

# Model 1133A Power Sentinel™

## Quick Setup Guide

### Introduction

The Quick Setup Guide was written to assist users in setting up the Model 1133A Power Sentinel™ with minimal time and effort. Primarily, this guide should help verify that the 1133A is operating normally, and a connection established between PSCSV™ software and the 1133A.

Note that throughout this guide the word Manual refers to the 1133A Operation Manual.

Topics addressed in this guide are:

- ❑ Installing the 1133A
- ❑ Installing the GPS Antenna & Cable
- ❑ Confirming Basic Operation
- ❑ Setting Up PSCSV™ Software
- ❑ Connecting the Inputs & Outputs
- ❑ Example: Downloading Basic Data
- ❑ Power Sentinel™ Security

More advanced setup information is beyond the scope of this guide. See the Manual for topics not found in this guide. References within this guide should help identify some of these important topics.

Additionally, an HTML version of the Manual is available and provides hot-links to important topics through the Table of Contents and Index.

### Installing the 1133A

#### Check for Damage

After unpacking the 1133A, check it over for any damage or suspicious conditions. If the 1133A appears to be damaged from shipment, contact the freight forwarder for help. If after opening the packing material the equipment appears damaged without apparent shipment damage, contact the factory for a return.

#### Rack Mounting

The Model 1133A Power Sentinel™ is designed for mounting in a 19-inch rack, occupying 1 rack-unit (RU) in height (approximately 1.75 inches). It also comes with four rubber feet for mounting on a flat surface.

To mount the 1133A in a standard 19-inch rack follow the instructions in the section 4.1.5 entitled '*Rack Mounting.*'

#### Inlet Power Connection

Arbiter Systems *does not provide a power cord* for the 1133A. Because each installation is unique, the inlet power cord and connection are the responsibility of the user.

Inlet power is supplied from an ac/dc power source to the three-terminal block at the right rear of the 1133A. Identification marks are there for assignment of correct polarity.

**Caution:** *Polarity markings are especially important for DC power sources.*

Power cords should be of appropriately-rated, two or three-conductor insulated wire. Strip the wire at the 1133A end about 1/4 inch (7 mm) and tin with solder. Insert the tinned wire ends into the correct terminals and tighten the pressure screws. See *paragraph 4.1.2* for further details on the power inlet connection.

#### System Ground

A threaded ground lug, found near the power terminal strip, is provided for electrical surges and as a safety ground.

**Caution:** Always connect the chassis to a suitable system ground, otherwise dangerous voltages could appear at the 1133A.

Additionally, two optional accessories are available to provide greater protection from static and lightning.

#### GPS Surge Protector Kit

Accessory P/N AS0049000: protects the GPS receiver against lightning and other surges. Multi-stage circuitry, with a heavy-duty gas discharge tube, passes high-level DC to ground.

#### Grounding Block Kit

Accessory P/N AS0048900: provides a bulk-head with an external grounding lug for bypassing the shield of the GPS antenna cable to ground.

## Installing the GPS Antenna & Cable

Mount the GPS antenna with a full view of the sky in all directions. If this is not possible, partial sky views can result in normal operation but with the possibility of unlocked conditions – if satellites cannot be acquired.

For additional details on antenna mounting see *Section 4.2, Antenna*. Be careful not to drop the antenna, as it may not appear damaged, but may sustain damage to internal components.

The 1133A supplies +5 Vdc (@ ~22 mA) to the antenna through the cable. To test the antenna/cable operation, see *section 4.3.6, entitled Antenna Cable Operational Test*.

## Confirming Basic Operation

Prior to configuring the measured electrical system inputs and outputs on the 1133A, follow these steps to confirm normal operation.

1. Locked Condition: After application of line power, the 1133A should lock to the GPS for the first time within about 25 minutes (antenna connected). See display below.

```
LOCKED
VISIBLE=11 TRACKED=8
```

2. If necessary, press the STATUS/TIME key until the display indicates the receiver condition shown above.
3. Check OPERATE and TIME SET LEDs – they are green and should be lit.
4. Check UNLOCKED and FAULT LEDs – they are red and should be unlit.
5. Position & Time: Press the STATUS/TIME key until the display indicates the location (or geographical position) of the GPS antenna (Arbiter location shown below).

```
LAT 35° 35' 50.18"
LON 120° 41' 34.83"
```

It may be advisable to write down the longitude and latitude for future reference.

6. Other Indications: Check *section 5.2.3, Measurement and Status Function Keys*. If any of the display indications do not seem correct, contact the factory Tech Support for help. *Contact information is found at the bottom of each page.*

## Setting Up PSCSV™ Software

PSCSV™ is designed to operate under Windows NT or 98, exclusively for use with the 1133A. Primary functions allow users to configure the 1133A and to download and export various types of data.

**Note:** PSCSV™ is the only 1133A interface tool available. Other terminal programs will not work with the 1133A.

Note that when shipped, the firmware in 1133A and the CD (or diskette) containing PSCSV™ are compatible. For future versions of PSCSV™ check the Arbiter website below.

<http://www.arbiter.com/pscsv/>

## Serial Cable Connection

Choose a cable/connector to match the serial port option being used. There are at least four serial connection options available to the 1133A. Some of these interconnection options and cables are as follows:

Serial Option	Connection Method
RS-232 RS-485	Standard phone cable and RJ-11 to DB-9F Adapter
Modem	Standard phone cable
Ethernet	10Base-T (RJ-45) to network

For serial port locations, see *figure 4-1 in the Operation Manual*. Connector pin locations are specified in *Table 5-1 of the Manual*. After connecting the appropriate cable, PSCSV™ must be set up and used to begin configuring and viewing data.

## Starting PSCSV™

1. Install PSCSV™ from the CD or diskette that accompanied the 1133A.
2. Start PSCSV™ by clicking on the shortcut icon, or using the Start menu.
3. From the PSCSV™ main window, check for existing *connections* listed under the Connection→Open menu item. If none exist, select Connection→New to establish a new connection. See *section 7.6.1 Serial 1 and 2 Connection* (in the Manual) for further details on the connection procedures.
4. If correct serial port connection names exist, select one and open the connection.

**Note:** *an open connection* will be recognized by the connection name appearing in the connection window, and activation of all of the Broadcast Toolbar Icons.

## Security

PSCSV™ security consists of two components: “User Name” (or “User Id”) and “Password”.

The two permanent user names provided are **anon** and **admin**. Use **anon** for logging in and downloading Broadcast data. Use **admin** for everything, including administrating PSCSV™ security.

While these two user *names* are permanent, their initial passwords may be changed as required. Additionally, create a maximum of 14 new user names with **admin**.

*When a connection is first established, users are automatically “logged-in” under anon.*

## Additional Security Information

See *Power Sentinel Security* at the end of this document.

## Download Data

For simple data downloads, log in under **anon**. All of the broadcast functions - like basic data, energy, harmonics, waveforms and phasors can be downloaded under **anon**.

## Configuring the 1133A

To access the Login window, set up new accounts and permissions, do the following:

1. From the PSCSV™ main menu, select Connection→Login As, or click the small key symbol on the Connection Toolbar.
2. Type in **admin** for “User Id” and **801n60** for “Password” in the Login window to access the Edit Users window.
3. Assign a new user name, password, click the boxes that define the new permissions, and click **Apply**.

For further details on using PSCSV™ to set up the 1133A, see section 7 of the manual.

## Connecting the Inputs and Outputs

Before connecting the measured electrical system to the 1133A, consult the Manual, sections 4.1, 5.5 and 7.4.3.

**Caution:** Verify that any input to the 1133A does not exceed maximum ratings - see section 3, Technical Specifications.

1. Log in under either **admin** or a new account that permits configuration (see above).
2. Press the STATUS/TIME key on the 1133A until it displays the DSP Mode information – default mode shown below.

```
3P4W3E 120V x1;C0  
60HZ 5(2.5)A x1;C0
```

3. Verify that the DSP Mode matches the system you are measuring. See section 5.2.3, STATUS/TIME Key, (4).
4. Check electrical connection diagrams in section 5.5.10 of the manual.

DSP Mode identifies the type of *electrical system, voltage range, current range and nominal frequency*. If it does not, proceed to step 5.

5. In PSCSV™ select Connection→Configure→Measurement Parameters, or click the Measurement Parameters button.
6. Click the DSP Mode tab on the Meas. Parameters window and make the appropriate selections.

### Example: Downloading Basic Data

Once logged in under anon, select Connection→Acquire Broadcast→Basic or click the “ABC” icon on the Broadcast Toolbar.

1. Select the electrical parameters in the window to be downloaded, and click Finish.
2. Confirm in the Save As window the file name under which you wish to save this basic data, and click Save.
3. Data will begin filling the spreadsheet one line at a time, at a rate of once per second.

### Power Sentinel Security

Every 1133A ships with two default user names: **anon** and **admin**. When PSCSV™ opens a connection to an 1133A, it automatically logs in as **anon**. As table 2 shows, **anon** can only acquire broadcast data. Other operations require additional permissions. In order to *configure* the unit (for the first time) users must log-in to the **admin** account. Please see *How to Disable Security*, for information on how to edit security settings so that everything is available upon initial connect.

### Security Features

- Up to 14 user login names can be added
- Up to 8 character, case-sensitive login names and passwords
- Each login name can have any combination of permissions listed below
- PSCSV™ automatically logs in connections using a special login name anon.

**Table 1 – Security Definitions**

Permission	Allowed Operations
Login	Take up a communication channel. If this isn't set, none of the others are relevant.
Receive Data	Receive all broadcast messages, query messages
Download Revenue	Download all revenue
Erase Revenue	Erase all revenue
Download Event	Download all event data
Erase Event	Erase all event data
Configure	All configurations that are not security related
Administration	Add/Edit/Delete users

**Table 2 – Permanent Login Information**

Login Name	Default Operations	Default Password
admin	Everything	801n60
anon	Log in, Receive Data	Not Applicable (use button on Login dialog)

### How to Disable 1133A Security so that everything is available

1. Login as **admin**; from the main menu at the top, select Connection→Login As ... (default password is **801n60**), or click the small key symbol on the Connection Toolbar and log in.
2. Select Connection → Configure → User Logins.
3. Select 'anon' from the Login Name dropdown list.
4. Select Administer (all other permissions will be selected).
5. Click 'Apply' and PSCSV™ will update the 1133A, then update itself with the new security information from the 1133A.
6. Test out the new login name by logging in as anon.