JammASD
Mod.ASD275A

Rev.	*Auth.*	*Date*
1.00	g.tortoriello	17/01/2008

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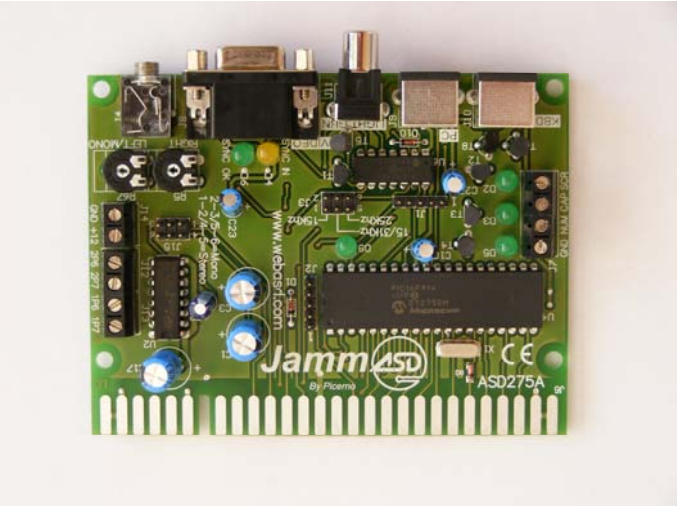
Overview



The JammASD is an interface which allows connection of jamma arcade cabinets to PC in minutes.

Controls

All jamma control inputs are routed on a dedicated microprocessor which emulates a standard PS/2 keyboard encoder, then the OS no need special drivers (also works in DOS). To scan the inputs doesn't use matrix as a standard keyboard, this allows unlimited simultaneous key presses, no ghosting and no blocking.
Already is configured a code set (see table) but, all codes are reprogrammable "on the fly" by the Windows (2000 or XP) software included and stored after power off. All inputs have also a secondary reprogrammable key code accessible by shift key which allow to configure emulators without other extra panel button.
A secondary female PS/2 connector allows to plug in a second encoder (for example an InterfASD) to enlarge the inputs number or standard keyboard for other use.

Video

An on board microcontroller controls the horizontal and vertical syncs, if they are in the correct range it converts the separate signal in a negative composite sync and it turns on the on board video amplifier which boosts RGB signals to arcade monitor levels. The syncs can be positive or negative but the output is always negative. For diagnostic, it can automatically divide by two a 31Khz picture to BIOS configuration or boot-up progress checking.

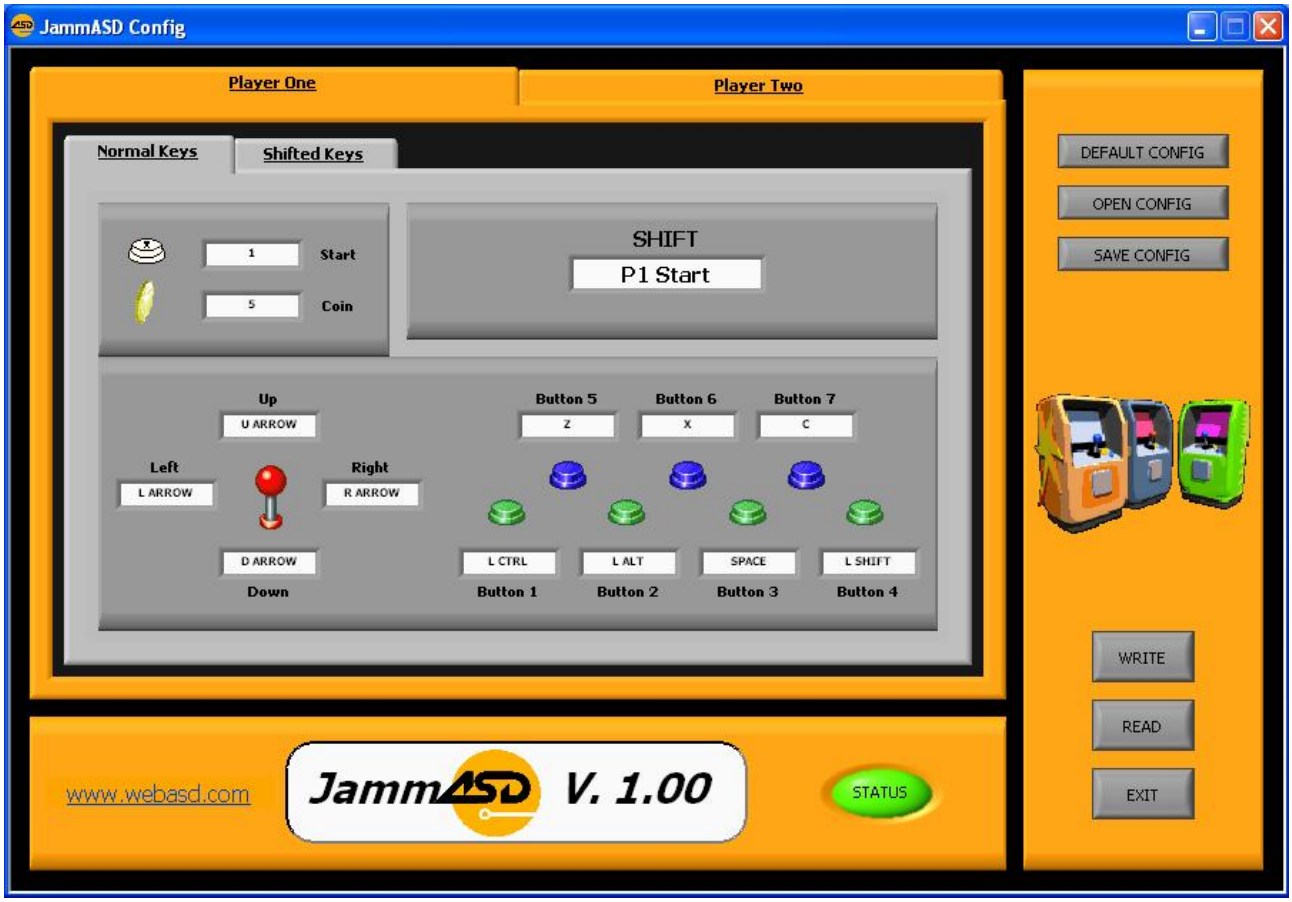
Audio

The board has a 2x2W stereo audio amplifier (12V required on jamma or on dedicated screw connector), with independent volume control for channels, which it can directly connect to sound card output and can be configured for mono or stereo mode.

Outputs

The board has three open collector output on the leds control so it can light external leds, commutate relays or turn on other external devices within a maximum current of 100mA.
The board outs on RCA connector the adapted signal for commercial lightgun without other auxiliary circuits.

Programming



To change preset codes, open the software utility (first time you must install the runtime engine included), set pins in normal and shifted page for both players, then set the “shift” pin (it’s also possible to disable a pin or shift function). When setting is ready press the “write” button and wait until a confirmation message appear, if operation fail it must be repeat. Now the new set code, stored in non volatile memory, can be tested: when switches are closed, the own pin label would have to change to green color.
Before exit, the setting can be saved in a file for future use in manual mode o in automatic mode by a batch routine, a command line call or by drag and drop.

Shift Function

The “shift” function must be assigned to a button not used intensively during gameplay. When the function is assigned to a button (default is Player1 start), when it goes down, the “shifted” code page will be activated but nothing happens immediately and the board waits if another active shifted key goes down at the same time. If the board doesn’t recognize a shifted key press, on release time, sends own key code.
That way allows of not need special buttons for secondary functions of configuration and it can retain the arcade aspect of your control panel.

Jamma Pinout

Solder Side		Component Side	
GND	A	1	GND
GND	B	2	GND
Not Used	C	3	*Not Used*
Not Used	D	4	*Not Used*
Not Used	E	5	*Not Used*
+12	F	6	+12
Key	H	7	Key
Not Used	J	8	*Not Used*
Not Used	K	9	*Not Used*
GND Speakers (-)	L	10	Left/Mono Speaker (+)
Not Used	M	11	Right Speaker (+)
Video GREEN	N	12	Video RED
Video Sync	P	13	Video BLUE
Not Used	R	14	Video GND
Not Used	S	15	*Not Used*
2P Coin	T	16	1P Coin
2P Start	U	17	1P Start
2P Up	V	18	1P Up
2P Down	W	19	1P Down
2P Left	X	20	1P Left
2P Right	Y	21	1P Right
2P Button 1	Z	22	1P Button 1
2P Button 2	a	23	1P Button 2
2P Button 3	b	24	1P Button 3
*2P Button 4	c	25	*1P Button 4
*2P Button 5	d	26	*1P Button 5
GND	e	27	GND
GND	f	28	GND

* Not standard Jamma Button. Button 6 and 7 for both players are available on screw connectors.

Default Code Set

Input	Normal Key	Shifted Key
1P Coin	5	
1P Start (shift key)	1	
1P Up	Up Arrow	Tilde
1P Down	Down Arrow	P
1P Left	Left Arrow	Enter
1P Right	Right Arrow	Tab
1P Button 1	Left Ctrl	5
1P Button 2	Left Alt	6
1P Button 3	Space	
1P Button 4	Left Shift	
1P Button 5	Z	
1P Button 6	X	
1P Button 7	C	
2P Coin	6	
2P Start	2	Esc
2P Up	R	
2P Down	F	
2P Left	D	
2P Right	G	
2P Button 1	A	
2P Button 2	S	
2P Button 3	Q	
2P Button 4	W	
2P Button 5	I	
2P Button 6	K	
2P Button 7	J	

Technical Data

Power supply:	5Vdc (from PS/2 port) for logic; 12V(from jamma or screw connector) for audio amplifier
Dimensions:	114mm x 87mm
Working Env. Cond.:	-10 + 40°C 90% U.R.