NDS TV OUT
Variant: [No Variations]

20/02/2021
V1I2
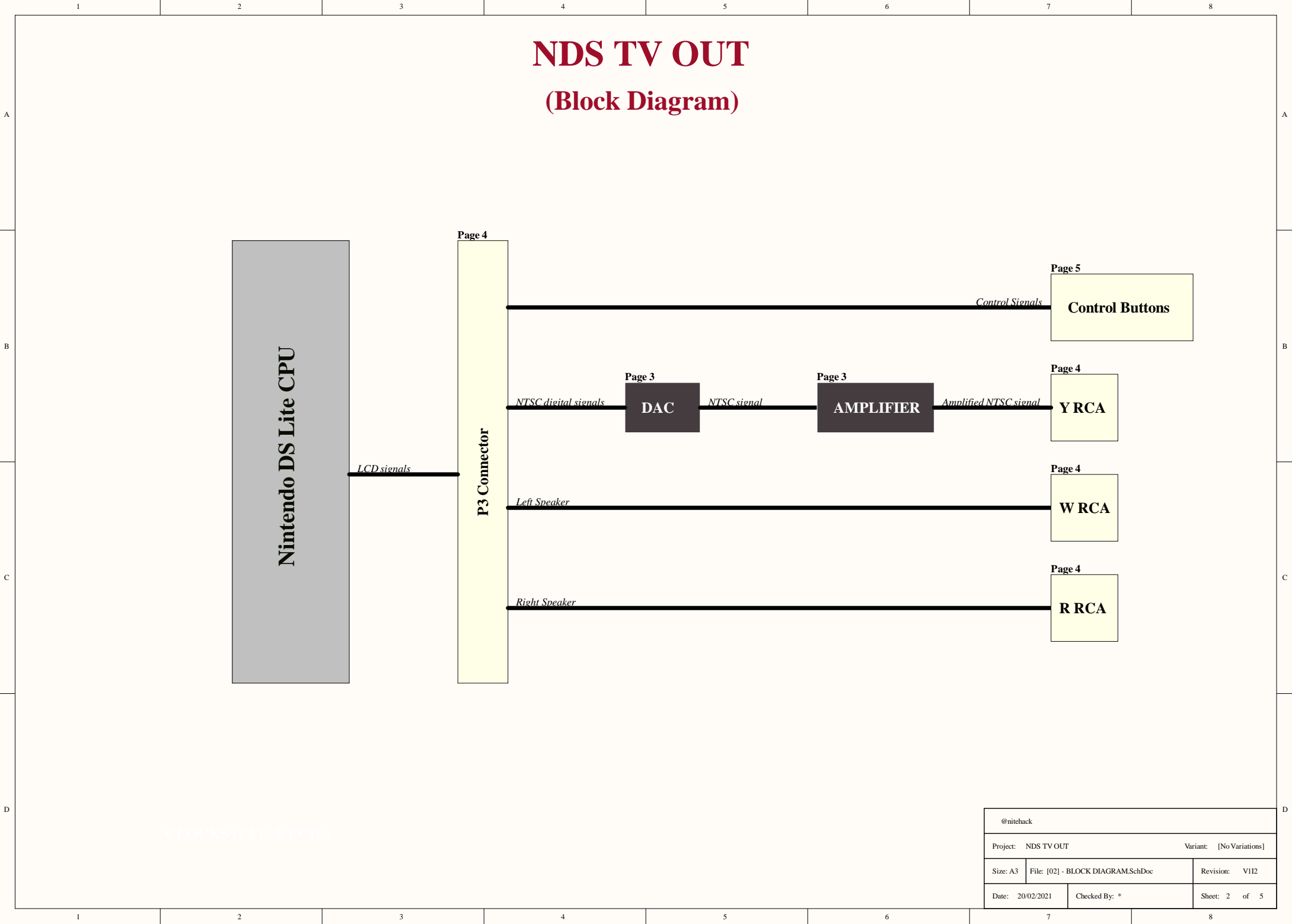
PRELIMINARY

DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational design notes .

DESIGN NOTE:
Example text for critical design notes.

DESIGN NOTE:
Example text for cautionary design notes.

LAYOUT NOTE:
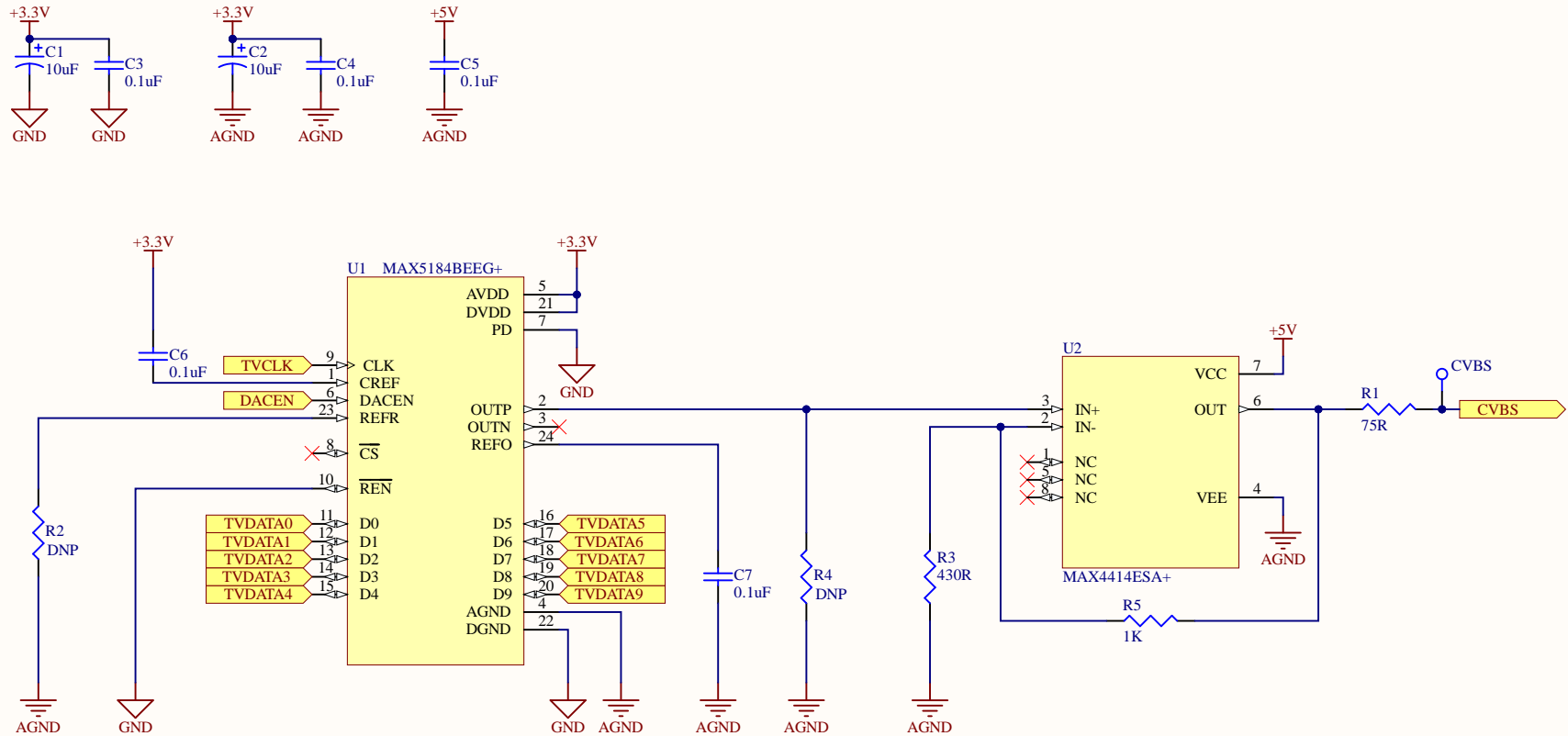Example text for critical layout guidelines.

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Project:	NDS TV OUT		Variant:	[No Variations]
Size: A3	File: [01] - COVER PAGE.SchDoc		Revision:	V1I2
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NDS TV OUT

(Block Diagram)

Nintendo DS Lite CPU

P3 Connector

Page 4

LCD signals

Control Signals

Page 5
Control Buttons

NTSC digital signals

Page 3
DAC

NTSC signal

Page 3
AMPLIFIER

Amplified NTSC signal

Page 4
Y RCA

Left Speaker

Page 4
W RCA

Right Speaker

Page 4
R RCA

DAC

+3.3V
C1 10uF
C3 0.1uF
GND
GND

+3.3V
C2 10uF
C4 0.1uF
AGND
AGND

+5V
C5 0.1uF
AGND

+3.3V
C6 0.1uF

U1   MAX5184BEEG+
AVDD   5
DVDD   21
PD   7

+3.3V
GND

TVCLK   9   CLK
1   CREF
DACEN   6   DACEN
23   REFR
8   CS
10   REN

OUTP   2
OUTN   3
REFO   24

TVDATA0   11   D0
TVDATA1   12   D1
TVDATA2   13   D2
TVDATA3   14   D3
TVDATA4   15   D4

D5   16   TVDATA5
D6   17   TVDATA6
D7   18   TVDATA7
D8   19   TVDATA8
D9   20   TVDATA9
AGND   4
DGND   22

R2 DNP

AGND   GND   GND   AGND   AGND   AGND   AGND

C7 0.1uF

R4 DNP

R3 430R

U2
VCC   7   +5V
OUT   6   R1 75R   CVBS   CVBS
3   IN+
2   IN-
1   NC
5   NC
8   NC
VEE   4
AGND

MAX4414ESA+

R5 1K

CONNECTORS

GND

J1

46

SPLO	1	2	SPLO
SG	3	4	SG
SPRO	5	6	SPRO
LEDC2	7	8	LEDA2
	9	10	
	11	12	
	13	14	
	15	16	
	17	18	
	19	20	
	21	22	
P12	23	24	P11
P10	25	26	TVCLK
TVDATA9	27	28	
TVDATA8	29	30	TVDATA7
TVDATA6	31	32	TVDATA5
TVDATA4	33	34	TVDATA3
TVDATA2	35	36	TVDATA1
TVDATA0	37	38	
	39	40	
	41	42	
	43	44	
	45		

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4-2328724-5

SPLO
SG
SPRO
LEDC2

P12
P10
TVDATA9
TVDATA8
TVDATA6
TVDATA4
TVDATA2
TVDATA0

TVD9
TVD8
TVD6
TVD4
TVD2
TVD0

+5V
VDD5
+3.3V
VDD3.3

GND

SPLO
SG
SPRO
LEDA2

P11
TVCLK

TVDATA7
TVDATA5
TVDATA3
TVDATA1

SPLO
SG
SPRO

LEDA2

TVCLK

TVD7
TVD5
TVD3
TVD1

GND

GND

J2
KLPX-0848A-2-W

| SG | 1 | GND |
| SPLO | 2 | SIGNAL |

J3
KLPX-0848A-2-R

| SG | 1 | GND |
| SPRO | 2 | SIGNAL |

J4
KLPX-0848A-2-Y

| | 1 | GND |
| CVBS | 2 | SIGNAL |

AGND

Tie
SHD   GND

Tie
AGND   GND

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Project: NDS TV OUT   Variant: [No Variations]

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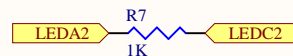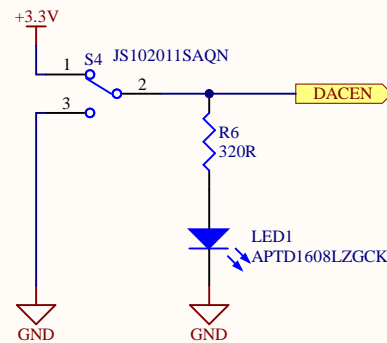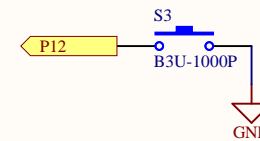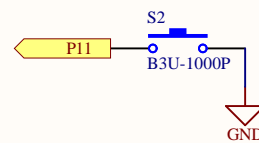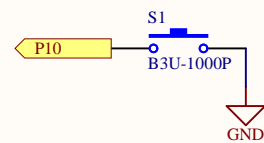
BUTTONS AND SWITCHES

P10
S1
B3U-1000P
GND

P11
S2
B3U-1000P
GND

P12
S3
B3U-1000P
GND

+3.3V
1
S4 JS102011SAQN
2
DACEN
3
R6
320R
LED1
APTD1608LZGCK
GND
GND

LEDA2
R7
1K
LEDC2