

MODEL 1201B/C QUICK SETUP GUIDE



Introduction

This document covers the basics of unpacking, installing, connecting and running the Model 1201B/C. For complete details covering the Model 1201B and 1201C, please consult the operation manual available for download from the Arbiter website. This guide will start from unpacking the unit from its shipping container and end with initial setup of the clock.

Unpacking

Several accessories are included with the clock inside the packing material: the GNSS antenna, an antenna cable assembly (50 feet of RG-6 cable with male F connectors), two rack-mount ears with mounting screws and a quick setup guide. Handle the GNSS antenna carefully, as it may be damaged if dropped. *Carefully check through the packing material for these accessories.*

Jumper Settings

Before installing the clock in a rack system, it may be advantageous to check the internal jumpers to make sure they are set to the appropriate position to send and receive the type of signal you want. Listed below are the various jumpers which control the input and output signal types. For complete details, please see the Model 1201B/C operation manual. The “*” marks the factory default position. *To check jumpers, remove the clock chassis cover.*

Clock Mode	JMP1	Installed = Demo mode, Removed = Normal mode
RS-485 signal select	JMP2	A = data out*, B = IRIG-B
Event source select	JMP4	A = RS-232 COM, B = I/O Port 1, C = I/O Port 2, D = I/O Port 3, E = EXT 4, external connector*
Port 1 signal select	JMP6	A = 1 PPS, B = programmable pulse, C = IRIG-B unmodulated*
Port 1 source select	JMP7	A = CMOS*, B = open drain, C = event in
Port 2 source select	JMP12	A = CMOS*, B = IRIG-B modulated, C = event in
Port 2 signal select	JMP13	A = 1 PPS, B = programmable pulse, C = IRIG-B unmodulated*
Port 3 signal select	JMP8	A = 1 PPS, B = programmable pulse, C = IRIG-B unmodulated*
Port 3 source select	JMP9	A = CMOS*, B = open drain, C = event in
Relay source select	JMP10	A = out of lock*, B = programmable pulse
Relay COM select	JMP11	installed = direct*, removed = user installed resistor
Fiber signal select	JMP14	A = 1 PPS, B = programmable pulse, C = IRIG-B unmodulated*

Installing the Clock in a 19-Inch Rack

The Model 1201B/C should match up to the mounting holes in a standard 19-inch rack. Locate the clock in the rack and secure in the normal manner with the rack hardware. In case the rack-mount

ears need to be removed, four extra pan head screws are supplied to replace the rack-mounting screws that retain the rack-mount ears to the clock chassis.

Installing GNSS Antenna

The GNSS antenna included with the clock is designed to be threaded onto a piece of 3/4 in pipe nipple. Follow these instructions to mount the antenna. Make sure that the antenna has a clear view of the sky in all directions of the compass for unhindered reception of GNSS signals. See Figure 1 and the following installation instructions.

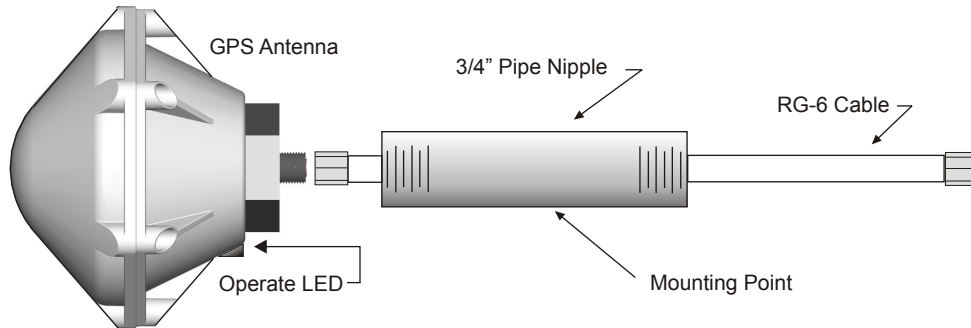


Figure 1: Antenna Mounting Assembly

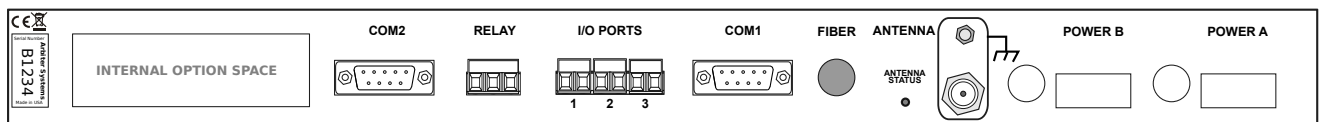
1. Pass the antenna cable through the pipe nipple and attach the cable to the antenna. *Tighten by hand, and do not spin the antenna onto the cable connector, as it may damage the antenna/cable connection.*
2. Thread the pipe nipple into the base of the antenna and snug by hand.
3. Mount the pipe nipple to a fixture, such as the side or top of a building, or to a pipe. Alternately, purchase the antenna mounting kit (Arbiter P/N AS0044600) available from Arbiter Systems.
4. Also available is a surge arrester (Arbiter P/N AS0094500) and an inline preamplifier (AS0044700). If using either of these, mount according to accompanying instructions.
5. Make sure to connect the antenna cable to the clock for it to synchronize with the GPS.

Installing the Clock in a Rack

The Model 1201B/C should match up to the mounting holes in a standard 19-inch rack. Locate the clock in the rack and secure in the normal manner.

Connecting Signal Cables

Connecting various signal wires and cables to the clock are fairly straightforward. To change the type of signal on any of the ports, please see page 1 in this guide, or see Chapter 5 in the operation manual. If using coaxial cable, you can transition to the clock terminals using a BNC Breakout¹.



¹Pomona Electronics, www.pomonaelectronics.com, (800) 444-6785, (425) 446-6010, part no. 4969 and 4970

1. Connect timing signal wiring to the three 5 mm terminals in the center of the rear panel. Make sure to strip the wire about 1/4 in and DO NOT TIN the bare wire with solder.
2. If your clock has the optional fiber optic connector, remove the protective cap on the ST connector and connect the fiber optic cable.
3. Connect wiring to the SPDT relay contacts in the same manner as described above for timing signals as in step 1.
4. The two Model 1201 serial ports have male DB-9 connectors. Use null-modem serial cables for broadcasting from the RS-232 or RS-485 ports. Pin 2 to Pin 3, Pin 3 to Pin 2, Pin 5 to Pin 5.
5. If the clock has Option 34 installed, connect network cables to either a copper RJ-45 connector or type LC fiber optic connector, whichever is present.

Energizing the Clock

Before connecting voltages to the clock, make sure to read the power inlet label to verify the correct voltage. Make sure that the voltage you are connecting is in the correct range as specified on the label. In the figure below, POWER B shows the Low DC supply and POWER A shows the Universal supply. A fuse is located to the left of each power inlet connector.



Configuring the Clock Settings

Every Model 1201B/C is shipped from the factory with security disabled. This means that you can configure the clock from the front panel or through the software utility.

Configure Using Front Panel

From the front panel, there are a number of menus to configure the various features of the clock. After initially pressing the SETUP key the display should indicate as shown in the illustration below. With each press of the SETUP key a new menu will appear until reaching the end. To begin configuring in any menu, press the ENTER key. The UP and DOWN keys are used to make selections and ENTER to confirm a selection. Press any of the top row of keys to escape from the configure menus.

Example – Configuring COM 1 Settings

The three displays illustrated below show the result of pressing the SETUP key twice and then the ENTER key. To change the baud rate you would use the UP or DOWN key, then press ENTER to confirm. Other COM 1 settings follow the last display, as do other menus.

SET SERIAL COM 1?

COM 1 CONFIG.

BAUD RATE
115200

Configure Using Utility Software

To begin configuring with the Utility Software, you will first need to download it from the www.arbiter.com. When the Utility starts, it will look like the window in the Figure 2 below.

When first trying to connect with the clock, click **Settings** on the Utility menu and make sure to select the correct port (referring to your computer) and matching baud rate.

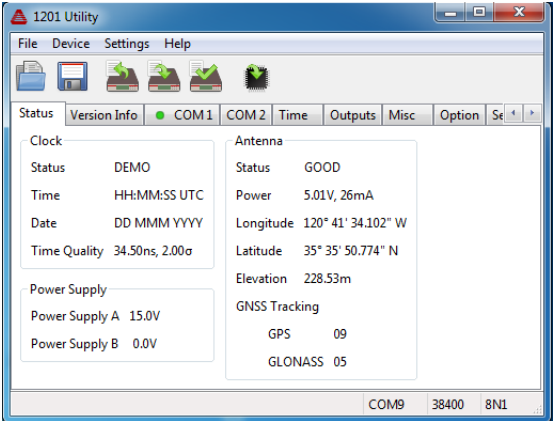


Figure 2: Utility Software – Opening Window

Additional Help

For complete details concerning the setup and operation of the Model 1201B/C, please go to www.arbiter.com and download the operation manual from the Model 1201B/C product page. A printed manual is also available for purchase. See contact information for Arbiter Systems².

Document No. PD0051900C

²Arbiter Systems, Inc. · 1324 Vendels Circle Suite 121 · Paso Robles, CA 93446 · USA · 1.805.237.3831 · 1.800.321.3831 · E-mail: sales@arbiter.com · techsupport@arbiter.com · Internet: www.arbiter.com