

**DN 6000389  
USERS MANUAL  
MODEL 520VA  
ANALOG SYNCHRONIZER**

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**JANUARY 7, 2003**

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**ACROAMATICS DOCUMENT HISTORY**

The following table indicates major changes made to *User's Manual Model 520VA Analog Synchronizer*, Acroamatics Document Number 6000389, released on January 7, 2003, and contains a record of all revisions made since that date.

<b>DN6000389 CHANGE HISTORY</b>			
<b>Rev</b>	<b>Date</b>	<b>Action</b>	<b>Name</b>
	01-07-03	Original Issue	DJM

## ASYN Menu How to ...

Use the Display Form to modify the ASYN Card Setup.  
 Load a TDP Setup file.  
 Save a Setup in TDP Setup File Format.  
 Create a new setup  
 Use the drop-down menus

## Command Menus

Setup File menu  
 Operate menu  
 Calibrate menu

## Setup File menu commands

The Setup File menu offers the following commands:

New	Loads the menu with a default setup that you can edit.
Open	Opens an existing TDP setup file and loads the PAM setup in it.
Save	Saves the current displayed setup in a TDP setup file.
Exit	Exits ASYN Menu

## Operate menu commands

The Operate menu offers the following commands:

Run	Puts the currently displayed ASYN card into Run Mode
Stop	Puts the currently displayed ASYN card into halted mode.
Load Setup	Loads the currently displayed setup into the ASYN card
Online	Connects to the running ASYN card, displaying its current setup
Offline	Disconnects from the running card to allow you to change parameters without disturbing the current card setup.
Software Test Mode	Sub-menu enables or disables the software test (no card) mode.
Hardware Reset	Performs a power-up reset on the selected card

## Calibrate menu commands

The **Calibrate** menu offers the following commands:

Step Calibration	Causes the ASYN card to output seven calibration values in sequence to all channels.
Calibrate 0%	Causes the ASYN card to output 0% on all channels.
Calibrate 50%	Causes the ASYN card to output 50% on all channels.
Calibrate 100%	Causes the ASYN card to output 100% on all channels.
End % Calibration	Restores normal operation following fixed % calibrations.
Service Calibration Steps	Activates a sub-form for making technician adjustments

**Note: ASYN Cards shipped before August 1998 having firmware versions prior to Version 1.15 do not support the Data Calibration functions. All cards support the Service Calibration function.**

## New command (Setup File menu)

Use this command to fill the **ASYN Menu** display with a standard PAM NRZ setup that you can modify as necessary. It loads operating parameters, such as the loop widths and filter settings, with sensible values for typical data. When you select **New**, the screen goes *Offline* so you can edit the setup without affecting the ASYN card. When you finish, use **Save** on the *Setup File* menu to save the new setup in a file or use **Load Setup** on the *Operate* menu to load the setup into the ASYN card.

## Open command (Setup File menu)

Use this command to open an existing setup file. A standard file dialog lets you select files with the default .tdp extension or with any extension. When you select the file to open, **ASYN Menu** reads the file and searches for the PAM setup text embedded in it. It ignores any other text, except that it uses the first comment line in the file to fill in the *Description* field on the form.

It validates the setup entries and reports errors using dialog boxes. If there are no errors, it loads the setup into the ASYN card. If there are errors, it goes *Offline* and displays the invalid fields with a blank Red background. The file may contain setups for more than one card, but if there are errors in the earlier setups, the following setups are not processed.

## File Open dialog box

The following options allow you to specify which file to open:

### File Name

Type or select the filename you want to open. This box lists files with the extension you select in the *Files of Type* box.

### Files of Type

Select the type of file you want to open: TDP Setup files with .tdp extension or All files

**ASYN Menu** does not require any particular extension. .tdp is a file extension used by many TDP system users.

You can use the buttons on the Toolbar to create a new folder, navigate the directory hierarchy, or display more details about the displayed files. If you select a file on the display, the right mouse button displays the standard Windows file management pop-up menu, and you can use it as usual.

## File Save dialog box

The following options allow you to specify which file to save:

### File Name

Type or select the filename you want to save the setup into. The display box lists files with the extension you select in the *Save as Type* box. If you select (or type the name of an existing file) a dialog box will verify that you want to over-write that file. If you click **No** in the dialog, the file is not written.

### Save as Type

Select the type of file you want to save to: TDP Setup files with .tdp extension or All files

**ASYN Menu** does not require any particular extension. .tdp is a file extension used by many TDP system users

You can use the buttons on the Toolbar to create a new folder, navigate the directory hierarchy, or display more details about the displayed files. If you select a file on the display, the right mouse button displays the standard Windows file management pop-up menu, and you can use it as usual.

## Save command (Setup File menu)

Use this command to save the currently displayed setup as a text file. When you select this menu item you will see a standard Windows Save File Dialog. Before the program saves the setup it verifies that the parameters are valid. If any are not, a message box alerts you to correct the error. You can select an existing file to overwrite. If you do that, you will receive an opportunity to confirm or cancel the operation. If you select the Save as Type - TDP Setup Files, **ASYN Menu** will save the file with the .tdp extension. The TDP compiler can read the saved file to set up the ASYN card or you can use the **Open** command on the *Setup Files* menu to reload the saved setup at some future time. The file saver generates a comment line at the start of the file containing the *Description* entered on the **ASYN Menu** form.

## Exit command (Setup File menu)

Use this command to end your **ASYN Menu** session. You can also use the **Close** gadget on the **ASYN Menu** form.

## Run (Operate Menu)

Use this command to put the ASYN card into RUN mode. Normally you don't have to do this because both **ASYN Menu** and the TDP Compiler put the ASYN card into run when they load a setup. Sometimes, however, you may have used the Stop command to place the card in idle mode s0 that it does not synchronize the data stream and does not output any data to the TDP input system. If so, use this command to restart ASYN operation. If none of the status indicators on the display are on, the ASYN card is stopped.

## Stop (Operate Menu)

Use this command to disable the ASYN card. It stops processing the input stream and stops all data output to the TDP input system. You can tell that the card is stopped when all of the status indicators on the display extinguish.

## Load Setup (Operate Menu)

Use this command to load the currently displayed setup into the selected card. You would normally do this only from *Offline* mode because when you are *Online* any changes you make on the setup form are loaded immediately. Nonetheless you can Load Setup when *Online* if you want to force the ASYN card to recalibrate the

analog front-end or if you doubt that the card is correctly set up and want to verify it. When **ASYN Menu** sets up the card, it reads back what it loads into the registers and that is what you see on the display. If you have more than one ASYN card and want to load the same setup into another card, be sure to place the program *Offline* before you change the Card number. If the program is *Online* when you change cards, it loads the current setup of the new card into the display, obliterating the existing setup.

## Online (Operate menu)

Use this command to put **ASYN Menu** in *Online* mode. In *Online* mode the menu is directly connected to the selected ASYN card. It shows the card status in the status indicators and any changes you make to the parameter fields are immediately reflected in the card operation. When you select *Online* when the program is *Offline*, you will see a dialog box that asks if it is all right to overwrite the display with contents of the ASYN card registers. This is to protect you from accidentally destroying a new setup that you have created. If you select *Online* when you are already *Online*, it has no effect.

## Offline (Operate menu)

Use this command to disconnect **ASYN Menu** from the ASYN card. Then you can construct a setup or modify an existing setup without affecting the operation of the card. You can then use **Load Setup** to load the new setup into the card or use the **Save** command on the *Setup File* menu to save the new setup.

## Software Test Mode (Operate Menu)

The Software Test Mode lets you operate the menu without actually having an ASYN card. A built in simulator generates status response, data for the single channel display, and simulated rate display data. You can use this mode to practice using the program. You can start the program in this mode if you select

**Asyn Software Test** on the Windows Start menu, assuming you allowed the installation program to make the Start menu entries. From the DOS Command line, the command **asyn sw** will do the same thing. You can switch Test Mode on and off at any time. When you switch it off, the program will attempt to load the current setup from the ASYN card.

## Hardware Reset (Operate Menu)

You should not have to reset the ASYN card, but if some failure occurs it may be convenient for forcibly reset the card with having to power down. Reset causes the 386EX computer on the ASYN card to reset and reboot. This clears any existing setup from the card and puts it in Idle mode. A dialog box verifies that you want to do this; it lets you cancel the reset operation if you wish.

## Step Calibration (Calibrate Menu)

You may wish to cause the ASYN card to output digital data representing measurements from 0% to 100% in steps. These are often used to make a record on a strip chart recorder that verifies that the recording scaling is correct. Select this

menu item to do that. The card places the data on all of the measurement channels in the PAM (or PDM) stream. Any processing that you do on the data in the TDP is done and you can see the effect of the processing on the stair-step of data that the ASYN card outputs. The sequence of steps is: 0% 20% 40% 50% 60% 80% 100% 0% at intervals of about one second per step. The card performs one sequence for each selection of **Step Calibration**. At the end of the step calibration, the card restores its setup and returns to Run mode.

## Calibrate X% (Calibrate Menu)

You may wish to cause the ASYN card to output digital data representing steady-state measurements at fixed values. These are often used to adjust the manual scaling of a strip chart recorder or other recording or display device. You can select 0%, 50%, or 100% data by selecting the corresponding menu item. The card places the data on all of the measurement channels in the PAM (or PDM) stream. Any processing that you do on the data in the TDP is done and you can see the effect of the processing on the static values that the ASYN card outputs. The card continues to output the fixed value until you select **End Calibrate**. Then the card restores its setup and returns to Run mode.

## Service Calibration Steps (Calibrate Menu)

The ASYN manual contains a procedure for adjusting the adjustable components of the ASYN card. Because of its elaborate computer controlled servo system, the card will perform well even when it has drifted substantially out of adjustment. Nonetheless, Acroamatics recommends periodic re-calibration. The **Service Calibration** command activates a form that allows you to select one of 20 calibration steps. Use the slider at the bottom of the form to select the Test Step. The number appears in the box to the right of the slider. The steps are described in more detail in the ASYN card manual, but a brief description of the test setup, what to measure, and the potentiometer to adjust show on the display for quick reference. The software also sets up the necessary conditions for each test step and, if the measurement is obtained from the Single Channel Display, it displays the measurement value. Step 20 is an initial test function requiring a PAM simulator. Acroamatics uses it to test the basic functionality of the card when beginning production test. It is not a part of the calibration sequence, and you should not require it. When you are finished with the adjustment form, click the **Close** button.

## USING THE SETUP FORM

When it is *Online* the setup form is an active window into the selected ASYN card. You can enter parameter changes directly on the form and they will be loaded into the card as soon as you move to focus to a different cell. You will notice that when you change a value in a text box on the form, the background of the value you change becomes yellow. That's to remind you that the change you made has not been loaded. You need to select a different parameter window (with the mouse) or strike the tab key to exit the current parameter. When you do that, the program updates the ASYN card and the background reverts to white. If you enter an invalid value, the background of the invalid cell becomes red and the focus will not leave the cell until you correct the entry. The checkbox entries are effective as soon as you

click the box and the drop-down list entries are effective as soon as you select an entry. They don't turn yellow because they load the card immediately.

If you want to modify the form without loading the setup into the card, use the *Offline* selection on the *Operate* menu to disconnect the form from the card. Then you can change the parameters without affecting the ASYN card operation. When you are finished, use the *Save* selection on the *Setup File* menu to save the modified setup in a file, or use the *Load Setup* selection on the *Operate* menu to load the new setup into the card.

If you have more than one ASYN card, you select the card you want to work with in the box labeled *Card No.* If you are *Online* when you switch cards, the program reads the current setup of the card into the menu, over-writing what is displayed. That means that if you want to load the same setup into another card, you must switch to *Offline* before you enter the new card number, then use **Load Setup** to load the card.