Secure communications KLN type prototype unit

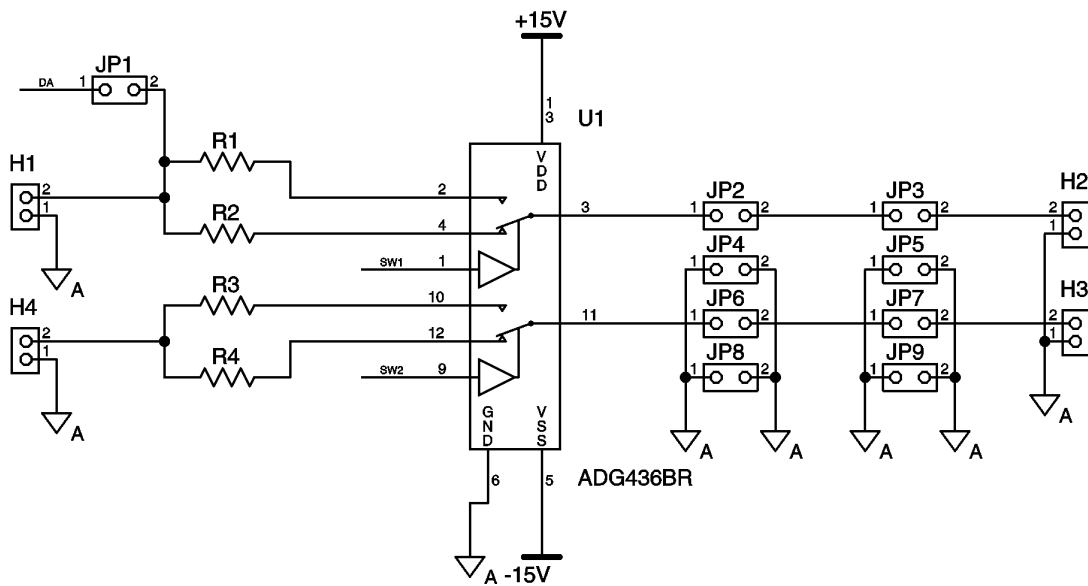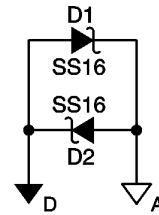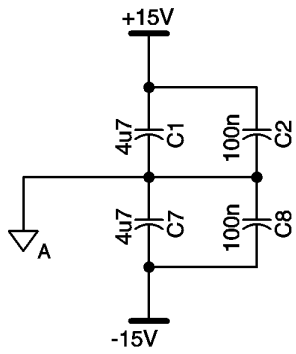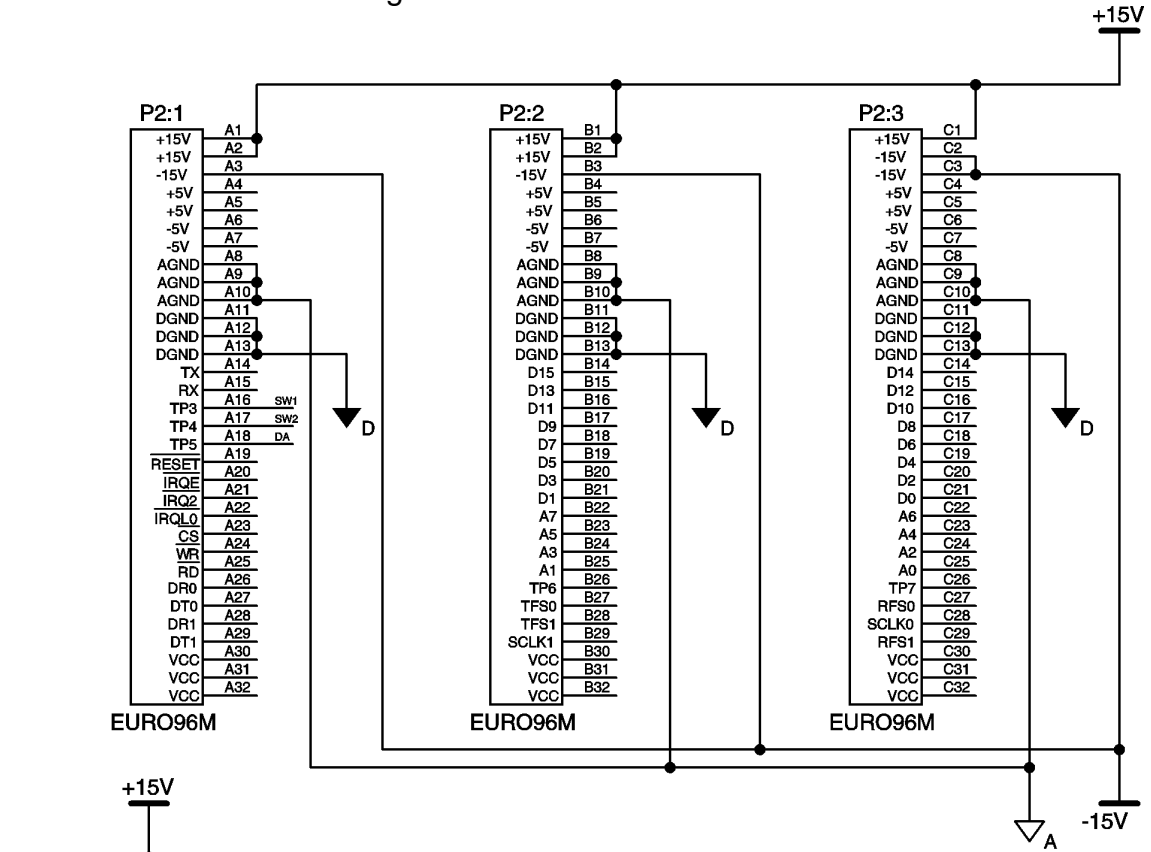Specifications:

- DSP and A/D+D/A card is compatible with **DAS1614SD** data acquisition system (DIN41612 connectors)
- 40 MIPS digital signal processor, 128kbytes data memory, 64kbyte program FLASH memory
- A/D conversion and analog inputs
    - 14-bit resolution
    - 2 differential line receiver inputs (software selectable)
    - input overvoltage protection up to -35V..35V out of operating range
    - input voltage range : ±10V
    - simultaneous sampling capability on two selected channels
- D/A conversion and analog outputs
    - 2 independent output channels
    - 12-bit resolution
    - 100KHz update rate
    - two high current line drivers
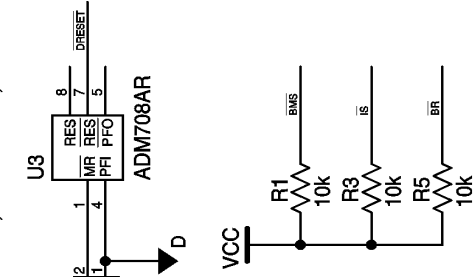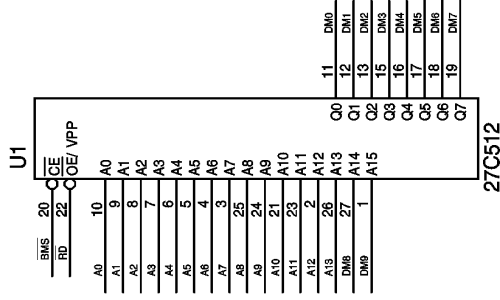   - programmable AC and DC parameters

Switching unit:
- **DAS1614SD** data acquisition system compatible (DIN41612 connector)
- Fast, dual switch
- Universal configuration jumpers
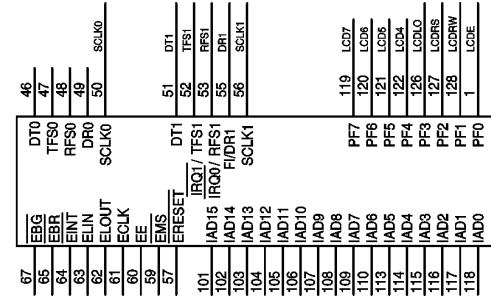
Schematics of the switching unit
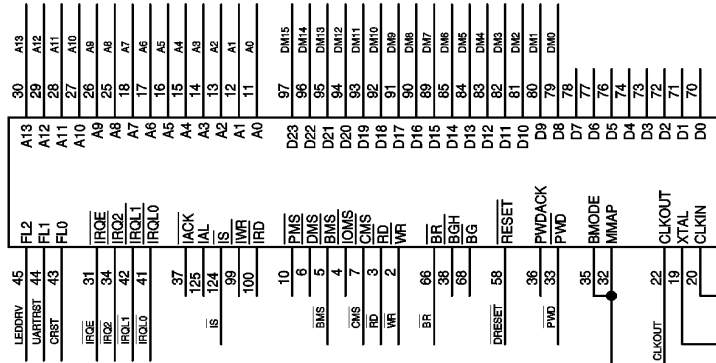
Schematics of the DSP card

U6

74HC245

DD15
DD14
DD13
DD12
DD11
DD10
DD9
DD8

18 17 16 15 14 13 12 11

B1 B2 B3 B4 B5 B6 B7 B8

19 1
G DIR
A1 A2 A3 A4 A5 A6 A7 A8

2 3 4 5 6 7 8 9

BSEL
RD
DM15 DM14 DM13 DM12 DM11 DM10 DM9 DM8

GND 10
VCC 20

VP1

U5

74HC245

DD7
DD6
DD5
DD4
DD3
DD2
DD1
DD0

18 17 16 15 14 13 12 11

B1 B2 B3 B4 B5 B6 B7 B8

19 1
G DIR
A1 A2 A3 A4 A5 A6 A7 A8

2 3 4 5 6 7 8 9

BSEL
RD
DM7 DM6 DM5 DM4 DM3 DM2 DM1 DM0

GND 10
VCC 20

VP1

U4

74HC245

AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0

18 17 16 15 14 13 12 11

B1 B2 B3 B4 B5 B6 B7 B8

19 1
G DIR
A1 A2 A3 A4 A5 A6 A7 A8

2 3 4 5 6 7 8 9

A7 A6 A5 A4 A3 A2 A1 A0

GND 10
VCC 20

VP1

ADDRESS BUFFER

VCC

R6
1k

U7

74HC245

18 17 16 15 14 13 12 11

B1 B2 B3 B4 B5 B6 B7 B8

19 1
G DIR
A1 A2 A3 A4 A5 A6 A7 A8

2 3 4 5 6 7 8 9

BUSSEL
BUSRD
BUSWR
RESET

BSEL
BRD
BWR

U8

GAL16V8

CLK/IN0 1
IN1 2
IN2 3
IN3 4
IN4 5
IN5 6
IN6 7
IN7 8
IN8 9
OE/IN9 11

I/O0 12
I/O1 13
I/O2 14
I/O3 15
I/O4 16
I/O5 17
I/O6 18
I/O7 19

CLKOUT
CMS
RD
WR
A8

UARTWR
UARTCS
BSEL
BWR
BRD

D

U14:D
74HC14
9 8
CRST

U13:A
74HC32
1
2
3
TWR

U13:B
74HC32
4
5
6
TRD

U14:C
74HC14
5 6
BWR
A9

VAL
D1

R8
470

U13:C
74HC32
9
10
8
LEDDRV

U13:D
74HC32
12
13
11

VCC

decoupled buffer supply

VP1

C11
10uF
C14
100n
C15
100n
C16
100n

VCC

C12
100n
C13
100n
C27
100n
C26
100n

D

LCD Interface