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PE3341/2
EEPROM Programming
USER'S MANUAL

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FCC Compliance Statement

This device is intended for use only in a research and development environment. It has not been tested for compliance with FCC regulations regarding interference with radio frequency energy. It might cause harmful interference with radio communications. The user assumes responsibility for any interference caused by this device.

Introduction

Introduction

This EEPROM Programming board is specifically designed to program the EEPROM of 2.7 GHz Integer-N EEPROM PLLs PE3341/2. Using the hardware and software provided in the Programming Kit, EEPROM mode programming can be achieved.

Applications Support

If you have a problem with your Programming Kit, software, or if you have applications questions call **(858) 455-0660** and ask for applications support.

You may also contact us by fax or e-mail:

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E-Mail: **help@peregrine-semi.com**

FCC Labeling Requirement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Hardware Section

Programming Kit Contents & Requirements

The Programming Kit includes all of the specific software and hardware required to program the EEPROM of the PE3341/2. Included in the Programming Kit are:

1	PE3341/2 EEPROM programming Board (P/N: 101/0121~01A)
10	PE3341 or PE3342 2.7 GHz Integer-N EEPROM PLL
1	1 CD-ROM or two floppy disks with programming software included
2	Jumpers
1	10-Wire Interface Cable
1	2-Wire Power Supply Cable
1	4- Wire Power Supply Cable

In order to program the part using EEPROM programming mode the Programming Kit software will need to be installed on a computer with the following minimum requirements:

PC Compatible with Windows™ ’95/98/2000

Mouse

Parallel Port

HTML Browser to access CD contents

CAUTION: The EEPROM programming circuit contains components that might be damaged by exposure to voltages in excess of the specified voltage, including voltages produced by electrostatic discharges. Handle the board in accordance with procedures for handling static-sensitive components. Avoid applying excessive voltages to the power supply terminals or signal inputs or outputs.

10-Wire Interface Cable Configuration

Table 1 shows the 10-wire interface cable configuration.

Table 1. 10-Wire interface cable configuration.

Pin No. of DB-25 socket	Pin No. of 10-Wire connector
8 Yellow	1 EE_WRT, yellow
7 Brown	2 E_WR, brown
6 Blue	3 EE_DEL, blue
5 Orange	4 EE_PROG (EELOAD), orange
9 Violet	5 EE_SEL, violet
10 Gray	6 DOUT, gray
2 Red	7 S_CLK, red
3 White	8 S_DATA, white
4 Black	9 S_WR, black
18 Green	10 GND, green

EE Programming Kit Setup

1. As shown in Figure 1, verify a jumper is placed on the connector J4 between VPP Pin 2 (VPP, the center pin) and Pin 1 (pin at left).
2. Verify a jumper is placed on the connector J2.
3. Verify all switches of SW1 if installed are in “OFF” position.
4. Connect your computer’s printer port to J1 on the programming board via a 10-wire interface cable.
5. Connect power supply cables to the EEPROM programming board as shown in Figure 1. *Verify all supplies are turned off prior to connecting to programming board.*

   ➔ With 2-wire power supply cable, connect the +3 V supply to J3 (J3-1 +3 and J3-3 GND)

   ➔ With 4-wire power supply cable, connect the +13 V supply to J6-4 (red connector), the -9 V supply to J6-1 (black connector), and the ground to J6-2 & -3 (green connector).

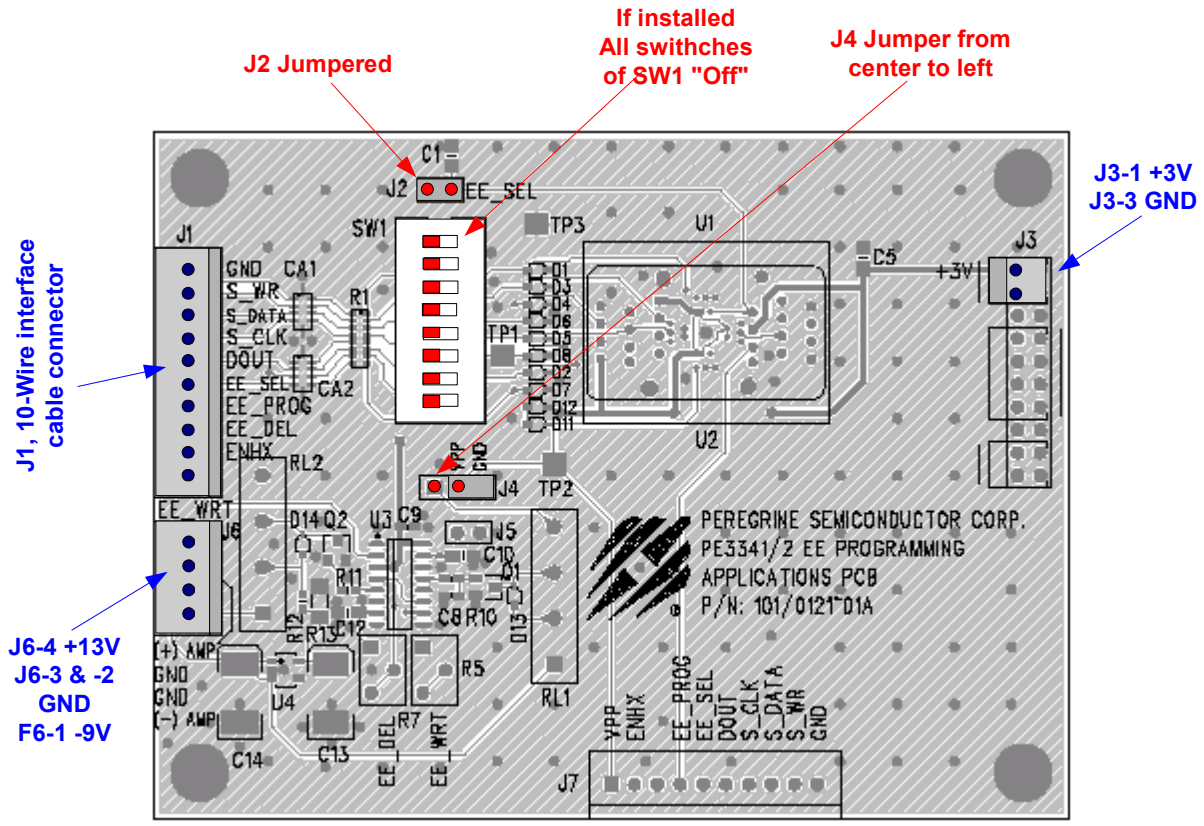


Figure 1. PE3341/2 EEPROM programming board default jumper & switch settings



Software Section

Software Installation Instructions

In order to setup the Programming Software on your computer:

1. Start Microsoft Windows™ '95/98/2000.
2. If the software comes with a CD, insert the CD to CDROM drive. Otherwise, insert the floppy disk 1 to the floppy disk drive. Search the "setup.exe" file.
3. Double-click the "setup.exe" file and follow the on-screen instructions to finish installation.

Software Operation Instructions

With the EE Programming kit set up completed as described in the previous section, the follow steps are for programming of the EEPROM register.

Step 1: Start the "Peregrine EE PLL Control Software" program. Figure 2 shows one example of the screen.

Step 2: Verify the "EEPROM Register" is displayed in the drop down menu in the middle section.

Step 3: Enter reference frequency (crystal frequency) value in MHz into the Ref Freq box (marked by red dot at left)

Step 4: Set reference counter (R counter) to the desired value by entering it into the R Register box in the middle left side (marked by yellow dot at left). Note that the numbers in the orange boxes are computed values and cannot be directly typed in.

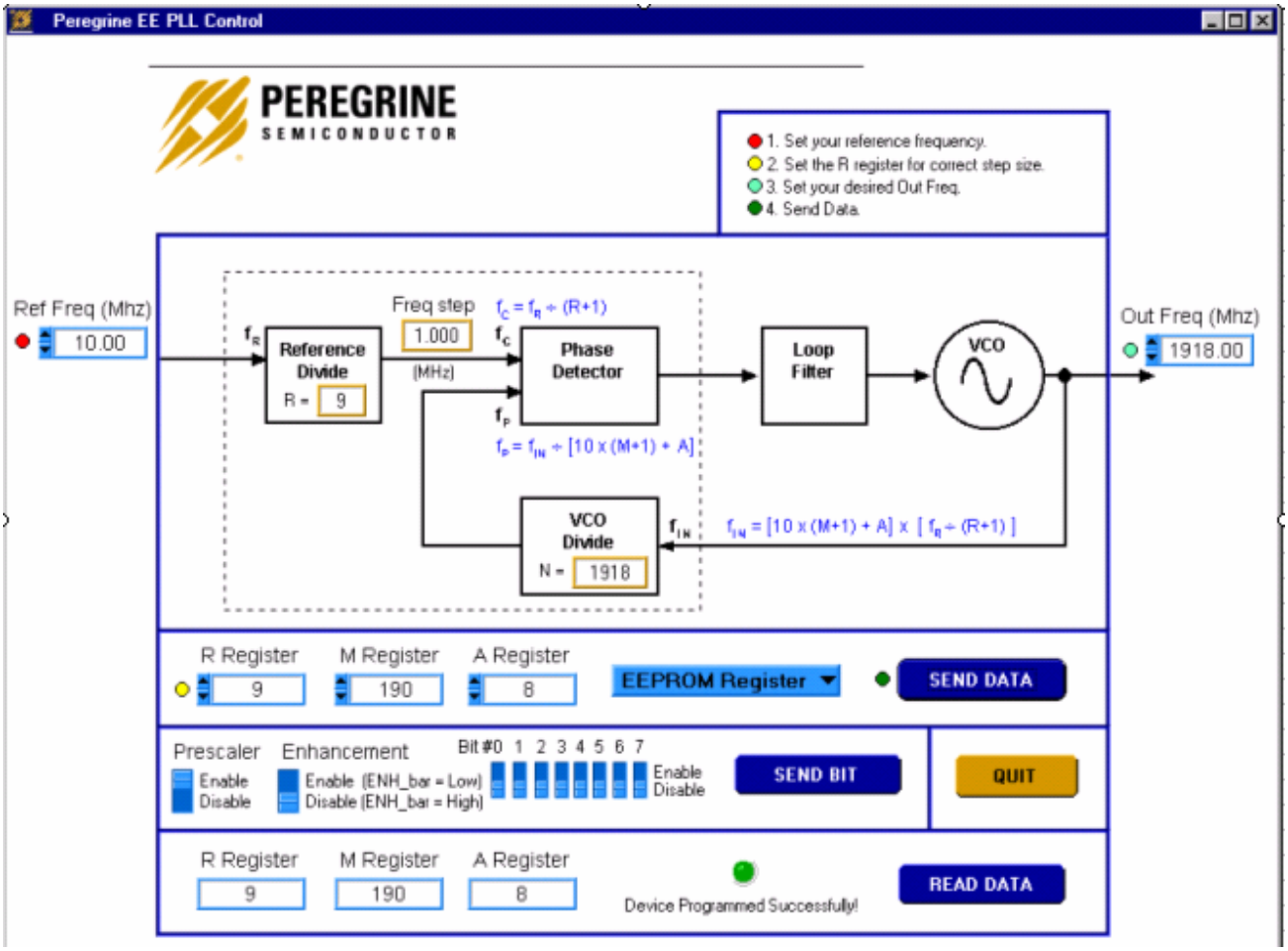
Step 5: Verify "frequency step" (which is also called phase detector frequency) is at the desired value.

Step 6: Set the VCO frequency to the appropriate value by typing it into the "Out Freq (MHz)" box. Once the frequency value is entered into the box, the corresponded M and A register values are displayed in the "M Register" and "A Register" Boxes, respectively. Instead of entering the frequency value into the "Out Freq (MHz)" box, the frequency can also be changed by entering M register and A register values into the "M Register" and "A Register" boxes directly.

Step 7: Turn on all power supplies (+3, +12.5 and -9 V) with no part in the IC holder.

Step 8: Place carefully one PE3341/2 IC in the IC holder.

Step 9: Click the "SEND DATA" button to send data to the PLL.



- ➔ Light blue number boxes identify user defined program states and can be modified by utilizing the arrows next to the boxes or clicking into the box and typing the appropriate value. Either clicking on the light blue switches or typing the counter variable into the text box can program the registers.
- ➔ Programming of the secondary or EEPROM register is selected by the light blue pull down box. Note: EEPROM register is the default selection. Do not change it.
- ➔ The prescaler disable and the enhancement mode enable functions are currently unavailable.
- ➔ Data is sent to the evaluation board by clicking the dark blue “SEND DATA” button.

Figure 2. Example of EEPROM Programming Software Screen.

Step 10: The program will automatically read back the R, M and A Register values and display them in the bottom section. If the EEPROM is programmed successfully, a message “Device Programmed Successfully!” with a green button will display in the bottom section as shown in Fig. 2. Otherwise, if any of the read back values is different from the programmed value, a message “Device Programming Failed!” with a red button will display as shown in Fig. 3. This feature can be

used to read back the R, M and A Register values of a previous programmed part. To do this, just complete Steps 7 and 8 and then click the “READ DATA” button in the right bottom corner. The “READ DATA” function will read back and display the R, M and A Register values of a previous programmed part without showing other message.

Step 11: Remove the programmed IC from the IC holder with a pair of tweezers or other sucking device with insulated handles.

Step 12: To program additional parts, repeat the steps 8 to 11. Do not recycle any power supply while a PE3341/2 IC is in the IC holder. If doing so, the transit created by turning power supply on or off could erase or re-program the EEPROM content. A solution is being working on.

Step 13: To exit the program, click the “QUIT” button.

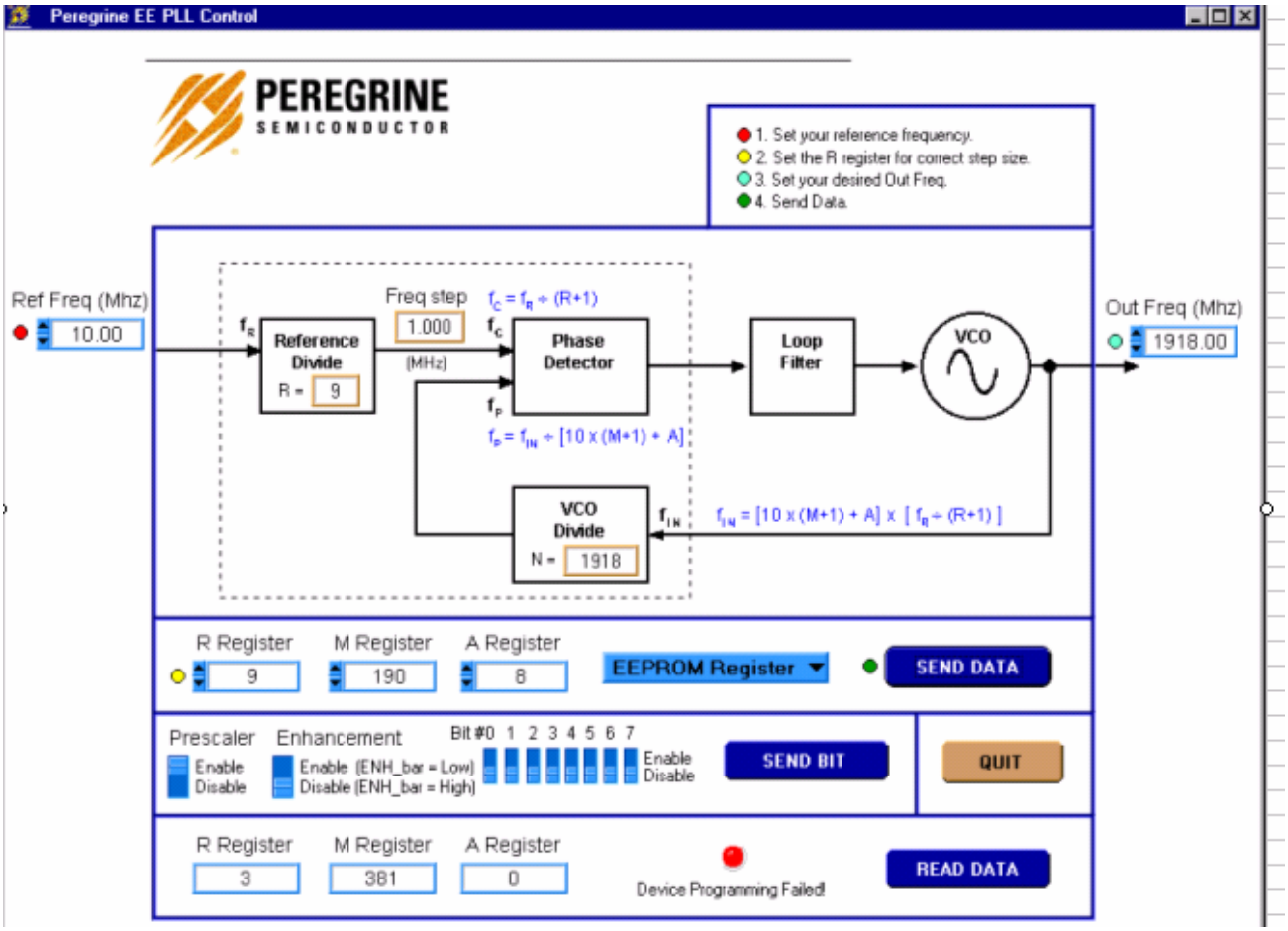


Figure 3. Example of EEPROM Programming Software Screen when the programming is failed.

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