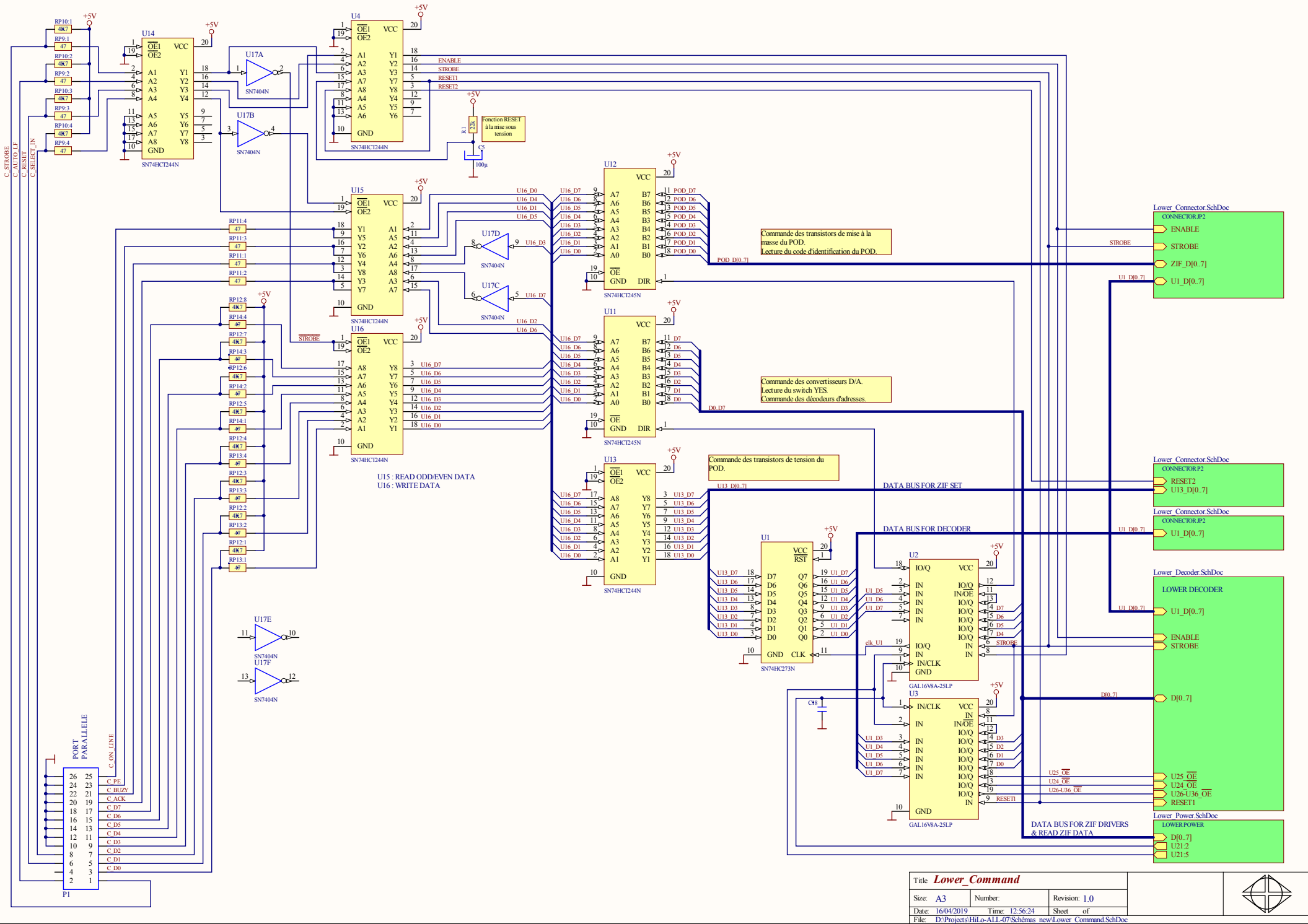
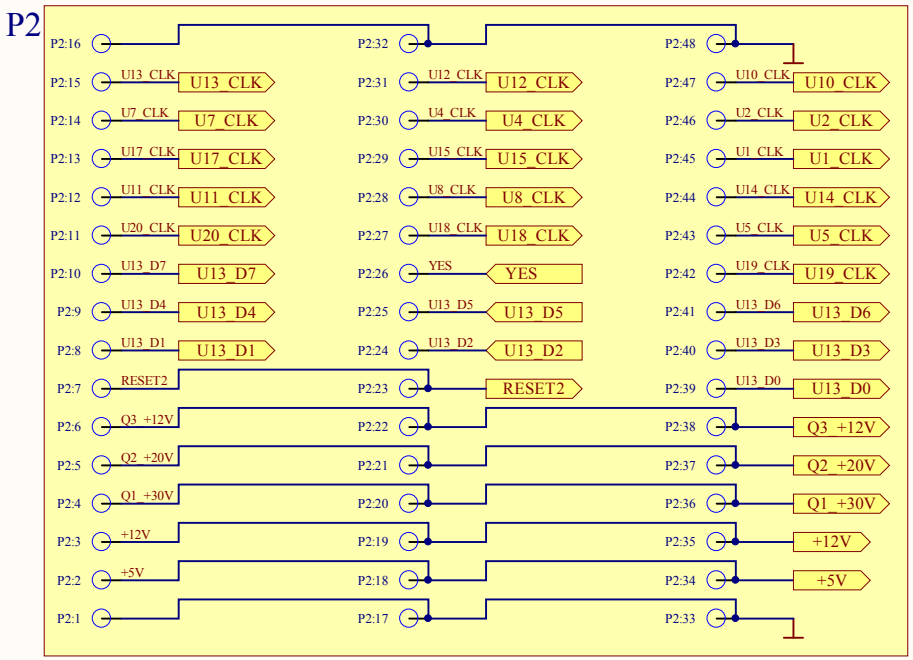
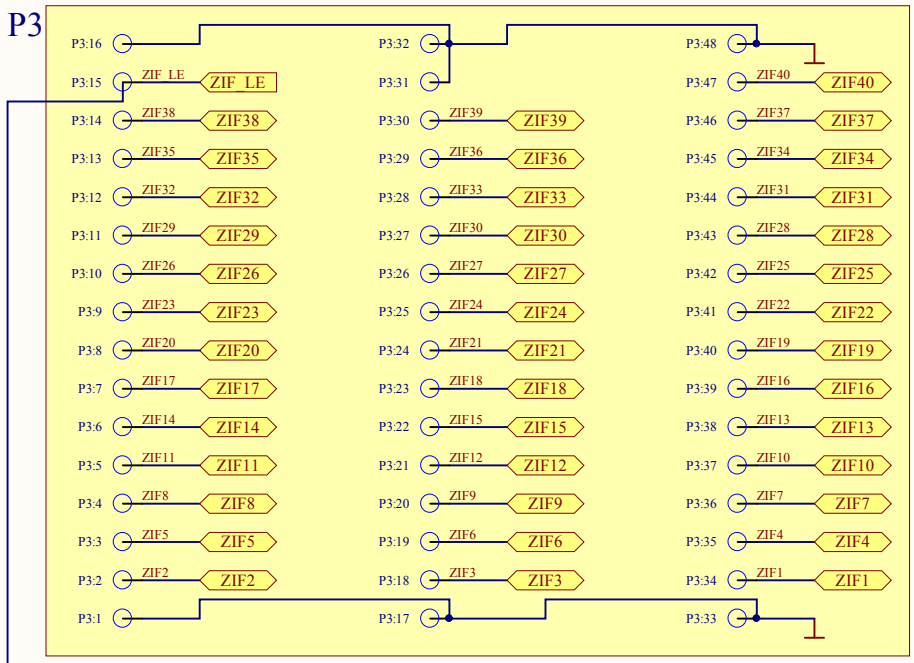
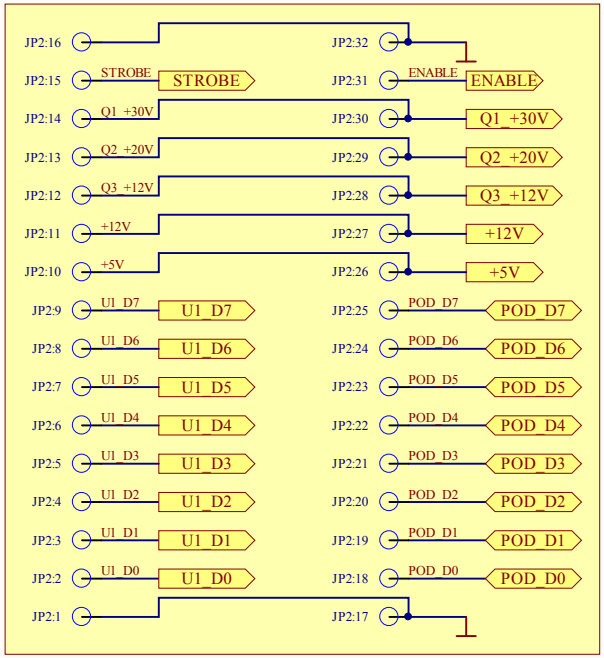
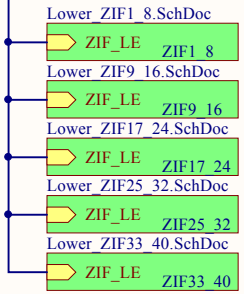

U15 : READ ODD/EVEN DATA
U16 : WRITE DATA
Fonction RESET à la mise sous tension
Commande des transistors de mise à la masse du POD.
Lecture du code d'identification du POD.
Commande des convertisseurs D/A.
Lecture du switch YES.
Commande des décodeurs d'adresses.
Commande des transistors de tension du POD.
DATA BUS FOR ZIF SET
DATA BUS FOR DECODER
DATA BUS FOR ZIF DRIVERS & READ ZIF DATA
Lower_Connector.SchDoc
Lower_Decoder.SchDoc
Lower_Power.SchDoc
Title Lower_Command
Size: A3
Number:
Revision: 1.0
Date: 16/04/2019
Time: 12:56:24
Sheet of
File: D:\Projects\HiLo-ALL-07\Schémas new\Lower_Command.SchDoc

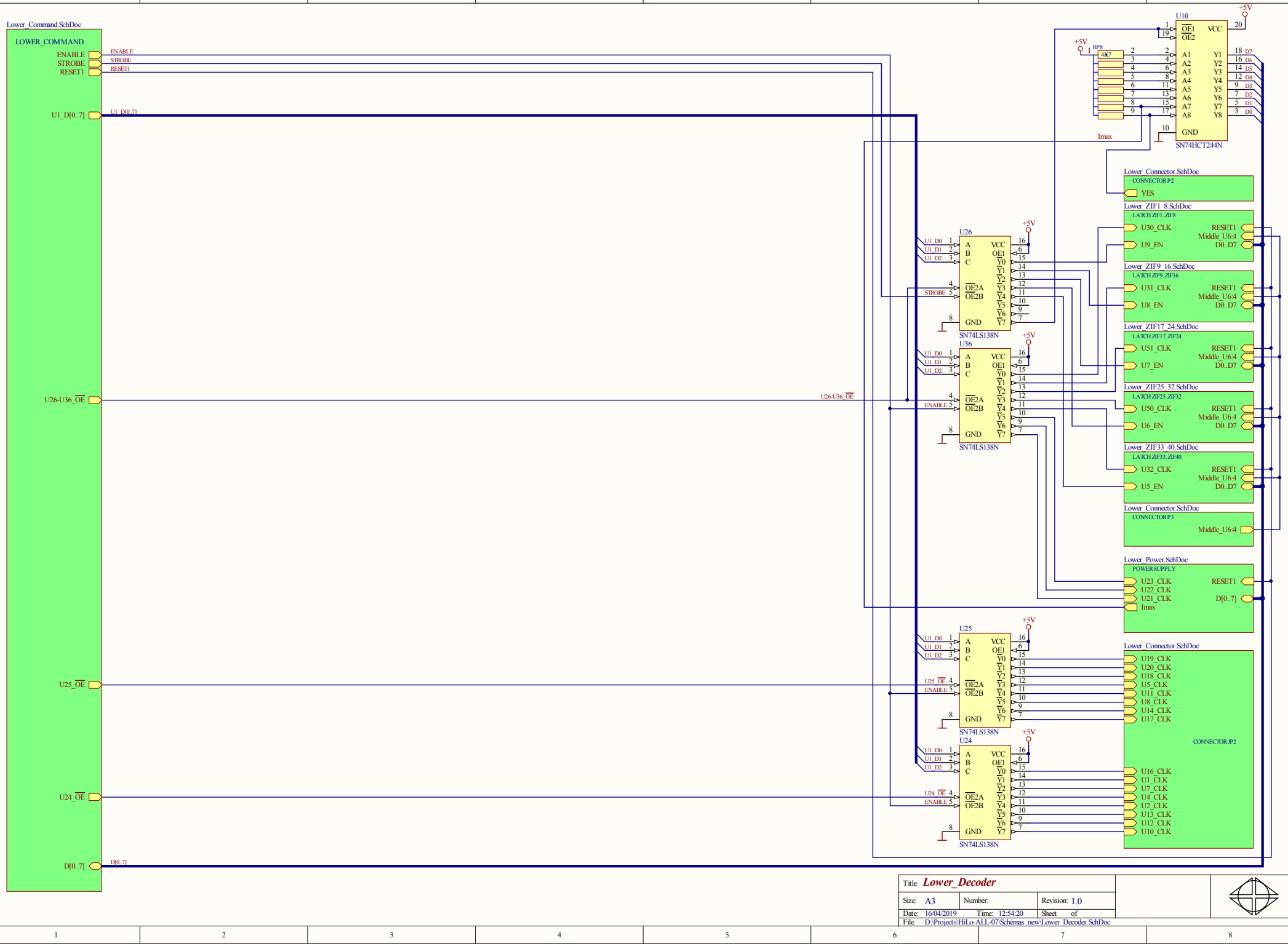


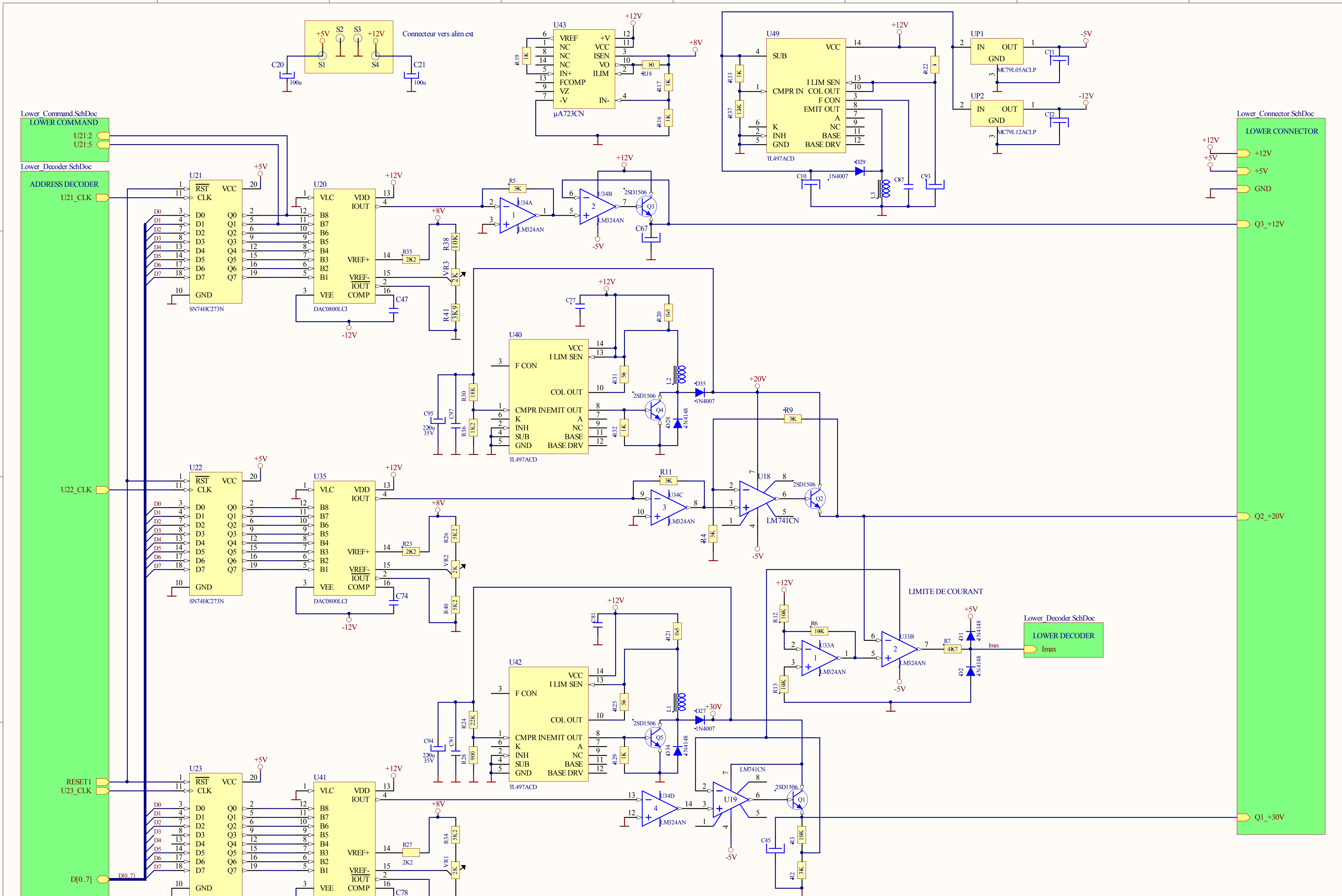




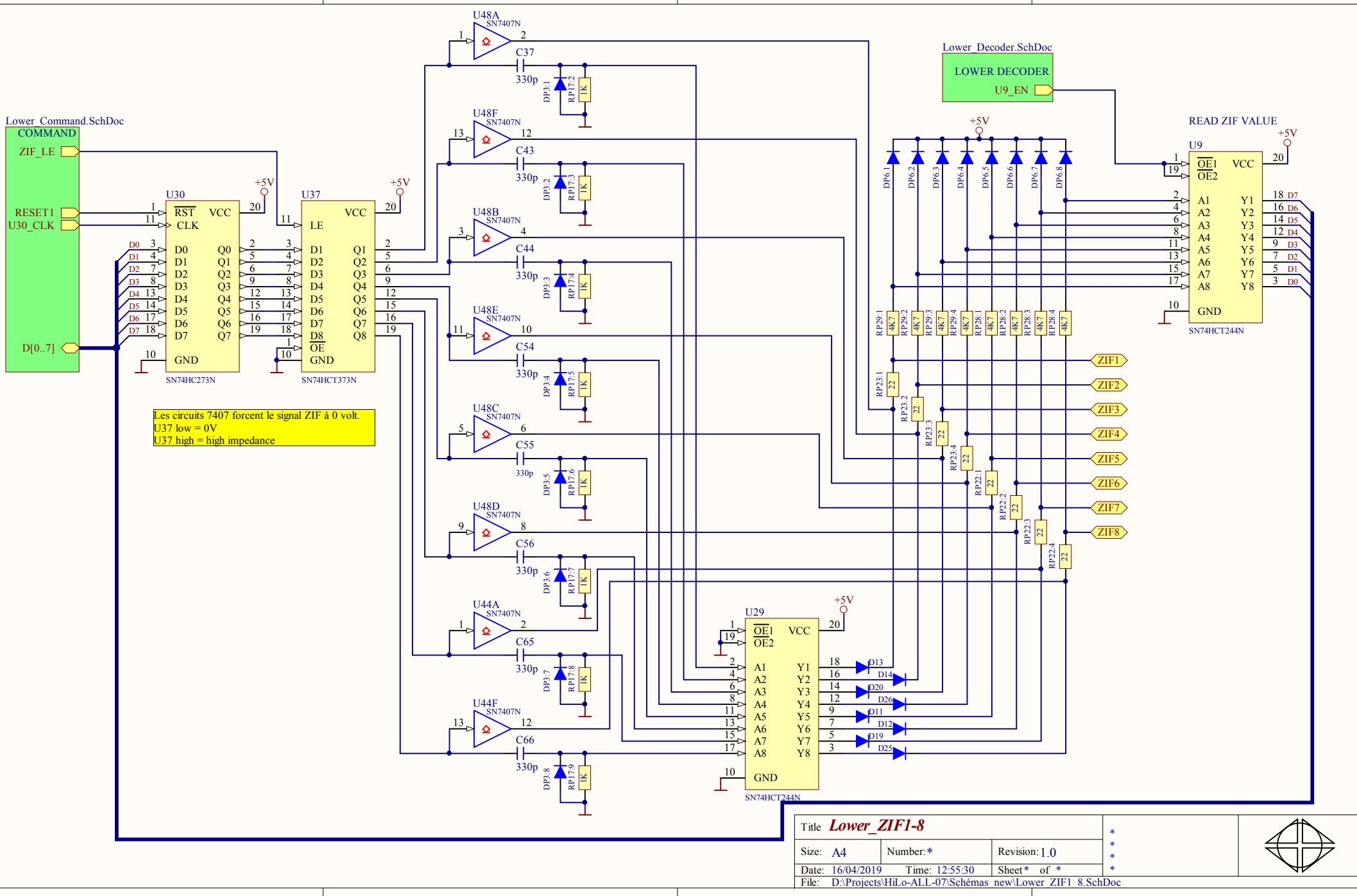


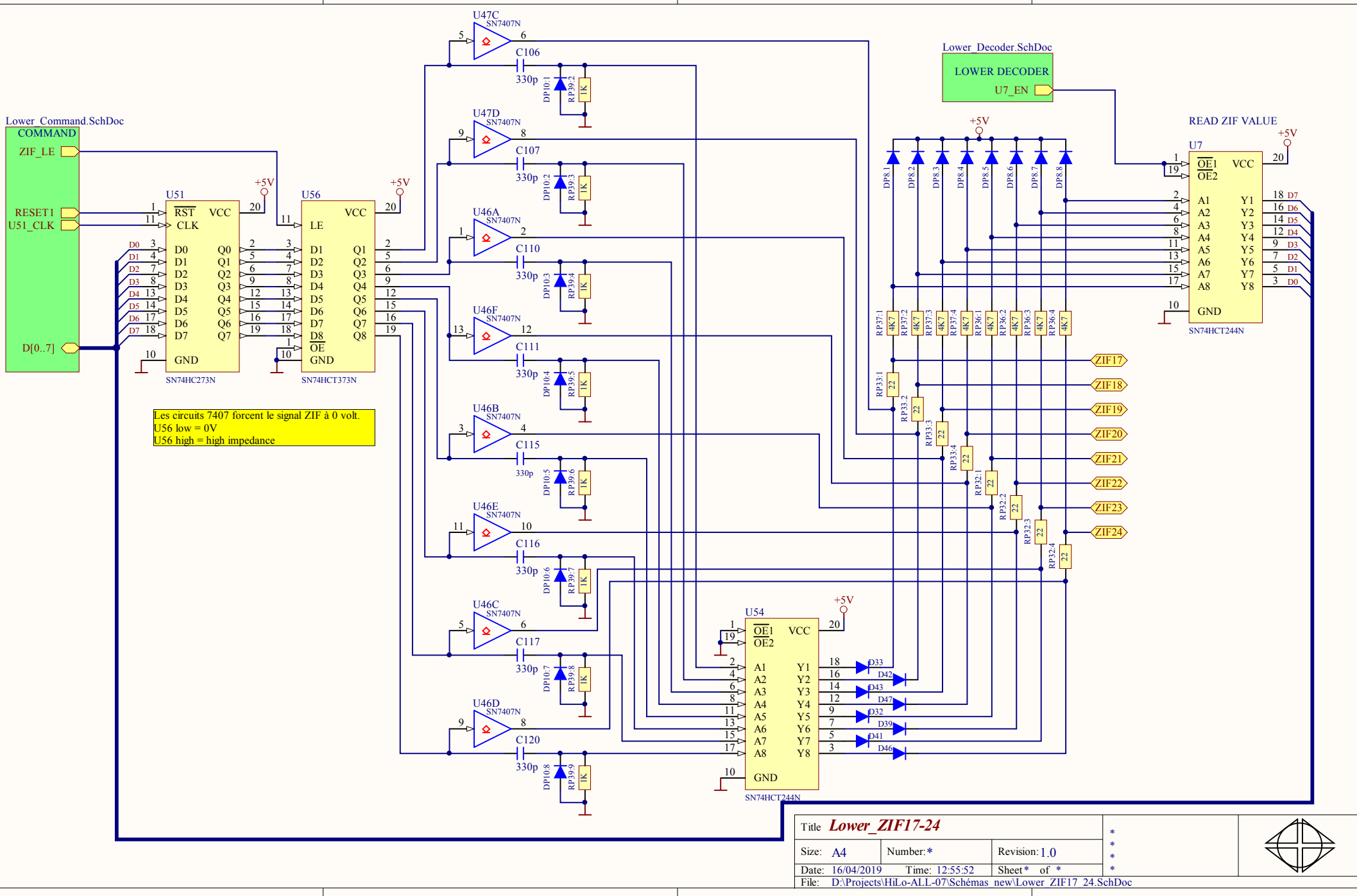
Title	***Lower connector***		
Size: A4	Number: *	Revision: 1.0	
Date: 16/04/2019	Time: 12:53:52	Sheet * of *	
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_Connector.SchDoc			

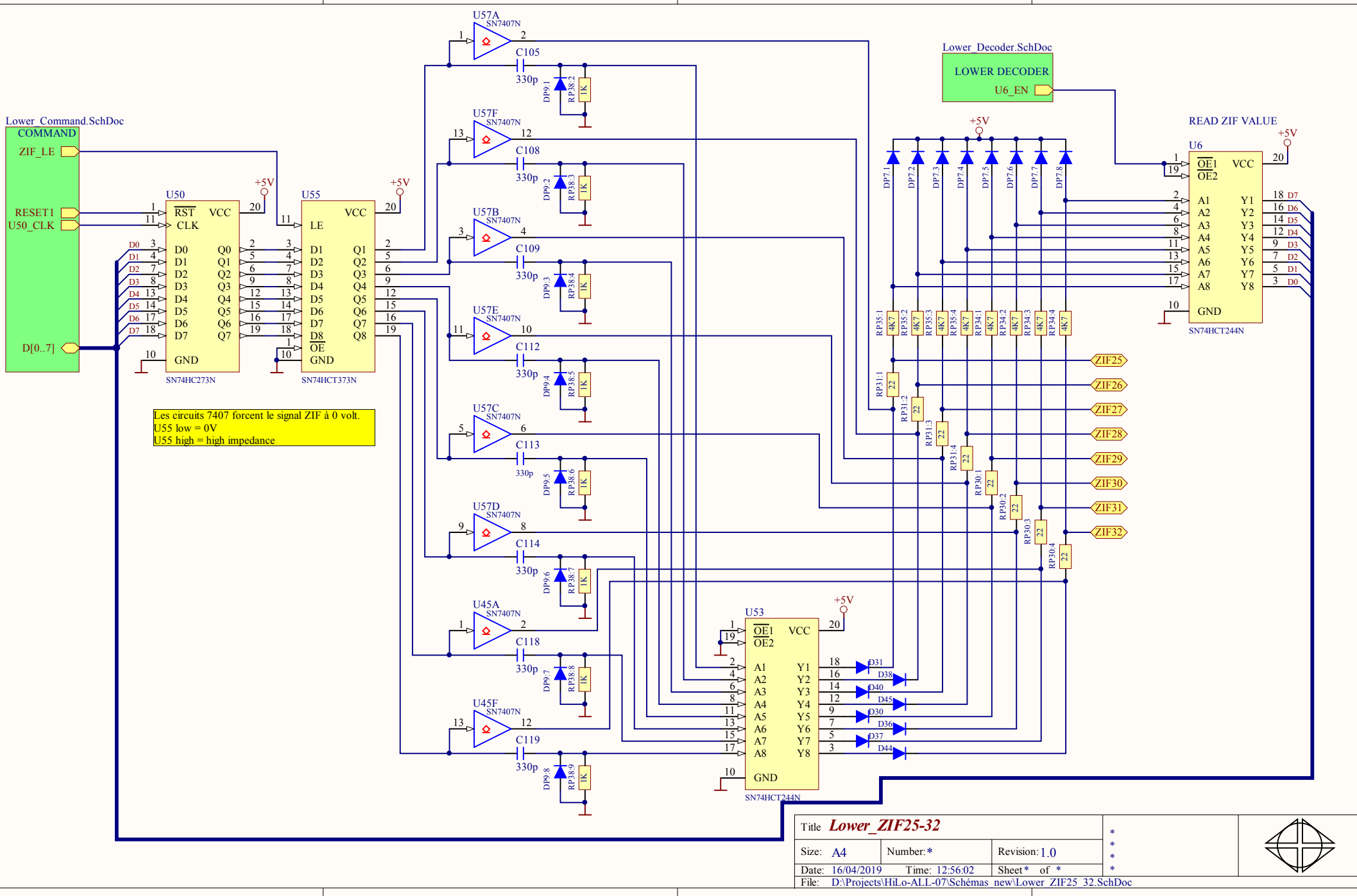

Lower_Command.SchDoc
LOWER_COMMAND
ENABLE
STROBE
RESET1
U1_D[0..7]
U26-U36_OE
U25_OE
U24_OE
D[0..7]
U10
SN74HCT244N
RP8
4K7
Imax
+5V
U26
U36
U25
U24
SN74LS138N
U1_D0
U1_D1
U1_D2
Lower_Connector.SchDoc
CONNECTOR P2
YES
Lower_Z1F1_8.SchDoc
LATCH ZIF1..ZIF8
Lower_Z1F9_16.SchDoc
LATCH ZIF9..ZIF16
Lower_Z1F17_24.SchDoc
LATCH ZIF17..ZIF24
Lower_Z1F25_32.SchDoc
LATCH ZIF25..ZIF32
Lower_Z1F33_40.SchDoc
LATCH ZIF33..ZIF40
U30_CLK
U9_EN
U31_CLK
U8_EN
U51_CLK
U7_EN
U50_CLK
U6_EN
U32_CLK
U5_EN
RESET1
Middle_U6:4
D0..D7
CONNECTOR P3
Lower_Power.SchDoc
POWER SUPPLY
U23_CLK
U22_CLK
U21_CLK
D[0..7]
U19_CLK
U20_CLK
U18_CLK
U5_CLK
U11_CLK
U8_CLK
U14_CLK
U17_CLK
CONNECTOR JP2
U16_CLK
U1_CLK
U7_CLK
U4_CLK
U2_CLK
U13_CLK
U12_CLK
U10_CLK
Title Lower_Decoder
Size: A3
Number:
Revision: 1.0
Date: 16/04/2019
Time: 12:54:20
Sheet of
File: D:\Projects\HiLo-ALL-07\Schémas new\Lower_Decoder.SchDoc

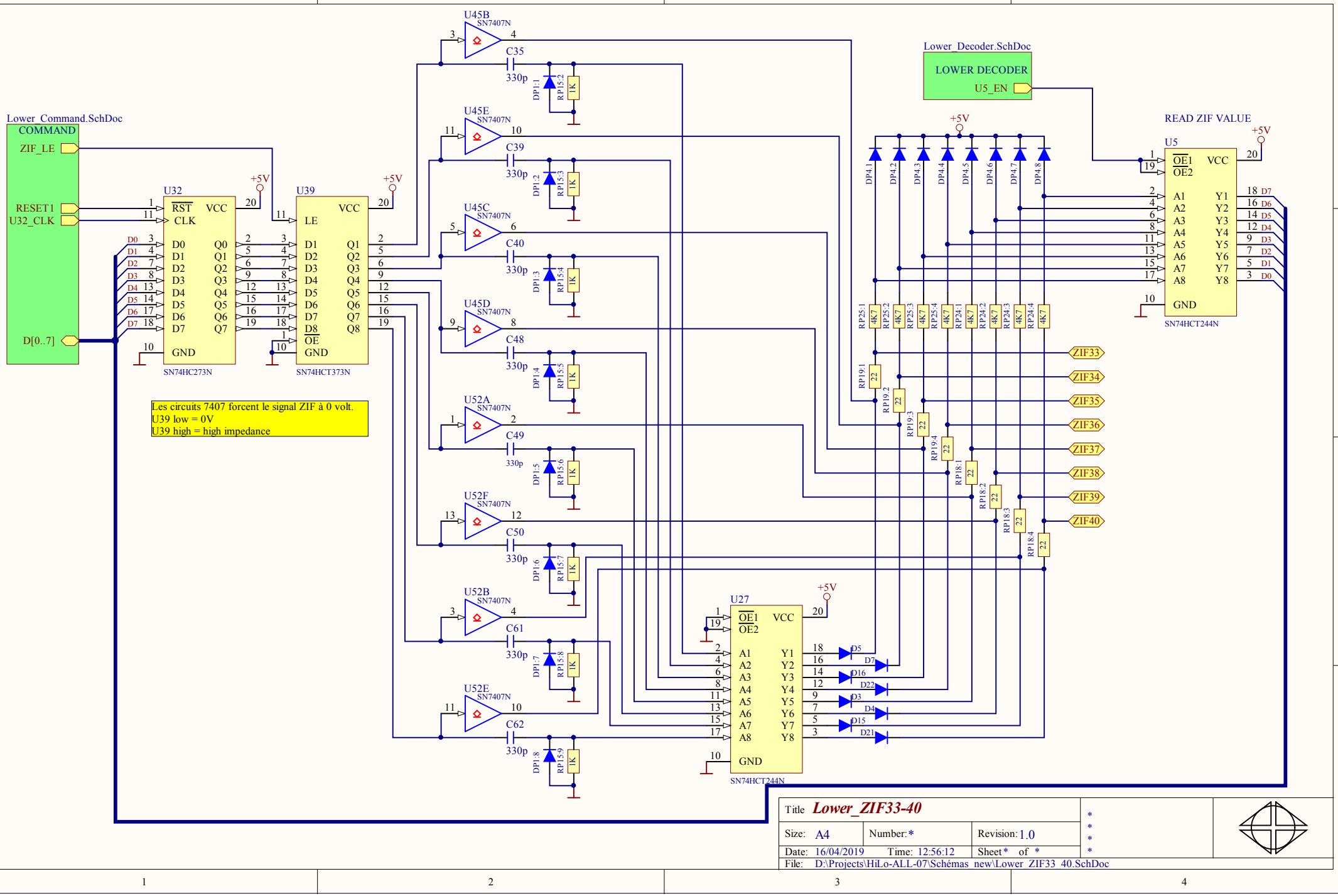

Connecteur vers alim ext
+5V S2 S3 +12V
S1 S4
C20 100u
C21 100u
U43
µA723CN
VREF NC NC NC IN+ FCOMP VZ -V
+V VCC ISEN VO ILIM IN-
R19 1K
R18 10
R17 1K
R16 1K
+8V
U49
TL497ACD
SUB CMPR IN K INH GND
VCC I LIM SEN COL OUT F CON EMIT OUT A NC BASE BASE DRV
R33 1K
R37 13K
R22 1
D29 1N4007
C10 C87 C93 L3
UP1 MC79L05ACLP
UP2 MC79L12ACLP
IN OUT GND
-5V
-12V
CT1 CT2
Lower_Command.SchDoc
LOWER COMMAND
U21:2
U21:5
Lower_Decoder.SchDoc
ADDRESS DECODER
U21_CLK
U22_CLK
RESET1
U23_CLK
D[0..7]
U21 SN74HC273N
U22 SN74HC273N
U23 SN74HC273N
RST CLK D0 D1 D2 D3 D4 D5 D6 D7 GND VCC Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
U20 DAC0800LCJ
U35 DAC0800LCJ
U41 DAC0800LCJ
VLC B8 B7 B6 B5 B4 B3 B2 B1 VEE VDD IOUT VREF+ VREF- IOUT COMP
R35 2K2
R23 2K2
R27 2K2
R38 10K
VR3 2K
R41 3K9
R26 5K2
VR2 2K
R40 5K2
R34 5K2
VR1 2K
R39 5K2
C47 C74 C78
R5 3K
U34A LM324AN
U34B LM324AN
U34C LM324AN
U34D LM324AN
2SD1506 Q3
C67
Lower_Connector.SchDoc
LOWER CONNECTOR
+12V
+5V
GND
Q3_+12V
Q2_+20V
Q1_+30V
U40 TL497ACD
U42 TL497ACD
F CON CMPR IN INEMIT OUT K INH SUB GND VCC I LIM SEN COL OUT A NC BASE BASE DRV
C77 R20 0r5
R31 56 R32 1K
L2 D35 1N4007
2SD1506 Q4
D28 1N4148
R30 18K
R36 1K2
C95 220u 35V
C97
+20V
R9 3K
R11 3K
U18 LM741CN
2SD1506 Q2
R4 3K
LIMITE DE COURANT
R12 10K
R6 10K
R13 10K
U33A LM324AN
U33B LM324AN
R7 4K7
D1 1N4148
D2 1N4148
Imax
Lower_Decoder.SchDoc
LOWER DECODER
C81 R21 0r5
R25 56 R29 1K
L1 D27 1N4007
+30V
2SD1506 Q5
D34 1N4148
R24 22K
R28 900
C94 220u 35V
C91
U19 LM741CN
2SD1506 Q1
C45
R3 10K
R2 3K
-5V
-12V
+8V

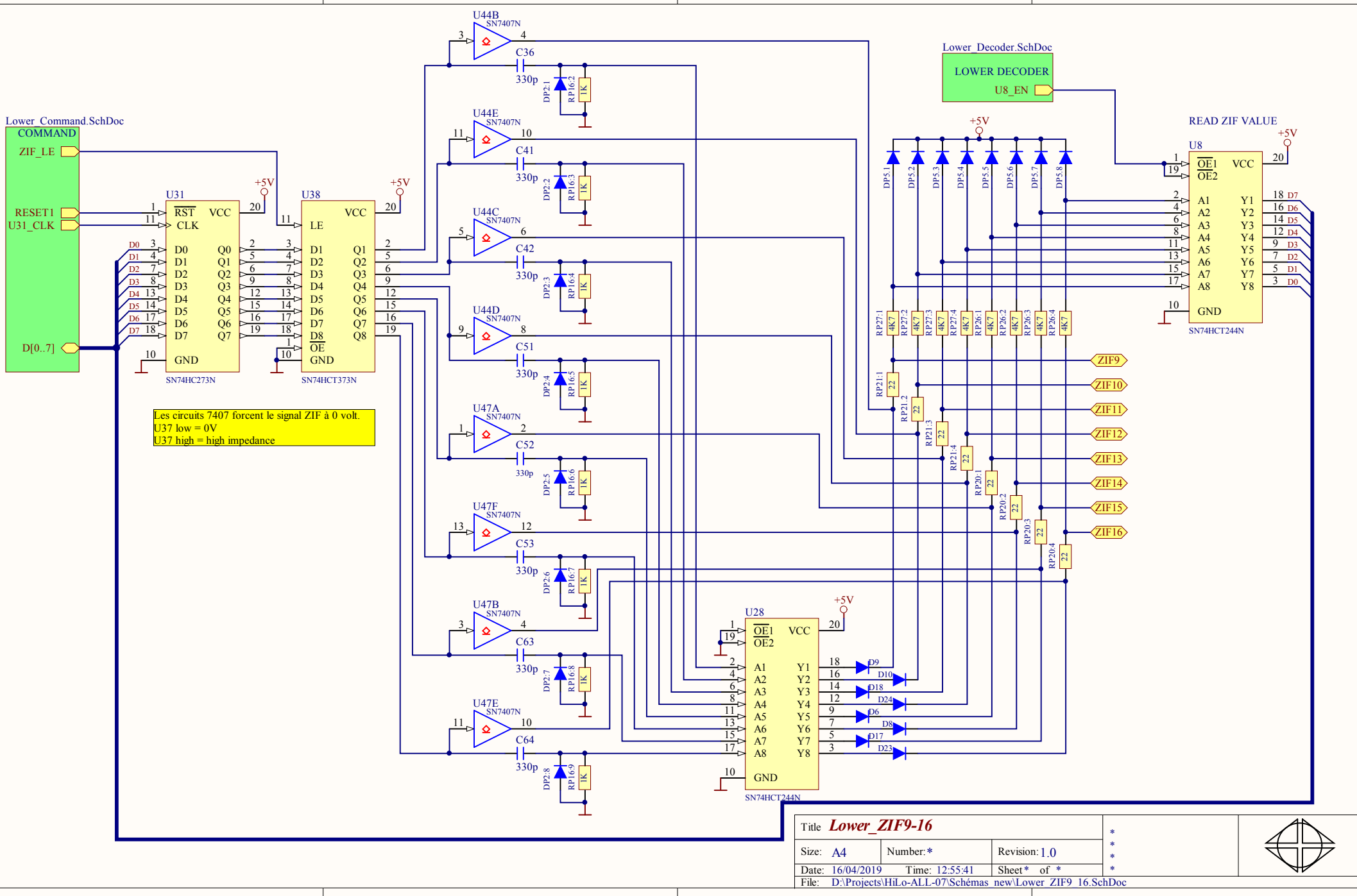
Title	*Lower_Power*		
Size: A3	Number:		Revision: 1.0
Date: 16/04/2019	Time: 12:54:54		Sheet of
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_Power.SchDoc			


Lower_Command.SchDoc
COMMAND
ZIF_LE
RESET1
U30_CLK
D[0..7]
U30
SN74HC273N
U37
SN74HCT373N
+5V
Les circuits 7407 forcent le signal ZIF à 0 volt.
U37 low = 0V
U37 high = high impedance
U48A
U48F
U48B
U48E
U48C
U48D
U44A
U44F
SN7407N
C37
C43
C44
C54
C55
C56
C65
C66
330p
DP3:1
DP3:2
DP3:3
DP3:4
DP3:5
DP3:6
DP3:7
DP3:8
RP17:2
RP17:3
RP17:4
RP17:5
RP17:6
RP17:7
RP17:8
RP17:9
1K
Lower_Decoder.SchDoc
LOWER DECODER
U9_EN
U29
SN74HCT244N
DP6:1
DP6:2
DP6:3
DP6:4
DP6:5
DP6:6
DP6:7
DP6:8
RP29:1
RP29:2
RP29:3
RP29:4
RP28:1
RP28:2
RP28:3
RP28:4
4K7
RP23:1
RP23:2
RP23:3
RP23:4
RP22:1
RP22:2
RP22:3
RP22:4
22
ZIF1
ZIF2
ZIF3
ZIF4
ZIF5
ZIF6
ZIF7
ZIF8
D13
D14
D20
D26
D11
D12
D19
D25
READ ZIF VALUE
U9
D7
D6
D5
D4
D3
D2
D1
D0
Title Lower_ZIF1-8
Size: A4
Number: *
Revision: 1.0
Date: 16/04/2019
Time: 12:55:30
Sheet * of *
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_ZIF1_8.SchDoc


Lower_Command.SchDoc
COMMAND
ZIF_LE
RESET1
U51_CLK
D[0..7]
U51
SN74HC273N
U56
SN74HCT373N
+5V
Les circuits 7407 forcent le signal ZIF à 0 volt.
U56 low = 0V
U56 high = high impedance
U47C
U47D
U46A
U46F
U46B
U46E
U46C
U46D
SN7407N
C106
C107
C110
C111
C115
C116
C117
C120
330p
1K
22
4K7
Lower_Decoder.SchDoc
LOWER DECODER
U7_EN
READ ZIF VALUE
U7
SN74HCT244N
U54
ZIF17
ZIF18
ZIF19
ZIF20
ZIF21
ZIF22
ZIF23
ZIF24
Title Lower_ZIF17-24
Size: A4
Number: *
Revision: 1.0
Date: 16/04/2019
Time: 12:55:52
Sheet * of *
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_ZIF17_24.SchDoc


Lower_Command.SchDoc
COMMAND
ZIF_LE
RESET1
U50_CLK
D[0..7]
U50
SN74HC273N
U55
SN74HCT373N
+5V
Les circuits 7407 forcent le signal ZIF à 0 volt.
U55 low = 0V
U55 high = high impedance
U57A
U57F
U57B
U57E
U57C
U57D
U45A
U45F
SN7407N
C105
C108
C109
C112
C113
C114
C118
C119
330p
Lower_Decoder.SchDoc
LOWER DECODER
U6_EN
READ ZIF VALUE
U6
SN74HCT244N
U53
ZIF25
ZIF26
ZIF27
ZIF28
ZIF29
ZIF30
ZIF31
ZIF32
Title Lower_ZIF25-32
Size: A4
Number: *
Revision: 1.0
Date: 16/04/2019
Time: 12:56:02
Sheet * of *
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_ZIF25_32.SchDoc


Lower_Command.SchDoc
COMMAND
ZIF_LE
RESET1
U32_CLK
D[0..7]
U32
SN74HC273N
U39
SN74HCT373N
+5V
Les circuits 7407 forcent le signal ZIF à 0 volt.
U39 low = 0V
U39 high = high impedance
U45B
U45E
U45C
U45D
U52A
U52F
U52B
U52E
SN7407N
C35
C39
C40
C48
C49
C50
C61
C62
330p
Lower_Decoder.SchDoc
LOWER DECODER
U5_EN
READ ZIF VALUE
U5
SN74HCT244N
U27
ZIF33
ZIF34
ZIF35
ZIF36
ZIF37
ZIF38
ZIF39
ZIF40
Title Lower_ZIF33-40
Size: A4
Number: *
Revision: 1.0
Date: 16/04/2019
Time: 12:56:12
Sheet * of *
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_ZIF33_40.SchDoc


Lower_Command.SchDoc
COMMAND
ZIF_LE
RESET1
U31_CLK
D[0..7]
U31
SN74HC273N
U38
SN74HCT373N
+5V
Les circuits 7407 forcent le signal ZIF à 0 volt.
U37 low = 0V
U37 high = high impedance
U44B
U44E
U44C
U44D
U47A
U47F
U47B
U47E
SN7407N
C36
C41
C42
C51
C52
C53
C63
C64
330p
Lower_Decoder.SchDoc
LOWER DECODER
U8_EN
U28
SN74HCT244N
READ ZIF VALUE
U8
ZIF9
ZIF10
ZIF11
ZIF12
ZIF13
ZIF14
ZIF15
ZIF16
Title Lower_ZIF9-16
Size: A4
Number: *
Revision: 1.0
Date: 16/04/2019
Time: 12:55:41
Sheet * of *
File: D:\Projects\HiLo-ALL-07\Schémas_new\Lower_ZIF9_16.SchDoc