



# HPR1V2

## 1.2 to 3.3 V Level Shifter for PRESTO User's Guide



---

Address: ASIX s.r.o.  
Staropramenna 4  
150 00 Prague  
Czech Republic

E-Mail: [info@asix-tools.com](mailto:info@asix-tools.com) (general information)  
[sales@asix-tools.com](mailto:sales@asix-tools.com) (sales inquiries, ordering)  
[support@asix-tools.com](mailto:support@asix-tools.com) (technical support)

WWW: [www.asix-tools.com](http://www.asix-tools.com) (development tools)  
[www.asix.info](http://www.asix.info) (company website)

Tel.: +420-257 312 378  
Fax: +420-257 329 116

## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>3</b>
<b>2. USAGE.....</b>	<b>3</b>
<b>3. HPR1V2 SCHEMATICS.....</b>	<b>4</b>
<b>4. TECHNICAL SPECIFICATION.....</b>	<b>4</b>
<b>5. REVISION HISTORY.....</b>	<b>4</b>

*Note: This document contains hyperlinks pointing to web pages on the Internet. If the links happen to be broken (point to non existing page), please download recent version of this manual from [www.asix-tools.com](http://www.asix-tools.com).*

---

Copyright © 1991-2007 ASIX s.r.o.

All trademarks used in this document are properties of their respective owners. This information is provided in the hope that it will be useful, but without any warranty. We disclaim any liability for the accuracy of this information. We are not responsible for the contents of web pages referenced by this document.

# 1. INTRODUCTION

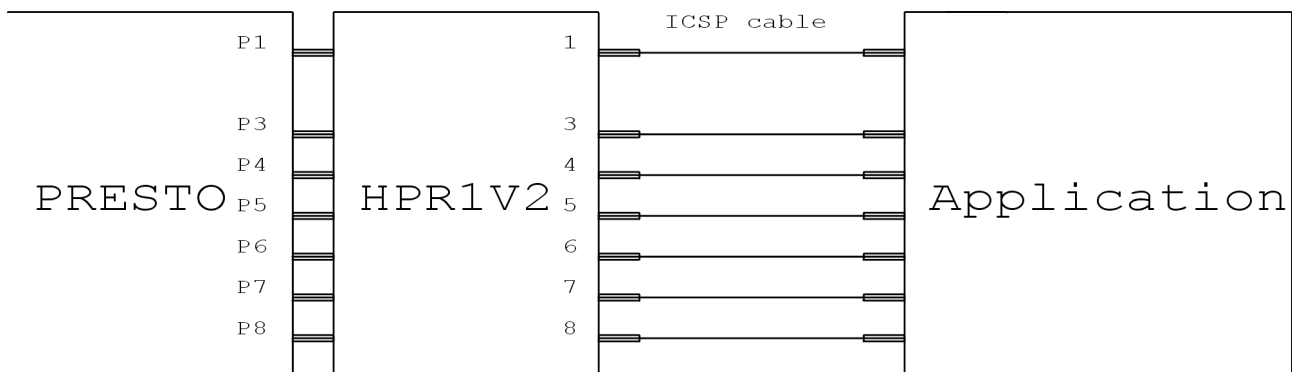
HPR1V2 is an optional accessory to the PRESTO programmer for programming of the devices with supply voltage and logical levels between 1.2 and 3.3 V as for example Xilinx CoolRunner-II. The PRESTO programmer can program devices with signal levels between 3 and 5 V  $\pm$  10 %, but sometimes it's necessary to program a device with less signal levels. In such case, the HPR1V2 level shifter must be used. The level shifter must be used with external supply voltage from application, it cannot be supplied from the programmer.

# 2. USAGE

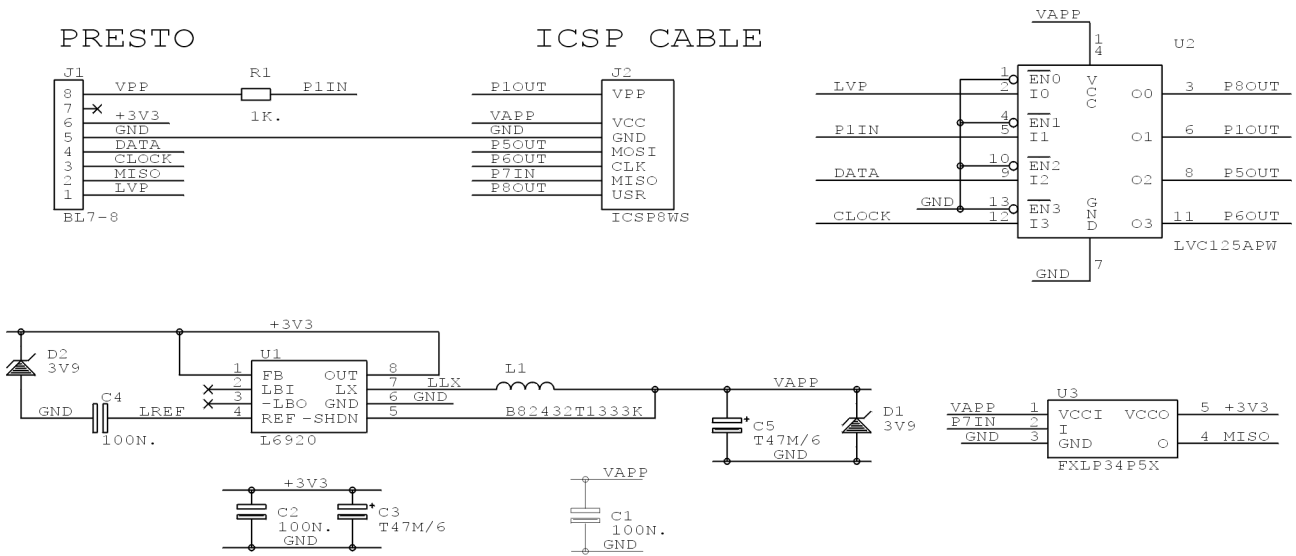
Plug the HPR1V2 level shifter directly to the pins of the PRESTO programmer (**NOT to the programmed device connector!**). Pin2 is used as a key, so that is not possible to connect it wrong way. Now connect the programmed device to HPR1V2 using ICSP cable. Connection of the programmed device pins is same as connection of the device to the PRESTO. Common connection diagram is below.

### Notes:

- The HPR1V2 pins are unidirectional, this level shifter can be used for example with JTAG devices, but it's not intended for devices what need bidirectional pins like PIC processors.
- The HPR1V2 must be supplied with external supply voltage from application.
- **Never turn on the internal supply voltage from programmer, when the HPR1V2 is connected!**



### 3. HPR1V2 SCHEMATICS



### 4. TECHNICAL SPECIFICATION

	<i>min.</i>	<i>max.</i>	
V <sub>CC</sub> supply voltage	1.2	3.3	V
V <sub>IH</sub> input pin voltage log.1	0.65xV <sub>CC</sub>		V
V <sub>IL</sub> input pin voltage log.0		0.35xV <sub>CC</sub>	V
I <sub>OUT</sub> output pin current		4	mA

### 5. REVISION HISTORY

<b>Date</b>	<b>Revision</b>	<b>Main changes</b>
2007-11-19	1.0	Initial version