

AT17LVxxx and AT17Fxxx User Guide

Select AT17 in Device drop Down and select your particular device in next drop down. A and non-A parts are the same for ISP.

Extra Features tab

The screenshot shows the 'Serial EEPROM ISP' application window. The title bar includes a green icon and the text 'Serial EEPROM ISP'. The menu bar contains 'File', 'Device', 'View', 'Serial Numbers', 'Patterns', and 'Help'. Below the menu bar, there are two dropdown menus: 'Device:' with 'AT17' selected, and another dropdown with 'AT17LV512(A)' selected. To the right of these is a 'Programmer:' label. Below the dropdowns are three tabs: 'EEPROM Memory', 'Extra Features' (which is active), and 'Status'. The 'Extra Features' tab contains several settings: a checkbox for 'A2 Pin High' which is unchecked, a checkbox for 'Reset Polarity Low' which is checked, a 'Family' section with two radio buttons ('AT40K/AT94K/Cyress' and 'AT6K/Other', with 'AT6K/Other' selected), and a 'Device Page Size:' section with a text box containing '128'. At the bottom left of the tab is a 'Defaults' button.

- 1) A2 pin setting (0 or 1) for cascaded devices, default low (0).
- 2) Reset Polarity (AT17LV512 and larger devices). Default is Reset Polarity Low. For High Reset Polarity, uncheck box then program the device. Program Reset polarity is part of device program operation. To verify it, choose **Device Menu -> Verify -> Reset Polarity**.
- 3) **Family**: Choose type of FPGA to be used with the AT17 chip. Default is AT6K/Other, which includes Xilinx chips. Xilinx parts are programmed LSBit first not MSB first like AT40K series. Xilinx MCS and HEX files are loaded into the programmer buffer LSBit first.
- 4) Device Page Size (only AT17LVxxx) is default programming page size and should not need changing.
- 5) Defaults Button will reload default values for the other options.

Device Menu

Erase is required for AT17Fxxx devices before they can be programmed but not for AT17LVxxx. Erase typically takes 33 seconds.

Device Menu -> Auto Program Options can be used to set what operations to carry out when Auto Program (F5 key) is selected.

AT17LVxxx devices have Reset Polarity, except ATLV256(A). Value is set on Extra Features tab and it is programmed with the rest of the program operation. To verify it, choose Device menu -> Verify -> Reset Polarity

AT17LV512A, AT17LV010A and AT17LV002A have option to enable or disable the Internal RC. Standard parts do not have this feature.

Device menu -> Program -> Internal RC Enabled - A parts only

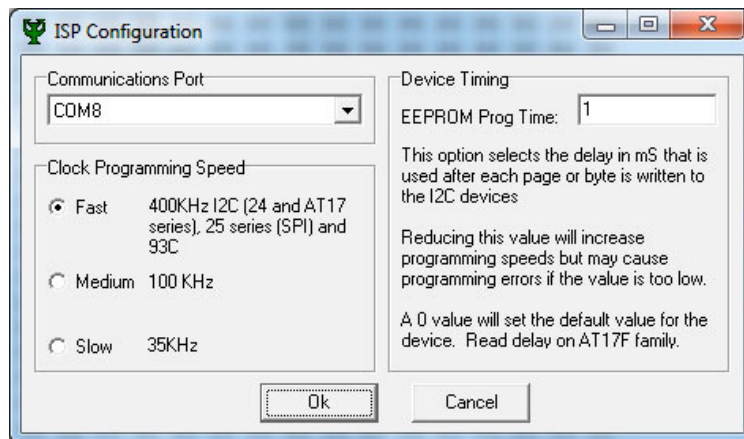
Device menu -> Program -> Internal RC Disabled - A parts only

Options Button

Clicking the Options button brings up the Options Dialog. The available COM ports are displayed. On computers without serial ports these will be USB virtual serial ports and your programmer will be shown here if it is plugged in.

The other features are slightly different for AT17LVxxx and AT17Fxxx devices.

AT17LVxxx Settings

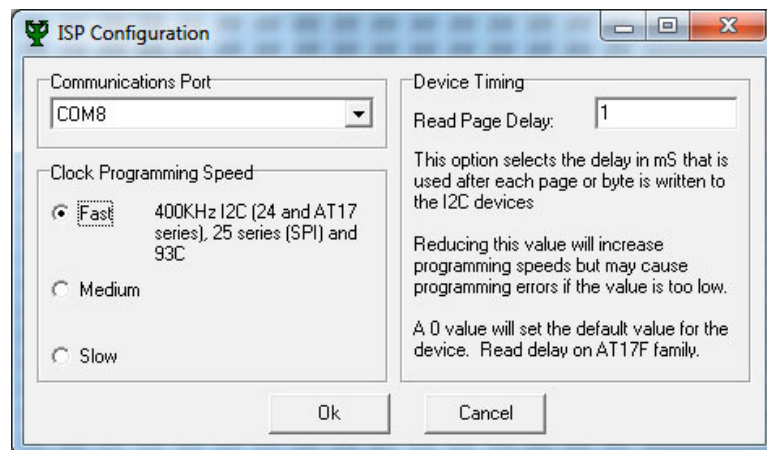


This is the same as other EEPROMs. You should not need to change these settings as AT17LVxxx devices have 400KHz I2C interface for programming. **The EEPROM Prog Time** is the delay between page writes and is set for default time needed.

If you get verify errors, you can try a slower speed or increase EEPROM Prog Time.

AT17Fxxx Settings

These chips have slightly different settings. The COM port setting is the same but the other two settings are slightly different.



The Clock Programming Speed setting is 400KHz on Fast, but Medium and Slow settings are not a specific frequency, just a bit slower. Select these if you get verify errors.

The other setting is Read Page Delay. This is the delay between different read blocks. The device is read in 8KB blocks. If you get verify errors, you may need to increase this value. Reducing the value will reduce read time. The default is 100mS.

Connection Information

Data line must have 4K7 pull up, Clock can have 4K7 pull up

The end of the 10-way lead has this pin out

D	C	B	RST	A
9	7	5	3	1
10	8	6	4	2
GND	GND	GND	GND	VCC

Where A,B,C,D and RST are defined for different device families

	24C (I2C)	25C (SPI)	93C (MicroWire)	AT17
A	N/C	SI	DI	SER_EN
B	N/C	CS	CS	N/C
C	SCL	SCK	CLK	SCLK
D	SDA	SO	DO	DATA
3	Micro RST	Micro RST	Micro RST	

At least one Ground and VCC must be connected to programmer.

Flying Lead Connector

The flying lead connector can be used to connect to other ISP connectors.

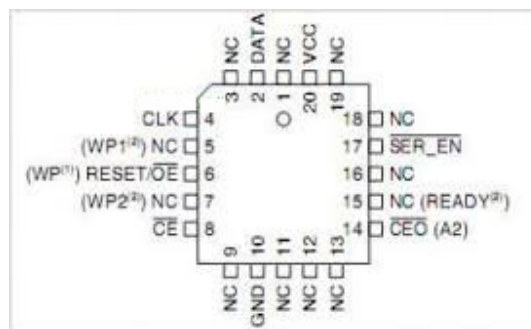
PIN	COLOUR	I2C	MICROWIRE	SPI	AT17
1	ORANGE		SI	DI	SER_EN
2	RED		CS	CS	
3	GREEN	VCC	VCC	VCC	VCC
4	BROWN	GND	GND	GND	GND
5	BLUE	SDA	DO	SO	DATA
6	YELLOW	SCL	CLK	SCK	SCLK

AT17 Devices

If SER_EN pin is grounded on target board, the orange SER_EN wire can be omitted.

AT17 chips need pull ups (4K7) on data line (blue wire) and sometimes on clock line (yellow).

AT17 standard pin layout



AT17 A parts pin out

