

**Sensoray Model 1101CB  
Single Board Computer**

Revised June 13, 2000

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## Limited Warranty

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Sensoray Company, Incorporated (Sensoray) warrants the Model 1101 hardware to be free from defects in material and workmanship and perform to applicable published Sensoray specifications for two years from the date of shipment to purchaser. Sensoray will, at its option, repair or replace equipment that proves to be defective during the warranty period. This warranty includes parts and labor.

The warranty provided herein does not cover equipment subjected to abuse, misuse, accident, alteration, neglect, or unauthorized repair or installation. Sensoray shall have the right of final determination as to the existence and cause of defect.

As for items repaired or replaced under warranty, the warranty shall continue in effect for the remainder of the original warranty period, or for ninety days following date of shipment by Sensoray of the repaired or replaced part, whichever period is longer.

A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. Sensoray will pay the shipping costs of returning to the owner parts that are covered by warranty.

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## **Special Handling Instructions**

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The Model 1101CB circuit board contains CMOS circuitry that is sensitive to Electrostatic Discharge (ESD).

Special care should be taken in handling, transporting, and installing the 1101CB to prevent ESD damage to the board. In particular:

Do not remove the circuit board from its protective anti-static bag until you are ready to install the board into the enclosure.

Handle the circuit board only at grounded, ESD protected stations.

## **1. Introduction**

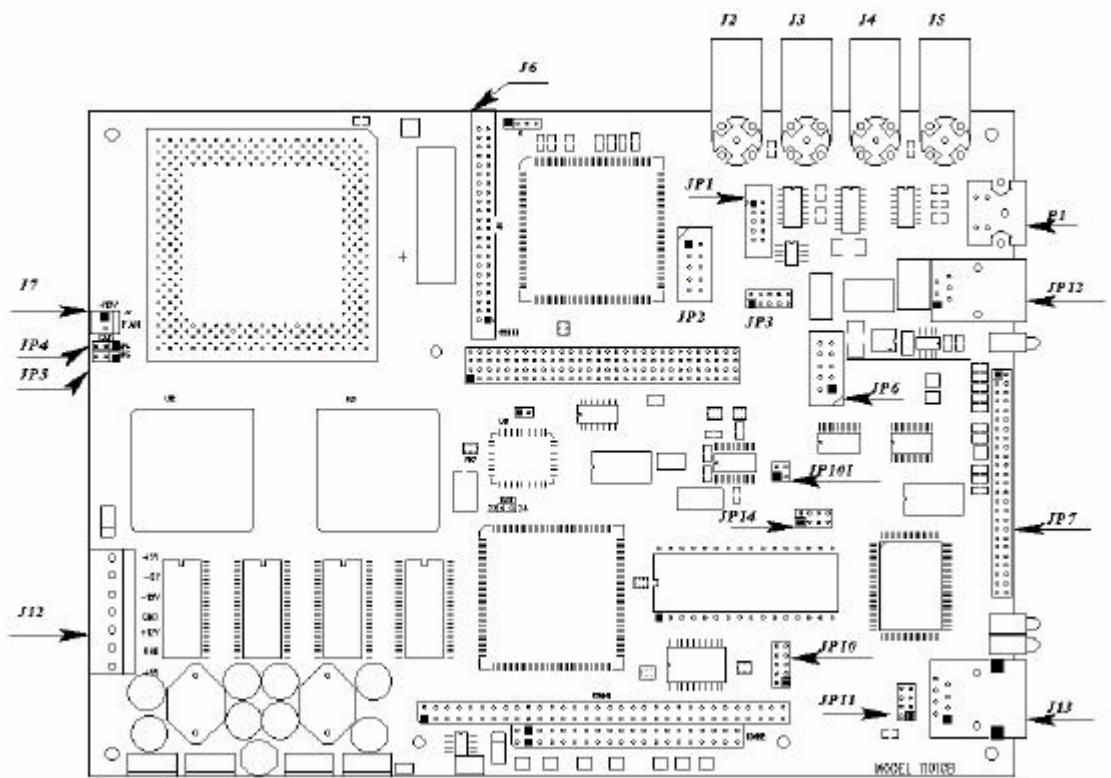
The 1101CB is a complete Pentium-based PC/AT compatible system in an EBX footprint. The peripheral functions implemented on the 1101CB include 2 serial and 1 parallel ports, standard keyboard and PS/2 mouse interfaces, FDD and IDE controllers, 1 USB port, 10Base-T Ethernet, 56.6Kbs modem (optional), flash disk (optional), and an integrated PCI frame grabber (compatible to Sensoray's model 611).

The 1101CB supports PC/104 and PC/104+ extension buses.

The 1101CB is available separately or as a part of a complete system including:

- 1101TB – a companion board with AC power supply, hard drive, and standard peripheral connectors;
- a metal enclosure.

## 2. 1101CB connectors summary



## 2.1. Serial port 2, parallel port, keyboard, mouse, FDD

JP7 (50 pin)

Pin	Signal	Pin	Signal
1	PP/STROBE#	2	PP/AUTOFD#
3	PP/PD0	4	PP/ERROR#
5	PP/PD1	6	PP/INIT#
7	PP/PD2	8	PP/SLCTIN#
9	PP/PD3	10	GND
11	PP/PD4	12	+5V
13	PP/PD5	14	KB/DATA
15	PP/PD6	16	KB/CLK
17	PP/PD7	18	MS/DATA
19	PP/ACK#	20	MS/CLK
21	PP/BUSY	22	GND
23	PP/PE	24	+5V
25	PP/SLCT	26	GND
27	SP2/DCD	28	SP2/RXD#
29	SP2/TXD#	30	SP2/DTR
31	GND	32	SP2/DSR
33	SP2/RTS	34	SP2/CTS
35	SP2/RI	36	GND
37	FDD/INDEX#	38	FDD/MTR0#
39	FDD/DR1#	40	FDD/DR0#
41	FDD/MTR1#	42	FDD/DIR#
43	FDD/STEP#	44	FDD/WDATA#
45	FDD/WGATE#	46	FDD/TRK0#
47	FDD/WP#	48	FDD/RDATA#
49	FDD/HDSEL#	50	FDD/DSKCHG#

PP - parallel port;  
 SP2 - serial port 2;  
 KB – keyboard;  
 MS – mouse;  
 FDD – floppy disk drive.

## 2.2. Serial port 1

JP6, 10 pin

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	n/c

n/c – not connected.

### 2.3. IDE

J6, 44 pin.

Pin	Signal	Pin	Signal
1	RST#	2	GND
3	DDP7	4	DDP8
5	DDP6	6	DDP9
7	DDP5	8	DDP10
9	DDP4	10	DDP11
11	DDP3	12	DDP12
13	DDP2	14	DDP13
15	DDP1	16	DDP14
17	DDP0	18	DDP15
19	GND	20	n/c
21	DRQ0	22	GND
23	IOW0	24	GND
25	IOR0	26	GND
27	IORDY0	28	SELA
29	DACK0#	30	GND
31	IRQ0	32	n/c
33	DAP1	34	n/c
35	DAP0	36	DAP2
37	CS01#	38	CS03#
39	HD_ACTA	40	GND
41	+5V	42	+5V
43	GND	44	GND

n/c – not connected.

### 2.4. Ethernet

J13, RJ45

Pin	Signal	Pin	Signal
1	TD+	2	TD-
3	RD+	6	RD-

## 2.5. Frame grabber

General purpose I/O  
JP2, 10 pin.

Pin	Signal	Pin	Signal
1	GPO0	2	GPI0
3	GPO1	4	GPI1
5	GPO2	6	GPI2
7	GPO3	8	GPI3
9	GND	10	GPINT

GPOx – general purpose outputs;  
GPIx – general purpose inputs;  
GPINT – general purpose interrupt.

Video inputs  
JP1, 10 pin

Pin	Signal	Pin	Signal
1	GND	2	CV0
3	GND	4	CV1
5	GND	6	CV2
7	GND	8	CV3
9	GND	10	SVC

CVx – composite video inputs;  
SVC – S-video (Y/C) C-component.

Note: The frame grabber has 4 multiplexed inputs, which can be used in the following configurations:

- 4 composite inputs (CV0-CV3);
- 3 composite inputs (CV0-CV2) and 1 S-video (Y/C) input. In this case the luminance (Y) signal of S-video is connected to CV3, and the chrominance (C) signal – to SVC.

## 2.6. Power

J12, Molex 7-pin

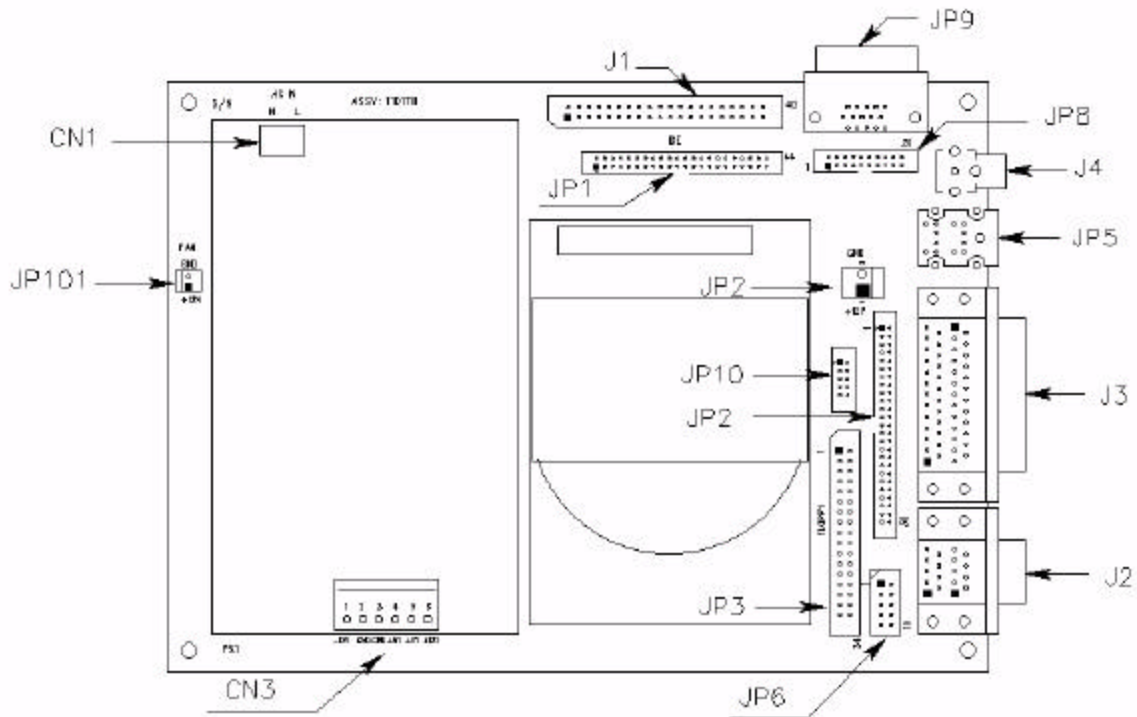
Pin	Signal	Pin	Signal
1	+5V	2	GND
3	+12V	4	GND
5	-12V	6	-5V
7	+5V		

## 2.7. CPU Fan

J7, 2-pin Molex

Pin	Signal	Pin	Signal
1	+12V	2	GND

### 3. 1101TB connectors summary



### **3.1. Serial port 2, parallel port, keyboard, mouse, FDD**

JP2 (50 pin). Connected to the front panel standard parallel port, mouse, keyboard and serial port connectors. Pinout matches that of JP7 on 1101CB.

### **3.2. FDD Connector**

JP3, 34-pin header with the standard pinout for 34-pin ribbon cable.

### **3.3. IDE**

JP1, 44 pin. Pinout matches that of J6 on 1101CB.

### **3.4. IDE (extension)**

J1, 40-pin header with the standard pinout for 40-pin ribbon cable.

### **3.5. Serial port 1**

JP6, 10 pin, connected to the front panel standard DB9 connector. Pinout matches that of JP6 on 1101CB.

### **3.6. Frame grabber input connector**

JP10, 10-pin, connected to the front panel DB25 male connector. Pinout matches that of JP1 on 1101CB.

### **3.7. +12V output connector**

JP7, 2-pin , connected to the front panel DB25 male connector.

Pin	Signal	Pin	Signal
1	+12V, 1.5A	2	GND

### **3.8. CRT and Composite Video**

JP8, 20-pin.

Pin	Signal	Pin	Signal
1	Red Return	2	N/C
3	Green Return	4	N/C
5	Blue Return	6	N/C
7	Red	8	N/C
9	Green	10	N/C
11	Blue	12	N/C
13	Digital Ground	14	Horizontal Drive
15	Digital Ground	16	Vertical Drive
17	Digital Ground	18	N/C
19	Composite Video	20	Composite Return

### **3.9. Enclosure Fan Connector**

JP101, 2-pin.

Pin	Signal	Pin	Signal
1	+12V	2	Ground

### **3.10. Power Supply AC Connector**

CN1, 2-pin Molex.

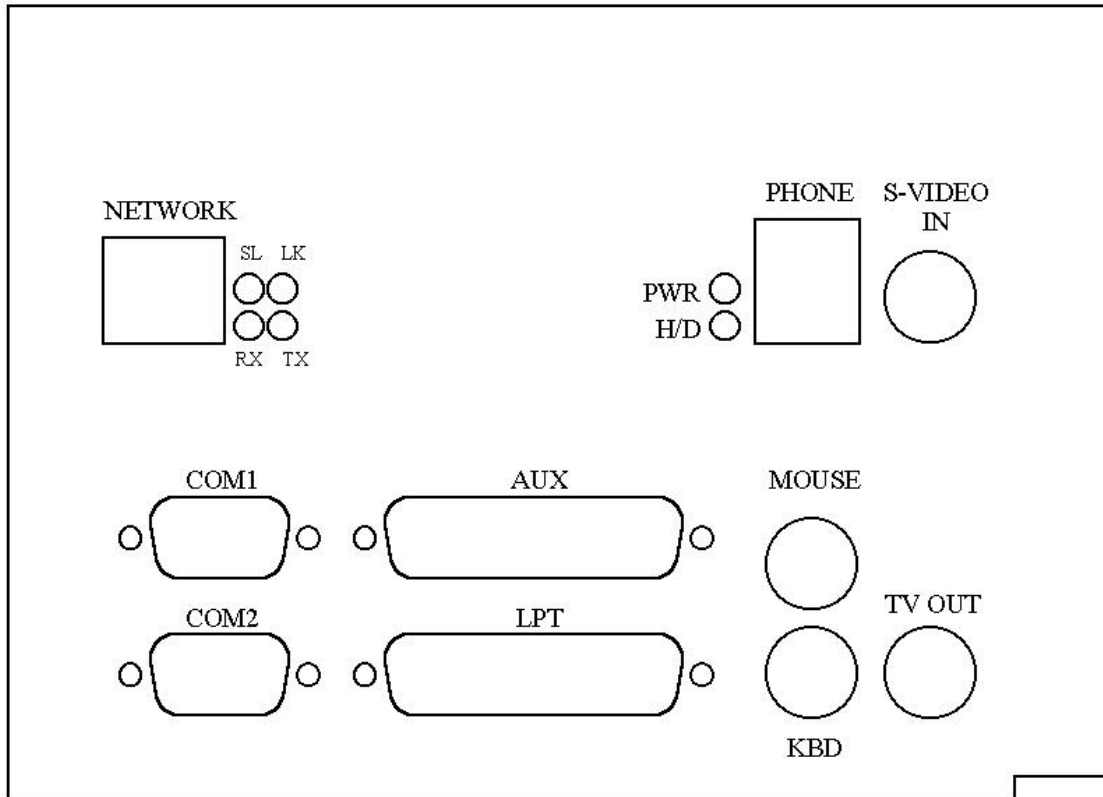
Pin	Signal	Pin	Signal
1	115VAC Line	2	115VAC Neutral

### **3.11. Power Supply DC Output Connector**

CN3, 6-pin Molex

Pin	Signal	Pin	Signal
1	-12V, 0.5A	2	Return
3	Return	4	+5V
5	+5V	6	+12V, 1.5A

## 4. Enclosure connectors and indicators summary



### 4.1. NETWORK and LED indicators

The network port is a standard 8-pos. RJ-45 Ethernet connector, installed on 1101CB.

The LED lamps are:

- SL – select;
- LK – link;
- RX – receive;
- TX – transmit.

### 4.2. COM1, COM2

Serial 1 and Serial 2 Ports are male DB9 connectors installed on 1101TB with standard serial port pinouts.

### **4.3. LPT**

The parallel port is a female DB25 connector installed on 1101TB with the standard parallel port pinout.

### **4.4. Mouse**

The 5-pin mini-DIN standard PS/2 mouse connector.

### **4.5. KBD**

The 5-pin mini-DIN standard PS/2 keyboard connector.

### **4.6. PHONE**

The modem port is a RJ11 connector with the standard 2-wire phone line pinout.

### **4.7. TV OUT**

The composite TV video out connector is a standard RCA connector. It is enabled only if Sensoray model 322 graphics adapter is installed.

### **4.8. S-VIDEO IN**

S-video input is a 4-pin DIN connector with a standard S-video pinout.

### **4.9. PWR, H/D Led Indicators**

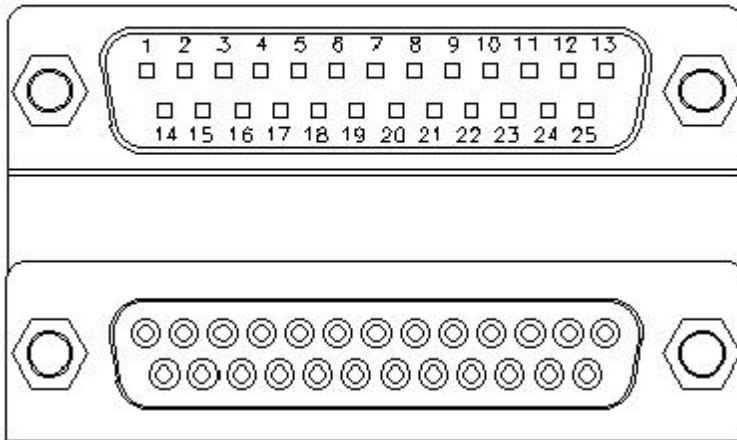
The PWR LED is on when power is on.  
The H/D LED indicates hard drive activity.

#### 4.10. AUX

The AUX is a utility female DB25 connector. This connector carries the following signals:

- +12VDC, 1.5A power supply output for powering the cameras;
- System reset signal (connect to GND for reset);
- Frame grabber video inputs.

AUX



Pin	Signal	Pin	Signal
1	Video IN 0	2	GND
3	Video IN 1	4	GND
5	Video IN 2	6	GND
7	Video IN 3	8	GND
9	S-Video IN	10	GND
11	Reset	12	+12VDC, 1.5A
13	+12V Return	14	N/C
15	N/C	16	N/C
17	N/C	18	N/C
19	N/C	20	N/C
21	N/C	22	N/C
23	N/C	24	+12VDC, 1.5A
25	+12V Return		



#### 4.11. VGA

The VGA is a DB15 female connector with a standard VGA pinout.

#### 4.12. VIDEO IN 0,1,2,3

4 Composite Video inputs are standard 75 Ohm BNC connectors. The inputs are marked on the enclosure as following:

Marked on the enclosure	Corresponding signal on 1101CB/JP1
Video 0	CV3
Video 1	CV2
Video 2	CV1
Video 3	CV0

#### 4.13. 115V AC

AC power is controlled by the rocker switch. AC receptacle accepts any standard AC line cord.

AC Input voltage: 90VAC-264VAC

AC Frequency: 47 to 63 Hz

AC Input Current: 2A at 120VAC and 1A at 240VAC

