Adapter DIP-28_C1
EzoFlash+ adapter for 8 bit EPROM in DIP-28W and DIP-28 packages.

1.   Part list.

BU6 – Angle pin-header 2x16, division 2.54
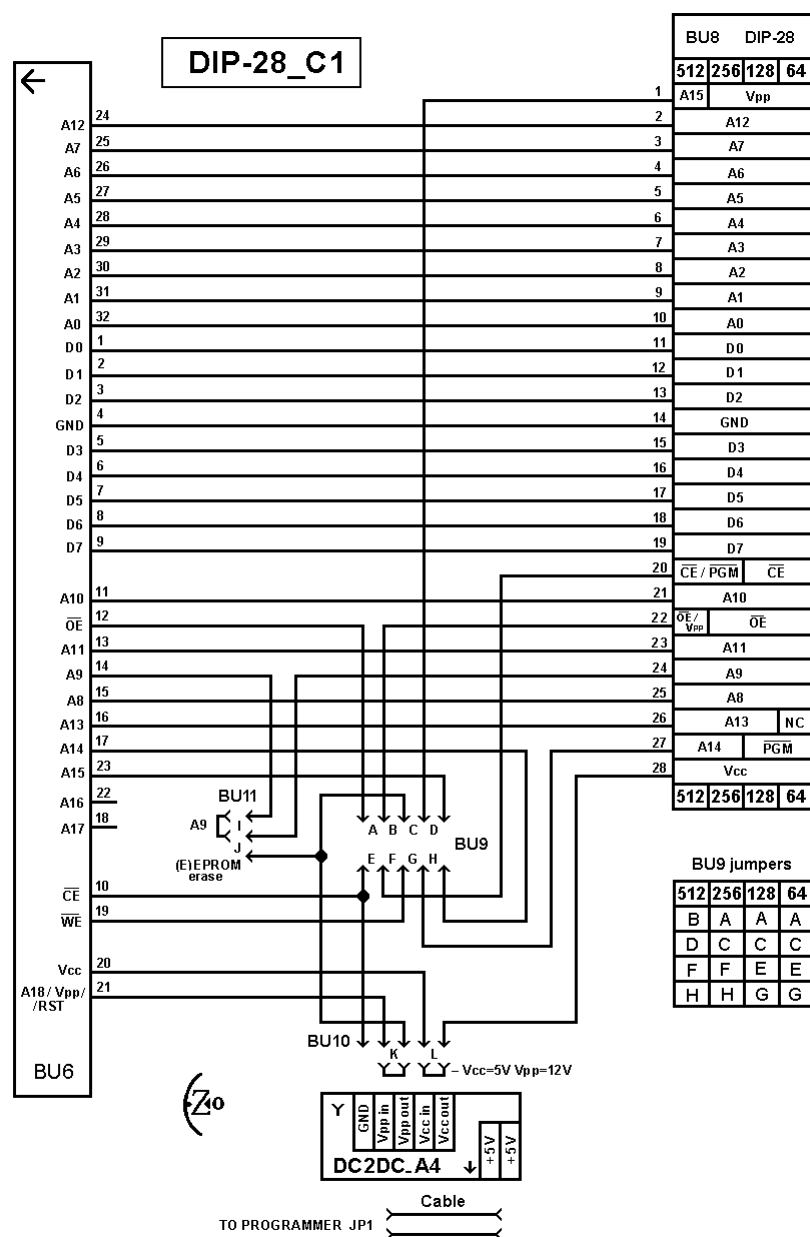BU8 – IC Socket DIL-28
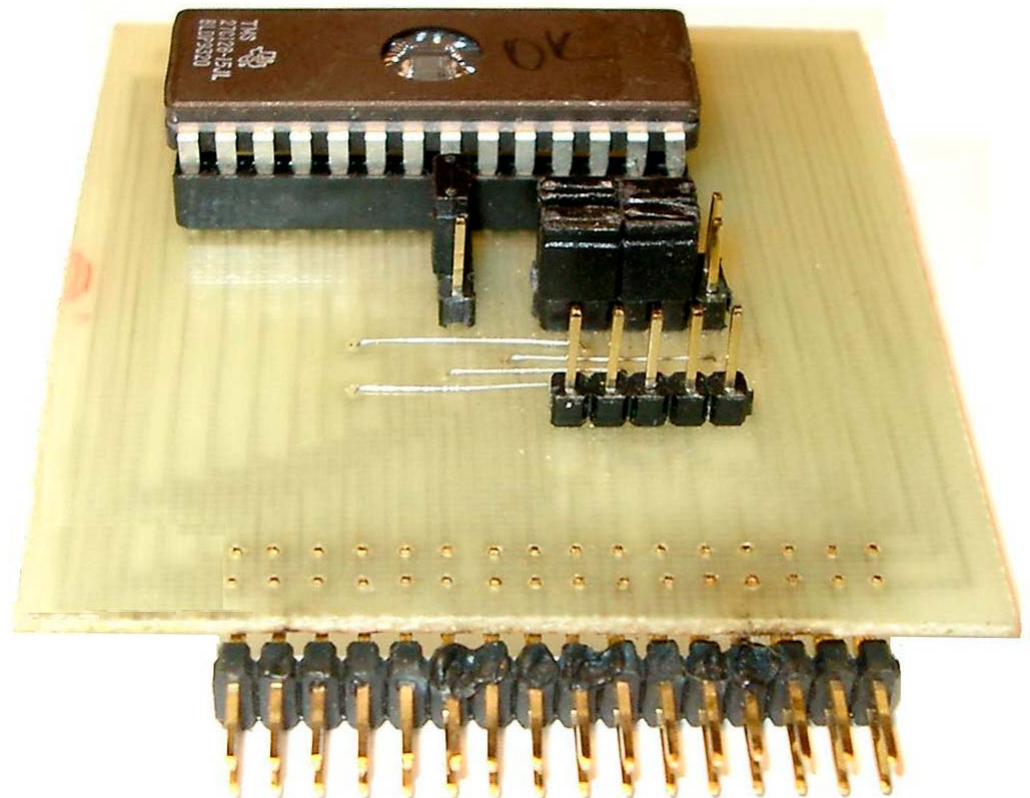BU9 – Straight pin-header 2x5, division 2.54 / Jumper, division 2.54 (4pcs)
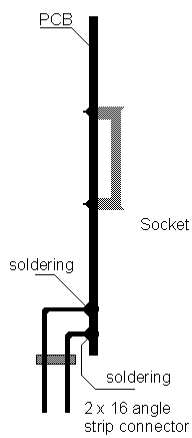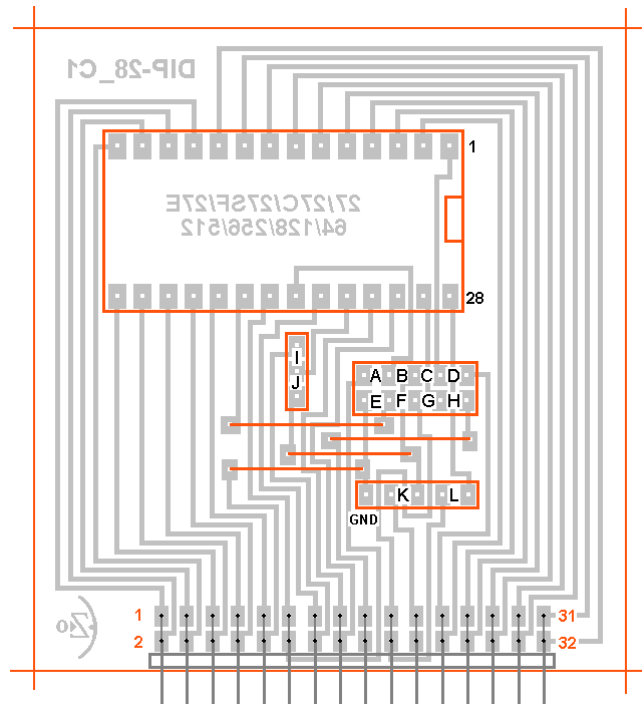BU10 – Straight pin-header 1x5, division 2.54 / Jumper , division 2.54 (2pcs) / DC2DC_A4 adapter
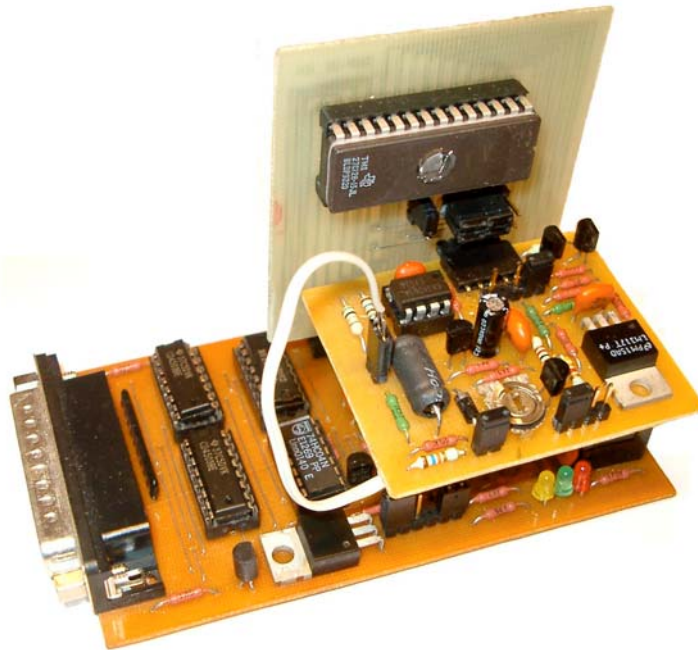BU11 – Straight pin-header 1x3, division 2.54 / Jumper , division 2.54 (1pc)

2.   Schematic, PCB and pictures

59 x 64 mm

DIP-28_C1

27/27C/27SF/27E
64/128/256/512

1

28

DIP-28_C1

27/27C/27SF/27E
64/128/256/512

1

28

I
J

A B C D
E F G H

K L

GND

1
2

31
32

PCB

Socket

soldering

soldering

2 x 16 angle
strip connector
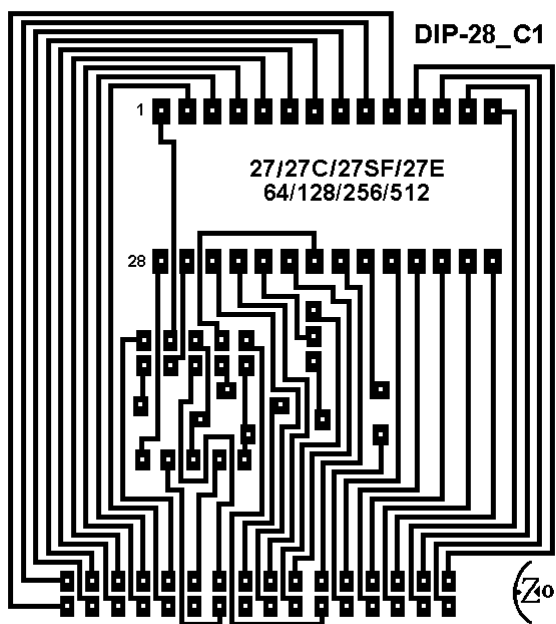
3.   Settings, verified chip list and info.

Willem programmer software version 0.97ja

Programmer jumpers -   W/Jp1- wire cable to dc2dc_a4, Jp3 (+5V), Jp4 (Vpp)
dip28c1 jumpers A…E according to density – A,C,E,G (64kb,128kb); A,C,F,H (256kb), B,D,F,H (512kb),
jumper I (A9)

2764, 27128, some types 27C64 (MBM27C64, HN27C64,…, unknown)
Selected device EPROM > 27xxx > …, twp =1.2ms
dc2dc_a4 jumpers - JpS (Vcc from programmer, +5.0), JpT (Vpp=4.3V , read)
Adjust R5 - Vpp=21.5V
Verified chips : ET2764Q, HN482764G, M5L2764K, Nec D2764D, OKI M2764, DQ2764, SAB2764,
TMS2764JLT, MBM27C64, HN27C64G, M5L27128K

2764A, 27128A, 27256, 27512
Selected device EPROM > 27xxx > …, twp =1.2ms
dc2dc_a4 jumpers –
JpR (Vcc from LM317), JpM (Vcc=5.8V) , JpP (Vpp=11..14V)
Adjust R5 - Vpp=12.8V
Verified chips :
Intel D2764A, SGS M2764A, ST Micro M2764A, ST2764A, TMM2764AD;
Intel D27128A, ST Micro M27128A;
AM27256, GI 27256, MBM27256, HN27256G, Intel P27256, M5L27256K, Nec D27256AD,
SGS M27256, ST Micro M27256, ST27256, TMS27256;
HN27512G, Intel D27512, M5L27512K, SGS M27512, TMM27512AD, TC57512AD

27C64 (generic), **27C64A, 27C128, 27C256, 27C512**
Selected device EPROM > 27Cxxx > …, twp=140mks
dc2dc_a4 jumpers –
JpR (Vcc from LM317), JpM (Vcc=5.8V) , JpP (Vpp=11..14V), JpP (Vpp=11..14V)
Adjust R5 - Vpp=12.8V
Verified chips :
HY27C64AD, NMC27C64Q, Signetic 27C64A, ST Micro M27C64A, TS27C64;
AM27C128, Microchip 27C128, NMC27C128BQ, TMS27C128;

AM27C256, AT27C256R, ASI 27C256, HN27C256G, Intel D27C256, P27C256, NM27C256N, MX27C256PC, MX27C256QC, PC27C256, Microchip 27C256, NM27C256QE, NMC27C256Q, NMC27C256BQ, Signetic 27C256, ST Micro M27C256B, ST27C256, TS27C256, TMS27C256, TMS27PC256;
AM27C512, ASI 27C512, AT27C512, AT27C512R, MBM27C512, HN27C512G, HT27C512, Microchip 27C512, M5M27C512AK, MX27C512DC, NM27C512QE, NM27C512N, NMC27C512AQ, Nec D27C512C, Signetic 27C512, ST Micro M27C512, TMS27C512,

Electrically erasable EPROM (W27E/C256, W27E/C512, SST27SF256, SST27SF512)
Selected device EPROM Electrical Erase >…
dc2dc_a4 jumpers – JpS (Vcc from programmer), JpP (Vpp=11…14V)
Erase – adjust R5- Vpp=14V (W27…), Vpp=12V (SST27SF…).
Set jumper JpJ. Action Erase. Set back jumper JpI !!
Program – adjust R5- Vpp=12.0V
SST27SF256 can be programmed without dc2dca4, set jumpers JpK, JpL (+5, +12V from programmer).
Verified chips:
W27E257, W27F256, W27C512, SST27SF256, SST27SF512

Chip test results find in chip_test.xls file.
Note.
Chips are tested in long period, different dc2dc adapters and voltages used, SW 0.97g and 0.97ja . dc2dca4 is functionally equal to previous versions (a2, a3; same jumpers).
Adjust other Vpp value or change Vcc=6.2V (jumper N), change twp, if required from EPROM datasheets or programming fail.
Chips M27Cxxx and NMC27Cxxx (64k,128k,256k) can be programmed without dc2dc_a4. Set jumpers JpK, JpL. (Vcc=5V, Vpp=12V).

How to adjust Vpp ?
Install dc2dc_a4 and eprom adapter without target chip on ezoflash+.
Connect power supply, PC and run SW. Adjust Vpp on LM317- IN with R5

64k, 128k, 256k chip read available without dc2dc_a4. Set jumpers JpK, JpL.

Only erased EPROM can be programmed. Initially, and after each erasure, all bits of the EPROM are in the logic high state. Run SW command Blank check to assure all bytes are 0xFF.
Logic lows are programmed into desired locations. Repeat programming (check voltage, increase twp) on logic low programming failure.
Programmed logic low can be erased only by ultraviolet light (UV lamp , wavelenght 2537 Angstroms, intensity 12mW/cm2, chip window 1..2cm from UV source, exposure time 12…20 minutes).
Chips without window (except electrically erasable) are OTP (one time programmable).

Report problems and share your experience on Willem and EZoFlash forums.