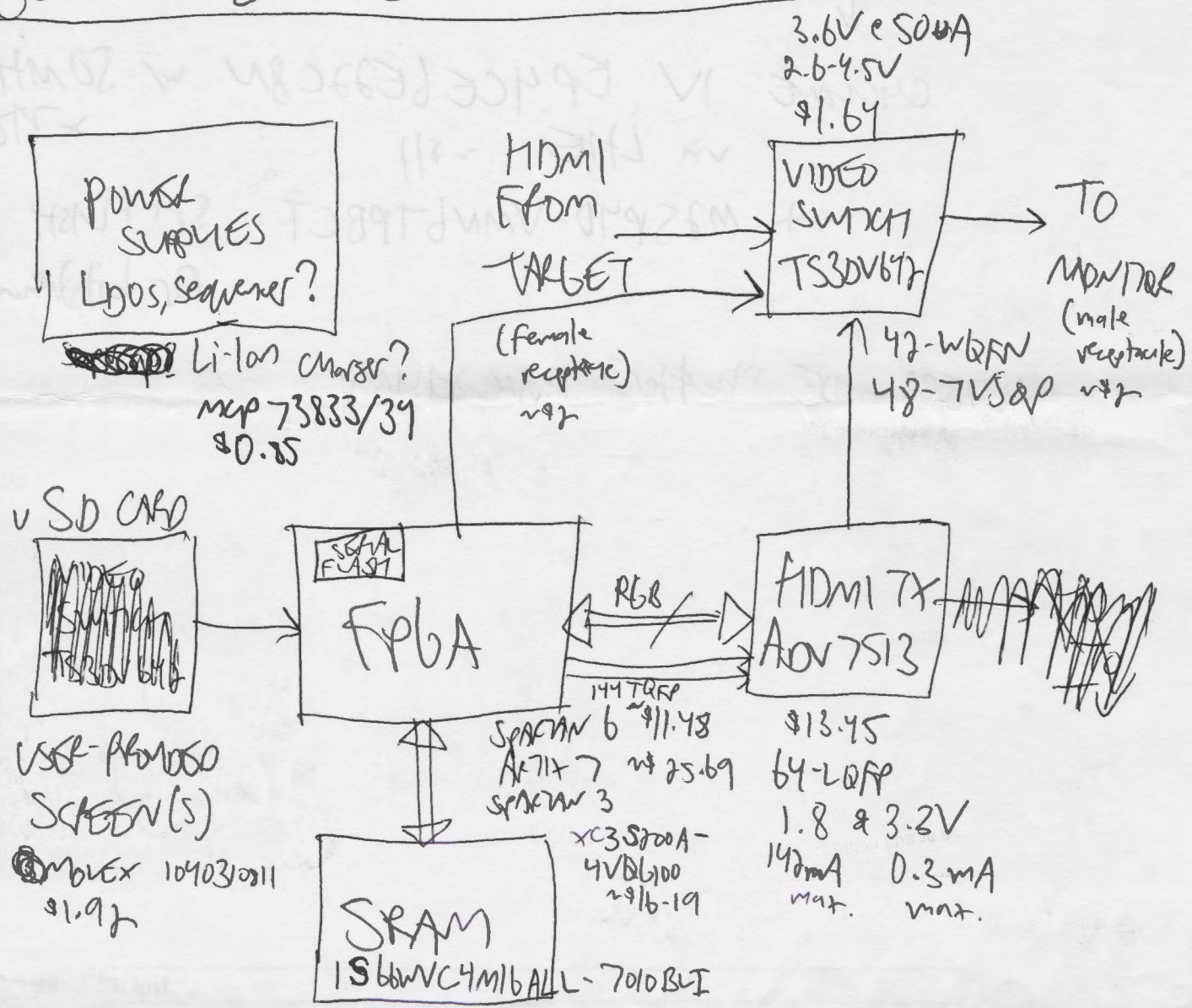


BSOONIZER HD: REVENUE W/ AN FPGA



CURRENT CAPACITY: HDMI 1.x 5V @ 55mA
2.x 5V @ 90mA

1080p = ~~1080p~~ @ 60Hz
148.5MHz (1920+280 HBLANK) * (1080+45 VBLANK) * 60 = 148500000

BSADOMIZER HD CURRENT MEASUREMENTS

7/20/16

* PIC FRONT END 3V @ 1.76mA (POWERED FROM HDMI 5V)
NORMAL POWER SUPPLY CONFIGURATION

CS6 DEVELOPMENT BOARD
w/ HDMI RX INTERFACE
NO HDMI CONNECTED

1.2V @ 167mA → 2W

(HDMI TRANSMITTING
1080p, MIF IN BLOCK RAM)

* MODIFIED POWER SUPPLIES TO RUN FROM LIPO BATTERY
(4.2V MAX, 3.7V NOMINAL)

CS6 DEV. BOARD
NO HDMI CONNECTED

3.7V @ 292mA

HDMI CONNECTED &
TRANSMITTING

373mA

w/ HDMI RX INTERFACE BOARD

438mA

HDMI SPLITTER ~317mA @ 3.7V ON ITS OWN!

SYSTEM FUNCTIONS DOWN TO 3.4V

SET FRONT END THRESHOLD TO 3.6V

FOR SOME HEAD ROOM

(DOES NOT INCLUDE LPDDR2 OR SD CARD MEMORY ACCESS)

6SP585460 LiPo 2Ah, 3.7V

ASSUME 70% OF CAPACITY DOWN TO 3.6V

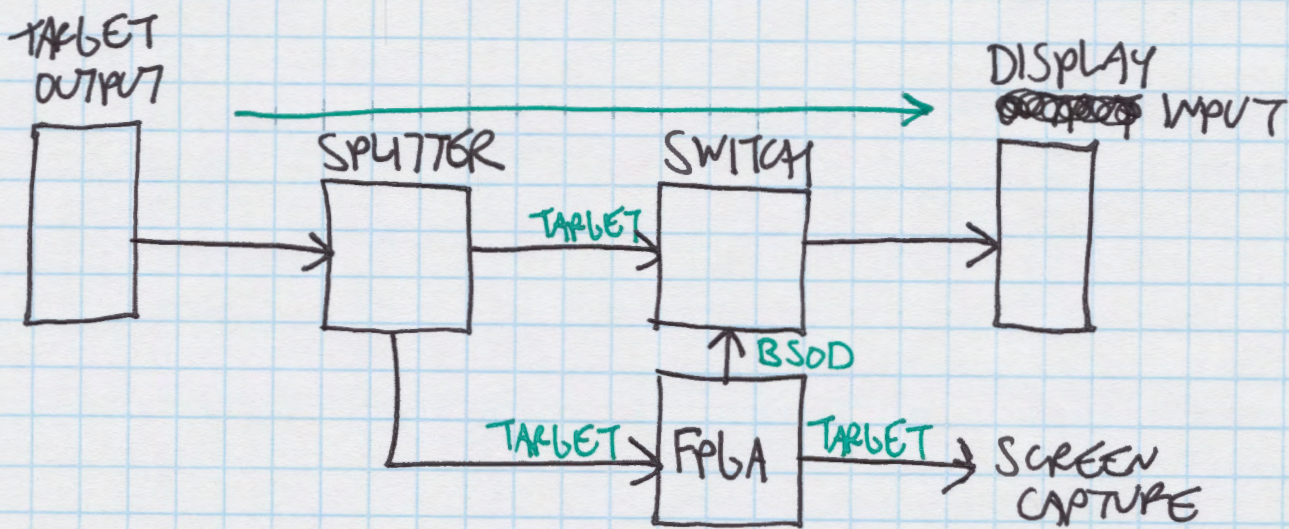
→ 1400mAh

DISCHARGE @ ~1/3 C

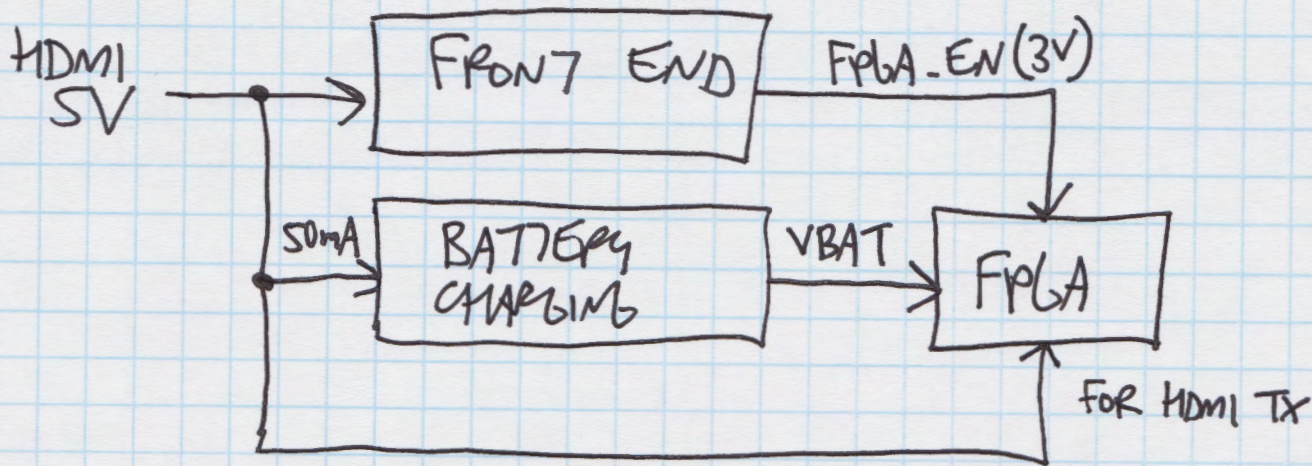
~3 HOURS FULLY ON/
BATTERY CHARGE

HDMI PATH

7/14/16



POWER SUPPLY PATH



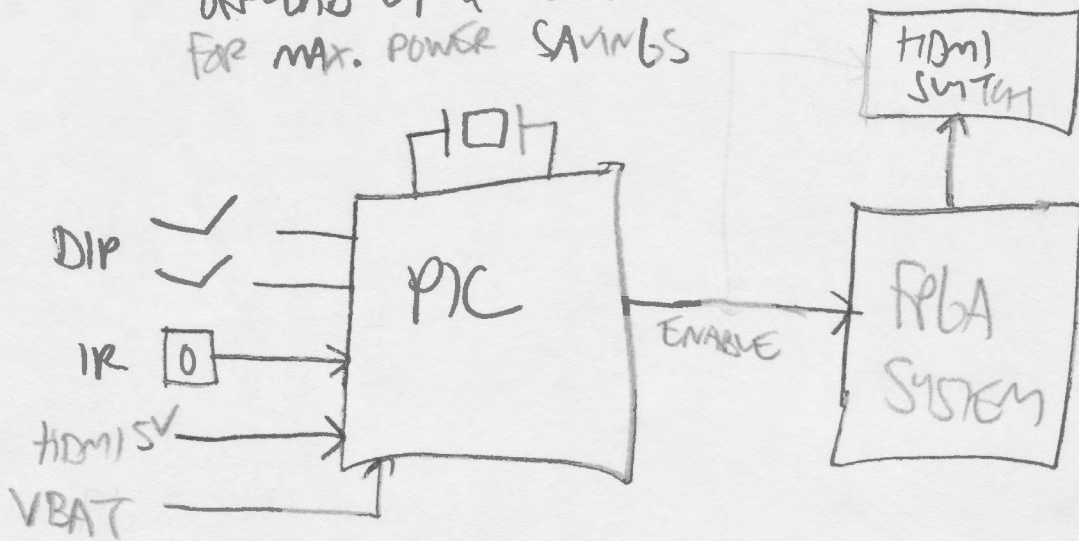
- FRONT END & BATTERY CHARGING ALWAYS POWERED VIA HDMI 5V
- HDMI 5V GOES LOW ON SHUTDOWN, STAYS HIGH ON RESTART
- FPGA SUBSYSTEM (HDMI CAPTURE/INJECT) ONLY POWERED (BY BATTERY) WHEN ENABLED BY FRONT END

BS00MTR HD

4/18/16

updated
7/12/16

Low power microcontroller front end
OFFLOAD U1 & ENABLE FPGA ONLY AS NEEDED
FOR MAX. POWER SAVINGS



- ~~EXTERNAL~~ EXTERNAL 3.3V clock

- IR RECEIVER

- DIP SWITCHES FOR CONFIGURATION/TIMING

- HDMI SV FROM SINK TO DETECT
SHUTDOWN/REBOOT

- BATTERY VOLTAGE TO ENSURE CHARGED

BATTERY BEFORE
ENABLING FPGA
OR STATUS OF CHARGING

DIP SWITCH [1:0] MODE

PIC	00	Timer off	} TIMING SELECT
	01	5 (1)	
	10	10 (2)	
	11	30 (5)	

FPGA	00	BS00 FROM SD CARD
	01	STATIC
	10	TEST PATTERN
	11	CAPTURE

[2] ENABLE PRANK REVEAL (FROM SD CARD IF AVAILABLE)
[3] FUTURE USE