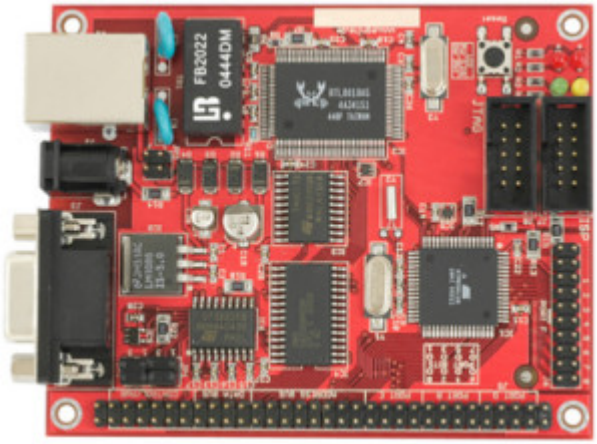
Difference between the XNUT-100 & XNUT-105 and the Ethernut 1 hardware

Application Note 101

Revision 3, October 2008

The XNUT-*100* and XNUT-*105* hardware is compatible with the Ethernut 1 hardware in most areas. This makes it possible to run the *Nut/OS* operating system and TCP/IP stack on the XNUT-*100* and 105 modules as well as a broad range of other software originally written or ported to the Ethernut 1 hardware.

However there are some small differences in hardware which are outlined in the following tables. For a more detailed documentation of the hardware, please consult the XNUT-*100* Hardware Manual or the XNUT-*105* Hardware Manual respectively.

XNUT-*100*	***Ethernut 1.3g***
	

Memory map

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
A15 is used to decode the RTL8019AS. It decodes in the range from 0x8000 - 0xFFFF including the range 0x8300 - 0x0831F.	All address lines used to decode RTL8019AS. It decodes from 0x8300 - 0x0831F.

RTL8019AS network interface controller (NIC)

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
No EEPROM simulation.	EPROM simulation (new since revision 1.3g)
Software reset of RTL8019AS with port D7	Power-on reset of RTL8019AS
Interrupt is rising edge triggered	Interrupt is level triggered
IOCHRDY signal available on I/O port E7	---

Serial ports

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
2 x serial ports w/ DB9 DTE pin-out	1 x serial port w/ DB9 DCE pin-out
2 x RS-485 drivers	---
RS-232/RS-485 layers software configurable with I/O ports	---
RS-232 driver can be turned on/off with I/O port D4	---
Full modem signals for UART0	RTS/CTS signals only
RTS on I/O port PB4	RTS on I/O port PD3
CTS on I/O port PE6	CTS on I/O port PD2
DSR on I/O port PE4	---
RI on I/O port PB7	---
CD on I/O port PB6	---
DTR on I/O port PB5	---

Expansion and I/O ports

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
20-pin 2 mm header with I^2C signals and some I/O pins	64-pin and 20-pin 2.54 mm header with complete address/data bus, I/O pins & analogue signals
Most I/O pins have dedicated functions	Most I/O pins are free to use

Programming port

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
10-pin JTAG header	10-pin JTAG header
---	10-pin ISP header

Power supply

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
10-30 VDC switch mode	8-12 VDC linear regulated
750 mW power consumption	unknown

Miscellanous

XNUT-*100* & XNUT-*105*	***Ethernut 1.3g***
2 x bi-colour LEDs for application software	---
Optional DS1307 battery buffered RTC on I^2C	---
Optional 64KB external EEPROM on I^2C	---
---	32.768 kHz watch crystal for timer 0
Optional RTC SQW signal as interrupt input on I/O pin PD3	---
CAN interface on XNUT-*105*	---

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