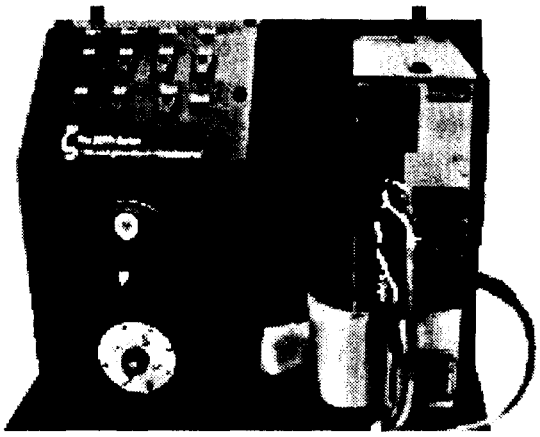
ZETA6104 Demo



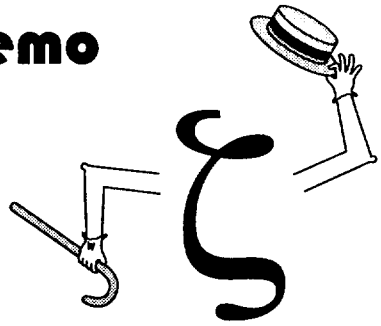
ZETA6104-BOX-DEMO

Operations Booklet

Parker Motion & Control
Compumotor Division

P/N 88-015552-01 C

ZETA6104-Box-Demo



Purpose of The ZETA6104 Demo

- Guide you through the demo/presentation via laptop software
- Demonstrate the ZETA's damping technology
- Create motion from Motion Builder - no other Motion Builder demo needed
- Demonstrate advanced 6000 application features
- Highlight the 6000 Series product family

System Requirements

- Intel 486 or better at 33 MHz or higher
- 8 MB of RAM
- VGA or SVGA monitor (640 x 480 display resolution preferred), 256 colors preferred. To change the display resolution, see *Changing the Display Resolution* below.
- Mouse (essential only for the Damping Motion Builder demos)
- Windows 3.1x or Windows 95

Getting Started

1. Plug in the serial cable (see drawing on back cover of this booklet). Plug the 9-pin connector into your computer's COM1 port. If COM1 is not available on your computer, see *Changing the COM Port* below.
2. Plug in the power cable. Use a 120VAC source.
3. Install the ZETA6104 Demo software from the software box (3 diskettes).
4. Launch the ZETA6104 Demo program.

Notes

- This demo is designed to be run at monitor display resolutions of 640 x 480 and 800 x 600 (FOR BEST PERFORMANCE, USE 640 x 480). If you attempt to run the demo at resolutions greater than 800 x 600, the Motion Builder portion of this demo will not work properly (but the rest of the demo should operate as expected). Instructions for changing your monitor resolution are provided below – see *Changing the Display Resolution* below.
- Navigator buttons (hot keys) are provided for most of the demo functions, as indicated by the underlined text. This excludes some functions in the Damping demo and the Motion Builder demo.
- Do not change the default directory for the demo (C:\ZETADEMO). Two functions of the demo (re-downloading the zetademo.prg file and viewing the readme.txt file) require the C:\ZETADEMO path.
- The Following and Damping demos require the ZETA6104 to be set to the factory settings to ensure properly functionality, especially if you have added or run any external programs. See *Just In Case* below for instructions.
- If you wish to use the Demo unit to demonstrate other motion programming, be aware that the encoder (mounted to the back of the motor) can be used only if you turn off output #7 (use the `OUT.7-Ø` command) and turn on output #8 (use the `OUT.8-1` command).
- CAUTION: Pressing the Esc key on your keyboard will quit the demo.

User Interaction Allowed

The Motion Builder and Damping applications (MOBUD.EXE and ZETA6104.EXE) are embedded in the demo. When the demo scene containing the application launches, you can work with the application as if you had launched it as a separate executable. Motion Builder projects will be stored in the ZETAdemo directory.

Changing the Display Resolution

Recommended Settings: 640 x 480 resolution with 256 colors.
Note: If your video card has its own software for changing screen resolution, refer to the relevant instructions that came with your card.

For Windows 3.1:

1. From the Main group in the Program Manager, launch the Windows Setup program.
2. From the Options menu, select Change System Settings.
3. From the Display pull-down list, select the desired screen resolution (e.g., "Super VGA (640x480, 256 colors)").

For Windows 95:

1. Click on Start, click on Settings, and click on Control Panel. Double-click on the Display icon.
2. Click the Settings tab.
3. Drag the slide bar shown under "Desktop Area" to change your screen resolution. You will be prompted for the video driver if it is not installed.

Just In Case

You may need to reset the ZETA6104 to factory default conditions if you've experienced these changes:

- Programs in the ZETA6104's memory are deleted or corrupted
- The Demo programs do not perform as expected (e.g., no motion)
- You've been doing some other programming with the ZETA6104

To return the ZETA6104 to factory defaults, and/or redownload the programs for the Demo, use this procedure:

1. Launch the ZETA6104 demo, or if you are already in the demo, click on the Home button to return to the home screen.
2. In the Home screen, click on the Demo Setup button to view the Setup screen.
3. Click on the Download button. You'll see a new screen with an instruction dialog overlaying a terminal emulator.
4. To Erase all programs in the ZETA6104 and reset all commands to factory defaults, click the Erase & Reset button.
5. To re-download the programs that the Demo uses, click the Download button.
6. When you see the `*NO ERRORS` message in the terminal emulator, click the Finished button to return to the Setup screen. The ZETA6104 is now returned to the state in which it was shipped from the factory and is ready to proceed with the demo.
7. Click the Finished button in the Setup screen to return to the demo.

Changing The COM Port

This demo is preconfigured to communicate on COM1. If you need to use a different COM port, follow this procedure:

NOTES	• **Unless you're using COM1, you will have to select the alternative COM port every time you launch the demo.**
	• **Other COM ports may require a 9-to-25 pin converter so you can use the 9-pin connector on the cable that comes with the demo.**

1. Access the Home screen in the Demo. This is the "Welcome to" screen that you see when you first launch the demo or when you click on the "Home" button from another screen.
2. Click on the "Demo Setup" button access the COM port options in the Setup screen.
3. Select the alternative COM port from the *Communication Port* list. You'll see the MA6000.INI and MOBUD.INI files being changed.

   NOTE: If you see an error message flash while the INI files are being changed, it means your TEMP directory needs to be changed to C:\WINDOWS\TEMP. Refer to *Changing Your Computer's TEMP Directory* below for instructions.
4. When the demo returns to the Setup screen, click the "Finished" button to return to the Home screen.

About The Damping Demos

- The "Damping Demo" captures data (velocity) from a move profile and plots it in the graph. The reason the plots sometimes appear on different parts of the graph area (this is typical when comparing Damping ON vs. Damping OFF) is that the plots are scaled to fit in the graph window.
- The "Throughput Demo" commands the motor 20 consecutive moves. It also defines a Target Zone window (velocity, distance, and time) within which the motor must settle before continuing to the next move. The Out-A LED illuminates when a move has satisfied the Target Zone settling criteria.

  With damping on, the transitions between moves should be short and the throughput should be much better than without damping.

  With damping off, the transitions between moves should be longer and more varied than with damping on; this is due to the overshoot exhibited in an underdamped system. In fact, with damping off, the motor may not be able to settle within the specified Target Zone window; this is referred to as a "Target Zone Timeout." If a Target Zone Timeout occurs, the motor will stop and the Out1 LED will illuminate for two seconds. After the Out1 LED turns off, you should be able to proceed with additional Throughput or Damping demos; however, if the demo box does not respond, press the RESET button.

Changing Your Computer's TEMP Directory

The process of changing COM ports requires that the TEMP directory be set to C:\WINDOWS\TEMP (this is established with the "SET TEMP=" command in your computer's AUTOEXEC.BAT file). To change the TEMP directory, use one of the two options described below.

Option A: Temporarily Change the TEMP directory.
(changes the TEMP directory until you reboot your computer)

1. Quit the ZETA6104 Demo by pressing the Quit button or by pressing the ESC key on your keyboard.
2. Windows 3.1x: From the Main group in the Program Manager, launch the MS-DOS Prompt program.

   Windows 95: Click on Start, click on Programs, and click on MS-DOS Prompt.
3. When the DOS prompt appears, type "set temp=c:\windows\temp" and press the enter key.
4. Type "exit" and press the enter key to return to Windows.
5. Launch the ZETA6104 demo, change the COM port as required, and proceed with the demo.

Option B: Permanently Change the TEMP directory.

1. Quit the ZETA6104 Demo (press the Quit button or press the ESC key on your keyboard), and quit all Windows applications the are open.
2. Windows 3.1x: From the Main group in the Program Manager, launch the MS-DOS Prompt program.

   Windows 95: Click on Start, click on Programs, and click on MS-DOS Prompt.
3. When the DOS prompt appears, type "cd\" and press the enter key.
4. Type "edit autoexec.bat" and press the enter key. The autoexec.bat contents will display in the MS-DOS editor.
5. Change the SET TEMP= command to read "SET TEMP=C:\WINDOWS\TEMP". Do not confuse this with the SET TMP= command (some autoexec.bat files have this command).
6. Save the autoexec.bat file (file/save) and exit the MS-DOS editor (file/exit) to return to the DOS prompt.
7. Type "exit" and press the enter key to return to Windows.
8. Reboot your computer. This restarts your computer with the new settings in the autoexec.bat file.
9. Launch the ZETA6104 demo, change the COM port as required, and proceed with the demo.

About The Web Processing Demo

You may experience some delay in the re-synchronizing of the slave wheel. The reason for this is that there are two print surfaces on the slave wheel, but only one trigger (the trigger is active when "Z" points straight down). In order to re-sync, the trigger must go active. If you take the slave out of sync more than 1/8 of a rev (when you cycle IN 1 off and on in Step #3 of the Simulation), it may take two triggers of the slave wheel to re-sync. This is intentionally done to avoid re-triggering on the correction moves. This is a limitation of the mechanics (trigger locations, wheel positions, etc.) of the demo box.

ZETA6104-BOX-DEMO

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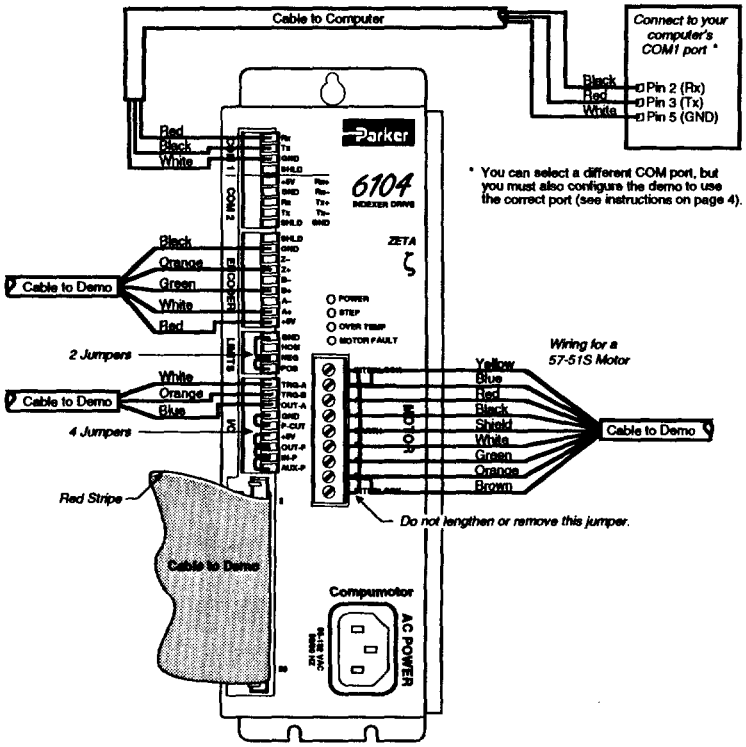
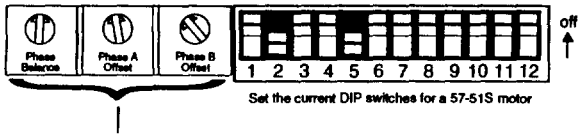
ZETA6104-BOX-DEMO
Configuration

As shipped from the factory, the demo box is pre-configured. This information is provided as a reference if the ZETA6104 is altered. (see also *Just In Case* instructions on page 3)



Motor Matching and Current Settings

Access through the top of the ZETA6104 chassis (loosen screws, move cover plate).



Set the current DIP switches for a 57-51S motor

Matching procedure is found on page 22 of the *ZETA6104 Installation Guide.*