Technical Document 0104

VIBRA AJ-MB – Setup for Marijuana Business Software

Overview:

The VIBRA AJ-MB series scales have special output features for Marijuana Business Software (MBS). This document details required settings changes to AJ-MB scale parameters and the AJ-MB serial output. The AJ-MB operational settings for compatible MBS software are all as factory default, except for output format, which must be changed from manual print to continuous output. The RS232 settings are all factory default, except for baud rate, which must be changed from 1200 to 9600.

AJ-MB scale to MBS software requires 1) special AJ-MB serial cable with DB9F, 2) Windows® computer with COM port or virtual COM (VCOM) port with DB9M, 3) Compatible MBS software set to match AJ-MB scale, i.e. Baud Rate:9600, Parity:None, Data Bits:8, Stop Bits:2, Flow Control:None.

Procedure:

1) Step 1 - Set the AJ-MB scale communication parameters.

    a. The parameter menu in the AJ-MB scale is opened by holding down the **[Function]** key until display changes to FUNC, then **[Function]** key is released.
        i. See Appendix A for detailed instruction for setting scale parameters
    b. **Change parameter 71. o.c. to value 1** (for Output: Continuous at all times)
    c. **Change parameter 72. b.L. to value 4** (for Baud; 9600)
    d. Then press the **[Set]** key to save the settings.
    e. After a moment, the scale will return to normal weighing operation.
    f. The scale and scale serial port are now configured for use with compatible MBS software.
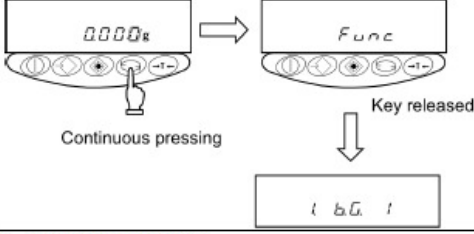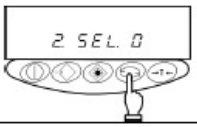
2) Step 2 - Connect the Scale to the Computer.
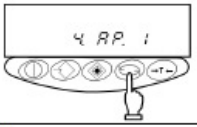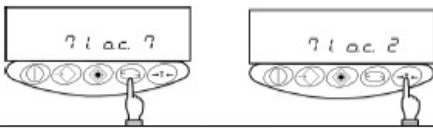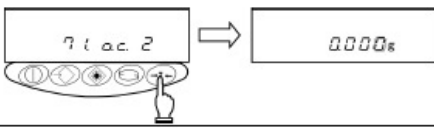
    a. **With scale power off and unplugged**
        i. Connect the AJ-MB scale serial cable from the scale connector (DIN5) on back of scale, to the computer connector (DB9M) for the COM port on the computer.
    b. P**lug in the scale and turn it on.**
        i. Once the scale initializes, and a weight value is seen on the scale display, the weigh results will be sent continuously to the connected computer COM port.
    c. **Optional - Step 2.c - Verification of Scale to Computer RS232 with CTS Test Software**
        i. Scale to computer communication can be verified with free CTS Test Software.
            1. See Appendix B for a detailed communication test procedure.

3) Step 3 - Set the MBS Software for COM port connected to AJ-MB scale

    a. Following the instruction supplied by the MBS software manufacturer;
        i. **Set the COM port number in MBS software to match AJ-MB COM port.**
            1. Note: COM ports are automatically assigned by Windows.
                a. Check Device Manager in Control Panel for COM port number.
        ii. **Set the RS232 setting in MBS software to match AJ-MB RS232 settings**
            1. AJ-MB settings (Baud:9600,Parity:N,Databits:8, Stopbits:2, FC:none)
    b. The compatible MBS software should now be ready to use with the AJ-MB scale
        i. The compatible MBS software should be able to 1) see the continuous stream of weigh data from the scale on the designated COM port, and 2) send remote commands to AJ-MB scale over the same COM port.

Appendix A – Procedure for setting parameters on AJ-MB scale

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Appendix B - CTS Test Software to validate Scale to Computer Communication

a. **Download CTS Test Software** from MicroRidge web site. See Appendix C.

b. **Connect Scale to Computer**

    i. After AJ-MB scale is configured by steps 1, 2 on page 1;
        1. Then turn off and unplug the scale.
    ii. Verify DIN5 connector on AJ-MB serial cable is connected to scale;
        1. Then connect DB9F cable connector to DB9M on computer COM port.
    iii. Plug scale in - but leave scale turned off.

c. **Setup CTS TEST Software –** ComTestSerial (CTS) from MicroRidge

    i. Run CTS software, then press **[Serial Port]** button for RS232 settings window;
        1. Set COM port to AJ-MB scales COM port (select in check box at left).
        2. Set RS232 settings to match AJ-MB scale as below, then click OK.
            a. Set to Baud rate: 9600, Parity: none, Data bit: 8, Stop bits 2

d. **Using CTS Test Software - Check for proper RS232 from Scale to Computer**

    i. Weigh result testing – Check for Continuous Output from Scale.

        1. Turn scale on, wait for initialization of scale display.
            a. Ready for testing - when scale is displaying a weight.
        2. Observe CTS Window
            a. Correct scale to computer operation should be as follows;
                i. Continuous weigh results should be displayed in CTS.
                    1. The CTS weigh results in should match scale display.
                    2. The CTS display will update about every second.
                    3. Newest results will scroll down CTS screen.
            b. To verify response to a test sample.
                i. Place, remove, and replace a test sample on scale.
                    1. CTS displayed weight should change to match the test sample weight seen on the scale display.

    ii. Remote Command Test – Check for Scale Remote Command Function

        1. Use CTS to send a remote command from computer to scale;
            a. For example, send "Z" character followed by CR-LF
                i. Command string is "Z\x0d\x0a" ("0" is zero, not letter O)
        2. Correct scale remote command operation should be as follows.
            a. Scale will blank display and pause continuous output for a moment.
            b. After command is completed, scale will resume continuous output.
        3. A setup file for AJ-MB remote commands for use with CTS is available upon request from Intelligent Weighing Technology.

Appendix C - Free Download of Test Software for Scale RS232 Communication

ComTestSerial (CTS) is available as free download from MicroRidge. CTS is terminal emulator software, which may be for used for testing bidirectional RS232 on scales. It is a handy and very user-friendly replacement for Hyperterm, which is no longer included in Windows. MicroRidge is a trusted long term supplier of commercial connectivity products, including connectivity software and hardware for use with industrial equipment, test equipment, gauges, and scales. CTS software and complete instructions can be found on the MicroRidge web site. **Download this software and manuals ONLY from the developer's web site, http://www.microridge.com/comtestserial.htm**

See below for screen view of a setup of CTS with typical RS232 setting (Baud: 9600, Parity: N, Data bits:8. Stop bits:1. These setting shown below are the CTS default settings. **It is important to change CTS stop bits from default of 1 to 2, for use with AJ-MB scale**.