

# KS232D Time Recorder



- log the date, time and card ID
- capture photo and email records
- late, tardy, overtime and total hours report
- with MSACCESS database
- export to plain text or EXCEL file

User manual : <http://avea.cc/spec/ks232d.pdf>  
Time Recorder software : <http://avea.cc/sw/TR.zip>.  
Setup info : <http://avea.cc/setup/ks232d.html>

## INTRODUCTION

This is a low cost time recorder unit with RS232 interface to connect to PC directly. It comes with a time recording software (for Windows) which logs the time and the card ID from the reader unit into a database file (in MSACCESS format, located on the same directory of the program). Also it can export the database to a plain text file and Excel file for data interchange with other softwares.

A 9 to 12V DC supply is required to power the kit, which has a current consumption of less than 200mA. A 9VDC/300mA (2.1mm center positive) plug pack will do fine. A DB9 female to DB9 male straight through connecting cable is required to connect to PC.

## OPERATION

There is a 6-position dip switch for configure the operation of the unit.

POSITION	DESCRIPTION	FUNCTION
6	SPD0	Set the communication speed to host. The frame structure is no parity, one start bit and one stop bit. There is no flow control.
5	SPD1	
4	BEEP	ON: to generate a beep sound on valid card reading. OFF: no sound will be generated.
3	MODE	OFF: to keep sending the code to the host continuously. ON: to send the code once.
2	FMT0	To select the output format of the code.
1	FMT1	

SPD1	SPD0	FUNCTION
OFF	OFF	1200 bit/s. (Setting for Time Recorder software)
OFF	ON	9600 bit/s.
ON	OFF	38400 Kbit/s.
ON	ON	115200 Kbit/s.

FMT1	FMT0	FUNCTION
OFF	OFF	Format 0, ASCII format: xxxxxxxxxxxx<0x0a><0x0d> (i.e. 11 digit + LF + CR)
OFF	ON	Format 1, ASCII format: xxx,xxxxx<0x0a><0x0d> (i.e. 3 digit + comma + 5 digit + LF + CR)
ON	OFF	Format 2, ASCII format: xxxxx,xxxxxxxxx<0x0a><0x0d> (i.e. 5 digit + comma + 8 digit + LF + CR)
ON	ON	Format 3, Reserved for the time attendance software

## Normal Operation

Basically the KS232D is the same as KS232 except for Format 3 operation. In order to use the bundled time attendance software, the KS232D SHOULD have the following settings:

<b>OPTION</b>	<b>POSITION</b>	<b>DESCRIPTION</b>
SPD0	OFF	Set 1200 bit/s communication speed (** for Time Recorder)
SPD1	OFF	
BEEP	OFF	Disable the local beep sound generation
MODE	ON	Send code once enabled
FMT0	ON	Select FORMAT 3, A MUST to get the software works
FMT1	ON	

Other than Format 3 operation, all operations are the same as KS232 (MS232), interested parties can download the manuals from the website.

## SOFTWARE INSTALLATION

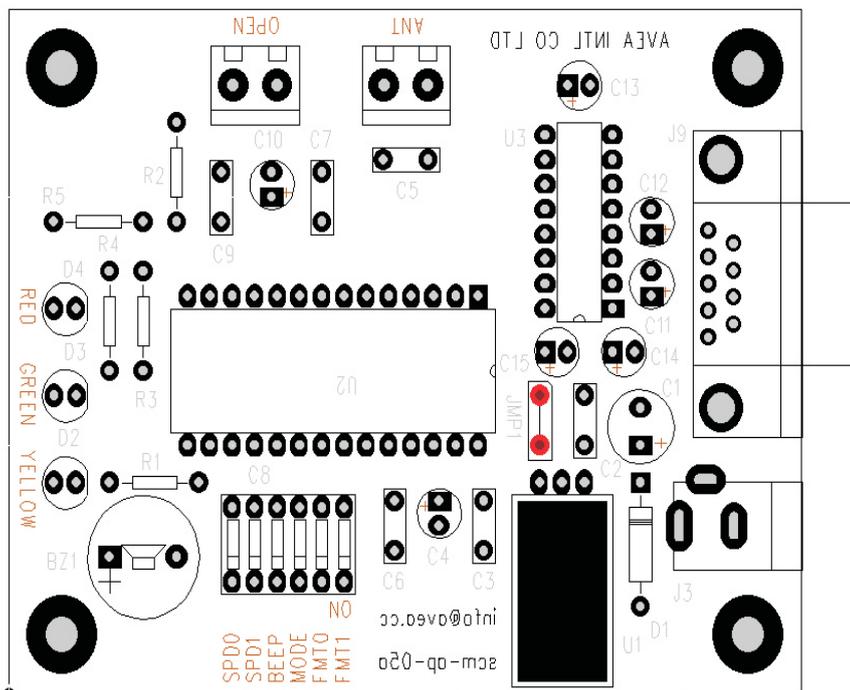
The KIT comes with a bundled CDROM. Just insert the CDROM into your computer (run Windows), it will start the installation process automatically. Please refer to the Time Recorder Startup Guide for details.

\*\*\*\*\* ALLOW ACCESS feature for electric lock is not available for KS232D.

## CIRCUIT DESCRIPTION

The unit make use of an highly integrated module MS232D which is the heart of the unit providing all the functionalities. By adding small amounts of surrounding components, the complete proximity card reader unit is built. U1 is the regulator for the unit. U3 is used as the level shifter in order to interface to the RS232 link. By writing simple application software on the PC side, the unit can be used for attendance application, restricted access controlling, etc.

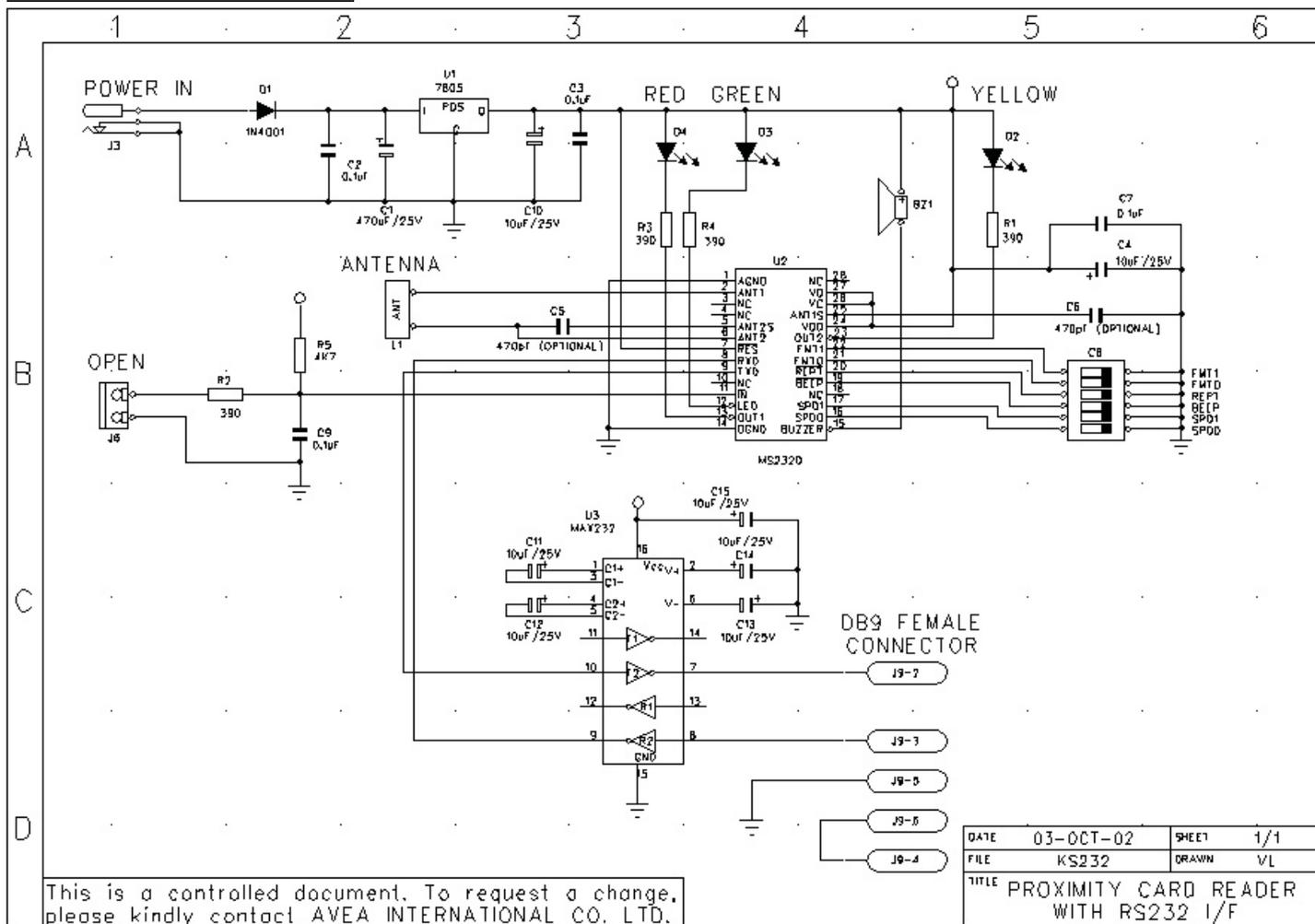
## PCB LAYOUT



## PART LIST (PCB Assembly)

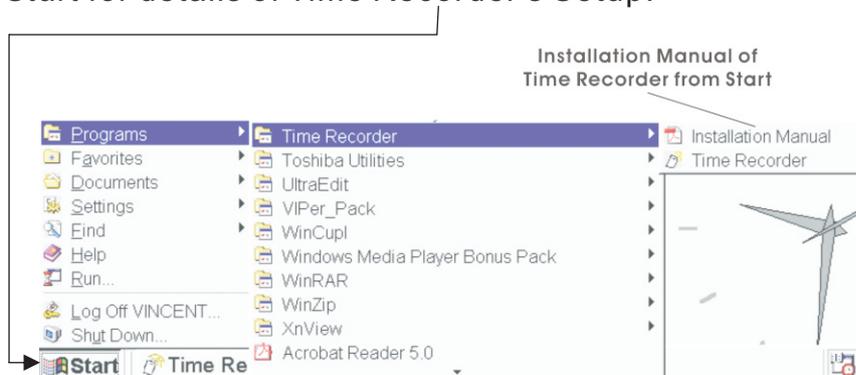
ITEM	REFERENCE	COMPONENT	REMARK
1	U1	7805	Regulator
2	U2	MS232D with IC socket	Proximity card reader module
3	U3	MAX232 with IC socket	Level shifter
4	C1	470uF 25V	or 330uF 25V
5	C2, 3, 7, 9	Mono. Capacitor 0.1uF	
6	C4, 10, 11-15	E. Capacitor 10uF 25V	or 10uF 50V
7	C5, 6	C. Capacitor 470pF	Not used.
8	C8	DIP Switch 6 Position	
9	D1	Rectifier 1N4001	
10	D3	Green LED	
11	D4	Red LED	
12	D2	Yellow LED	
13	R1, 2, 3, 4	Resistor 390 ohm	
14	R5	Resistor 4.7 Kohm	
15	BZ1	5V Buzzer	
16	J3	2.1mm DC JACK	Center terminal is positive.
17	J6, L1	2-Pin Terminal Block	L1 is used to connect the coil antenna.
18	J9	DB9 Female Connector	Use straight through cable to connect to a PC.
19	PCB	scm-ap-05a	

## SCHEMATIC DIAGRAM



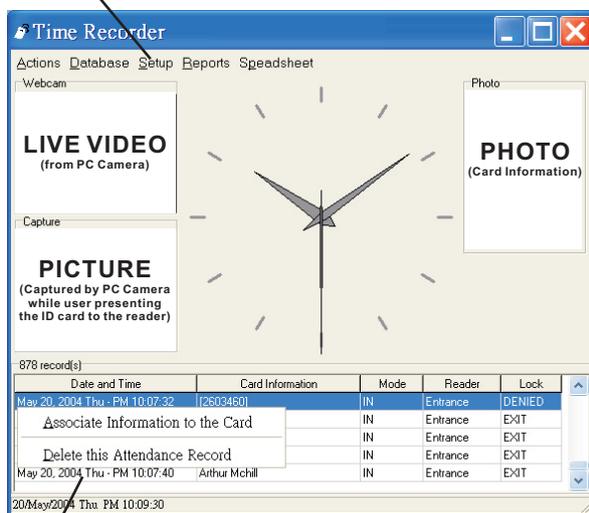
## Installation of Time Recorder:

1. Turn on the computer.
2. Download and install the Time Recorder software from <http://avea.cc/sw/TR.zip>.
3. Save and unzip the file.
4. Execute the setup.exe program.
5. Follow the installation instruction to finish the installation.
3. The detailed installation manual for the Time Recorder will be automatically installed into your computer when you install the application software. Follow the installation instruction to finish the installation and follow the Installation Manual of Time Recorder from Start for details of Time Recorder's Setup.



## Time Recorder Quick Start

1. Setup the RFID Readers
2. EMAIL Settings
3. Webcam Setup



4. Present the ID cards to the reader.
5. Double click the record to enter Card Information.  
Or, Edit Card Information in Setup
6. Start and enjoy the Time Recorder.

*For details, please check the Installation Manual or email us at [support@avea.cc](mailto:support@avea.cc) for support.*

INDICATION	RED LED	GREEN LED	BUZZER	LOCK
Stand by mode – waiting for instruction	Blink			
Action: Present a card to the reader				
The reader is not connected to the computer	ON			
ID card with NO Card Information	ON		ON	
ID card with Card Information	ON	ON	ON	
ID card with Card Information and access allowed	ON	ON	ON	RELEASE