Quick reference sheet for WiFi to RS-232 adapter WA232E

Package Contents:
- WiFi RS-232 adapter x 1
- 2 dBi dipole antenna x 1
- A4 User manual x 1
- DB9 male/male connector x 1
- USB Cable x 1

LEDs:
- Data: Red
- Status: Blue

DCE/DTE

Removable stand-off nuts

DB9 (Female)

5 - 27VDC

Power switch

Mini USB

Reset switch

2 dBi dipole antenna
<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part number</td>
</tr>
<tr>
<td>Processor</td>
</tr>
<tr>
<td>Network</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Security</td>
</tr>
<tr>
<td>Protocols</td>
</tr>
<tr>
<td>Network modes</td>
</tr>
<tr>
<td>Output power (peak)</td>
</tr>
<tr>
<td>Receive sensitivity</td>
</tr>
<tr>
<td>Power consumption</td>
</tr>
<tr>
<td>Baud rates</td>
</tr>
<tr>
<td>Data bits</td>
</tr>
<tr>
<td>Parity</td>
</tr>
<tr>
<td>Stop bits</td>
</tr>
<tr>
<td>Flow control</td>
</tr>
<tr>
<td>Parameter configuration</td>
</tr>
<tr>
<td>Operating distance</td>
</tr>
<tr>
<td>DEC/DTE</td>
</tr>
<tr>
<td>RS232 Signals</td>
</tr>
<tr>
<td>Network modes</td>
</tr>
<tr>
<td>Max. simultaneous connections</td>
</tr>
<tr>
<td>Serial port</td>
</tr>
<tr>
<td>Buffer size</td>
</tr>
<tr>
<td>Antenna</td>
</tr>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td>Operating temp.</td>
</tr>
<tr>
<td>External battery option</td>
</tr>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>Certifications</td>
</tr>
</tbody>
</table>
Power
The adapter can be powered through the mini USB port, through the screw terminals or through pin 9 in the DB9 connector. 5VDC to 27VDC for all power sources.

Default COM port settings
- Baud rate: 9600 bps
- Data bit: 8
- Parity: none
- Stop bit: 1
- Flow control: none

Default network settings
- Adhoc mode (Simple AP), DHCP enabled
- SSID: Serial2WiFi_ab_cd (ab_cd is the last 4 numbers of the MAC address)
- No Security
- IP: 192.168.0.3
- Socket port: 5000
- Channel: 11
- Log in ID: admin
- Log in password: admin

Power switch
Selects input power source
- Switch towards antenna: USB powered.
- Switch towards DB9 connector: powered by screw terminals or pin 9.

Management
The parameters of the adapter can be configured the following ways:
- Web browser over WiFi
- Configuration utility software (free downloadable) over WiFi
- Serial RS232 port
Please refer to the setup guide for details.

Virtual COM port driver
A virtual COM port can be created with the downloadable software utility.

Alternative compatible COM port software are:
- PortShare
- USC-VCOM
- Fabulatech COM port redirector
Please refer to the setup guide for details.
LED indication lights: Red: Power On or Off, Blue: WiFi Status

<table>
<thead>
<tr>
<th>Adapter mode</th>
<th>WiFi mode</th>
<th>LED light</th>
<th>WiFi state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>Station</td>
<td>Off</td>
<td>Disconnected</td>
</tr>
<tr>
<td></td>
<td>AP</td>
<td>Flashing 0.5sec interval</td>
<td>Connected</td>
</tr>
<tr>
<td>Upgrading FW</td>
<td>Station</td>
<td>Off</td>
<td>Disconnected</td>
</tr>
<tr>
<td></td>
<td>AP</td>
<td>Flashing 2sec interval</td>
<td>Working</td>
</tr>
</tbody>
</table>

Reset button

Press the “Reset” button for more than 5 seconds. The LEDs will turn off for a few seconds and then the adapter will reboot to the default values. Alternatively the adapter can be reset by software.

DB9 female pin configuration

RS232 signals:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>DTE Direction</th>
<th>DCE Direction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CD</td>
<td>Input</td>
<td>Output</td>
<td>Not connected</td>
</tr>
<tr>
<td>2</td>
<td>TxD</td>
<td>Output</td>
<td>Input</td>
<td>Transmitted data</td>
</tr>
<tr>
<td>3</td>
<td>RxD</td>
<td>Input</td>
<td>Output</td>
<td>Received data</td>
</tr>
<tr>
<td>4</td>
<td>DSR</td>
<td>Input</td>
<td>Output</td>
<td>Contact manufacturer to set this</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>N/A</td>
<td>N/A</td>
<td>Signal ground</td>
</tr>
<tr>
<td>6</td>
<td>DTR</td>
<td>Output</td>
<td>Input</td>
<td>Contact manufacturer to set this</td>
</tr>
<tr>
<td>7</td>
<td>CTS</td>
<td>Input</td>
<td>Output</td>
<td>Clear to send</td>
</tr>
<tr>
<td>8</td>
<td>RTS</td>
<td>Output</td>
<td>Input</td>
<td>Request to send (Default)</td>
</tr>
<tr>
<td>9</td>
<td>Vcc</td>
<td>Input</td>
<td>Input</td>
<td>External Power supply</td>
</tr>
</tbody>
</table>

Command set

Online help: “help” command (Available for RS-232 setup only)
Usage: ipconfig
Usage: setup <IP address>
Usage: setnetmask <netmask>
Usage: setgateway <gateway IP address>
Usage: setdns <DNS IP address>
Usage: setmode <mode>
  <mode>: 0: SERVER  1: CLIENT
Usage: r2wmode <mode>
  <mode>
  0: Socket
  1: VCOM
2: RFC2217
3: Modbus Gateway

Usage:
- `setsrvport <port number>`
- `setdstport <port number>`
- `setdsthn <host name | IP address>`
- `connectype <protocol>`
  
  \(<protocol>: 0: TCP\) \(1: UDP\)

Usage: `connstatus`

Usage:
- `wifi_connect [SSID] [WPA PASSWORD / WEP KEY(5 or 13)] [WEP KEY ID]`
  
  \(SSID = 1 \sim 32\) ASCII characters
  
  WPA PASSWORD = 8 \sim 63 ASCII characters
  
  ASCII WEP KEY = 5 (WEP64) or 13 (WEP128) ASCII characters
  
  WEP KEY ID = 0 \sim 3

Usage: `wifi_disconnect`

Usage:
- `wifi_mode [MODE]`
  
  \(MODE = 1(\text{STA}), 2(\text{AP})\)

Usage: `wifi_scan`

Usage: `wifi_jbss <INDEX>`
  
  \(INDEX = \text{Index of bss scan table, maximum 24 BSSs supported}\)

Usage: `wifi_on`

Usage: `wifi_off`

Usage: `wifi_channel <CHANNEL>`
  
  \(CHANNEL = 1 \sim 13\)

Usage: `wifi_ssid <SSID>`
  
  \(SSID = 1 \sim 32\) ASCII characters

Usage: `wifi_enc <ENC_MODE>`
  
  \(ENC\_MODE = 0(\text{OPEN})\)
  
  \(1(\text{WEP}) (\text{AP mode not support})\)
  
  \(2(\text{WPA2} \_\text{AES}\_\text{PSK})\)

Usage: `wifi_keyid <INDEX>`
  
  \(INDEX = 0 \sim 3\)

Usage: `wifi_wepkey <INDEX> <KEY>`
  
  \(INDEX = 0 \sim 3\)
  
  \(KEY = 5 \text{ or } 13\) ASCII characters

Usage: `wifi_wpakey <KEY>`
  
  \(KEY = 8 \sim 63\) ASCII characters

Usage: `reboot`

Usage: `urdatamode`

Usage: `setdef`

Usage: `saveconfig`

Usage: `ping <IP address>`

Usage: `wifi_info`

Usage: `wifi_ap <ssid> <channel> <wep/wpa key> <wep key index>`
  
  \(<ssid>: 1\sim32\) ASCII characters
  
  \(<channel>: 1\sim14\)

  \(<\text{wep/wpa key}}: \text{WEP}(5/13\) ASCII characters) or WPA(8\sim63 ASCII characters)\)

Usage: `ur_config <baud_rate> <databits> <stop_bits> <parity> <flow_control>`
  
  \(<\text{baud_rate}}: 1200\) bps
  
  \(2400\) bps
  
  \(4800\) bps
  
  \(9600\) bps
  
  \(19200\) bps
38400 bps
57600 bps
115200 bps
921600 bps

<databits>: 7 or 8 bits
<stop_bits>: 1 or 2 bit(s)
<parity>: 0 = none, 1 = odd, 2 = even
<flow_control>: 0 = disable, 1 = enable CTS/RTS flow control

Usage: dhcpclient <status>
<status>: 0: disable 1: enable

Usage: sedhcpsrv <status>
<status>: 0: disable 1: enable

Usage: ntpsrv <time zone> <ntp server1> <ntp server2> <ntp server3>
<time zone>
0: GMT-12.0 Eniwetok, Kwajalein
1: GMT-11.0 Midway Is., Samoa
2: GMT-10.0 Hawaii
3: GMT-9.0 Alaska
4: GMT-8.0 Los Angeles, Tijuana
5: GMT-7.0 Denver Arizona
6: GMT-6.0 Chicago, Mexico City
7: GMT-5.0 New York, Bogota
8: GMT-4.0 Santiago
9: GMT-3.0 Brasilia, Montevideo
10: GMT-2.0 Fernando de Noronha
11: GMT-1.0 Azores
12: GMT+0.0 Lisbon, London
13: GMT+1.0 Berlin, Paris
14: GMT+2.0 Helsinki, Cairo
15: GMT+3.0 Moscow, Nairobi
16: GMT+4.0 Abu Dhabi, Baku
17: GMT+5.0 Karachi, Islamabad
18: GMT+6.0 Almaty, Dhaka
19: GMT+7.0 Bangkok, Jakarta
20: GMT+8.0 Hong Kong, Singapore
21: GMT+9.0 Seoul, Tokyo
22: GMT+10.0 Melbourne, Sydney
23: GMT+11.0 Solomon Is.
24: GMT+12.0 Fiji, Wellington

Usage: rtcts <mode>
<mode>: 0: manual 1: NTP server

Usage: time <hour> <minute> <second>
<hour>: 0–23
<minute>: 0–59
<second>: 0–59

Usage: date <year> <month> <date>
<year>: 2000–2099
<month>: 1–12
<date>: 1–31

Usage: getths

Usage: setems <e-mail server domain name>

Usage: setemf <e-mail address>

Usage: setemt1 <e-mail address>

Usage: setemt2 <e-mail address>

Usage: setemt3 <e-mail address>
Usage: setemsc <SecurityType> <PortNumber>
  <SecurityType>:
  0=No security
  1=SSL
  2=TLS
  3=Auto
  <PortNumber>:
  25 or 587 for regular transfer port
  465 for SSL port
Usage: setemac <UserName> <PassWord>
Usage: emconfig
Usage: setaw <cold start> <authentication fail> <ip changed> <password changed>
  <cold start>:             0: Disable     1: Enable
  <authentication fail>:    0: Disable     1: Enable
  <ip changed>:             0: Disable     1: Enable
  <password changed>:       0: Disable     1: Enable
Usage: jtagoff <status>
  <status>: 0: enable     1: disable
Usage: getotaname
Usage: countryid <id>
  <id>:
  0=World wide 13(2G_WORLD: 1~13)
  1=Europe(2G_ETSI1: 1~13)
  2=Japan(2G_MKK1: 1~14)
  20=United States(2G_FCC2: 1~13)
  Otherwise=Unavailable
Usage: dhcpsrv <start addr> <end addr> <lease>
Usage: transmitter <time>
  <time>: time in ms, available value range is 10~65535 ms
Usage: dhcpstbl
Usage: scpincode <status>
  <status>: 0: disable     1: enable
Usage: cloud <hostname>
Usage: mbtcp <xferMode> <port>
  <xferMode>: 0: MODBUS TCP   1: Transparent TCP
  <port>: TCP server port number, default is 502
Usage: mbst <ResponseTimeOut> <InterFrameDelay> <InterCharDelay>
  <ResponseTimeOut>: Response timeout(10~65000ms)
  <InterFrameDelay>: Interval time of frame sending(10~500ms)
  <InterCharDelay>: Inter-Character timeout for frame receiving(10~500ms)
Usage: wifi_simple_config <pinCode>