

Series Five Integrators Kit

QUICK REFERENCE GUIDE

DESCRIPTION OF KIT

The Series Five Integrators Kit from Qualitrol International includes Logicmaster 5 software by GE Fanuc, a Programmer-to-CPU cable, and a Users manual. This kit will allow you to:

- Create, Transfer, and Retrieve Series Five ladder logic programs directly from any Series 5 CPU
- Add names and annotation to ladder logic programs
- Monitor on-line status of the program and I/O references
- Save programs to diskette
- Print out complete ladder programs with annotation and I/O status tables

The software runs on any computer capable of providing a DOS window. The instructions that follow explain how to Install and Initiate communications to a Series Five CPU.

1. Hardware Configuration

Configuring the CPU Communication Port

The CCM port on the CPU module in the Series Five PLC is connected by cable to port 1 (COM1) or port 2 (COM2) on the Logicmaster host computer. The CCM port provides either RS-232 or RS-422 communications.

- Locate DIP switch packages on the front of the Series Five CPU, behind the door.
- Set the Switches 1, 2, and 3 to the ON position. This sets the DCU to communicate at 9600 baud, RS-232 and CPU ID equal to 1.

Attach CPU to the Computer

- Plug the 9-pin end of the cable to the COM port on the computer.
- Plug the 25-pin end of the cable to the lower communications port on the Series Five CPU.

2. Software Configuration

Logicmaster 5 software is a DOS-based program and needs to be installed and run in a DOS environment

Installation on a DOS machine:

- Modify the CONFIG.SYS file (located in your hard drive's root directory) in order to add the following lines and then reboot the PC.

```
FILES=20
```

```
BUFFERS=5
```

```
DEVICE=C:\DOS\ANSI.SYS
```

Use EDLIN or any other DOS editing program to add these lines to your CONFIG.SYS.

- Reboot the computer.
- Once the PC has rebooted, change the default drive to drive A by typing A: and insert the appropriate Logimaster diskette into Drive A.
- At the prompt, type LM5PC, followed by the 'Enter' key.
- Follow the prompts until the Supervisor Menu appears, then press F8 (UTILITY FUNC).
- Once the Utility Function Menu appears, press F1 (DUPLIC MASTER). -- Make sure that the Drive ID indicated for DUPLICATE FROM matches the drive that contains the Logimaster diskette and the Drive ID indicated for DUPLICATE TO matches the target drive (typically the hard drive).
- Press Ctrl-E to start the process.
- Once the duplication is complete, press Esc to return to the Supervisor Menu and the Alt-Z to return to DOS.
- If the target drive is the hard drive of the PC, change the default drive to that drive and then change the directory to the appropriate subdirectory for the Logimaster software just installed.
- At the prompt, type LM5PC, followed by the 'Enter' key. The software should start up as in the previous step.

Installation on a Windows machine:

- Logimaster has been successfully installed and run on Windows 3.x and Windows 95/98 machines. Please note that Windows 98 uses a FAT32 format and a FAT partition would have to be created on the hard drive in order to install Logimaster on the hard drive.
- If using Windows 3.x, exit Windows and return to DOS. If using Windows 95 or 98, shut down Windows and reboot into DOS. Once in DOS, change the active directory to the root directory of the target drive.
- Modify the CONFIG.SYS file (located in your hard drive's root directory) in order to add the following lines and then reboot the PC.

```
FILES=20
```

```
BUFFERS=5
```

```
DEVICE=C:\WINDOWS\COMMAND\ANSI.SYS
```

- Sometimes it is necessary to make more extensive modifications due to DOS memory constraints. Below is an example of a CONFIG.SYS file used with Windows 95. Comments (Italics) are included.

```
DEVICE=C:\WINDOWS\HIMEM.SYS Enable 64 KB above 1 megabyte
```

DEVICE=C:\WINDOWS\EMM386.EXE RAM 1024 I=B000-B7FF HIGHSCAN DEVICEHIGH=C:\WINDOWS\COMMAND\ANSI.SYS

DOS=HIGH,UMB

FILESHIGH=30 *Note each FILE uses 52 bytes, old LM5 can use 20*

BUFFERSHIGH=20 *Note each BUFFER uses 532 bytes, old LM5 can use 5*

FCBSHIGH=4

STACKSHIGH=9,256 *The HIGH added to these 4 lines loads them into Upper Memory*

- Once the PC has rebooted and has been returned to DOS mode, change the default drive to drive A and insert the appropriate Logicmaster diskette into Drive A. At the prompt, type LM5PC, followed by the 'Enter' key. Follow the prompts until the Supervisor Menu appears, then press F8 (UTILITY FUNC). Once the Utility Function Menu appears, press F1 (DUPLICATE MASTER). Make sure that the Drive ID indicated for DUPLICATE FROM matches the drive that contains the Logicmaster diskette and the Drive ID indicated for DUPLICATE TO matches the target drive (typically the hard drive). Press Ctrl-E to start the process.
- Once the duplication is complete, press Esc to return to the Supervisor Menu and Alt-Z to return to DOS. If the target drive is the hard drive of the PC, change the default drive to that drive and then change the directory to the appropriate subdirectory for the Logicmaster software just installed. At the prompt, type LM5PC, followed by the 'Enter' key. The software should start up as in the previous step.
- From the Supervisor, press Alt-Z to return to DOS. Exit DOS and return to Windows. A shortcut can be created on your desktop so that Logicmaster can be run in a DOS window. Locate the *.BAT file in the appropriate subdirectory and point your shortcut to it.

3. Getting Connected

- Verify that the PC is connected to the CPU using the Programmer to CPU cable.
- Start Logicmaster software. Follow prompts until you get to the Supervisor Menu.
- Press F8 to go to the Utilities Functions.
- Press F6 to go to the Serial Port Set Up.
- Enter PORT NUMBER on the computer where the Universal Cable is plugged in; Com1 = 1, Com2 = 2
- Change BAUD RATE to 9600.
- Confirm that STOP BITS is set to '1', PARITY is set to 'none', DATA BITS/WORD is set to '8' and X-ON/X-OFF is set to 'N'. (these settings match the DIP switch settings made on the DCU)
- Press F1 to implement settings.
 - OPTIONAL: To make changes permanent, do the following:
 - Change DRIVE ID to match drive that Logicmaster is installed on.
 - Set FILE NAME to 'PORT1' for Com1 or 'PORT2' for Com2.

- Press F2 to save settings.
- Press Esc to return to the Supervisor Menu.
- Press F7 to go to the Setup & Config screen
- Press F1 to go to the Comm & Password screen.
- Enter COMMUNICATION PORT NUMBER by pressing '1' for Com1 or '2' for Com2 followed by F3 (SELECT PORT #).
- Press F1 to save settings.
- Confirm that the Series Five PLC is powered up and the PWR LED on the CPU is on.
- Press Alt-1 to toggle Logicmaster mode to Monitor. At this point, the top line on the Logicmaster screen should indicate the status of the CPU. For example: "CPU: STOPL/M NOTEQ CPUL/M: ONLINE". If Logicmaster indicates there are no communications, please review each section of this document in order to confirm all of the hardware and software setups.

If you have any questions with this installation, please feel free to call our Technical Support Hot-line at 1-800-784-9385.