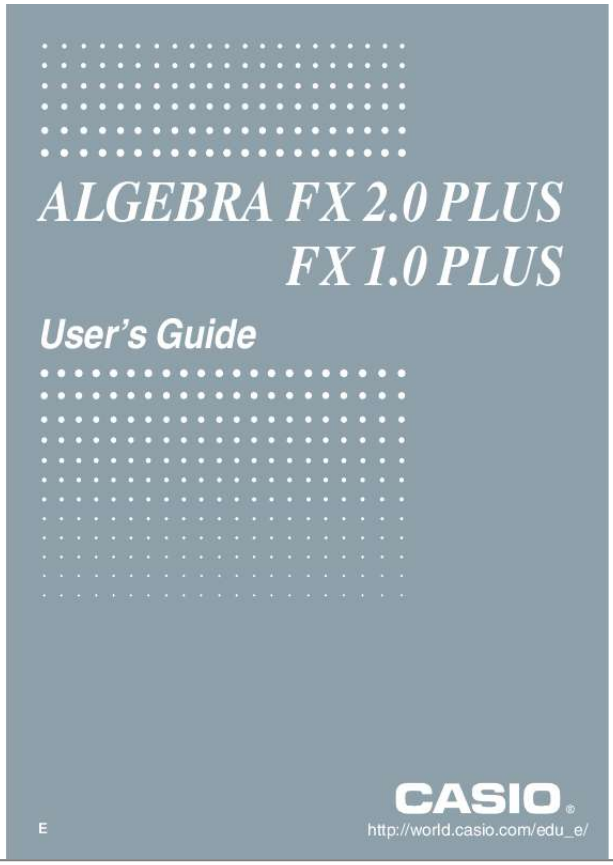

Manual abstract:

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: · Reorient or relocate the receiving antenna. · Increase the separation between the equipment and receiver. · Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. · Consult the dealer or an experienced radio/TV technician for help. FCC WARNING Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Proper connectors must be used for connection to host computer and/or peripherals in order to meet FCC emission limits. Connector SB-62 Connector FA-123 Power Graphic Unit to Power Graphic Unit Power Graphic Unit to PC for IBM/Macintosh Machine Declaration of Conformity Model Number: Trade Name: Responsible party: Address: Telephone number: ALGEBRA FX 2.0 PLUS / FX 1.0 PLUS CASIO COMPUTER CO., LTD.

CASIO, INC. 570 MT. PLEASANT AVENUE, DOVER, NEW JERSEY 07801 973-361-5400 This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. IBM is a registered trademark of International Business Machines Corporation. Macintosh is a registered trademark of Apple Computer, Inc. BEFORE USING THE CALCULATOR FOR THE FIRST TIME... This calculator does not contain any main batteries when you purchase it.

Be sure to perform the following procedure to load batteries, reset the calculator, and adjust the contrast before trying to use the calculator for the first time. 1. Making sure that you do not accidently press the o key, slide the case onto the calculator and then turn the calculator over. Remove the back cover from the calculator by pulling with your finger at the point marked 1. 1 P 2. Load the four batteries that come with calculator. · Make sure that the positive (+) and negative () ends of the batteries are facing correctly. BACK UP 3. Remove the insulating sheet at the location marked "BACK UP" by pulling in the direction indicated by the arrow. BACK UP 4.

*Replace the back cover, making sure that its tabs enter the holes marked 2 and turn the calculator front side up. The calculator should automatically turn on power and perform the memory reset operation. 2 19990401 5. Press m. · If the Main Menu shown to the right is not on the display, press the P button on the back of the calculator to perform memory reset. P button * The above shows the ALGEBRA FX 2.0 PLUS screen. 6. Use the cursor keys (f, c, d, e) to select the SYSTEM icon and press w, then press 2( ) to display the contrast adjustment screen. 7.*

Adjust the contrast. · The e cursor key makes display contrast darker. · The d cursor key makes display contrast lighter. · 1(INIT) returns display contrast to its initial default. 8.

To exit display contrast adjustment, press m. 20010102 Quick-Start Turning Power On And Off Using Modes Basic Calculations Replay Feature Fraction Calculations Exponents Graph Functions Dual Graph Box Zoom Dynamic Graph Table Function 19990401 1 Quick-Start Quick-Start Welcome to the world of graphing calculators. Quick-Start is not a complete tutorial, but it takes you through many of the most common functions, from turning the power on, and on to graphing complex equations. When you're done, you'll have mastered the basic operation of this calculator and will be ready to proceed with the rest of this user's guide to learn the entire spectrum of functions available. Each step of the examples in Quick-Start is shown graphically to help you follow along quickly and easily.

When you need to enter the number 57, for example, we've indicated it as follows: Press fh Whenever necessary, we've included samples of what your screen should look like. If you find that your screen doesn't match the sample, you can restart from the beginning by pressing the "All Clear" button . o TURNING POWER ON AND OFF To turn power on, press o. To turn power off, press !o. OFF Calculator power turns off automatically if you do not perform any operation within the Auto Power Off trigger time you specify. You can specify either six minutes or 60 minutes as the trigger time. USING MODES This calculator makes it easy to perform a wide range of calculations by simply selecting the appropriate mode. Before getting into actual calculations and operation examples, let's take a look at how to navigate around the modes. To select the RUN · MAT Mode 1. Press m to display the Main Menu.

** The above shows the ALGEBRA FX 2.0 PLUS screen. 20010102 19990401 2 Quick-Start 2. Use defc to highlight RUN and then press w. · MAT This is the initial screen of the RUN · MAT Mode, where you can perform manual calculations, matrix calculations, and run programs. BASIC CALCULATIONS With manual calculations, you input formulas from left to right, just as they are written on paper. With formulas that include mixed arithmetic operators and parentheses, the calculator automatically applies true algebraic logic to calculate the result. Example: 15 × 3 + 61 1. Press 2. Press o to clear the calculator. bf*d+gbw. Parentheses Calculations Example: 15 × (3 + 61) 1. Press bf*(d +gb)w. Built-In Functions This calculator includes a number of built-in scientific functions, including trigonometric and logarithmic functions. Example: 25 × sin 45° Important! Be sure that you specify Deg (degrees) as the angle unit before you try this example.*

*19990401 3 Quick-Start SET UP 1. Pressu3 to display the SET UP screen. 2. Press cccc1 (Deg) to specify i to clear the menu. o to clear the unit. cf*sefw. degrees as the angle unit. 3. Press 4. Press 5. Press REPLAY FEATURE With the replay feature, simply press or to recall the last calculation that was performed so you can make changes or re-execute it as it is. de Example: To change the calculation in the last example from (25 × sin 45°) to (25 × sin 55°) 1. Press 2. Press 3. Press 4.*

Press 5. Press d to display the last calculation. d twice to move the cursor (t) to 4. D to delete 4. f. w to execute the calculation again. REPLAY 19990401 4 Quick-Start FRACTION CALCULATIONS You can use the key to input fractions into calculations. The symbol " { " is used to separate the various parts of a fraction. $ Example: 1 15/16 + 37/9 1. Press 2.

Press o. bbf bg+dh$ jw. Indicates 6 7/ 144 Converting a Mixed Fraction to an Improper Fraction While a mixed fraction is shown on the display, press improper fraction.

d/c !$to convert it to an d/c Press !$again to convert back to a mixed fraction. Converting a Fraction to Its Decimal Equivalent While a fraction is shown on the display, press equivalent.

Press $ to convert it to its decimal $ again to convert back to a fraction. 19990401 5 Quick-Start EXPONENTS Example: 1250 × 2.065 1. Press 2. Press 3. Press 4. Press 5. Press o. bcfa*c.ag. M and the ^ indicator appears on the display. f. The ^5 on the display indicates that 5 is an exponent. w. 19990401 6 Quick-Start GRAPH FUNCTIONS The graphing capabilities of this calculator makes it possible to draw complex graphs using either rectangular coordinates (horizontal axis: x ; vertical axis: y) or polar coordinates (angle: ; distance from origin: r).

All of the following graphing examples are performed starting from the calculator setup in effect immediately following a reset operation. Example 1: To graph Y = X(X + 1)(X 2) 1. Press 2. Use m. · defc to highlight GRPH TBL, and then press w. 3. Input the formula. v (v+b) (v -c)w 4. Press 5(DRAW) or w to draw the graph. Example 2: To determine the roots of Y = X(X + 1)(X 2) 1.

Press 4(G-SLV) to display the pull-up menu. 19990401 7 Quick-Start 2. Press b(Root). Press e for other roots. Example 3: Determine the area bounded by the origin and the X = 1 root obtained for Y = X(X + 1)(X 2) 1.

Press i4(G-SLV)c. 2. Press i(dx). 3. Use d to move the pointer to the location where X = 1, and then press w.

Next, use e to move the pointer to the location where X = 0, and then press w to input the integration range, which becomes shaded on the display. 19990401 8 Quick-Start DUAL GRAPH With this function you can split the display between two areas and display two graphs on the same screen. Example: To draw the following two graphs and determine the points of intersection Y1 = X(X + 1)(X 2) Y2 = X + 1.2 SET UP 1. Press to specify "G+G" for the Dual Screen setting. u3ccc2(G+G) 2. Press i, and then input the two functions. v(v+b) (v-c)w v+b.cw 5(DRAW) or w to draw the graphs. 3.

Press BOX ZOOM Use the Box Zoom function to specify areas of a graph for enlargement. 1. Press 2(ZOOM) b(Box). to move the pointer 2. Use to one corner of the area you want to specify and . then press defc w 19990401 9 Quick-Start 3. Use to move the pointer again. As you do, a box appears on the display. Move the pointer so the box encloses the area you want to enlarge. defc 4.

Press and the enlarged area appears in the inactive (right side) screen. w, DYNAMIC GRAPH Dynamic Graph lets you see how the shape of a graph is affected as the value assigned to one of the coefficients of its function changes. Example: To draw graphs as the value of coefficient A in the following function changes from 1 to 3 Y = AX2 1. Press 2. Use m.

and then press d e f c to highlight DYNA, w. 3. Input the formula. A avvxw 12356 19990401 10 Quick-Start 4. Press of 1 to coefficient A.

4(VAR) bw to assign an initial value 5. Press 2(RANG) bwdwb wto specify the range and increment of change in coefficient A. 6. Press i. 6(DYNA) to start Dynamic Graph drawing. 7. Press The graphs are drawn 10 times. 19990401 11 Quick-Start TABLE FUNCTION The Table Function makes it possible to generate a table of solutions as different values are assigned to the variables of a function. Example: To create a number table for the following function Y = X (X+1) (X2) 1. Press 2.

Use m. · defc to highlight GRPH TBL, and then press w. 3. Input the formula. v(v+b) (v-c)w 4. Press table. 6(g)5(TABL) to generate the number To learn all about the many powerful features of this calculator, read on and explore! 19990401 Handling Precautions · Your calculator is made up of precision components. Never try to take it apart. · Avoid dropping your calculator and subjecting it to strong impact. · Do not store the calculator or leave it in areas exposed to high temperatures or humidity, or large amounts of dust.

When exposed to low temperatures, the calculator may require more time to display results and may even fail to operate. Correct operation will resume once the calculator is brought back to normal temperature. · The display will go blank and keys will not operate during calculations. When you are operating the keyboard, be sure to watch the display to make sure that all your key operations are being performed correctly. · Replace the main batteries once every 2 years regardless of how much the calculator is used during that period.

Never leave dead batteries in the battery compartment. They can leak and damage the unit. · Keep batteries out of the reach of small children. If swallowed, consult a physician immediately. · Avoid using volatile liquids ot;················ ALGEBRA FX 2.

0 PLUS FX 1.0 PLUS ·················· ·················· ·················· ·················· ·················· .... ·················· ·················· .... 20010102 19990401 1 Contents Contents Getting Acquainted -- Read This First! Chapter 1 Basic Operation 1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 Keys .

@@Example: Left hand page 3. Draw the graph. @@@@@@Mode Name Description Use this mode for arithmetic calculations and function calculations, and for calculations involving binary, octal, decimal, and hexadecimal values and matrices. Use this mode to perform single-variable (standard deviation) and paired-variable (regression) statistical calculations, to perform tests, to analyze data and to draw statistical graphs. Use this mode to store functions, to generate a numeric table of different solutions as the values assigned to variables in a function change, and to draw graphs. Use this mode to store graph functions and to draw multiple versions of a graph by changing the values assigned to the variables in a function. Use this mode to store recursion formulas, to generate a numeric table of different solutions as the values assigned to variables in a function change, and to draw graphs. Use this mode to draw graphs of implicit functions. Use this mode to solve linear equations with two through six unknowns, quadratic equations, and cubic equations. Use this mode to store programs in th program area and to run programs.

1-2-3 Display k About the Function Menu Use the function keys (1 to 6) to access the menus and commands in the menu bar along the bottom of the display screen. You can tell whether a menu bar item is a menu or a command by its appearance. · Command (Example: · Pull-up Menu (Example:)) Pressing a function key that corresponds to a menu bar command executes the command. Pressing a function key that corresponds to a pull-up menu opens the menu. You can use either of the following two methods to select a command from a pull-up menu.

GRaPH-TaBLe DYNAmic graph RECURsion CONICS EQUAtion PRoGraM · Input the key to the left of the command on the pull-up menu. · Use the f and c cursor keys to move the highlighting to the command you want, and then press w. The symbol ' to the right of a command indicates that executing the command displays a submenu. To cancel the pull-up menu without inputting the command, press i. k About Display Screens This calculator uses two types of display screens: a text screen and a graphic screen.

The text screen can show 21 columns and 8 lines of characters, with the bottom line used for the function key menu. The graph screen uses an area that measures 127 (W) × 63 (H) dots. Computer Algebra Use this mode to perform algebraic calculations. Syetem ALGEBRA TUTORial LINK MEMORY SYSTEM Use this mode for step-by-step solution of expressions.

Use this mode to determine the expression type and solve mode, and for interactive equation solutions. Use this mode for step-by-step solution of expressions. Use this mode to manage data stored in memory. Use this mode to initialize memory, adjust contrast, and to make other system settings. Text Screen Graph Screen The contents of each type of screen are stored in independent memory areas. The contents of each type of screen are stored in independent memory areas.

*#The contents of each type of screen are stored in independent memory areas. #The contents of each type of screen are stored in independent memory u Supplementary Information 19981001 19981001 Supplementary information is shown at the bottom of each page in a " (Notes)" block. indicates a note about a term that appears in the * indicates a note that provides general informationsame page as the note.the same section # about topic covered in as the note. 19990401 .*