

Appendix H

Quickstart Guide

WARNING

ONLY QUALIFIED PERSONNEL FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE CONTROLLED EQUIPMENT SHOULD INSTALL, ADJUST, OPERATE, AND/OR SERVICE THIS EQUIPMENT. READ AND UNDERSTAND THIS MANUAL AND OTHER MANUALS APPLICABLE TO YOUR INSTALLATION IN THEIR ENTIRETY. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN BODILY INJURY OR DAMAGE TO EQUIPMENT.

This appendix is intended for individuals who want to start using the AutoMax Programming Executive as quickly as possible. It will be particularly useful for those who are familiar with the Windows software and with previous versions of the Programming Executive. Familiarity with basic concepts in the instruction manual is assumed. This appendix presents the typical sequence of steps followed when using the Programming Executive, but includes little of the detail or explanatory material found in the instruction manual. This appendix also does not describe any online functions, e.g., monitoring.

Note that this appendix does not describe how to import application tasks created with earlier version AutoMax or DCS 5000 Programming Executives.

Help screens are available for most commands. Use the F1 key or click Help to access help for any screen where F1 is displayed.

Installing Windows and the AutoMax Programming Executive

1. If you have not already done so, install Windows 95 software according to the directions in the Windows instruction manual.
2. If you have not already done so, install a mouse.
3. Install the Programming Executive using the instructions found in the Installation manual, J2-3103. Instruction for installing the separately-purchased DPS software options can be found in the same manual.
4. Start the AutoMax Programming Executive software. The first screen displayed after the name and copyright information is the System Configurator, which can be thought of as the "main menu," since all other options are chosen from this screen. Choose the Setup menu and then select one of the following commands.

Select AutoMax to run the AutoMax configuration procedure. This will allow you to make changes to the AutoMax Executive configuration (see section 5.5.2).

Select Communication to make changes to the communication port and baud rate used for online communication (see section 5.5.3).

Select Printer to set the parameters for printer output (see section 5.5.4).

Configuring the Application

Assuming you have already selected all the hardware required for your application and have determined its physical configuration, you can begin describing this configuration with the Executive software. The description of the hardware in your application, as well as information about the application tasks you create for that application, will be stored in databases which are transparent to the user. Application tasks themselves are stored in conventional files.

5. Create systems for your application. From the pull down menu labeled Systems in the System Configurator, select the Add command to “add” the system to the database. You will be prompted for information like the system name, engineer, etc. Enter the information in the dialog box and click on OK when complete. Select Document from the same pull down menu to create/edit a text file that contains information about the system.
6. Create sections for each system. The system for which you will create sections must be selected (highlighted on the screen). Select the Add command from the pull down menu labeled Sections to “add” the section to the database. You will be prompted for information like the section name, engineer, etc. Enter the information in the dialog box and click on OK when complete. Select Document from the same pull down menu to create/edit a text file that contains information about the section.
7. Create racks for each section. The section for which you will create racks must be selected. Select the Add command from the pull down menu labeled Racks to “add” the rack to the database. Fill in the appropriate information in the dialog box, e.g., the number of slots in the rack, etc., and click on OK when complete. Select Document from the same pull down menu to create/edit a text file that contains information about the rack.

Configuring Modules in the Rack and Configuring I/O

When you have finished creating systems, sections, and racks, you can configure the modules in the racks. The rack for which you will configure modules must be selected (highlighted) first. The configuration procedure results in a graphic representation of the rack and the modules in the rack.

8. Select the Configure Rack command from the Racks pull down menu. Select a slot in the rack by moving the mouse to the desired slot and clicking.
9. Select the Add command from the Configure menu. Scroll through the list of modules displayed until the desired module is highlighted. Click on OK in the dialog box. Selecting certain modules may result in prompts for other information. Refer to the instruction manual for the module in question concerning specific configuration information, as well as this instruction manual. Note that UDC module configuration is complex and will require consulting the appropriate configuration and programming instruction manual.

If you add Remote I/O modules, you can zoom in (using the Zoom In command from the GoTo pull down menu) to configure the remote I/O section (remote racks or Remote I/O Heads) of the installation. If you select Heads and then add a Rail, you can double-click on the Rail to configure the I/O modules on the Rail. Use Zoom Out from the GoTo menu to zoom out to the local rack.

If you add a UDC module, you can zoom in (by double-clicking on the UDC module or by using the Zoom In command from the GoTo pull down menu) to configure the drive hardware. From the drive hardware configuration screen, you can zoom in to add digital rails and two-point modules. You can access the Parameter Entry screens by selecting the Configure Parameters command from the Configure menu or by zooming in on the appropriate drive hardware.

If you make a mistake, select the Remove command from the Configure menu to remove the selected module.

Configuring Variables

Once all of the hardware for a rack has been configured, you can configure the variables in each rack. Configuring variables consists of attaching symbolic names to the variables that must be accessible to more than one application task in the rack. There are two categories of variables that are configured: I/O locations that are connected to field signals and the common memory variables on Processor modules and Common Memory modules. These variables are referred to as commons or globals. Local variables, i.e., those that do not need to be accessed by more than one application task, are not configured. They are defined in the application task or program in which they are used.

Three different "forms" are used to configure variables: a basic form used for I/O and interface modules (including UDC modules), a form used for common memory modules, and a form for Network Interface modules (M/N 57C404). The correct form, including any pre-defined dedicated registers, is automatically called up when you select a module to configure.

10. To configure variables on a selected module, select Configure Variables from the pull down menu. You can also zoom in to configure the variables by double clicking on the selected module. For Processor and Common Memory modules, the form displays item numbers to be configured, not register or bit numbers. For modules with I/O, registers and bits that need to be configured will be displayed on the screen, in pages and views where applicable. Views are logical collections of registers, e.g., interrupt registers. A Page is a contiguous set of 64 registers within a view. If multiple views exist, a dialog box will prompt you for the view you want to configure.

The Programming Executive software incorporates three features that allow you to configure variables more quickly: copy/paste, auto-name, and substitute. All three of these options are found on the Configure Variables pull-down menu.

The AutoMax Ladder Editor allows you to add global (common) variables to Ladder programs before configuring them in the Variable Configurator.

Creating Application Tasks and Adding Them to the Rack

After configuring the variables in the rack, you can create application tasks for the rack. Before you can create a new task, you must first add the task to the rack.

11. Select the Manage Tasks command from the Rack menu. Select the Add command from the Task menu. Select New on the resulting dialog box for a new task. Enter the task name, along with the other information prompted for in the next dialog box. This procedure adds the name of the application task and all information about it to the selected rack. The application task can now be created/edited.
12. Select the Edit Task command from the Task menu (or double-click the selected task). The Programming Executive will call up the appropriate editor (Ladder editor for PC tasks or text editor for all other types). See the appropriate editor and language instruction manuals for more information.
13. When you are finished editing the task, save it and select Compile from the Manage Tasks menu. .PC and .INC tasks do not need to be compiled. Compilation statistics (or errors) will be printed to the screen and to log files if the log option is selected.

Generating a Configuration File and (Optional) Parameter Object File

Before you can load application tasks to the AutoMax Processors and UDC modules in the rack, you must generate a configuration file for the rack and parameter object file(s) for the UDC module(s). These files will be downloaded to the rack first. The rack for which the configuration will be created must be selected first.

14. Select the Generate Configuration command from the Command pull down menu in the Task Manager.
15. Exit the Task Manager.

Loading the Operating System onto the Rack

Before loading any application tasks onto the rack, you must connect the cable between the personal computer and the leftmost Processor module in the rack and load the operating system onto the rack. **Loading the operating system onto the AutoMax Processors or UDC modules in the rack deletes any existing operating system and all application tasks in the rack.**

16. Select the Command pull-down menu from the System Configurator. Select Load Operating System to load the operating system to all AutoMax Processors and/or UDC modules in the rack, and optionally, to all Processors in all racks on the network.

Loading the Configuration File, (Optional) Parameter Object File, and Application Tasks

17. Select the Manage Tasks command from the Rack menu at the System Configurator. Select ON_LINE from the Task Manager screen. At this point you can load the configuration file, the parameter object file(s), and all application tasks for the selected rack. The configuration file, always called _CONF.CNF, must be loaded first or at the same time as the application tasks.

Refer to this instruction manual for information about online operations.