

# Pixie-Net Release Notes

Version 2.20, January 2020

Updated webpages

Fixed bugs in some cgi scrips

Added new webpages for ADC setup and data acquisition

To update software and webpages from previous releases, go through the following steps:

1. Download and extract PixieNet\_V2p20.zip from <http://support.xia.com/default.asp?W772>
2. Copy contents of the zip file to /var/www on the Pixie-Net, including the files in the webops folder
3. Execute the following commands on the command line to make links in webops and set permissions and ownership:
  - `cd /var/www/webops`
  - `ln -s ../xialogo.jpg xialogo.jpg`
  - `ln -s ../cgireadsettings.cgi cgireadsettings.cgi`
  - `ln -s ../cgiwritesettings.cgi cgiwritesettings.cgi`
  - `ln -s ../runstats runstats.cgi`
  - `ln -s ../adcpage.html adcpage.html`
  - `ln -s ../jquery-3.4.1.min.js jquery-3.4.1.min.js`
  - `cd ..`
  - `chown -R www-data:www-data webops`
  - `make clean`
  - `make`

Note: some of the webops pages are still experimental. In particular, the ADCsetup page may require repeated clicking of the browser refresh button and the “refresh traces” button in the page to work properly.

## Version 2.10, November 2018

Added function to record triggered, averaged ADC samples at user specified intervals. See section 11.8.1 of the manual

Added option for 4x longer traces and 16x longer triggers.

## Version 2.02, January 2018

Added support for PTP time synchronization between multiple Pixie-Net modules. This includes

- update of FW/SW to version 2.02 (C routines and boot files). Includes
  - o new utility “clockprog” to program clock PLL in PTP clock distribution
  - o revised I2C timing
- addition of “hostcode” – Linux shell scripts for a Linux PC to operate 3 Pixie-Nets with PTP synchronization
- addition of “ptp-mii-tool”, an adaptation of a Linux utility to read/write registers of the Pixie-Net’s PTP Ethernet PHY through the MII interface

## Version 2.01, November 2017

New Pixie-Net Revision B HW and SW released in November 2017 includes several updates and new features, including an update of the operating system (OS) to Ubuntu 15, support for IEEE 1588 time synchronization, performing operations like starting a DAQ run via the web browser interface, and various bug fixes. (OS here means Linux kernel, file system and all installed apps.) Existing Revision A users have the choice of

- a) keeping their existing OS and Pixie-Net software/firmware (SW/FW),
- b) manually upgrading only the SW/FW (for those who modified the OS significantly), or
- c) upgrading both OS and SW/FW by obtaining a new SD card from XIA.

In option b), those new SW/FW features relying on the new OS or changes in the apps will not be functional, but most bug fixes will apply. (For example, the new web operations require configuration of the lighttpd app which would be an “OS change”. On the other hand, bug fixes to the CFD processing can be applied by updating the XIA SW/FW only.) The following table gives a summary – Rev A users can pick a “Rev A” column and see what needs to be done to gain access to which feature.

<b>HW revision/variant</b>	<b>Rev A (a)</b>	<b>Rev A (b)</b>	<b>Rev A (c)</b>	<b>Rev B (STD)</b>	<b>Rev B (PTP)</b>
<b>OS</b>	<b>Ubuntu 12 (Xillinux)</b>	<b>Ubuntu 12 (Xillinux)</b>	<b>Ubuntu 15</b>	<b>Ubuntu 15</b>	<b>Ubuntu 15</b>
serial numbers	0001-1011	0001-1011	0001-1011	1012 -	1012-
Ship date	Up to 9/2017	--	--	From 10/2017	From 10/2017
<b>HW changes</b>					
Bugfix VETO input	--	--	--	yes	yes
External clock input	--	--	--	no	yes
PMOD pin swap option for UART	--	--	--	yes	yes
IEEE 1588 network option	--	--	--	no	yes
<b>OS changes</b>					
<b>OS</b>	<b>Ubuntu 12 (Xillinux)</b>	<b>Ubuntu 12 (Xillinux)</b>	<b>Ubuntu 15</b>	<b>Ubuntu 15</b>	<b>Ubuntu 15</b>
Upgrade method	None (a)	Manually (b)	New SD card (c)	Up to date	Up to date
New kernel (4.x)	--	--	On SD	On SD	On SD
Ubuntu 15	--	--	On SD	On SD	On SD
Avoid initial chmod	--	configure udev	On SD	On SD	On SD
Graphical log in	--	install xrdp	On SD	On SD	On SD
Webops	--	configure lighttpd, add links	On SD	On SD	On SD
On-board ROOT GUI	--	--	On SD	On SD	On SD

<b>FW/SW changes</b>					
Version	1.1x	2.xy	2.xy	2.xy	2.xy
FW Build	v1.1x for Rev A	v2.xy for Rev A	v2.xy for Rev A	v2.xy for Rev B	v2.xy for Rev B PTP
FW Variants	STD, PSA	STD, PSA	STD, PSA	STD, PSA	STD, PSA, PTP
Upgrade method	--	Copy to /var/www and boot partition (b)	New SD card (c)	Up to date	Up to date
Bugfixes CFD	--	yes	yes	yes	yes
Bugfix waveform capture (reorders sample readout!)	--	yes	yes	yes	yes
webops	--	yes	yes	yes	yes
LM event webpage	--	yes	yes	yes	yes
IEEE 1588 SW	--	--	--	--	Extra SW on SD
IEEE 1588 drivers	--	--	--	--	New devicetree, kernel, FW on SD