Description

This image recording module is a standard module which can be connected to traditional visual door phone, such that to enhance it to a door phone of memory feature.

Features

- ✓ Small in size: 80x55mm
- ✓ On board Flash memory (option)
- ✓ On board SD card (option)
- ✓ DC12V operation
- ✓ Power on to capture a photo(option)
- ✓ External door bell trigger to capture a photo
- ✓ Video output to TV
- ✓ 3-Keys operation
- ✓ Preset NTSC or PAL TV system input
- ✓ Manual capture function
- ✓ 2mm pin connectors
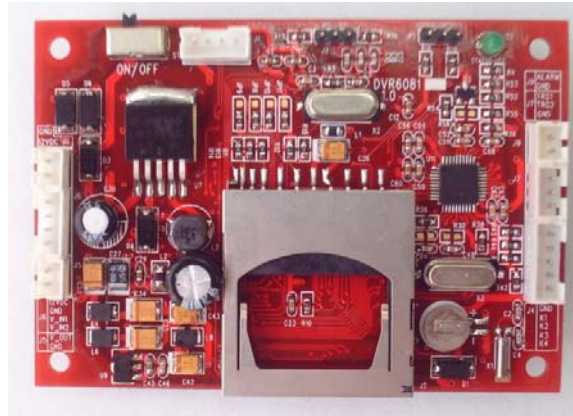
Connector Description

Note: the connectors shown below will depend on the firmware design, not applicable for all models.

| Connector	Function	Remark
JP1	Select NTSC/PAL	Need to be selected before power up
J1	NC	For debug purpose,
J2	SD card slot	Support up to 2G SD card
J3	JPG/AVI	Need to be select before power up
J4	Keyboard input	4 bit binary input
J5	Video out	2-pins, To output video signal to TV set
J6	Camera input	4-pins, for video and power supply, V_in1 effective
J7-TG1	Trigger input	Active low, to capture a photo/AVI
J7-TG2	Power on capture	TG2: Enable: short to GND, Disable: NC
J8	NC	Reserved
J9	NC	Reserved

Electrical Characteristics   (at room temperature 25C)

Parameter	Condition	Min	Type	Max	Unit
Operation Voltage		7.5	12	13.5	V
Operation Current		238	145	128	mA
Standby Current	No Video o/p	215	130	120	mA

Key Operation

| Key	Preview Mode	Playback Mode	Setup Menu	Format	Time setup
OK	Press to enter Playback Hold 3 sec to enter Setup	Press and hold 3sec to enter Preview Start AVI	Confirm	Confirm to format	Confirm digit select and go next field,
UP	Capture JPG	Turn previous file	Select item	Select item	Digit increment
DN	Capture AVI	Turn next file Hold 3 sec to delete file	Select item	Select item	Digit decrement

<u>**Operation Manual**</u>

1. TV system selection
   The module can run under either NTSC or PAL TV system, need to short the jumper JP1 on board before power up.
2. Power on to capture a photo/AVI
   2.1 Set JPEG/AVI to desire position
   2.2 Set J7-TG2 to enable or disable power on capture feature. Enable: TG2 short to ground, disable: NC
3. External trigger to capture a photo/AVI
   3.1 It is effective either Power-On Capture enable or disable.
   3.2 This function is only valid if the module is idle, ie at preview mode
   3.3 Connect J7-TG1 to external trigger, such as signal from door bell, active low
4. At preview mode,
   4.1 press UP to snap a picture;
   4.2 press DN to record AVI for 10sec
   4.3 press OK to enter playback mode
   4.4 press and hold OK 3sec to enter Setup menu
5. At playback mode
   5.1 Press UP to view previous file, press DN to view next.
   5.2 If the file is AVI, press OK to start playing, can't stop in between
   5.3 To enter preview mode, if at JPG file, press OK; if at AVI file, press and hold OK for 3sec
   5.4 Press DN and hold for 3sec, delete current view file
6. In Setup menu
   6.1 Use UP/DN to select item between D/T or format
   6.2 Use OK to confirm the setting
7. In D/T setup menu item.
   7.1 Use UP/DN to change digits of date or time
   7.2 Use OK to confirm and move cursor to next position, until quit to preview;
8. In Format menu item.
   8.1 Use OK to confirm, after format, if will be quit to preview.
   8.2 Use UP/DN to cancel and quit

Setup Menu
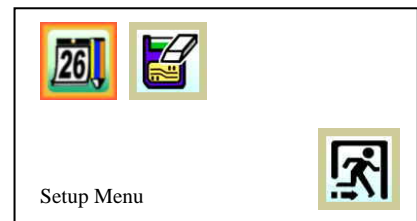
<u>**Application Note**</u>

A. Connection as an add-on module for the Visual door phone

Main Unit

Image Recording Module

Door camera

PWR
GND
TRG
Video
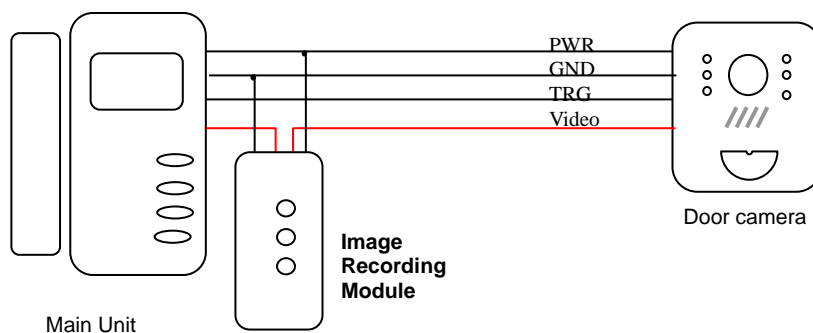
1. It is no need to disassemble the existing case, simply redirect the video cable from main unit to the module.
2. Connection method: (a) connect the video cable from door camera to the video-in terminal of the recording module. (b) use another pair wire to connect the video-out from the recording module to the main unit video-in terminal
3. It is assumed that the system power is not supplied to the door camera unit until there is a trigger from door cam or pickup the phone of main unit. Therefore, power on to capture function is valuable in this application. When there is a trigger from the door camera, it will capture a photo automatically. However, if it is too boring to the user, this feature can be disabled by open circuit of pin TG2 of J7.

B. Embedded module for Visual door phone system

1. Assume the system and the recording module are powered all the time, such case, people can use trigger input (J7 TG1) to perform a snap shot or recording video.
2. In this case, the system can disable the power on capture function. That means every time the door cam was pressed, a photo/avi will be stored.
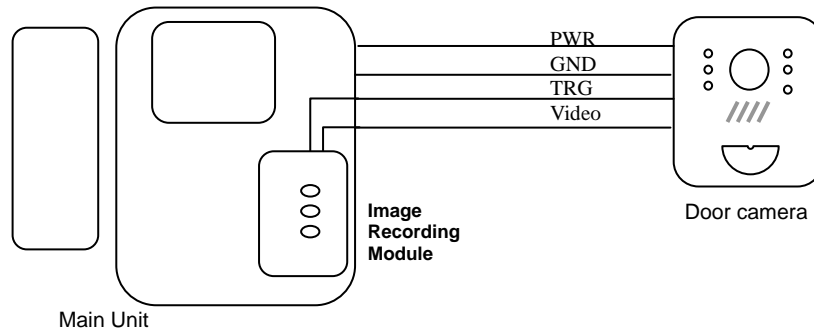
C. Image and file storage information

Image format	Still picture: JPG, VGA (640x480)
	Video: MJPEG, QVGA (320x240), 5fps
File size per image	~60KB (depends on scene)
File size per video clip(10sec)	~500KB
Max image number per folder	1024 images, rolling over if files exceed 1024
No of folder	1 folder
Max memory size for SD card	2G

D. Folder and File Name Format
  i.   Folder Name: Images
  ii.   File Name: compose of 8 characters, representing month(x), day(y), hour(HH), minute(MM) and sec(SS)
       Eg. Xyhhmmss.jpg
       X: 1 -January, 2 - February and etc, A – Oct, B – Nov, C – Dec
       Y: 1-9 means 1-9, A for 10, B for 11 and so on, till V for 31st
       Eg. Image capture at Jan 16, 18:51:04 will be 1G185104.JPG