

## 8163a manual

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# 8163a manual

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Reserved. <http://www.pandawakaryacitra.co.id/fabercms/userfiles/calendarextender-disable-manual-input.xml>

- **8163a manual, agilent 8163a manual, 1.0, 8163a manual, agilent 8163a manual.**

How to Set the Wavelength Sweep How to Perform a Sweep How to Modulate a Signal How to Use the Internal Modulation How to Use External Modulation How to Configure the Modulation Output How to Use Triggers How to Use Input Triggering How to Use Output Triggering How to Use Auxiliary Functions Automatic Realignment How to Perform a Lambda Zero Auto Cal Off Compact Tunable Lasers Compact Tunable Laser modules How to Use a compact Tunable Laser The User Interface SBS Suppression Return Loss Measurement Getting Started With Return Loss What is Return Loss. What is Insertion Loss. How to Set Up PACT How to Measure the Reference How to Perform a Loss Measurement Analysing a PACT Measurement OnScreen Messages The Pmax Curve What is the Pmax Curve. What do I need for proper cleaning. <http://praguetransfer.com/files/calentador-kruger-2212-manual.xml>

Light dirt Heavy dirt How to clean connectors Preferred Procedure Procedure for Stubborn Dirt An Alternative Procedure How to clean connector adapters Preferred Procedure Procedure for Stubborn Dirt How to clean connector interfaces Preferred Procedure Procedure for Stubborn Dirt How to clean bare fiber adapters Preferred Procedure Procedure for Stubborn Dirt How to clean lenses Preferred Procedure Procedure for Stubborn Dirt How to clean instruments with a fixed connector interface How to clean instruments with an optical glass plate How to clean instruments with a physical contact interface Preferred Procedure Procedure for Stubborn Dirt How to clean instruments with a recessed lens interface Preferred Procedure Procedure for Stubborn Dirt How to clean optical devices which are sensitive to mechanical stress and pressure Preferred Procedure Procedure for Stubborn Dirt Alternative Procedure How to clean metal filters or attenuator gratings Preferred Procedure Procedure for Stubborn Dirt Additional Cleaning Information How to clean bare

fiber ends How to clean large area lenses and mirrors Preferred Procedure Procedure for Stubborn Dirt Alternative Procedure A Alternative Procedure B Other Cleaning Hints Making the connection Lens cleaning papers Immersion oil and other index matching compounds Cleaning the housing and the mainframe Firmware Upgrades Firmware Upgrade Process How to Get a Firmware Upgrade How to Upgrade Firmware Index No part of this document may be reproduced in including electronic storage and retrieval or translation into a foreign language without prior agreement and written consent from Agilent Technologies GmbH as governed by United States and international copyright laws. Agilent Technologies Deutschland GmbH Herr en berger Str.

13 0 71034 B ob ling en Germa ny Manual Part Number 08164 90B15 Ed it ion Six th edi t ion, Dece mbe r 200 4 Fi th e d iti o n, July 20 0 3 Fo ur th e d iti o n, Feb rua ry 2002 Th ir d edi t ion, Oc to be r 20 01 Seco nd ed iti o n, Sept em ber 20 01 First edi tio n, Au gust 200 1 W a rra n ty Th is A gil en t T ec hno logie s i nst rum en t pro duc t is wa rra nte d ag ain st d e f e c t s in mater ia l an d wo rkma nshi p for a perio d of on e year from dat e of s hipme nt. Duri ng t he wa rra nty pe ri od, Agile nt wi ll, at it s op ti on, ei th er rep a ir or repl ace pr od uct s that prove to be defec t ive. Fo r war ra nty s erv ic e or re pa ir, th is pro duc t m ust b e re tu rne d to a s erv ic e fa ci lit y de s i gna t e d by A gi le nt. Bu ye r shal l pr epay s hippi ng char ges t o Agi lent and Agi lent shal l pa y shi ppi ng char ges to re tur n th e pro duc t to Bu yer. Ho wever, Buyer shal l pay all s hippi ng cha rges, du ties, a nd taxe s for pro duc t s retu rne d to Ag ilen t fr om ano the r co untr y. Agil en t war ran ts t hat i t s so ft wa re an d fir mwa re desi gnat ed by Agile nt fo r use with an instru ment wi ll execute its pro gramm ing in stru cti ons whe n prop erl y ins talle d on tha t in st rume n t. Agil en t do es n o t wa rra n t that th e oper a tio n of the in s tr u m e n t, so f t wa re, or fir mwa re wi ll be uni nter ru pte d or erro r fr e e. Limitation of W a rra nty The fo r goin g war rant y sha ll not a pply to defects resu lting from improp er or inad e qua te main te na nce by Buy e r, Buyersupplied software or int erfaci ng, unaut hori zed mod ificati on or misu se, op era ti on out sid e o f th e en viro n m ent al spec if icat ion s f or the p rodu ct, or impr oper si te pre parati on or main te nan ce. No ot her warr a nty is expr essed or im plie d. Agi le nt T ech n olog ies spec if ic ally d isc laim s the im plie d war ran tie s o f M er cha nt ab il ity an d Fi tn ess fo r a P a r t ic ula r P u rpo s e.

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These are TTL inputs. A maximum of 5 V can be applied as an external voltage to either of these input connectors. There is one output BNC connector the Trigger Output, see "Input and Output Connectors" on page 310. This is a TTL output. Do not apply an external voltage to this connector. CAUTION The type of power cable shipped with each instrument depends on the country of destination. Please refer to "Accessories" on page 319 for the part numbers of available power cables. Operating personnel must not remove instrument covers. Do not operate the instrument in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard. This warning symbol is marked on products which have a laser output. The AC symbol is used to indicate the required nature of the line module input power. The ON symbols are used to mark the positions of the instrument power line switch. The OFF symbols are used to mark the positions of the instrument power line switch. The CE mark is a registered trademark of the European Community. The CSA mark is a registered trademark of the Canadian Standards Association. The CT mark is a registered trademark of the Australian Spectrum Management Agency. This text denotes that the instrument is an Industrial Scientific and Medical Group 1 Class A product. Frame or chassis terminal. Protective conductor Terminal Caution, risk of electrical shock. Magnetic fields may interfere with a pacemaker Caution, hot surface ISM 1A ISM 1A CW output power is defined as the highest possible optical power that the laser source can produce at its output connector. CW output power is defined as the highest possible optical power that the laser source can produce at its output connector.

Table 5 Backloadable Tunable Laser Modules discontinued Laser Safety Information Agilent 81480 B Agilent 81482 B Agilent 81680 B Agilent 81682 B Agilent 81640 B Agilent 81642 B Agilent 81672 B Laser Type FPLA se r InG a AsP FP Laser InGaAs P FP Laser InGaAs P FPLA se r InGaAs P FPLA se r InGaAs P FP Laser InGaAs P FP Laser InGaAs P Wavelength range 1370 1495 nm 1370 1495 nm 1460 1580 nm 1460 1580 nm 1495 1640 nm 1495 1640 nm 1260 1375 nm Max. CW output power is defined as the highest possible optical power that the laser source can produce at its output connector. CW output power is defined as the highest possible optical power that the laser source can produce at its output connector.

ossible optical power that the laser source can produce at its output connector. Table 7 Compact Tunable Laser Modules discussed Laser Safety Information Agilent 81689A Agilent 81689B Agilent 81649A Laser Type FP Laser InGaAs PFP Laser InGaAs PFP Laser InGaAs PFP Laser InGaAs PFP Wavelength 14001620 nm 14001620 nm 14001620 nm Max. CW output power is defined as the highest possible optical power that the laser source can produce at its output connector. Introducing Hardkeys A hardkey is a key that always has the same function. Special Module States Besides parameter or measurement values, you may also see some texts in stead. Slot and Channel Numbers Each module is identified by a slot number and a channel number. Modules with two channels, for example, the Agilent 81635A Dual Power Sensor, use the channel number to distinguish between these channels. The channel number of single channel modules is always one. NOTE It shows the most important parameters of all installed modules The display of the Agilent 8163A and the Agilent 8166A is black and white only. NOTE Turning the Modify Knob anti clock wise moves the highlighted marker left and then up.

You can use the Modify Knob to change the value of a parameter. See "How to Change the Value of a Parameter" on page 53. How to Change Channel You can navigate between module channels by pressing the Channel hardkey. You should see the Details screen as shown in Figure 13, Figure 14, or Figure 15. Figure 13 The Agilent 8163B's Details Screen for a Power Sensor Channel See "Additional Information" on page 63 for more details. Cross references within the text allow you to access relevant topics. Cross references are underlined. If a cross reference is highlighted, it is selected. See "Applications" on page 229 for further details. Figure 22 The Applications Menu NOTE After you exit from the application, any modules selected by these applications will automatically be present, all parameters will be set to the default values for the selected modules. NOTE All references to pressing Enter throughout this User's Guide, refer to one of these three actions. Figure 23 The First Digit Before the Decimal Point is Highlighted First 2 If you want to select another digit to edit, use the left or right cursor key. 3 Enter the new value for the digit by using the numerical keypad, the up and down cursors or turning the modify knob. 4 Repeat steps 2 and 3 to continue editing the value. 5 When you have finished editing the value, press Enter. The most significant digit is highlighted. 2 Press the left cursor once to highlight the digit four. 3 Press the down cursor twice to change the value of the digit to two. 4 Press the right cursor once to move the cursor one digit right. Power Sensor TLS You should notice that the power reading is approximately half the value set on the Tunable Laser module.

This is because the output is modulated by a square wave with a 50% duty cycle. You see a box displaying the current setting. Figure 28 Entering a Backlight Value 3 Enter an integer value between zero and one hundred in this box and press Enter. You see a box, similar to Figure 29, displaying the current date and time settings. The Contrast can also be set for the Agilent 8163A and the 8166A models, but only these models, as follows NOTE Press Enter. 5 Perform steps 3 to 4 a gain if the date is not fully correct. 6 Use the cursor key to move to the Time field. The hour of the day is highlighted. The 24-hour clock is used. 7 Use the left and right cursor keys to move to the hour, minute, or second. Figure 30 Unlocking the Instrument 3 Enter the password, using the soft keys or the numeric keypad. You see a box displaying the available triggering modes. Figure 31 Changing the Triggering Mode 3 Move to your selected triggering mode and press Enter. This functionality requires FPGA version 1.5 or higher. The FPGA version number and date is displayed after you boot up the instrument. The Trigger configuration must not be set to "disabled" NOTE NOTE Figure 33 Entering a GPIB Address 3 Enter an integer value between 0 and 30 into this box and press Enter. The address is set to this value. The default GPIB address is 20. NOTE Avoid using 21 as the GPIB address because this number is often the controller's default GPIB address. NOTE Figure 34 Selecting a Baudrate for the Serial Interface 3 Move

to the baud rate required and press Enter. The default baud rate of the serial interface is 38400 bps.

NOTE The baud rate set for the serial interface of the instrument should match that set for the PC serial interface connected to it. The PC serial interface should be configured to match the instrument's fixed parameters. Refer to "Serial Interface" on page 315.

NOTE Reboot the main frame to restore normal operation. NOTE You return to the configuration menu. You see a box requesting you to enter the new password. 4 Enter your new password. It should be 4 digits long.

Figure 37 Slots with Installed Modules 3 Move to the module using the cursor key for which you require information. Press Enter. 4 The part number, serial number, and firmware revision of the chosen module are displayed, as shown in Figure 38. The manufacturer, part number, serial number, and firmware revision of the main frame are related. The Agilent 8163A, Agilent 8164A, and Agilent 8166A will always return Agilent as the manufacturer. This will not be affected by the transition of these instruments to Agilent Technologies. This will allow programs that use this string to continue functioning. See "How to Get Information About Modules" on page 77 for information on module identity strings. The Agilent 8163B, Agilent 8164B, and Agilent 8166B will always return Agilent Technologies as the manufacturer. NOTE NOTE Refer to the user's guide that came with your monitor, if necessary, to locate your monitor's output and input ports. NOTE This is the maximum number of digits after the decimal point. You will see the screen in Figure 41. What are the Power Units. Watts are the SI unit for power measurement. You can also measure power in dB or dBm. Values displayed in these units are derived from measurement in Watts.

By selecting dBm, the following calculation is made. Where, P<sub>dBm</sub> is the power value displayed in dBm, and P<sub>input</sub> is the input signal level in Watts. Power, in units of dBm, is measured relative to 1 mW, it is an absolute power measurement. By selecting dB, the following calculation is made. Where, P<sub>dB</sub> is the power value displayed in dB, P<sub>input</sub> is the input signal level in Watts, and P<sub>ref</sub> is the chosen reference power value in Watts. Power, in units of dB, is measured relative to a particular reference power value. For information on selecting this reference value, see "How to Input a Reference Level" on page 88.

RE FdBm or Where, P<sub>display</sub> is the displayed relative power, P<sub>measured</sub> is the absolute power level see "How to Set the Calibration Offset" on page 87, and REF is the reference level. You can choose the units for the reference using the Power Unit softkey. Setting the reference only affects results displayed in dB. P<sub>measured</sub> dB dBm. RE FdB or Where P<sub>display</sub> is the displayed relative power, P<sub>measured</sub> dB is the absolute power level see "How to Set the Calibration Offset" on page 87 measured by the current Power Meter, and P<sub>measured</sub> dB is the absolute power level see "How to Set the Calibration Offset" on page 87 measured by the Power Meter you choose to reference, and REF is the reference level in decibels dB. You can only set the reference level, REF, in decibels dB when you reference Power Meter's current power level. This reference level is stored in separate memory than the absolute reference level. NOTE How to Remove Electrical Offsets Optical Power Meters measure optical power by converting optical power to electrical power, and then measuring electrical power.

An electrical offset is electrical power that is always present, even if there is no optical power is input. If electrical offsets are not removed, they affect the accuracy of power measurement. If you are using multimode fiber optic cable, you must disconnect the cable and cover the input to the Power Meter to perform a zero. It is good practice to perform a zero before making any important measurements. To remove electrical offsets 1 Make sure the optical input is not receiving any light. If the instrument has just been switched on, wait until SE TTLING is not displayed for the module channel. The environmental conditions and the temperature of the instrument affect electrical offset. For the best results you must NOTE Figure 45 Zeroing

Screen By default, the range mode of the slave channel, channel 2, is the same as that for the master channel, channel 1. See Table 10 on page 107 for more details. NOTE This means that the measured power is greater than the Upper Power Limit. See Table 9 on page 99 for more details. Figure 50 Out of Range Power Less Than Resolution Figure 51 Range Value Menu Longer averaging times also decrease sensitivity. For averaging times of 1 second or less, a new measurement is shown at the end of each averaging time. This is drawn in Figure 52. For a Dual Power Sensor, you cannot set the averaging time of the slave channel, channel 2, directly. By default, the averaging time of the slave channel, channel 2, is the same value as that for the master channel, channel 1. See Table 10 on page 107 for more details. NOTE xxx xx xxx T avg P, is displayed in place of P, the power value. This mode is intended principally for polarization dependent measurements, but can be used for other types of measurement.

This mode is useful for measuring the Polarization Dependent Loss PDL of a component. The minimum and maximum values, in this buffer, are displayed. After N samples are added to the buffer, the buffer resets and a new buffer is created. You can use Window and Refresh modes, for example, when you are searching for or setting the position of minimum PDL. For a Dual Power Sensor, you cannot set the averaging time of the slave channel, channel 2, directly. By default, the averaging time of the slave channel, channel 2, is the same value as that for the master channel, channel 1. See Table 10 on page 107 for more details. NOTE Window Refresh N Samples N Samples Time for display to update Time for display to update The length of the lines displayed represents the size of the buffer at the time of update Mode Mode Figure 56 Input Trigger Mode For a Dual Power Sensor, you cannot set the averaging time of the slave channel, channel 2, directly. See Table 10 on page 107 for more details. NOTE Figure 57 Output Trigger Mode For some commands, setting parameters for the master channel sets the parameters for the slave channel. In these cases, you may only set parameters for the slave channel by setting master channel parameters. You can choose to output an optical signal at either a single wavelength or at both wavelengths simultaneously. The green LED on the module front panel switches off. For further information on modulating the optical output of a dual wavelength laser source module, see "How to Modulate Dual Wavelength Laser Source Modules" on page 115. NOTE You see the screen in Figure 60. For details of the Off setting "How to Disable Modulation" on page 113.

For details of the Internal setting "How to Use the Internal Modulation" on page 114 For details of the Coherence Control setting "How to Increase Line Width" on page 114 For details of the Backplane setting "External Digital Modulation using Input Trigger Connector" on page 147. The amplitude is set by the power parameter. The text In t appears in the Laser Source channel. Enabling the coherence control increases the line width of the optical output signal to between 50 and 500 MHz typically. For typical values, refer to User's Guide for your laser source module, among the Supplementary Performance Characteristics provided with the module's Specification. 4 Press Enter. The text CC appears in the Laser Source channel. Output Power For Agilent 8165x Series Dual Wavelength Laser Source modules, you can choose independent modulation sources and independent modulation frequencies for both wavelengths. If you choose independent modulation sources for a Dual Wavelength Laser Source module, the text Mod will be displayed in the Laser Source channel. If you choose the same modulation sources for both wavelengths of a Dual Wavelength Laser Source module, the relevant text will be displayed in the Laser Source channel, for example, Int if both wavelengths use internal modulation. NOTE NOTE This signal is output with the laser switched on or off. 5 Press Enter. A tunable laser is a laser source for which the wavelength can be varied through a specified range. The Agilent Technologies Tunable Laser modules also allow you to set the output power, and to choose between continuous wave or modulated power. A continuous wave signal is the default.

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