and the bottom row. Move the motifs vertically so as to change the **Row Spacing**. Move the motifs horizontally so as to change the **Row Offset**.

Drag this dotted frame to move the motifs that lie in the left and the right column horizontally so as to change the **Column Spacing**.



Drag this dotted frame to **Rotate** the whole motif

Only display the changes you have created in these aspects

Zoom In all the motifs that have been displayed in the layout window

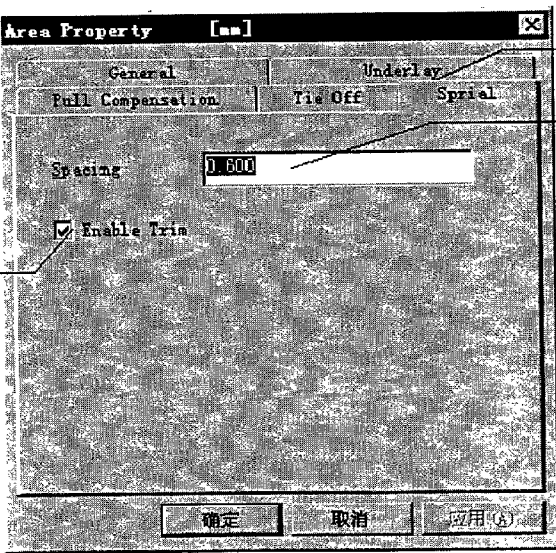
Zoom Out all the motifs that have been displayed in the layout window

Control the **ratio** of the **Column Spacing**, **Row Spacing** and **Row Offset** of the current motifs that have been displayed in the layout window

#

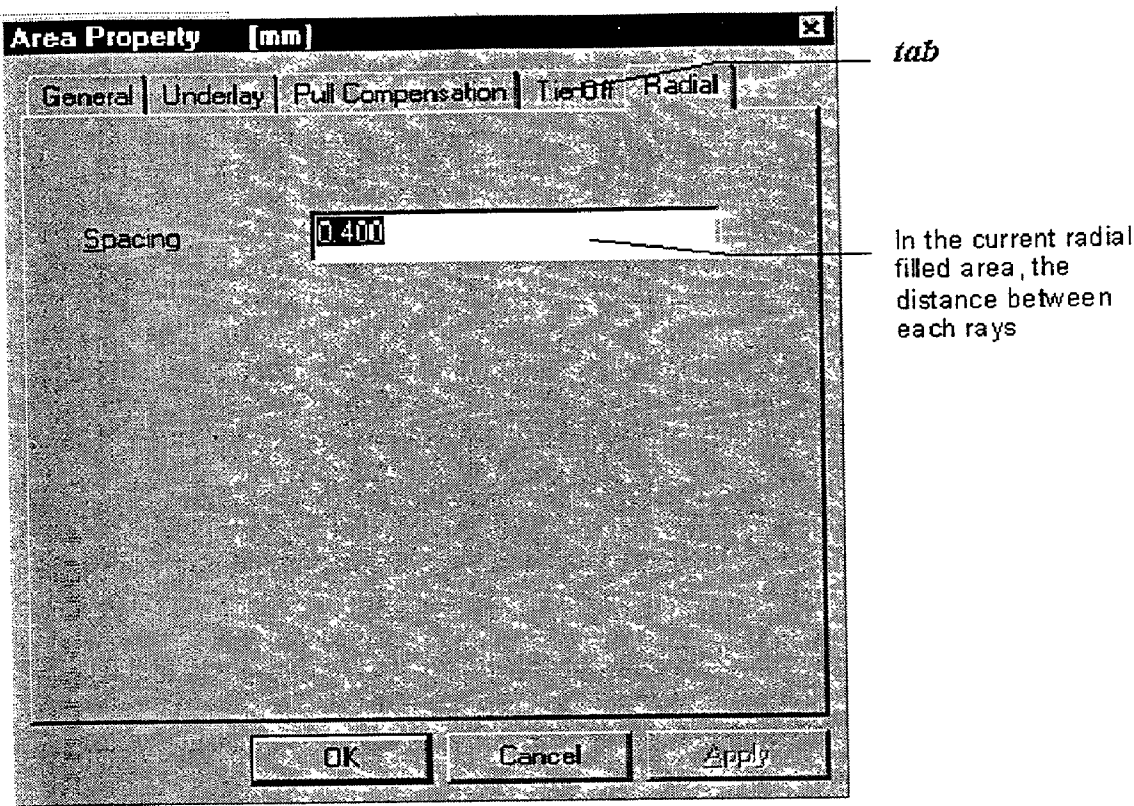
Spiral tab

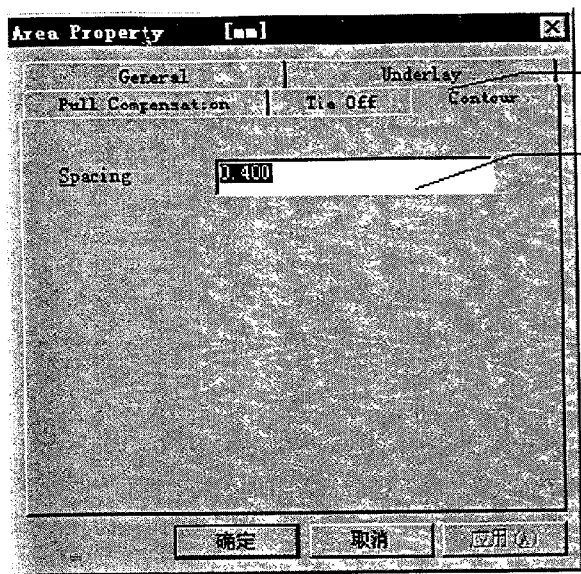
If this checkbox is checked, the thread in the spiral will be trimmed automatically if it is too long.



tab

In the current spiral filled area, the distance between spirals



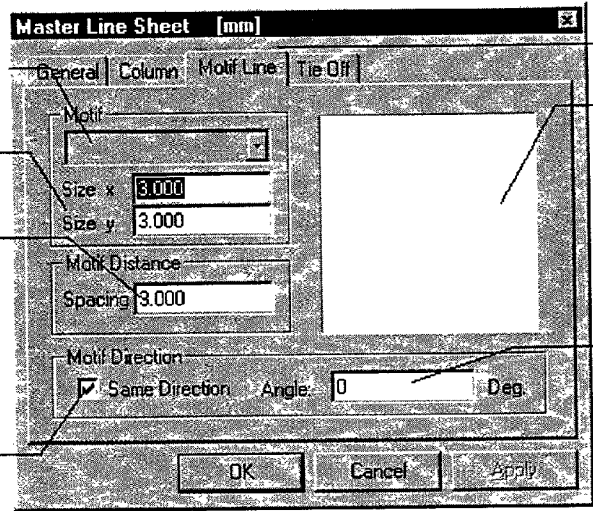


tab

In the current contour filled area, the distance between contours.

Tie Off tab

- List all the existing motif files
- The **Size** (weight and height) of the Motif
- The distance of every two motifs
- Check to arrange all the motifs by one direction (determined by the defined Angle value). Uncheck to arrange all the motifs toward the tangent line of this line.



tab

Preview

The rotating angle of all the motifs on their original basis

What is claimed is:

1. A method for embroidering comprises:
 - receiving a digitized representation of an image;
 - determining grain structures for a plurality of locations in the digitized representation, the plurality of locations including a first location and a second location;
 - embroidering a representation of the first location using cross stitch patterns, when a grain structure for the first location indicates a bi-directional grain structure; and
 - embroidering a representation of the first location using unidirectional stitch patterns, when the grain structure for the first location indicates a unidirectional grain structure.
2. The method of claim 1 further comprising:
 - embroidering a representation of the first location using pre-determined fill patterns, when the grain structure for the first location indicates a reduced directional grain structure.
3. The method of claim 1 wherein embroidering the representation of the first location using uni-directional stitch patterns, comprises:
 - determining a stitch length for the representation of the first location, in response to a color intensity at the first location; and
 - embroidering the representation of the first location using stitches having the stitch length.
4. The method of claim 1 further comprising:
 - embroidering a representation of the second location using unidirectional stitch patterns, a direction for the unidirectional stitch patterns associated with the first location different from a direction for the unidirectional stitch patterns associated with the second location.
5. The method of claim 1 wherein the image is a photograph.
6. The method of claim 1 wherein determining grain structures for a plurality of locations in the digitized representation comprises using a discrete Fourier transform.
7. A method for embroidering comprises:
 - receiving a digitized representation of an image;
 - determining a plurality of regions of the image in response to the digitized representation,
 - determining a geometric index for each region in the plurality of regions of the image;
 - determining a region type associated with each regions from the plurality of regions in response to the geometric index for each region, the region types including a first region type and a second region type;
 - embroidering representations of regions from the plurality of regions associated with the first region type; and thereafter
 - embroidering representations of regions from the plurality of regions associated with the second region type.
8. The method of claim 7 wherein determining region types associated with regions from the plurality of regions includes determining a region associated with a first region type;

the method further comprising:

- segmenting the region associated with the first region type into a first region associated with the first region type and a second region associated with the second region type.
9. The method of claim 7 wherein
 - determining the geometric index comprises determining a relative thickness indicator for each region in the plurality of regions of the image; and
 - determining the region type associated with each regions from the plurality of regions is in response to the relative thickness indicator of each regions in the plurality of regions.
 10. The method of claim 7 wherein the representations of regions from the plurality of regions associated with the second region type are overlaid over representations of regions from the plurality of regions associated with the first region type.
 11. The method of claim 7 wherein embroidering representations of regions from the plurality of regions associated with the first region type comprises:
 - determining a grain structure for a location in a region associated with the first region type;
 - embroidering a representation of the location of the region using uni-directional stitch patterns, when the grain structure for the location indicates a uni-directional grain structure.
 12. The method of claim 11 wherein embroidering the representation of the location using unidirectional stitch patterns, comprises:
 - determining a stitch length for the representation of the first location, in response to a color intensity at the first location; and
 - embroidering the representation of the first location using stitches having the stitch length.
 13. A computer program product for a computer system including a processor comprises:
 - code configured to direct the processor to receive a digitized representation of an image;
 - code configured to direct the processor to determine grain structures for a plurality of locations in the digitized representation, the plurality of locations including a first location and a second location;
 - code configured to direct the processor to direct embroidering of a representation of the first location using cross stitch patterns, when a grain structure for the first location indicates a bi-directional grain structure; and
 - code configured to direct the processor to direct embroidering of a representation of the first location using unidirectional stitch patterns, when the grain structure for the first location indicates a unidirectional grain structure;
 - wherein the codes reside on a tangible media.
 14. The computer program product of claim 13 further comprising:
 - code configured to direct the processor to direct embroidering of a representation of the first location using

predetermined fill patterns, when the grain structure for the first location indicates a reduced directional grain structure.

15. The computer program product of claim 13 wherein the code configured to direct the processor to direct embroidering of the representation of the first location using uni-directional stitch patterns, comprises:

code configured to direct the processor to determine a stitch length for the representation of the first location, in response to a color intensity at the first location; and

code configured to direct the processor to direct embroidering of the representation of the first location using stitches having the stitch length.

16. The computer program product of claim 13 further comprising:

code configured to direct the processor to direct embroidering of a representation of the second location using uni-directional stitch patterns, a direction for the uni-directional stitch patterns associated with the first location different from a direction for the uni-directional stitch patterns associated with the second location.

17. The computer program product of claim 13 wherein the image is a photograph.

18. The computer program product of claim 13 wherein code configured to direct the processor to determine grain structures for a plurality of locations in the digitized representation comprises code configured to direct the processor to execute a discrete Fourier transform.

19. An embroidery system including:

a processor; and

a processor readable memory comprising:

code that directs the processor to retrieve a digitized representation of an image;

code that directs the processor to determine a plurality of regions of the image in response to the digitized representation of the image;

code that directs the processor to determine a geometric index for each region in the plurality of regions;

code that directs the processor to determine a region type associated with each region from the plurality of regions in response to the geometric index for each region, the region types including a first region type and a second region type;

code that directs the processor to direct embroidering representations of regions from the plurality of regions associated with the first region type; and

code that directs the processor to direct embroidering representations of regions from the plurality of regions associated with the second region type after the representations of regions from the plurality of regions associated with the first region type.

20. The embroidery system of claim 19 wherein the code that directs the processor to determine region types associated with regions from the plurality of regions includes code that directs the processor to determine a region associated with a first region type;

the processor readable memory further comprising:

code that directs the processor to segment the region associated with the first region type into a first region associated with the first region type and a second region associated with the second region type.

21. The embroidery system of claim 19 wherein

the code that directs the processor to determine a geometric index for each region in the plurality of regions of the image comprises code that directs the processor to determine a relative thickness index for each region in the plurality of regions; and

the code that directs the processor to determine a region type associated with each region from the plurality of regions is in response to the relative thickness index of each regions from the plurality of regions.

22. The embroidery system of claim 19 wherein the representations of regions from the plurality of regions associated with the second region type are overlaid over representations of regions from the plurality of regions associated with the first region type.

23. The embroidery system of claim 19 wherein the code that directs the processor to direct embroidering of representations of regions from the plurality of regions associated with the first region type comprises:

code that directs the processor to determine a grain structure for a location in a region associated with the first region type; and

code that directs the processor to direct embroidering of a representation of the location of the region using uni-directional stitch patterns, when the grain structure for the location indicates a uni-directional grain structure.

24. The embroidery system of claim 23 wherein the code that directs the processor to direct embroidering of the representation of the location using uni-directional stitch patterns, comprises:

code that directs the processor to determine a stitch length for the representation of the first location, in response to a color intensity at the first location; and

code that directs the processor to direct embroidering of the representation of the first location using stitches having the stitch length.

25. A article of manufacture having embroidery embroidered thereon using the method described in claim 1.

26. A article of manufacture having embroidery embroidered thereon using the method described in claim 7.

* * * * *