Equations Contents

Using the Equation Menu

Text Mode
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Understanding Equations

You can use the Ami Pro Equations editor to create and edit scientific and mathematical formulas and equations.

You must install a Windows-compatible Symbol font to correctly display and print equations. You can use a Symbol font provided with Microsoft Windows, or use a third party font such as an Adobe Type Manager Symbol font.

When you use the Equations editor, Ami Pro changes to Equation mode and displays equation icons across the top of the screen. You can create an equation by using these icons or by importing a TeX file.

Once you are in Equation mode, you can:

- Insert templates, mathematical characters or symbols, functions, text, and spaces into an equation.

  A template is a combination of one or more input boxes and mathematical symbols. A function is a term that represents a mathematical operation, such as sin, cos, and ln.
- Apply an accent, a negate mark, or bold to an existing mathematical character or symbol.
- Insert a label template, a bar, arrow, or a brace above or below a template, mathematical character or symbol, function, or text.
- Insert a TeX command.
- Select templates, mathematical characters or symbols, functions, or text, and edit them.
- Change the limit position and size setting.
- Change the font for mathematical and text characters.
- Change equation preferences.
- Modify the character and symbol icons.
- Save the entire equation or part of the equation as a TeX file.
- Import a TeX file.

See also:

Accessing Equation Mode
Equations Contents
Creating an Equation
Editing an Equation
Changing the Limit Position and Size of an Equation
Changing the Font
Changing Equation Preferences
Modifying Equation Character and Symbol Icons
Saving an Equation as a TeX File
Importing a TeX File

Accessing Equation Mode

Choose Tools/Equations to access Equation mode.

Ami Pro creates a frame at the location of the insertion point, changes to Equation mode, and displays the equation icons in two rows across the top of the screen. Equation displays in the menu bar.

To access Equation mode after you have created an equation, double-click the frame that contains the equation or select the frame and press ENTER.

See also:

Equations Contents
Using the Equation Template Icons
Creating an Equation

Using the Equation Template Icons

You can use the equation template icons to create templates such as fractions, radicals, superscripts, subscripts, parentheses, and brackets.

To use an equation template icon, click the desired icon. Ami Pro inserts the template at the location of the insertion point. The equation template icons are also available as menu items if you choose Equation/Insert.

A template is a combination of one or more input boxes and mathematical symbols. All templates display input boxes to indicate where you can insert additional templates, mathematical characters or symbols, functions, or text. For example, a fraction template consists of a bar between two input boxes. The top input box represents the numerator; the bottom input box represents the denominator.

Fraction
Inserts a fraction template and places the insertion point inside the numerator input box.

Radical
Inserts a radical template and places the insertion point inside the input box under the radical.

Superscript
Inserts a superscript template and places the insertion point inside the superscript input box.

A superscript template consists of one input box that displays either above and to the right or directly above the character to which it is attached.

Subscript
Inserts a subscript template and places the insertion point inside the subscript input box.

A subscript template consists of one input box that displays either below and to the right or directly below the character to which it is attached.

Parentheses
Inserts a parentheses template and places the insertion point inside the parentheses input box.

Brackets
Inserts a brackets template and places the insertion point inside the brackets input box.

See also:

Equations Contents
Inserting a Fraction
Inserting a Radical
Inserting a Superscript
Inserting a Subscript
Inserting Parentheses
Inserting Standard Brackets
Showing and Hiding Input Boxes and Matrix Lines

Using the Equation Operator Icons

You can use the equation operator icons to create summation operators and integral operators.

To use an equation operator icon, click the desired icon. Ami Pro inserts the operator at the location of the insertion point.

Summation Operator
Inserts a summation operator at the location of the insertion point.

Integral Operator
Inserts an integral operator at the location of the insertion point.

See also:

Equations Contents
Using the Equation Template Icons
Inserting a Summation Operator
Inserting an Integral Operator
Inserting a Subscript
Inserting a Superscript

Using the Equation Toggle Icons

You can use the equation toggle icons to switch between inserting math and text characters and to switch between showing and hiding input boxes and matrix lines.

To use an equation toggle icon, click the desired icon.

Math/Text mode
When you first access Equation mode, Ami Pro assumes that everything you want to insert is a mathematical character or symbol. Use the Math/Text mode toggle icon to switch between inserting mathematical characters or symbols and inserting text characters.

Characters you type in Math mode display in red and are italicized. Characters you type in Text mode display in black.

You can change the way mathematical and text characters appear.

Show/Hide Input Boxes and Matrix Lines
When you insert a template in Equation mode, input boxes indicate where you can insert or type additional templates, mathematical characters or symbols, functions, or text. When you insert a matrix, lines display around each individual cell of the matrix. You can use the Show/Hide Input Boxes and Matrix Lines toggle icon to switch between showing and hiding input boxes and matrix lines.

Input boxes and matrix lines do not print.

See also:

Equations Contents
Using the Equation Template Icons
Showing and Hiding Input Boxes and Matrix Lines
Inserting Text
Modifying Equation Character and Symbol Icons
Inserting a Matrix

Using the Equation Dialog Box Icons

You can use the equation dialog box icons to insert templates, mathematical characters or symbols, or functions with specified parameters.

To use an equation dialog box icon, click the desired icon. Ami Pro displays a dialog box so you can specify the desired settings.

Operator
Displays the Operator dialog box so you can insert an operator symbol and specify its limit position and size.

Customized brackets
Displays the Brackets dialog box so you can insert a brackets or enclosures template and specify both the left and right brackets or enclosures.

Matrix
Displays the Create Matrix dialog box or Revise Matrix dialog box so you can create a matrix template with a specified number of rows and columns or insert rows or columns into an existing matrix.

Function
Displays the Function dialog box so you can insert an available function, specify a custom function, or specify the limit position.

Space
Displays the Space dialog box so you can insert a space and select its size.

Revise Character
Displays the Revise Character dialog box so you can add an accent, a negate mark, and bold to a selected character.

Label
Displays the Label dialog box so you can insert a label template and select its position.

Over/Under
Displays the Over/Under dialog box so you can insert a bar, arrow, or brace and select its position.

See also:

Equations Contents
Using the Equation Template Icons
Inserting an Operator
Inserting Customized Brackets
Inserting a Matrix
Inserting a Function
Inserting a Space
Inserting a Label Template
Inserting Bars, Arrows, or Braces
Showing and Hiding Input Boxes and Matrix Lines

Using the Equation Character and Symbol Icons

You can use the equation character and symbol icons to insert 18 frequently used mathematical characters and symbols.

To use an equation character or symbol icon, click the desired icon. Ami Pro inserts the character or symbol to the right of the insertion point.

You can specify which mathematical characters and symbols display as icons.

See also:

Equations Contents
Using the Equation Template Icons
Inserting a Character or Symbol
Modifying Equation Character and Symbol Icons

Using the Equation Pulldown Box Icons

You can use an equation pulldown box icon to insert a character or symbol that is not included in the 18 equation character and symbol icons.

To use an equation pulldown box icon, click the desired icon. Ami Pro displays a pulldown box with additional mathematical character and symbol icons.

Click the desired character or symbol icon. Ami Pro inserts the character or symbol to the right of the insertion point.

Lowercase Greek
Displays the lowercase letters of the Greek alphabet.

Uppercase Greek
Displays 11 uppercase letters of the Greek alphabet.

Binary Operators
Displays binary operators.

Binary Relations
Displays binary symbols.

Arrows
Displays single and bi-directional arrows.

Miscellaneous
Displays miscellaneous characters and symbols.

Delimiters
Displays left and right delimiters.

See also:

Equations Contents
Modifying Equation Character and Symbol Icons
Using the Equation Template Icons
Inserting a Character or Symbol

Creating an Equation

To create an equation, you must insert a template, a mathematical character or symbol, a function, or text inside an equation frame. You can either choose Tools/Equations and let Ami Pro create the frame at the location of the insertion point, or you can create a frame of the desired size and then access Equation mode by choosing Tools/Equations.

You cannot create an equation in a frame that already contains text.

To create an equation

1. Choose Tools/Equations.

   Ami Pro creates a frame at the location of the insertion point and changes to Equation mode. When you let Ami Pro create the frame, Ami Pro automatically adjusts the size of the frame for the equation when you exit Equation mode.

   If you create a frame before you choose Tools/Equations, Ami Pro does not automatically adjust the size of the frame when you exit Equation mode, and the appearance of the frame may not adhere to mathematical typesetting conventions. You can correct this by choosing Frame/Modify Frame Layout and selecting Wrap around and Flow with text.
2. Choose Equation/Insert and then choose the desired item.

   Mouse: Click the desired equation icon, such as the fraction template icon or a symbol icon.
3. Insert any desired mathematicl characters or text.

   Characters you type in Math mode display in red and are italicized. Characters you type in Text mode display in black. Functions display in gray.
4. Repeat steps 2-3 until you complete the equation.

   Equation templates are elastic. They expand both horizontally and vertically to encompass their contents.

See also:

Equations Contents
Modifying Equation Character and Symbol Icons
Using the Equation Template Icons
Inserting a Character or Symbol
Inserting Text
Inserting a Function
Inserting a Fraction

Inserting a Character or Symbol

You can use the equation character and symbol icons, the equation pulldown box icons, the Greek keyboard, or the Symbol keyboard to insert characters and symbols into an equation.

You can specify which mathematical characters and symbols should display as icons.

To insert a character or symbol using the equation character and symbol icons

1. In Equation mode, place the insertion point where you want to insert the character or symbol.
2. Click the desired character or symbol icon.

   Ami Pro inserts the character or symbol to the right of the insertion point.

To insert a character or symbol using the equation pulldown box icons

1. In Equation mode, place the insertion point where you want to insert the character or symbol.
2. Click the equation pulldown box icon that contains the character or symbol you want to insert into the equation.

   Ami Pro inserts the character or symbol to the right of the insertion point.

To insert a mathematical character using the Greek keyboard

1. In Equation mode, place the insertion point where you want to insert the Greek character.
2. Choose Equation/Greek Keyboard.

   Keyboard: Press CTRL+G to access the Greek keyboard.
3. Press the key that corresponds to the desired Greek character.

   Ami Pro inserts the Greek character you typed to the right of the insertion point.

To insert a symbol using the Symbol keyboard

1. In Equation mode, place the insertion point where you want to insert the symbol.
2. Choose Equation/Symbol Keyboard.

   Keyboard: Press CTRL+Y to access the Symbol keyboard.
3. Press the key that corresponds to the desired symbol.

   Ami Pro inserts the symbol you selected to the right of the insertion point.

See also:

Equations Contents
Using the Equation Pulldown Box Icons
Modifying Equation Character and Symbol Icons

Inserting a Fraction

You can use the Fraction template icon or choose Equation/Insert and then choose Fraction to insert a fraction into an equation. You can revise any fraction you insert.

To insert a fraction

1. In Equation mode, place the insertion point where you want to insert the fraction.
2. Click the Fraction template icon.

   Keyboard: Press CTRL+1 or CTRL+F.

   The top input box represents the numerator; the bottom input box represents the denominator. Ami Pro places the insertion point in the numerator input box.
3. Insert the desired template, mathematical character or symbol, function, or text into the numerator input box.
4. Press TAB to move the insertion point into the denominator input box.
5. Insert the desired template, mathematical character or symbol, function, or text into the denominator input box.

   Press TAB to move the insertion point back into the numerator input box. Press ENTER to create a matrix for additional lines in the numerator or denominator
6. To exit the fraction, click at the end of the fraction template or press SPACEBAR.

   Ami Pro automatically expands fraction bars so that they encompass the longest string of characters within the fraction.

   You can specify whether or not a line should display in the fraction and the size of the fraction. Double-click the line between the numerator and denominator to display the Revise Fraction dialog box.

See also:

Equations Contents
Using the Equation Template Icons
Editing an Equation
Deleting an Equation
Showing and Hiding Input Boxes and Matrix Lines
Revising a Fraction

Inserting a Radical

You can use the Radical template icon or choose Equation/Insert and then choose Radical to insert a radical template into an equation. You can revise any radical you insert.

To insert a radical

1. In Equation mode, place the insertion point where you want to insert the radical.
2. Click the Radical template icon.

   Keyboard: Press CTRL+2.

   The radical symbol displays over an input box which represents the radicant. Ami Pro places the insertion point in the radicand input box.
3. Insert the desired template, mathematical character or symbol, function, or text into the radicand input box.
4. If you want to insert an nth root, press TAB.

   Ami Pro displays a root input box in the proper location and places the insertion point in the input box.
5. Insert the desired template, mathematical character or symbol, function, or text into the root input box.

   To move the insertion point back into the radicand input box, press TAB. Press ENTER to create a matrix for additional lines in the radical or root.
6. To exit the radical, click at the end of the radical template or press SPACEBAR.

   Ami Pro automatically expands radicals both horizontally and vertically.

   You can specify whether or not a root should display in the radical. Double-click the radical to display the Revise Radical dialog box.

See also:

Equations Contents
Using the Equation Template Icons
Editing an Equation
Deleting an Equation
Showing and Hiding Input Boxes and Matrix Lines
Revising a Radical

Inserting a Superscript

You can use the superscript template icon or choose Equation/Insert and then choose Superscript to insert either a superscript or an upper limit for a function or operator.

To insert a superscript

1. In Equation mode, place the insertion point where you want to insert the template, mathematical character or symbol, function, or text to which you want to attach a superscript.
2. Insert the template, mathematical character or symbol, function, or text to which you want to attach the superscript.
3. Click the Superscript template icon.

   Keyboard: Press CTRL+3 or CTRL+ or - on the numeric keypad.

   The input box represents the superscript. Ami Pro places the insertion point in the superscript input box.

   The position of the superscript depends on the Limits & Size setting.
4. Insert the desired template, mathematical character or symbol, function, or text into the superscript input box.
5. If you want to create a multi-line limit in the superscript press ENTER.

   Press SPACEBAR to exit the multi-line limit.
6. If you want to add a subscript to the original template, mathematical character or symbol, function, or text, press TAB if the insertion point is in the superscript.

   Ami Pro supports up to seven embedded superscipts and subscripts.

   To create a superscript with a superscript or subscript, you must insert a template for each subscript and superscript. Ami Pro automatically adjusts the size of first and second order subscripts and superscripts.
7. To exit the superscript, click at the end of the template, mathematical character or symbol, function, or text or press SPACEBAR.

   Ami Pro automatically expands supersciptsboth horizontally and vertically.

See also:

Equations Contents
Using the Equation Template Icons
Showing and Hiding Input Boxes and Matrix Lines
Inserting an Operator
Inserting a Summation Operator
Inserting an Integral Operator
Inserting a Function

Inserting a Subscript

You can use the Subscript template icon or choose Equation/Insert and then choose Subscript to insert a subscript or a lower limit for a function or operator.

To insert a subscript

1. In Equation mode, place the insertion point where you want to insert the template, mathematical character or symbol, function, or text to which you want to attach a subscript.
2. Insert the template, mathematical character or symbol, function, or text to which you want to attach the subscript.

   Ami Pro treats a prescript as a subscript and attaches it to the left of the template, mathematical character or symbol, function, or text. To correctly attach a prescript, insert a thin space to the left of the template, mathematical character or symbol, function, or text before inserting the prescript.
3. Click the Subscript template icon.

   Keyboard: Press CTRL+4 or CTRL+↓ or + on the numeric keypad.

   The input box represents the subscript. Ami Pro places the insertion point in the subscript input box.

   The position of the subscript depends on the Limits & Size setting.
4. Insert the desired template, mathematical character or symbol, function, or text into the subscript input box.
5. If you want to create a multi-line limit in the superscript press ENTER.

   Press SPACEBAR to exit the multi-line limit.
6. If you want to add a superscript to the original template, mathematical character or symbol, function, or text, press TAB if the insertion point is in the subscript.

   Ami Pro supports up to seven embedded superscripts and subscripts.

   To create a subscript with a subscript or superscript, you must insert a template for each subscript or superscript. Ami Pro automatically adjusts the size of first and second order subscripts and superscripts.
7. To exit the subscript, click at the end of the template, mathematical character or symbol, function, or text or press SPACEBAR.

   Ami Pro automatically expands subscripts both horizontally and vertically.

See also:

Equations Contents
Inserting a Space
Using the Equation Template Icons
Showing and Hiding Input Boxes and Matrix Lines
Inserting an Operator
Inserting a Summation Operator
Inserting an Integral Operator
Inserting a Function

Inserting Parentheses

You can use the Parentheses template icon or choose Equation/Insert and then choose Brackets to insert standard parentheses into an equation. You can revise any parenthesis you insert.

To insert parentheses

1. In Equation mode, place the insertion point where you want to insert the standard parentheses.
2. Click the Parentheses template icon.

   Keyboard: Press CTRL+5 or CTRL+9 or CTRL+0.

   The input box represents the contents of the parentheses. Ami Pro places the insertion point in the input box.
3. Insert the desired template, mathematical character or symbol, function, or text into the parentheses input box.
4. If you want to create a matrix for additional lines in the parentheses, press ENTER.
5. To exit the parentheses, click at the end of the right parenthesis or press SPACEBAR.

   Ami Pro automatically expands parentheses horizontally. Ami Pro expands parentheses vertically if you use the Parentheses template icon.

   You can change the parentheses to non-standard parentheses. Double-click an existing parenthesis to display the Revise Brackets dialog box.

See also:

Equations Contents
Inserting Standard Brackets
Inserting Customized Brackets
Inserting a Character or Symbol
Using the Equation Template Icons
Editing an Equation
Deleting an Equation
Showing and Hiding Input Boxes and Matrix Lines

Inserting Standard Brackets

You can use the Brackets template icon or choose Equation/Insert and then choose Brackets to insert standard brackets into an equation. You can revise any bracket you insert.

To insert standard brackets

1. In Equation mode, place the insertion point where you want to insert the standard brackets.
2. Click the Brackets template icon.

   Keyboard: Press CTRL+6 or CTRL+].

   The input box represents the contents of the brackets. Ami Pro places the insertion point in the input box.
3. Insert the desired template, mathematical character or symbol, function, or text into the brackets input box.
4. If you want to create a matrix for additional lines in the parentheses, press ENTER.
5. To exit the brackets, click at the end of the right bracket or press SPACEBAR.

   Ami Pro automatically expands brackets both horizontally and vertically.

   You can change the brackets to non-standard brackets. Double-click an existing bracket to display the Revise Brackets dialog box.

See also:

Equations Contents
Inserting Customized Brackets
Using the Equation Template Icons

Inserting a Summation Operator

You can use the Summation operator icon, the Operator dialog box icon, or choose Equation/Insert and then choose Operator to insert a summation operator into an equation. You can revise any summation operator you insert.

Set the Equation/Limits & Size setting to Big to display the limits for the summation operator.

To insert a summation operator

1. In Equation mode, place the insertion point where you want to insert the summation operator.
2. If necessary, choose Equation/Limits & Size Big.
3. Click the Summation operator icon.

   Keyboard: Press CTRL+7 or CTRL+E.

   To attach limits to the summation operator, you must insert a superscript for the upper limit and a subscript for the lower limit.
4. To exit the summation operator, click at the end of the summation operator or press SPACEBAR.

   You can change the type of operator, size, and limit position. Double-click an existing summation operator to display the Revise Operator dialog box.

See also:

Equations Contents
Using the Equation Operator Icons
Inserting an Operator
Inserting a Subscript
Inserting a Superscript

Inserting an Integral Operator

You can use the Integral operator icon, the Operator dialog box icon, or choose Equation/Insert and then choose Operator to insert an integral operator into an equation. You can revise any integral operator you insert.

To insert an integral operator

1. In Equation mode, place the insertion point where you want to insert the integral operator.
2. Click the integral operator icon.

   Keyboard: Press CTRL+8.

   To attach limits to the integral operator, you must insert a superscript for the upper limit and a subscript for the lower limit.
3. To exit the integral operator, click at the end of the integral operator or press SPACEBAR.

   You can change the type of operator, size, and limit position. Double-click an existing integral operator to display the Revise Operator dialog box.

See also:

Equations Contents
Inserting a Subscript
Inserting a Superscript
Inserting an Operator
Using the Equation Operator Icons

Inserting Text

When you first access Equation mode, Ami Pro assumes that all input from the keyboard is mathematical characters. You can use the Math/Text toggle icon or choose Equation/Text Mode or Equation/Math Mode to switch between inserting mathematical characters and inserting text characters into an equation.

To insert text

1. In Equation mode, place the insertion point where you want to insert text.
2. Click the Math/Text toggle icon.

   When you are in Math mode, the Math/Text toggle icon displays a red M. When youare in Text mode, the Math/Text toggle icon displays a black T.

   Keyboard: Press CTRL+T.
3. Type the desired text.

   Characters you type in Math mode display in red and are italicized. Characters you type in Text mode display in black. You can change a mathematical character to a text character, or vice versa, by selecting the character and clicking the Math/Text toggle icon.

   When you are in Text mode inside a template and press SPACEBAR, Ami Pro inserts a space instead of exiting the template.
4. To exit the template, click at the end of the template or press →.

See also:

Equations Contents
Modifying Equation Character and Symbol Icons
Using the Equation Toggle Icons
Creating an Equation
Inserting a Character or Symbol
Applying Accents, Negate Marks, and Bold to a Character
Moving the Insertion Point in an Equation
Editing an Equation

Showing and Hiding Input Boxes and Matrix Lines

When you insert a template, one or more input boxes display, indicating the areas into which you can insert templates, mathematical characters or symbols, functions, or text. When you insert a matrix, lines display around each individual cell of the matrix.

Input boxes and matrix lines display do not print.

You can use the Show/Hide Input Boxes and Matrix Lines toggle icon or choose Equation/Show or Hide Input Boxes or Equation/Show or Hide Matrix Lines to switch between showing and hiding input boxes and matrix lines.

Keyboard: Press * on the numeric keypad.

If either Input Boxes or Matrix Lines are hidden and you click the Show/Hide Input Boxes and Matrix Lines toggle icon, Ami Pro displays both input boxes and matrix lines.

See also:

Equations Contents
Using the Equation Toggle Icons
Creating an Equation
Inserting a Matrix

Inserting an Operator

You can use the Operator dialog box icon or choose Equation/Insert and then choose Operator to insert an operator with a specified limit position and size. You can revise any operator you insert.

Use the Operator dialog box to insert double and triple integrals, and other integral symbols operator symbols.

To insert an operator

1. In Equation mode, place the insertion point where you want to insert the operator.
2. Click the Operator dialog box icon.
3. Select the desired Operator.
4. Select the desired Limit Position.

   Auto
   Places any superscript or subscript template you insert for the limit in the limit position specified in the Limits & Size setting.

   Above/Below
   Places any superscript or subscript template you insert immediately above or immediately below the operator, regardless of the limit position specified in the Limits & Size setting.

   At Right
   Places any superscript or subscript template you insert to the right and above or to the right and below the operator, regardless of the limit position specified in the Limits & Size setting.

   To attach limits to the integral operator, you must insert a superscript for the upper limit and a subscript for the lower limit.
5. Select the desired Size.

   Auto
   Sizes the operator according to the Limits & Size setting.

   Big
   Displays the operator in Big size, regardless of the Limits & Size setting.

   Use Big when you want the equation to display prominently between two paragraphs.

   Small
   Displays the operator in Small size, regardless of the Limits & Size setting.

   Use Small when you want the equation to fit within a line of text.
6. Choose OK.

   Ami Pro inserts the operator with the limit position and size you selected.
7. To exit the operator, click at the end of the operator or press SPACEBAR.

   You can change the type of operator, size, and limit position. Double-click an existing operator to display the Revise Operator dialog box.

See also:

Equations Contents
Inserting a Subscript
Inserting a Superscript
Using the Equation Dialog Box Icons

Inserting Customized Brackets

You can use the Brackets dialog box icon or choose Equation/Insert and then choose Brackets to insert a brackets template that has either non-standard brackets or a right bracket that differs from the left bracket. You can revise any bracket you insert.

Keyboard: If you want to use { and } as the brackets, you can press CTRL+SHIFT+[or CTRL+SHIFT+].

To insert customized brackets

1. In Equation mode, place the insertion point where you want to insert the customized brackets.
2. Click the Brackets dialog box icon.
3. Select the desired left bracket from the upper bracket grouping.

   Ami Pro automatically selects the corresponding right bracket.
4. If you want to insert a right bracket that differs from the left bracket, select the desired right bracket from the lower bracket grouping.

   If you select a right bracket and then a left bracket, the right bracket changes to match the left bracket.

   You can click the dotted line in the lower bracket grouping if you do not want a right bracket, or click the dotted line in the upper bracket grouping if you do not want a left bracket. The dotted lines do not print.
5. Choose OK.

   The input box represents the contents of the brackets. Ami Pro places the insertion point in the input box.
6. Insert the desired template, mathematical character or symbol, function, or text into the brackets input box.
7. To exit the brackets, click after the right bracket or press SPACEBAR.

   Ami Pro automatically expands brackets both horizontally and vertically.

   You can change the type of customized brackets. Double-click an existing bracket to display the Revise Brackets dialog box.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Inserting Standard Brackets

Inserting a Matrix

A matrix is a two dimensional array. You can use the Matrix dialog box icon or choose Equation/Insert and then choose Matrix to insert a matrix with a specified number of rows and columns into an equation. You can revise any matrix you insert.

You can specify up to 10 rows and 10 columns. Use a matrix to create multi-line equations or a vector, a matrix that contains only one row or column.

To insert a matrix

1. In Equation mode, place the insertion point where you want to insert the matrix.
2. Click the Matrix dialog box icon.

   Shortcut: Press CTRL+A to insert a 2 x 2 matrix.
3. Specify the desired Number of rows.

   For a mutli-line equation, specify the number of lines in the equation as the number of rows.
4. Specify the desired Number of columns.

   For a multi-line equation, specify one as the number of columns.

   In a multi-line equation, you can line up equations on an equal sign by specifying three rows and inserting the equal sign in the middle column.
5. Choose OK.

   The input boxes represent the contents of the cells in the matrix. Ami Pro places the insertion point in the input box in the first cell of the top row.
6. Insert the desired template, mathematical character or symbol, function, or text into the input box in the cell.

   For a multi-line equation, insert the entire line of the equation in the cell.
7. Press TAB to move the insertion point to the input box in the next cell.
8. Repeat steps 6 -7 for all the cells in the matrix.
9. To exit the matrix, click at the end of the matrix template or press SPACEBAR.

   Ami Pro automatically expands cells in a matrix both horizontally and vertically.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Showing and Hiding Input Boxes and Matrix Lines
Revising a Matrix

Inserting a Function

You can type a function name, use the Function dialog box icon, or choose Equation/Insert and then choose Function to insert a function into an equation. A function is a mathematical operation, such as sin, cos, or ln. You can revise any function you insert.

To insert a function

1. In Equation mode, place the insertion point where you want to insert the function.
2. Click the Function dialog box icon.
3. Select the desired function.
4. If you want to define a function not listed in the function list box, select Custom Function and type the desired custom function in the text box.
5. If necessary, select the desired Limits position.

   Auto
   Places any superscript or subscript template you insert in the limit position specified in the Limits & Size setting.

   Above/Below
   Places any superscript or subscript template you insert immediately above or immediately below the operator, regardless of the limit position specified in the Limits & Size setting.

   At Right
   Places any superscript or subscript template you insert to the right and above or to the right and below the operator regardless of the limit position specified in the Limits & Size setting.

   To attach limits to a function, you must insert a superscript for the upper limit and a subscript for the lower limit.
6. Choose OK.

   Functions display in gray. You can change the way functions appear.
7. To exit the function, click at the end of the function or press SPACEBAR.

   You can change a function and its Limit position. Double-click the function to display the Revise Function dialog box.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Changing the Limit Position and Size of an Equation
Inserting a Subscript
Inserting a Superscript
Changing Equation Preferences

Inserting a Space

Ami Pro automatically inserts a space that conforms to mathematical typesetting conventions between templates, mathematical characters and symbols, and functions. You can use the Space dialog box icon or choose Equation/Insert and then choose Spaces to insert a customized space. You can revise any space you insert.

To insert spaces

1. In Equation mode, place the insertion point where you want to insert a customized space.
2. Click the Space dialog box icon.
3. Select the desired width of the space.

   Required Space
   Inserts a space the width of a space in the current typeface.

   Thin Space
   Inserts a space 1/6 of an em space.

   Keyboard: Press SHIFT+SPACEBAR.

   Thick Space
   Inserts a space 5/18 of an em space.

   Keyboard: Press CTRL+SHIFT+SPACEBAR.

   Em Space
   Inserts a space the width of a capital M in the current typeface.

   Keyboard: Press CTRL+SPACEBAR.

   Ami Pro displays the selected space between two characters in the example box.
4. Choose OK.

   You can change the width of any space. Double-click the space to display the Revise Space dialog box.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Inserting Text

Applying Accents, Negate Marks, and Bold to a Character

You can use the Revise Character dialog box icon to apply accents, negate marks, or bold to a selected mathematical or text character.

To apply accents, negate marks, and bold to a character

1. In Equation mode, select a mathematical or text character to which you want to apply accents, negate marks, or bold.

   Shortcut: Double-click a mathematical character and select the desired Options in the Revise Character dialog box.
2. Click the Revise Character dialog box icon.
3. Select the desired Options.

   Ami Pro displays a sample in the example box.

   Accent on Top
   Inserts the accent you select in the list box above the selected character.

   Negate
   Inserts a forward slash through the selected character.

   Bold
   Bolds the selected character.
4. Choose OK.

   Ami Pro applies the selected character revisions.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Selecting Parts of an Equation
Moving the Insertion Point in an Equation

Inserting a Label Template

You can use the Label dialog box icon or choose Equation/Insert and then choose Label to insert a label template into an equation. You can revise any label template you insert.

Label templates have two input boxes, one for the template, mathematical character or symbol, function, or text being labeled, and the other for the label.

To insert a label template

1. In Equation mode, place the insertion point where you want to insert the label template.
2. Click the Label dialog box icon.
3. Select the desired Label Position.

   Above
   Inserts the input box for the label above the input box for the template, mathematical character or symbol, function, or text.

   Below
   Inserts the input box for the label below the input box for the template, mathematical character or symbol, function, or text.
4. Choose OK.

   The smaller input box represents the label; the larger input box represents the template, mathematical character or symbol, function, or text being labeled. Ami Pro places the insertion point in the larger input box.
5. Insert the desired template, mathematical character or symbol, function, or text into the larger input box.
6. Press TAB to move to the label input box.
7. Insert the desired template, mathematical character or symbol, function, or text into the label input box.
8. To exit the label template, click at the end of the template or press SPACEBAR.

   Ami Pro automatically expands label templates both horizontally and vertically.

   You can change the type of label. Double-click the label to display the Revise Label dialog box.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Showing and Hiding Input Boxes and Matrix Lines
Applying a Template

Inserting Bars, Arrows, or Braces

You can use the Over/Under dialog box icon or choose Equation/Insert and then choose Over/Under to insert bars, arrows, or braces above or below a template, mathematical character or symbol, function, or text. You can revise any bar, arrow, or brace you insert.

To insert bars, arrows, or braces

1. In Equation mode, place the insertion point where you want to insert the template, mathematical character or symbol, function, or text.
2. Click the Over/Under dialog box icon.
3. Select the desired Over or Under template.

   Over
   Places the bar, arrow, or brace above the input box for the template, mathematical character or symbol, function, or text.

   Under
   Places the bar, arrow, or brace below the input box for the template, mathematical character or symbol, function, or text.
4. Choose OK.

   The input box represents the template, mathematical character or symbol, function, or text to be inserted. Ami Pro places the insertion point in the input box.
5. Insert the desired template, mathematical character or symbol, function, or text into the input box.
6. To exit the over/under template, click at the end of the template or press SPACEBAR.

   Ami Pro automatically expands Over/Under templates both horizontally and vertically.

   You can change the type and position of a bar, an arrow, or a brace. Double-click the bar, arrow, or brace to display the Revise Over/Under dialog box.

See also:

Equations Contents
Using the Equation Dialog Box Icons
Showing and Hiding Input Boxes and Matrix Lines
Applying a Template

Inserting TeX Commands

TeX is the most commonly used mathematical typesetting language. It provides Ami Pro the information necessary to create the mathematical characters and symbols used in the equation. Because it is the foundation of the Equation editor, you can insert a TeX command directly into an equation or formula.

To insert a TeX command

1. In Equation mode, place the insertion point where you want to insert a TeX command.
2. Choose Equation/Insert and choose TeX Command.
3. Select the desired TeX command.

   You can skip to a certain command in the list box by pressing the first letter of the command you want to insert. Ami Pro moves to the first command in the list box that begins with the letter you pressed.
4. Choose OK.

   Ami Pro inserts the TeX command you selected.

See also:

Equations Contents
Understanding Equations
Saving an Equation as a TeX File
Inserting a Character or Symbol

Moving the Insertion Point in an Equation

You can use the mouse, the SPACEBAR,, ↓, →, or ←, or any combination of the three, to move the insertion point in an existing equation.

To move the insertion point into a template

You can move the insertion point into a template by:

- Pressing → or ←.
- Clicking the desired template.

Pressing SPACEBAR does not move the insertion point into the template. You can use SPACEBAR, CTRL+→ or ←, or CTRL+← to skip over templates, mathematical characters and symbols, and functions, but not text.

To move the insertion point between input boxes in a template

You can move the insertion point between input boxes in a template by:

- Pressing , ↓, →, or ←.
- Clicking the desired input box.
- Pressing TAB.

To move the insertion point within an input box

You can move the insertion point within an input box in a template by:

- Pressing → or ←.
- Clicking the desired location within the input box.

See also:

Equations Contents
Inserting Text
Creating an Equation
Selecting Parts of an Equation
Editing an Equation
Deleting an Equation

Selecting Parts of an Equation

You can use the mouse or the keyboard to select either an entire equation or part of an equation. You can then move, copy, delete, or edit your selection.

Using the mouse to select an equation or part of an equation
You can select an equation or part of an equation using the mouse by:

- Placing the mouse pointer to the left of the leftmost part of the equation you want to select, clicking the mouse button, and dragging the mouse over the desired parts of the equation.
- Placing the insertion point to the left of the leftmost part of the equation you want to select, moving the mouse pointer to the right of the rightmost part of the equation you want to select, and holding SHIFT and clicking the mouse button.

Using the keyboard to select an equation or part of an equation

shift+→	Select the template, mathematical character or symbol, function or text to the right of the insertion point.
shift+←	Select the template, mathematical character or symbol, function or text to the left of the insertion point.

To deselect an equation or part of an equation
There are two ways to deselect an equation or part of an equation without exiting Equation mode. You can:

- Click anywhere inside the frame.
- Press, ↓, →, or ←.

See also:

Equations Contents
Moving the Insertion Point in an Equation
Applying Accents, Negate Marks, and Bold to a Character
Inserting Bars, Arrows, or Braces
Moving the Insertion Point in an Equation
Copying or Moving an Equation or Part of an Equation
Deleting an Equation

Editing an Equation

When you are in Equation mode, you can edit an equation by:

- Applying a template.
- Revising a fraction, radical, or matrix.
- Copying or moving an equation or part of an equation
- Deleting the contents of a template
- Deleting an equation or part of an equation

See also:

Equations Contents
Applying a Template
Revising a Fraction
Revising a Radical
Revising a Matrix
Copying or Moving an Equation or Part of an Equation
Deleting an Equation

Applying a Template

You can apply any template except a superscript and subscript template over any existing templates, mathematical characters or symbols, functions or text.

To apply a template

1. Select any templates, mathematical characters or symbols, functions, or text to which you want to apply the template.
2. Click the template icon you want to apply.

   If you apply a fraction template, Ami Pro inserts the templates, mathematical characters or symbols, functions, or text into the numerator. If you apply a matrix, Ami Pro inserts the templates, mathematical characters or symbols, functions, or text into the first cell.

See also:

Equations Contents

Revising a Fraction

You can specify whether or not a line should display between the numerator and denominator and select the size of a fraction.

To revise a fraction

1. Select the fraction you want to revise.

   Shortcut: Double-click the line between the numerator and denominator and select the desired options in the Revise Fraction dialog box.
2. Click the Fraction template icon.
3. Select Normal if you want a line to display between the numerator and denominator or select None for no line.
4. Select the desired Size for the fraction.
5. Choose OK.

See also:

Inserting an Operator
Inserting a Fraction
Equations Contents

Revising a Radical

You can specify whether or not a root should display in the radical.

To revise a radical

1. Select the radical you want to revise.
   Shortcut: Double-click the radical and select the desired style in the Revise Radical dialog box.
2. Click the Radical template icon.
3. Select the desired Style.
4. Choose OK.

See also:

Equations Contents
Inserting a Radical

Revising a Matrix

You can revise a matrix by inserting cells, combining cells, deleting the contents of cells, changing the alignment of one or more columns, and inserting or deleting rows or columns.

To insert a cell by splitting an existing cell

1. Place the insertion point in the cell you want to split.

   If you want to split the contents, place the insertion point in the location you want the split to occur.
2. Press ENTER.

   If the matrix has multiple rows and columns, the new cells display within the cell where you placed the insertion point. If the matrix has only one row, the new cell displays to the right of the cell where you placed the insertion point. If the matrix has only one column, the new cell displays below the cell where you placed the insertion point.

To combine two cells

You can combine cells only if the matrix contains a single column or a single row.

1. Place the insertion point above, below, to the left, or to the right of the cell boundary you want to delete.
2. Press DEL to remove a cell boundary to the right or below the insertion point. Press BACKSPACE to remove a cell boundary to the left or above the insertion point.

To delete the contents of a cell

1. Select any templates, mathematical characters or symbols, functions, or text you want to delete.
2. Press DEL or BACKSPACE.

   Ami Pro deletes any selected templates, mathematical characters or symbols, functions, or text and displays an input box in the cell. If you selected only part of the contents of the cell, the parts you did not select remain in the cell.

To change the alignment

1. Select any columns you want to modify.
2. Choose Text/Alignment.
3. Select the desired alignment.
4. Choose OK.

To insert a row or a column

1. Select the entire matrix.
2. Click the Matrix dialog box icon.
3. Select Rows or Columns.
4. Specify the numbers of rows or columns you want to insert.
5. Specify the position where you want to insert the rows or columns.

   Ami Pro inserts columns to the left of the column you specify and inserts rows above the row you specify in the At position text box.
6. Choose OK.

To delete a row or column

1. Select the entire row or column.
2. Press DEL or BACKSPACE.

See also:

Equations Contents
Inserting a Matrix
Showing and Hiding Input Boxes and Matrix Lines

Copying or Moving an Equation or Part of an Equation

You can use copy, cut, and paste to copy or move an entire equation or part of an equation.

You can also copy or move an entire equation by copying or moving its frame.

To copy or move an equation or part of an equation

1. Select any templates, mathematical characters or symbols, functions, or text you want to copy or move.
2. Choose Edit/Copy to copy the current selection or Edit/Cut to move the current selection to the Clipboard.
3. Place the insertion point in the location where you want to insert the templates, mathematical characters or symbols, functions, or text.
4. Choose Edit/Paste.

   Ami Pro copies or moves the templates, mathematical characters or symbols, functions, or text to the new location.

See also:

Equations Contents
Selecting Parts of an Equation
Deleting an Equation
Editing an Equation
Moving the Insertion Point in an Equation
Moving or Copying a Frame on the Same Page
Moving or Copying a Frame to Another Page

Deleting an Equation

You can delete the contents of a template, part of an equation, or an entire equation.

To delete the contents of a template

You can delete the contents of a template without deleting the template by:

- Selecting the contents of the template you want to delete and pressing DEL or BACKSPACE
- Placing the insertion point to the right of the part of the template you want to delete and pressing BACKSPACE
- Placing the insertion point to the left of the part of the template you want to delete and pressing DEL

To delete part of an equation

You can use DEL or BACKSPACE to delete any part of an equation that is selected.

You can also use DEL to delete:

- A mathematical character or symbol, function, text character, or matrix to the right of the insertion point
- A fraction, radical, parentheses, or brackets template to the right of the insertion point without deleting the contents of the input box
- A label or over/under symbol to the right of the insertion point without deleting the labeled templates, mathematical characters or symbols, functions, or text

  If you are deleting brackets, you can place the insertion point to the left of either the right or left bracket.

You can use also BACKSPACE to delete:

- A mathematical character or symbol, function, text character, or matrix to the left of the insertion point
- A fraction, radical, parentheses, or brackets template to the left of the insertion point without deleting the contents of the input box
- A label or over/under symbol to the left of the insertion point without deleting the labeled templates, mathematical characters or symbols, functions, or text

  If you are deleting brackets, you can place the insertion point to the right of either the right or left bracket.

To delete an equation

You can quickly delete an equation by deleting its frame.

1. Select the equation frame so that black handles display around it.

   Press ESC while in Equation mode.
2. Press DEL.

   Ami Pro deletes the equation frame and its contents.

See also:

Equations Contents
Selecting Parts of an Equation
Moving the Insertion Point in an Equation

Changing the Limit Position and Size of an Equation

You can change the limit position and size setting for an equation before or after you create any templates or formulas.

Ami Pro automatically uses Limits & Size Small when you create an equation. If you change the Limits & Size setting after you create an equation, Ami Pro uses the new settings for all fractions and operators which were inserted without a specified limit position and size.

Ami Pro automatically sets the limit position to At Right for integral operators and circle integrals regardless of the Limits & Size setting, unless you specify otherwise when you insert them.

The Limits & Size command is a toggle. You can switch between Big and Small by choosing Equations/Limits & Size Big or Equations/Limits & Size Small.

The size of an equation is determined by the current font and the settings in the Preferences dialog box.

Limits & Size Small
Displays an equation using the Small operator size specified in the Preferences dialog box, and sets the default limit position to At Right for fractions and operators.

Use Small when you want the equation to fit within a line of text.

Limits & Size Big
Displays an equation using the Big operator size specified in the Preferences dialog box, and sets the default limit position to Above/Below.

Use Big when you want the equation to display prominently between two paragraphs.

If you choose Big, you can change the frame type to With para above and align the frame horizontally on the page.

See also:

Inserting an Operator
Changing the Font
Changing Equation Preferences

Changing the Font

You can change the face, size, and color of the mathematical and text characters in the current equation and all future equations you create.

To change the font

1. Choose Text/Font.

   Shortcut: Click the Face button in the status bar and select the desired face. Click the Point Size button and select the desired size. Ami Pro changes the face and size of the characters.
2. Specify the desired Face, Size, and color.
3. Choose OK.

See also:

Equations Contents
Inserting Text
Setting User Setup Defaults

Changing Equation Preferences

You can use the Preferences dialog box to define colors for mathematical characters and functions. You can also specify whether alphabetic characters should be italicized, and specify the size of script (superscripts and subscripts), script's script (subscripts and superscripts within subscripts and superscripts), and operators.

To change equation preferences

1. In Equation mode, choose Equation/Preferences.
2. Specify the desired Math and Function colors.
3. Specify the desired sizes.

   Script size
   Displays superscript and subscript as a percentage of the current font size. You can specify a percentage between 25 and 100.

   Script's script size
   Displays script's script as a percentage of the current font size. You can specify a percentage between 25 and 100.

   Small operator size
   Displays Small operators as a percentage of the current font size. You can specify a percentage between 100 and 200.

   Big operator size
   Displays Big operators as a percentage of the current font size. You can specify a percentage between 100 and 200.
4. If you want alphabetic characters to be italicized, select Italicize alphabetic characters.
5. If you want to save the settings for the current equation and set the default for all future equations you create, choose Save.
6. Choose OK

See also:

Equations Contents
Inserting a Function
Inserting an Operator
Inserting a Subscript
Inserting a Superscript
Inserting Text

Modifying Equation Character and Symbol Icons

You can specify which characters and symbols automatically display as icons in Equation mode by replacing the existing symbol and character icons with equation pulldown box icons. Ami Pro uses the icons you specify for the current equation and all future equations you create.

Modify the icons so that you can quickly access the characters and symbols you use most frequently.

To customize the equation character and symbol icons

1. In Equation mode, click the equation pulldown box icon that contains the desired character or symbol.
2. Press SHIFT and click the desired character or symbol icon.
3. In the second row of icons, click the character or symbol icon you want to remove.

   Ami Pro replaces the existing character or symbol icon with the character or symbol icon you selected

See also:

Equations Contents
Using the Equation Character and Symbol Icons
Using the Equation Pulldown Box Icons
Inserting a Character or Symbol

Saving an Equation as a TeX File

You can save an entire equation or part of an equation as a TeX file. This allows you to use the equations you create in Ami Pro elsewhere within the same document, in another Ami Pro document, or in another application.

To save an equation as a TeX file

1. In Equation mode, select the equation or parts of the equation you want to save.

   Ami Pro automatically saves the entire equation if you do not select any part of the equation.
2. Choose File/Save As Equation.
3. Type a name for the equation file in the File name text box.
4. Specify the directory where you want the file to be stored.

   Ami Pro automatically adds TeX as the extension to the file name.
5. Choose OK.

See also:

Equations Contents
Inserting TeX Commands
Importing A Tex File
Exiting Equation Mode
Selecting Parts of an Equation

Importing a TeX File

You can import a TeX file that contains an entire equation or part of an equation. This allows you to insert equations you create in Ami Pro or in another application into an existing equation or a new equation frame.

Ami Pro supports most American Mathematical Society TeX and Plain TeX functions.

To import a TeX file

1. In Equation mode, choose File/Import Equation.
2. Specify the directory where the file is stored.
3. Specify the name of the file you want to import in the File Name list box.
4. Choose OK.

   Ami Pro inserts the file you specified into the equation frame.

See also:

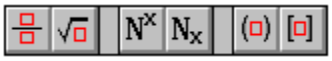
Equations Contents
Saving an Equation as a TeX File

Exiting Equation Mode

To exit Equation mode, click anywhere outside the frame that contains the equation or press ESC.

See also:

Equations Contents
Accessing Equation Mode

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