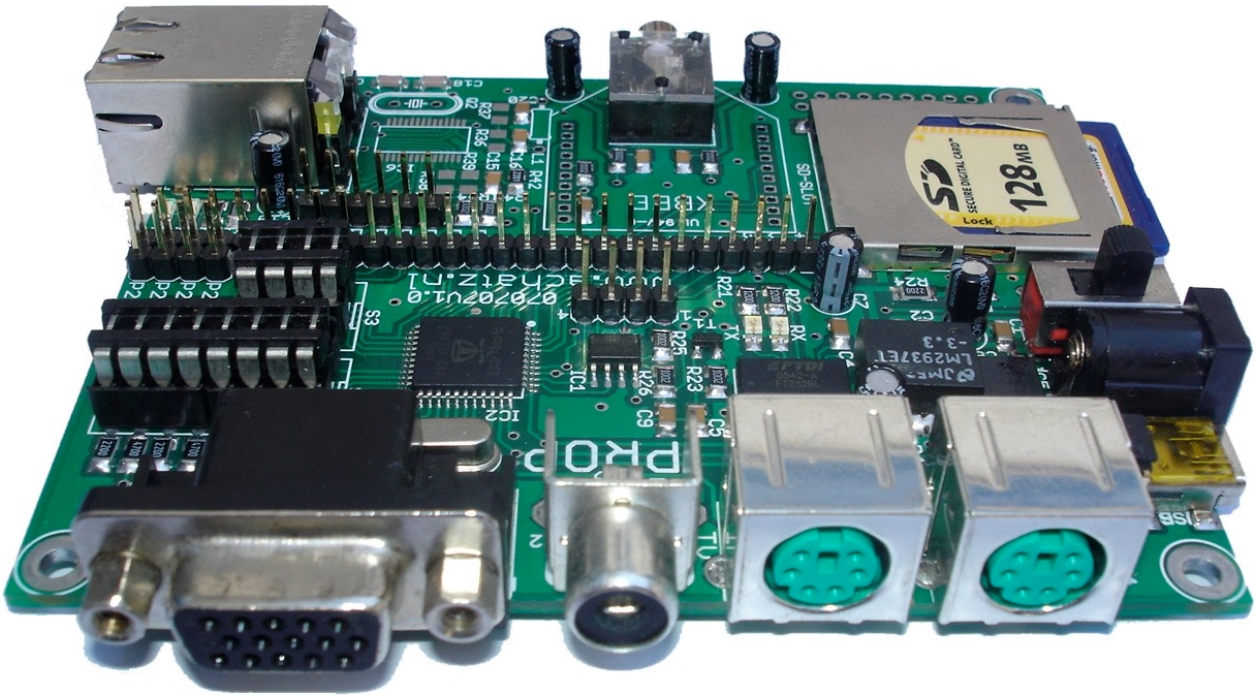
MANUAL

easyPROP



Rel. 1.00

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For specific information on the components mounted on the board, please refer to the Data Book of the builder or second sources.

About the easyPROP

EasyPROP is a low priced Propellller™ based Evaluation Board equipped with a Ethernet Interface, SD Memory, VGA, TV Video, Audio, PS2 Keyboard, PS2 Mouse, Xbee connector and a USB Interface. It can be powered using a universal AC-DC Adapter or via your USB cable. The Portpins P0 – P27 are available for your application at the onboard pinheaders. The VGA and TV Video Pins can be dissabled by the DIL switches if needed for a different application.

EasyPROP is powered by the new Parallax Propeller™ P8X32-A which holds eight 32-bit processors in one chip. The Propeller chip must be programmed in Spin™ and assembly language. A lot of pre-built Parallax objects for Data Storage, Display, Protocol, Motor Control, Signal Generation, Human Input, Math, Sensor, Speech and Sound can be downloaded from the Parallax Website.

The Propeller Tool Software includes all needed software, source code, USB driver and the Propeller Manual. Just take a look at the Parallax Website and get this powerful software package for a free download.

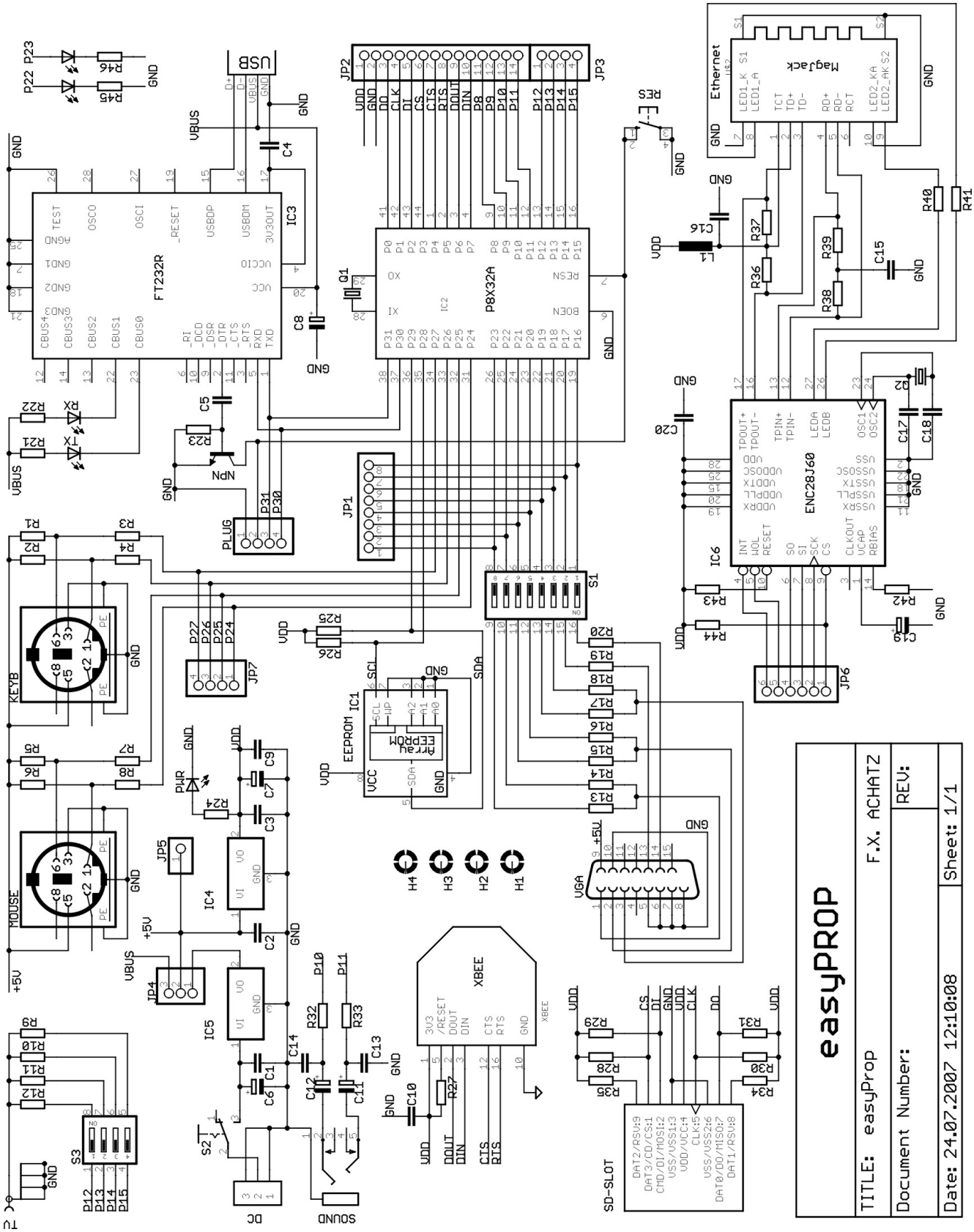
With this combination (easyPROP + Objects + Tool Software) you can discover the power of the Propeller and do your first Propeller steps within hours.

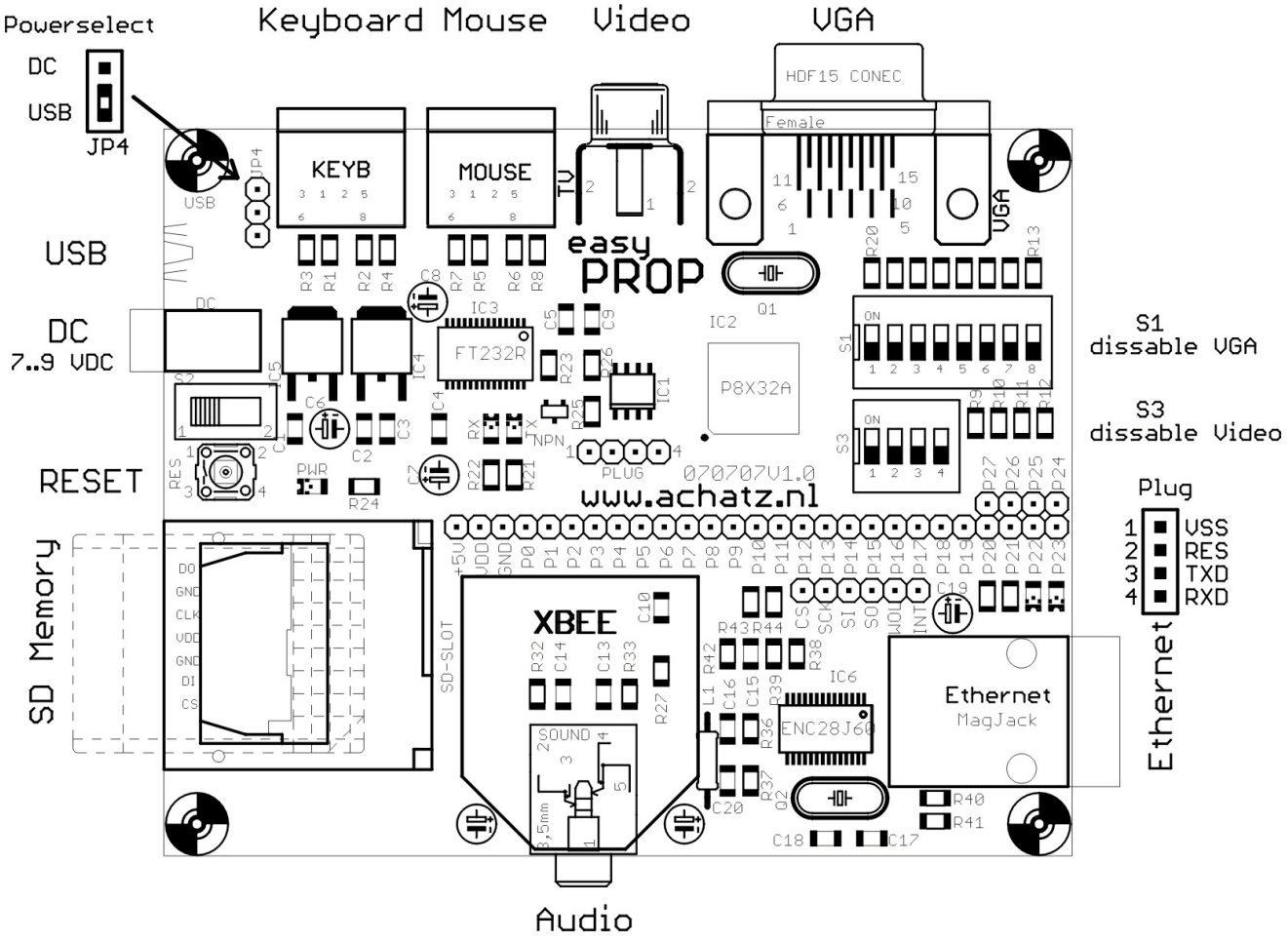
Useful links:

Parallax Website
http://www.parallax.com/

Object Exchange
http://obex.parallax.com/

Discussion Forums
http://forums.parallax.com/forums/default.aspx


easyPROP
TITLE: easyProp
F.X. ACHATZ
Document Number:
REV:
Date: 24.07.2007 12:10:08
Sheet: 1/1
FT232R
P8X32A
ENC28J60
EEPROM
XBEE
VGA
SD-SLOT
Ethernet
MagJack
KEYB
MOUSE
PLUG
SOUND
DC



Technical Data:

- Propeller Chip with external XTAL 5 MHZ
- I2C EEPROM
- Audio
- SD Memory Slot
- USB Programming Interface
- Ethernet ENC28J60 Interface
- XBee Module (optional)
- Power via USB
- Power via Barrel Connector (6 ...9 VDC, 300mA)
- VGA and TV Video
- PS2 Mouse Interface
- PS2 Keyboard Interface
- Port Pins P0...P27 available via Pinheader
- Reset Switch
- User LEDs for P22 and P23
- VGA and Video can be dissabled via the DIL Switches
- board dimensions 80x100mm

Parts list:

C1	100n
C2	100n
C3	100n
C4	100n
C5	10n
C6	10u
C7	10u
C8	4.7u
C9	100n
C10	100n
C11	1u
C12	1u
C13	10n
C14	10n
C15	10n
C16	10n
C17	22p
C18	22p
C19	10u
C20	100n
DC	Barrel CON
IC1	24C256
IC2	P8X32A
IC3	FT232RL
IC4	2937-3.3
IC5	2937-5
IC6	ENC28J60
KEYB	MINI_DIN_6
L1	100µH
MOUSE	MINI_DIN_6
NPN	BC847
PLUG	PINHD-1X4
PWR	LEDCHIPLED
PWR1	LEDCHIPLED
PWR2	LEDCHIPLED
Q1	5MHZ
Q2	25MHZ

R1	10k
R2	10k
R3	100R
R4	100R
R5	10k
R6	10k
R7	100R
R8	100R
R9	560R
R10	270R
R11	560R
R12	1K1
R13	240R
R14	470R
R15	240R
R16	470R
R17	240R
R18	470R
R19	240R
R20	240R
R21	100R
R22	100R
R23	10K
R24	240R
R25	10k
R26	10k
R27	10K
R28	10K
R29	10K
R30	10K
R31	10K
R32	10K
R33	10K
R34	10K
R35	10K
R36	50R
R37	50R
R38	50R
R39	50R
R40	240R

R41	240R
R42	2K7
R43	10K
R44	10K
R45	240R
R46	240R
RES	10-XX
RX	LEDCHIPLED
S1	DS08
S2	255SB
S3	DS04
SD-SLOT	
SOUND	PG203J
TV	TOBU3
TX	LEDCHIPLED
Ethernet	MAGJACK
USB	USB-MB-S
VGA	F15HDH
XBEE	XBEE

Please handle the easyPROP board and/or the micro-chips with care.

Follow the instructions for using Electrostatic Sensitive Devices (ESD)

Useful Hints

EasyPROP is shipped with a loaded NTSC Video Demo and the Powerselector JP4 is jumpered to USB. If you like to power the easyPROP board by your own external Powersupply please rejumper JP4. Take care that your Powersupply matches the required voltage and currentsettings. Do not apply more than 9 VDC to the Propeller Board's DC Input connector.

The Ethernet Controller Signals (CS, SCK, SI, SO, INT) are not wired to any Portpin. Please locate your required Portpins and connect this signal by using jump-wires.

The "driver_enc28j60.spin" object uses as default the following wire setup:

ENC28J60 Signals	Propeller Port Pins
CS	P11
SCK	P12
SI	P13
SO	P14
WOL	N.C.
INT	P15

The SD Memory connector is hardwired to P0, P1, P2 and P3 because the standard SD Memory Objects are already configured to this pins by default.

SD Memory Slot	Propeller Port Pins
DO	P0
CLK	P1
DI	P2
CS	P3

The Xbee connector is hardwired:

Xbee connector	Propeller Port Pins
CTS	P4
RTS	P5
DOUT	P6
DIN	P7

Consult the schematic diagram for detailed information.