

Overview

2533-EK2 is a high quality stand-alone evaluation board based on SAM2533 (INTEGRATED DIGITAL INSTRUMENT) dedicated to low cost and low power applications.

Beside the SAM2533 the 2533-EK2 hardware includes:

- 1 Audio DAC CIRRUS CS4344 (103dB DR, -90dB THD+N)
- 2 * 32Mbit Flash Memories ATMEL 49BV322DT. 2 * 64Mbit devices can be used instead of the 2 * 32Mbit.

Operating Mode

2533-EK2 operates in two modes:

- Debug mode:
The board is connected to a PC COM port thru the Dream DBG-IF2 adaptor. The firmware can be downloaded into Flash memory with SamVS-C emulation tool.
- Stand-alone mode:
SAM2533 executes the program from the Flash memory and can talk with external devices via the MIDI connectors. This mode also offers a flash programming feature. Sound banks can be downloaded in flash memory with 97x3Flash PC software.
In Stand Alone mode, if using standard firmware, the MIDI baud rate can be chosen:
 - If pin P3 (pin 5, J6) is LOW, baud rate is standard MIDI baud rate 31.25kbit/s. (Default state, internal pull-down on P3).
 - If pin P3 (pin 5, J6) is HIGH, baud rate is 38.4kbit/s.

Connectors Configuration

Reference	Type	Name	Description
J1	5-pin DIN	MIDI OUT	Standard MIDI OUT at 31.25kb/s
J2	5 pin DIN	MIDI IN	Standard MIDI IN at 31.25kb/s
J3	1*3	MIDI COM	MIDI IN/OUT at 38.4kbit/s
J4A	Mini Jack	AUDIO OUT	Stereo Audio Output
J4B	1*3 (Not Mounted)	AUDIO OUT	Stereo Audio Output
J5A	DC Plug	9 / 12 V DC	Power Supply, +9V...12V, minus on dip
J5B	1*2 (Not Mounted)	9 / 12 V DC	Power Supply, +9V...12V, minus on pin 1
J6	1*6	GPIO pins	General purpose I/Os P[3-0]
J7	1*4	DEBUG	Used for serial programming of the firmware

Jumper Configuration

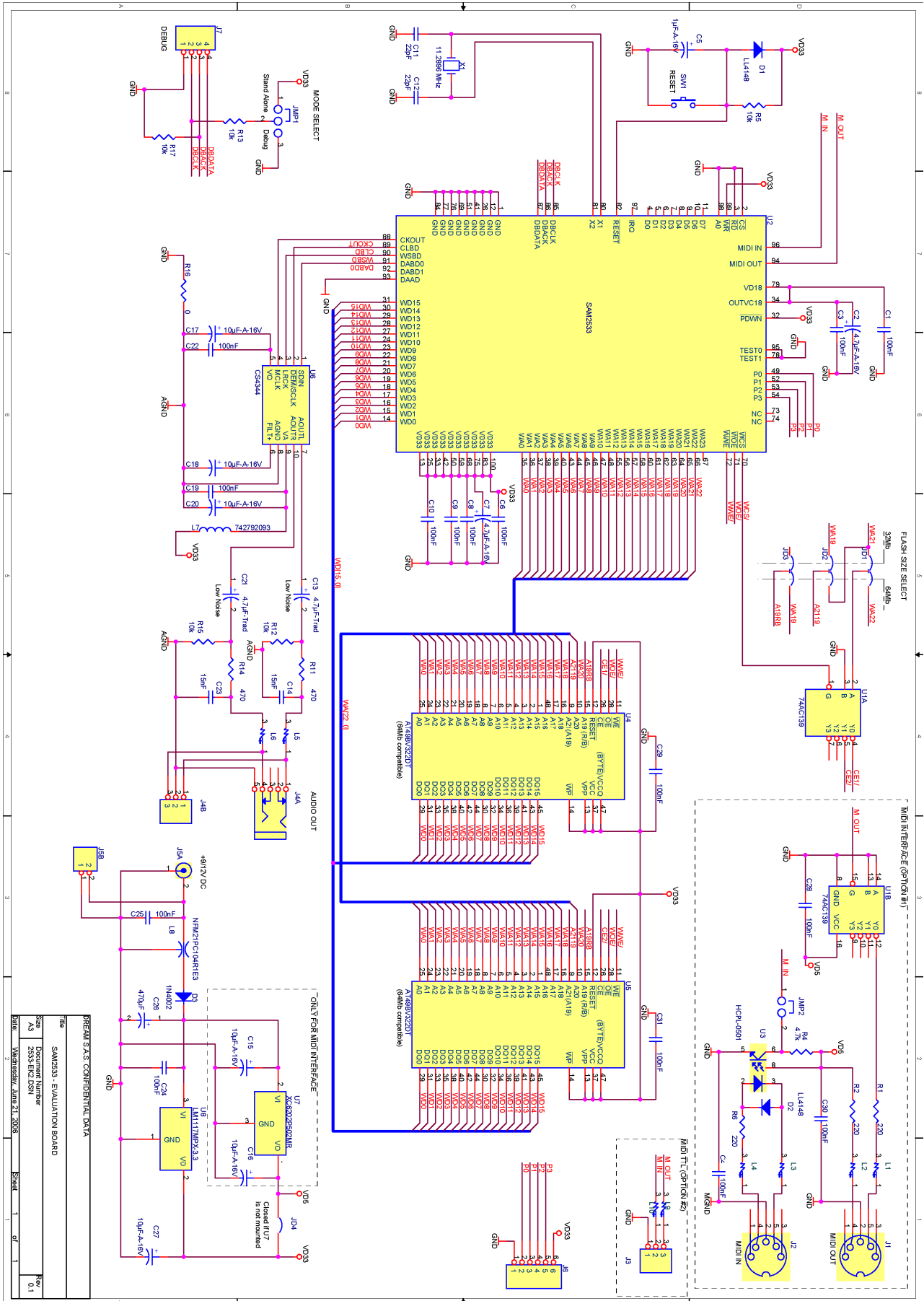
Reference	Default Setting	Description
JMP1	1-2	Select Stand Alone or Debug Mode <ul style="list-style-type: none"> • 1-2: Stand Alone • 2-3: Debug
JMP2	Mounted	Should be removed if using MIDI 38.4kb/s on J14
JD1-JD3	32Mb	Select individual flash chip size <ul style="list-style-type: none"> • 32Mb: One or two 32Mb devices • 64Mb: One or two 64Mb devices
JD4	Open	Should be closed if components for Standard MIDI Interface are not mounted

Bill of Material

SAM2533 - EVALUATION BOARD Revised: Wednesday, June 21, 2006
 2533-EK2.DSN Revision: 0.1
 Bill Of Materials June 21,2006 Page1

Item	Quantity	Reference	Part
1	15	C1,C3,C4,C6,C8,C9,C10, C19,C22,C24,C25,C28,C29, C30,C31	100nF
2	2	C2,C7	4.7µF-A-16V
3	1	C5	1µF-A-16V
4	2	C11,C12	22pF
5	2	C13,C21	4.7µF-Trad
6	2	C14,C23	15nF
7	6	C15,C16,C17,C18,C20,C27	10µF-A-16V
8	1	C26	470µF
9	2	D1,D2	LL4148
10	1	D3	1N4002
11	3	JD1, JD2, JD3	Jumper Disk2P
12	1	JD4	Jumper Disk1P
13	1	JMP1	Jumper2P
14	1	JMP2	Jumper1P
15	1	J1	MIDI_OUT
16	1	J2	MIDI_IN
17	1	J3	HEAD_3
18	1	J4A	JACK_3.5
19	2	J4B, J5B	N.M.
20	1	J5A	DC PLUG
21	1	J6	HEAD_6
22	1	J7	HEAD_4
23	6	L1, L2, L3, L4, L5, L6	NFM21CC102R1H3
24	1	L7	742792093
25	1	L8	NFM21PC104R1E3
26	3	L9, L10, R16	0
27	3	R1, R2, R6	220
28	1	R4	4.7k
29	5	R5, R12, R13, R15, R17	10k
30	2	R11, R14	470
31	1	SW1	ITT-KSA
32	1	U1	74AC139
33	1	U2	SAM2533
34	1	U3	HCPL-0501
35	2	U4, U5	AT49BV322DT
36	1	U6	CS4344
37	1	U7	XC6202P502MR
38	1	U8	LM1117MPX-3.3
39	1	X1	11.2896 MHz

Schematic Diagram



PREPARED BY DREAM S.A.S. CONFIDENTIAL DATA

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Project Number	2533-REV2.DSN
Date	Wednesday, June 21, 2006
Sheet	1 of 1
Rev	0.1

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