DVR1A – DIGITAL VIDEO RECORDER

1. Introduction

Thank you for choosing the **DVR1A**. Read the manual carefully before bringing this device into service.
The **DVR1A** converts analogue NTSC or PAL video to digital images and records them on a removable hard disk drive. Digitally recorded video has several advantages over analogue video recorded on tape. There is no need to adjust tracking. Digital video can be indexed by time schedule or events and you can instantly view video after selecting the time or event. You can freeze frames, fast-forward, fast-reverse, slow-forward and slow-reverse without image streaking or tearing. It can be used as a replacement for a time-lapse VCR in a security installation.

a) Safety Prescriptions

- Handle this device with care.
- Do not expose this device to direct sunlight.
- Do not use this device near water and protect it against any possible contact with water.
- Do not unplug the power connector before you've correctly switched the device off.
- Use this device solely with the included power adapter.
- Unauthorised attempts to repair may result in fire, electroshock or other hazards.
- A qualified technician should service this device.
- Do not switch the power ON and immediately (± 3 sec.) OFF again.
- Use a type of power source as indicated on the manufacturer's label.
- This device should be installed by a qualified person and conform to all local codes.

b) Features

- This device replaces a traditional time-lapse VCR and is compatible with most multiplexers and quad processors.
- Compatible with NTSC / PAL systems.
- Recording speed : 1-60 images/sec. (NTSC) or 1-50 images/sec. (PAL)
- Recording quality : best / high / normal / basic resolution
- Quick-search modes: search a fragment by time, event or alarm list.
- Fast forward or reverse from 2X up to 32X and slow forward or reverse from 1/2X to 1/32X.
- Adjustable time display format
- Password protection
- Automatic recording possible upon reception of an alarm signal or after detection of video loss
- Alarm output : audio signal possible upon reception of alarm signal
- Programmed recording
- Power off protection: the device cannot be switched off with the POWER button during recording.
- RS232C control port: you can connect the **DVR1A** to external devices through an RS-232C interface.
- When the HDD is full, the device stops recording. In overwrite mode, the device continues recording and overwrites the oldest recordings.

c) Specifications

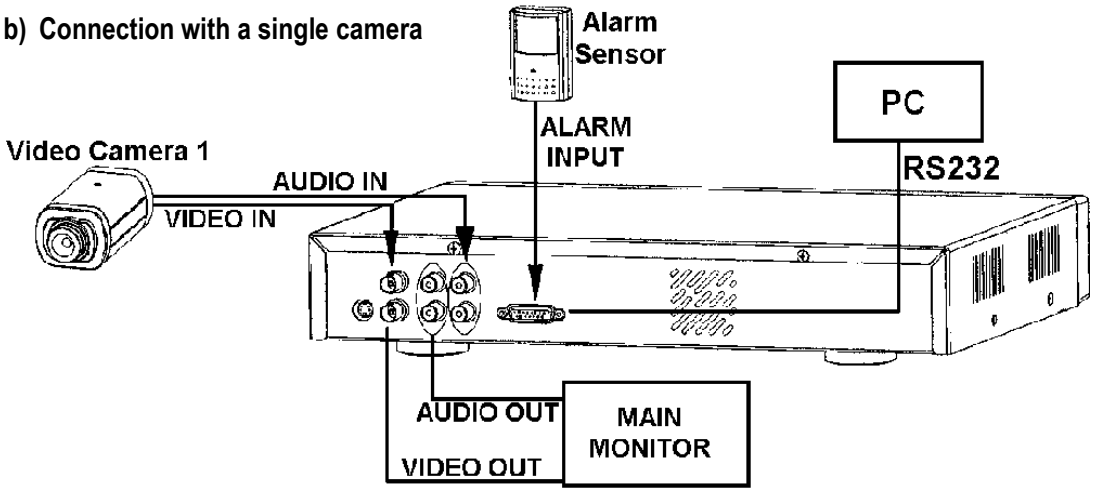
Video Format	NTSC/EIA or PAL/CCIR
HDD Storage	IDE type, UTMA 66 or above, 1 removable HDD supported
Record Mode	manual / alarm / external / timer
Search Function	Date & time / event / alarm searching
RS232	yes
On-Screen Display (OSD)	yes
Security	password protection
Video Input	1 video input, composite 1Vp-p/75Ω (BNC)
Video Output	1 video output, composite 1Vp-p/75Ω (BNC)
Video Resolution	720 x 576 (PAL), 720 x 486 (NTSC)
Video Compression	wavelet
Display Refresh Rate	60ips (NTSC), 50ips (PAL)
Record Refresh Rate	60ips (NTSC), 50ips (PAL)
Alarm Input	TTL input, high (5V), low (GND)
Alarm Output	COM, NO
Video Loss Detection	yes
Time Display Format	yes
Power Source	AC 100-240V ±10% switching adapter
Power Consumption	< 27W
Dimensions	380 x 270 x 65mm (W x L x H)
Weight	5.2kg
Operating Temperature	10 – 40°C

2. Installation

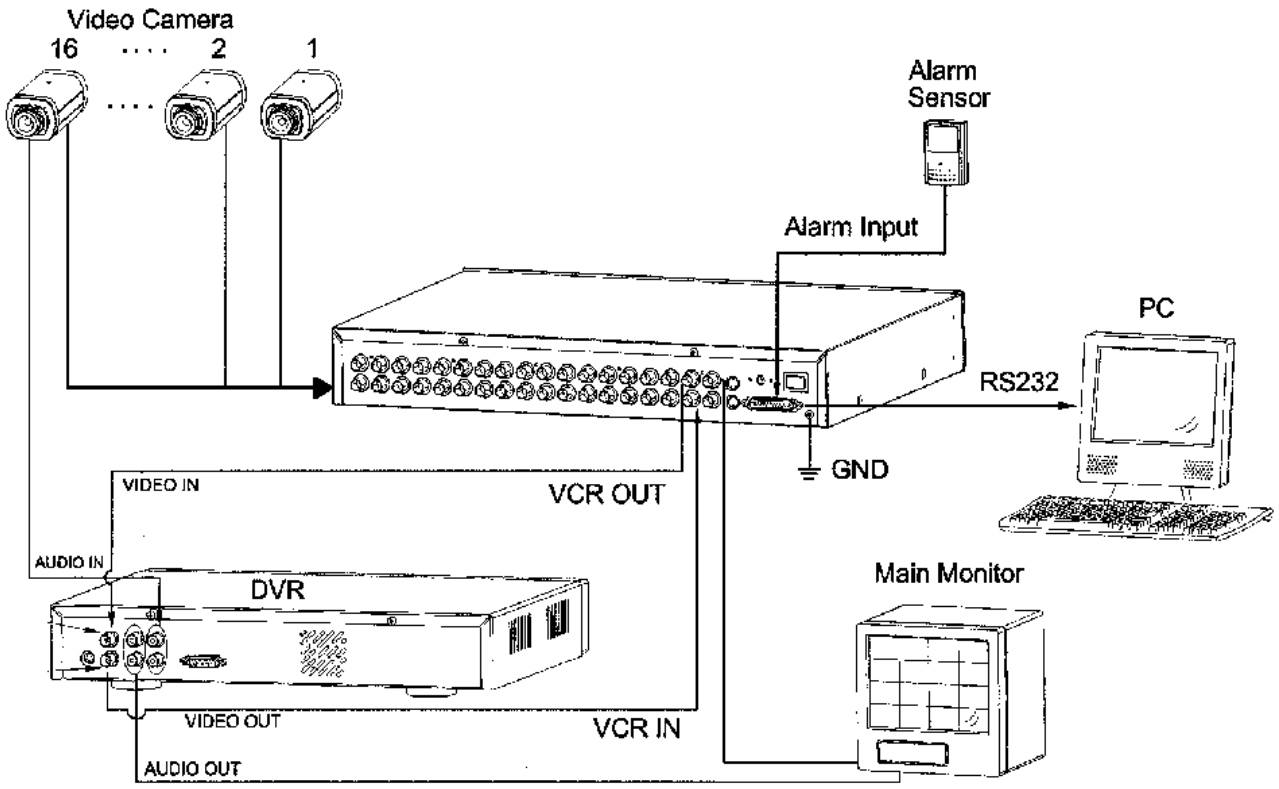
a) Contents

- single-channel digital video recorder
- HDD tray
- tray key
- power cable
- user manual
- rack mounting kit (optional)
- demounted 15-pin connector

b) Connection with a single camera



c) Connection with a multiplexer

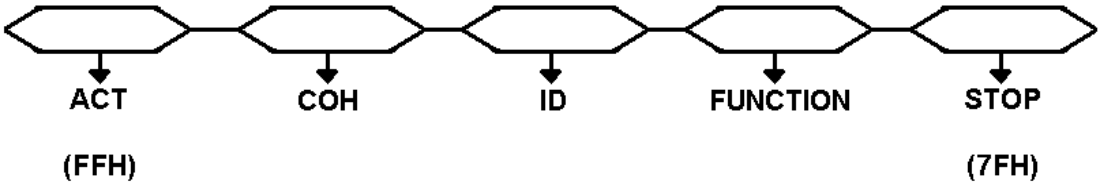


d) Rack Mount Installation

The device can be mounted in a rack with the optional mounting equipment.
Fix the smallest side of the mounting plates (with the small holes) to the device (screw holes are provided at the sides) and then fix the device to the rack.

e) RS232 Remote Protocol

You can use the PC keyboard to simulate the DVR keypad.
DATA: REMOTE PROTOCOL using 8-bit data – 1 start bit – 1 stop bit

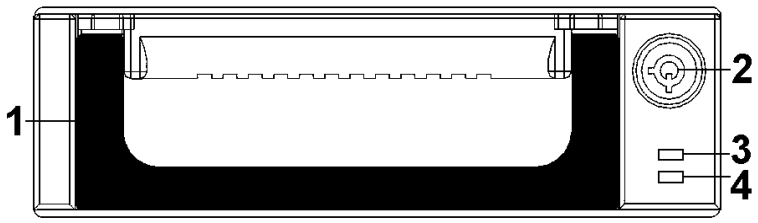


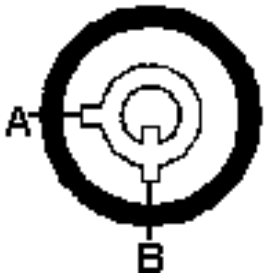
FUNCTION	CODE	ASCII	FUNCTION	CODE	ASCII
MENU	0 x 4D	M	DOWN/STOP	0 x 4E	N
ENTER	0 x 0D	ENTER	LEFT/F.F.	0 x 4C	L
SEARCH	0 x 48	H	RIGHT/F.R.	0 x 52	R
SLOW	0 x 53	S	PLAY	0 x 50	P
UP/PAUSE	0 x 55	U	RECORD	0 x 72	r

3. Configuration

a) Installing HDD

1) HDD Description





1. Handle of the HDD tray
2. Tray lock:
   In position A (cf. drawing on the right), the tray is locked and cannot be removed.
   In position B, the tray is unlocked and can be removed.
   The key lock must be in position A before you switch on the device, if not the hard disk drive cannot be used in a regular way.
3. Power indicator (green LED): lights up when the device is switched on.
4. HDD access indicator (yellow LED).

2) Installing the Hard Drive into the Tray

- Unlock the tray lock, pull out the handle and pull the tray out of the device.
- Push the release latch at the left ("OPEN") to slide the top cover backwards and remove it.
- Connect the DC power cable and IDE cable to the HDD.
- Insert the HDD in the tray and secure the HDD through the screw holes in the sides.
- Put the top cover back on the tray and slide it forward to secure it.
- Slide the tray back into the device.

3) Max. Recording Time

The recording time depends on the recording speed and quality. Please refer to the tables below:
Note: these data are the results of a test during which regular TV programs were recorded

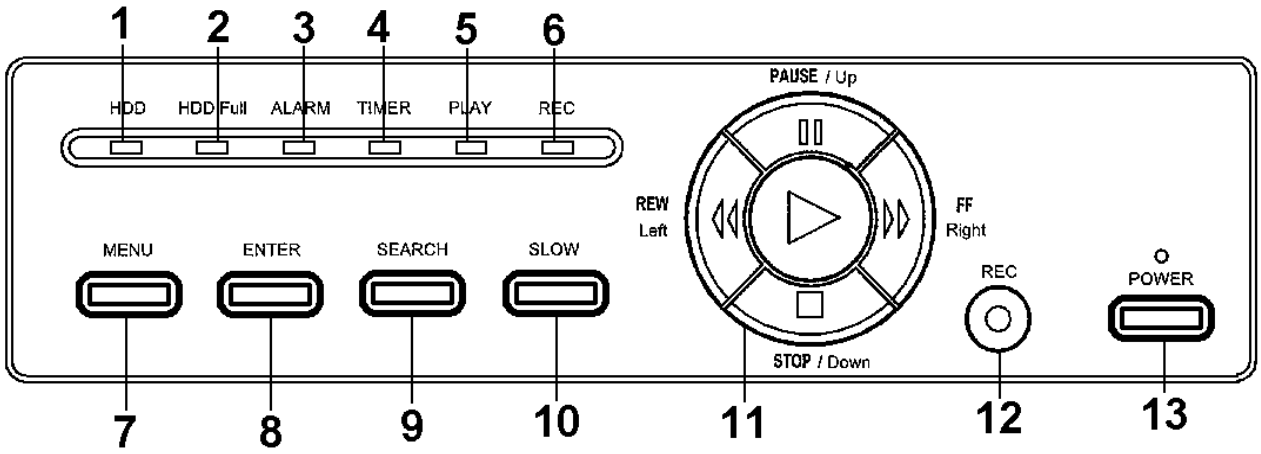
NTSC SYSTEM

IPS		60	30	15	8	4	2	1
rec. quality	Best	12hr	24hr	48hr	90hr	180hr	360hr	720hr
	High	15hr	30hr	60hr	112.5hr	225hr	450hr	900hr
	Normal	24hr	48hr	96hr	180hr	360hr	720hr	1440hr
	Basic	40hr	80hr	160hr	300hr	600hr	1200hr	2400hr
HDD type		120GB						

PAL SYSTEM

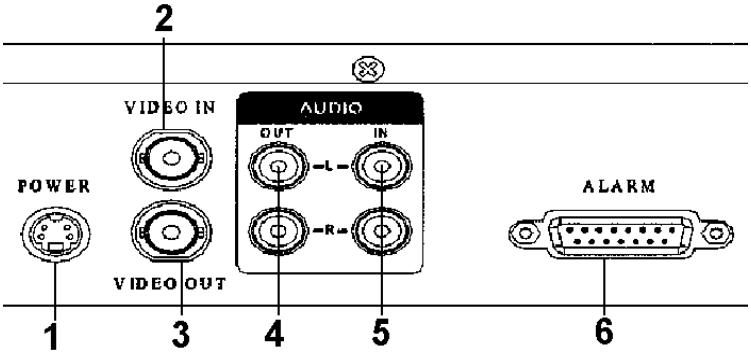
IPS		50	25	12	6	3	2	1
rec. quality	Best	12hr	24hr	50hr	101hr	203hr	304hr	608hr
	High	15hr	30hr	63hr	127hr	253hr	380hr	760hr
	Normal	24hr	49hr	101hr	203hr	405hr	608hr	1216hr
	Basic	41hr	81hr	168hr	338hr	675hr	1013hr	2025hr
HDD type		120GB						

b) Control Panel Description



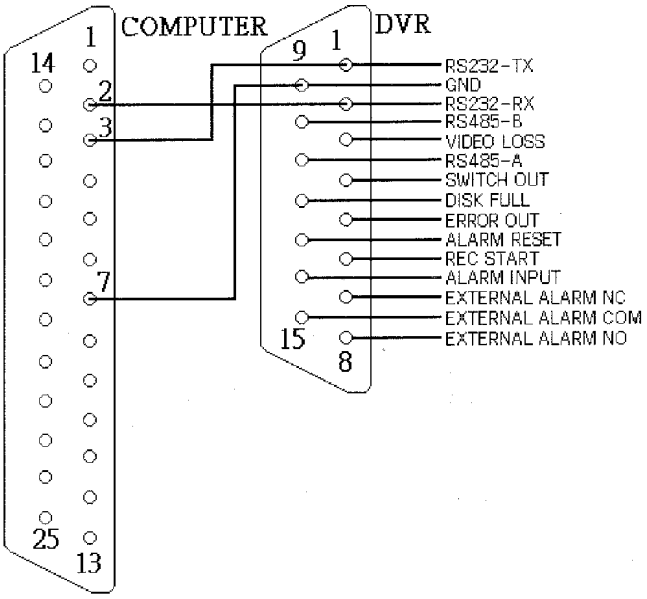
1. HDD: HDD is activated
2. HDD FULL: HDD is full
3. ALARM: alarm is armed (when alarm is triggered, LED is flashing)
4. TIMER: the device is programmed to record
5. PLAY: recorded material is being reproduced
6. REC: the device is recording
7. MENU: Press MENU and enter the password (default: 0000) to access the main menu.
8. ENTER: Press ENTER to confirm data or a selection.
9. SEARCH: Press SEARCH to search a video fragment by recording time.
10. SLOW: Press SLOW to slow down the play speed.
11. Controls for video playback
    ▶: PLAY: to play recorded video.
    ■ : STOP: to stop playback.
    ⏸: PAUSE: to pause the fragment.
    ◀◀: REW: for fast rewind in PLAY mode or to go back to the previous image in PAUSE. Speed can be adjusted by pressing the REW button several times.
    ▶▶: FF/Right: for fast forward in PLAY mode or to move on to the next image in PAUSE. Speed can be adjusted by pressing the REW button several times.
12. REC: Press this button to start recording.
13. POWER: Press this button to power on, and press again to power off.

c) Back Panel Description

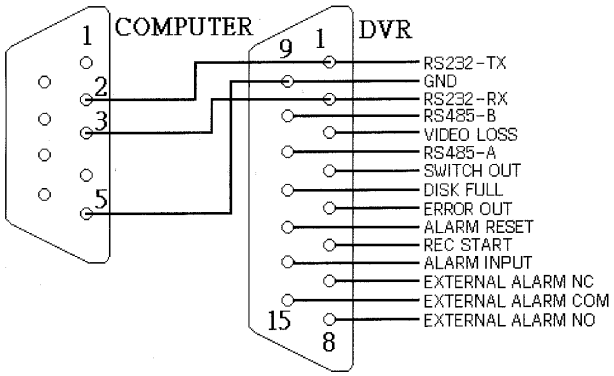


1. POWER: connect the provided adapter to this connector and plug it into the mains.
2. VIDEO IN: to connect to a video source such as a quad, a multiplexer or a camera.
3. VIDEO OUT: to connect to a monitor or the video input of a quad or multiplexer.
4. AUDIO OUT: to connect to a monitor.
5. AUDIO IN: to connect an audio source such as a microphone.
6. External RS232/Alarm in- and output: the device can be controlled remotely by an external device or trigger mechanism. The connections should be established as follows:

25-pin COM port



9-pin COM port

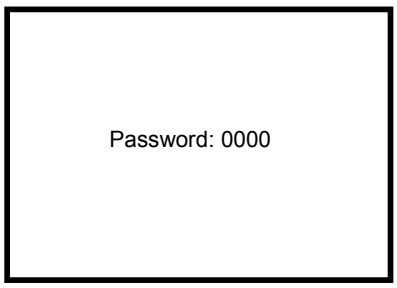


PIN 1: RS232-TX: RS-232 + PIN 2: RS232-RX: RS-232: This device can be controlled remotely by an external device or control system, such as a control keyboard, using RS-232 serial communications signals.
PIN 3: VIDEO LOSS: When video loss occurs, a signal is sent to trigger another device. During normal functioning this signal is high ; when video loss occurs it becomes low.
PIN 4: SWITCH OUT: Connect this pin to the VCR trigger recording terminal of a multiplexer, in order to synchronise recording signals. The default mode of this signal is low.
PIN 5: ERROR OUT: When a HDD error occurs, this pin will send a signal. During normal functioning this signal is high ; when a HDD error occurs it becomes low.
PIN 6: REC START: This pin can accept the trigger signal from an external device to start recording. Normally, this signal is high ; when it becomes low the **DVR1A** starts recording ; when it becomes high again the recording stops.
PIN 7: EXTERNAL ALARM NC + PIN 8: EXTERNAL ALARM NO: During normal functioning COM is connected with NC and not with NO. When there is an alarm trigger, COM disconnects from NC and connects with NO.
PIN 9: GND: GROUND
PIN 10: RS485-B + PIN 11: RS485-A: The device can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 serial communications signals.
PIN 12: DISK FULL: If you've connected several **DVR1A**'s, and the hard disk of the operating one is full, it will send a signal to the next device, which will start recording. During normal functioning this signal is high ; when the HDD is full, it becomes low.
PIN 13: ALARM RESET: By connecting ALARM RESET (pin 13) to GND (pin 9), you can disable the ALARM. An external signal to ALARM RESET (pin 13) can be used to reset both ALARM OUTPUT signal and **DVR1A**'s internal buzzer. During normal functioning this signal is high ; when the alarm reset is triggered, it becomes low and will stop all alarm functionalities.
PIN 14: ALARM INPUT: By connecting ALARM INPUT (pin 14) to GND (pin 9), the **DVR1A** will start recording and the buzzer will be on. During normal functioning this signal is high ; when there is an incoming alarm signal, it becomes low, the device will start recording and the buzzer will be on.
PIN 15: Com: During normal functioning COM is connected with NC and not with NO. When there is an alarm trigger, COM disconnects from NC and connects with NO.

4. System Set-up

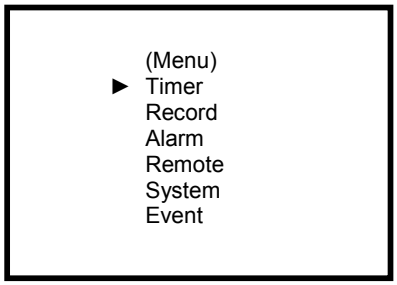
a) Open Main Menu

Press the MENU button on the front of the device. The screen you see on the right will be displayed. You will need to enter a password to access the main menu. Press ◄ or ► to change digits and ▲ or ▼ to change the value of the digit. Press ENTER to confirm the password.



e.g.: password: 0000 (default: 0000)

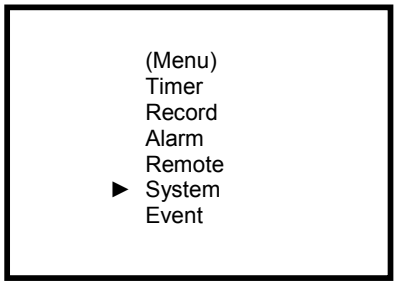
After entering the correct password and confirming it by pressing ENTER, this display will appear:



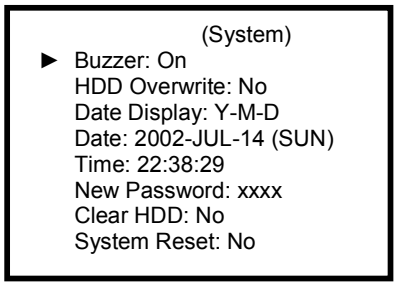
b) System Menu

Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" above)

Press ▲ or ▼ until 'System' is selected (cf. figure on the right).



Press ENTER to enter the system set-up menu. The screen as shown on the right will be displayed.



1) Internal Alarm Buzzer ON/FF Set-Up

1. Press ▲ or ▼ to choose 'Buzzer' and the ENTER button to open the buzzer menu.
2. Press ▲ or ▼ to switch the alarm buzzer ON/OFF: On = buzzer ON, off = buzzer OFF.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

2) HDD Overwrite Set-Up

1. Press ▲ or ▼ to choose HDD Overwrite and the ENTER button to open the HDD Overwrite menu.
2. Press ▲ or ▼ to choose HDD Overwrite : Yes / No
   - Yes: HDD Overwrite on. When the HDD is full, the device will start overwriting the oldest data.
   - No: HDD Overwrite off. When the HDD is full, the device will stop recording.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

3) On-Screen Display for Date

1. Press ▲ or ▼ to choose 'Date display' and the ENTER button to open the 'Date display' menu.
2. Select a format with ▲ or ▼ : Y-M-D (year-month-day), M-D-Y (month-day-year), D-M-Y (day-month-year) or OFF (date is not displayed).
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

4) System Date Set-Up

1. Press ▲ or ▼ to choose 'Date' and the ENTER button to open the system date menu.
2. Press ▲ or ▼ to change the value and ◄ or ► to move to the previous or next value.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

5) System Time Set-Up

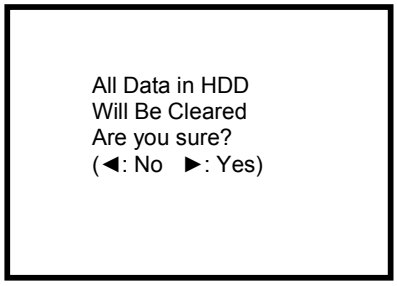
1. Press ▲ or ▼ to choose 'Time' and the ENTER button to open the system time menu.
2. Press ▲ or ▼ to change the value and ◄ or ► to move to the previous or next value.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

6) Change Password (default password : 0000)

1. Press ▲ or ▼ to choose 'New password' and the ENTER button to open the password menu.
2. Press ▲ or ▼ to change the value and ◄ or ► to move to the previous or next value.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.

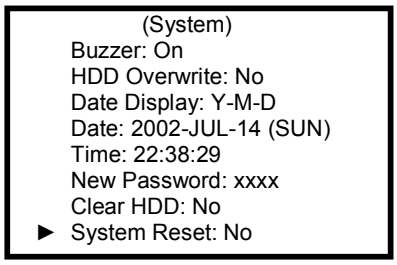
7) Clear HDD Yes / No Set-Up

1. Press ▲ or ▼ to choose 'Clear HDD' and the ENTER button.
2. Press ► or ◄ to choose between Yes and No:
   Yes: press ► to clear the HDD.
   No: press ◄ NOT to clear the HDD.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.



8) System Reset Set-Up

1. Press ▲ or ▼ to choose 'System Reset' and the ENTER button.
2. Press ▲ or ▼ to choose system reset set-up YES or NO.
   Yes: to reset the system (load default system settings)
   However, Date / Time & Password set-up will not be changed.
   No: not to reset the system.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the system set-up menu.



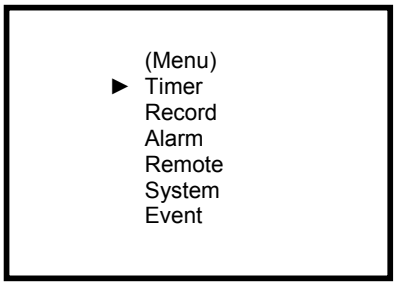
Note : If operation without any action until 60 seconds, it will close the set-up mode.

c) Timer Programming

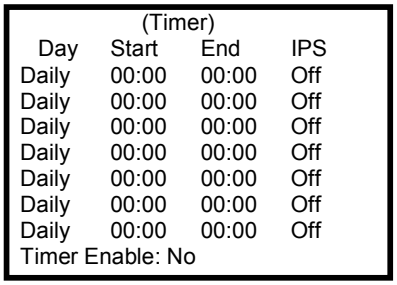
1) Enter "Timer" Menu

Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" on p. 7)

Press ▲ or ▼ until 'Timer' is selected (cf. figure on the right).



Press ENTER to enter the timer menu. The screen as shown on the right will be displayed.



2) Timer Recording Set-Up

1. Press ENTER to set the day selection of the first line.
2. Press ▲ or ▼ to select the day set-up:
   - Daily : every day
   - SUN : Sunday
   - MON : Monday
   - TUE : Tuesday
   - WED : Wednesday
   - THU : Thursday
   - FRI : Friday
   - SAT : Saturday
   - MO-FR : Monday to Friday
   - SA-SU : Saturday & Sunday
   - JAN-01 : special date.
3. Press ◄ or ► to select the recording start time (HH:MM).
   Press ▲ or ▼ to set the recording start time.
4. Press ◄ or ► to select the recording end time (HH:MM).
   Press ▲ or ▼ to set the recording end time.
5. Press ◄ or ► to select the number the images per second (IPS).
   Press ▲ or ▼ to set the number of IPS:
   NTSC : 1, 2, 4, 8, 15, 30, 60
   PAL: 1, 2, 3, 6, 12, 25, 50
   OFF : not activated.
   REMARK: Recording quality and format are determined in the 'Record' menu.

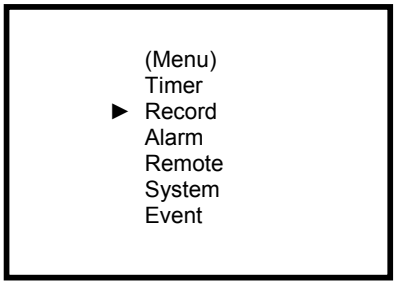
6. Press MENU to confirm current settings and ENTER to go to the next programming line.
7. Press ▲ or ▼ to select 'Timer Enable'
   - Yes: to activate the programmed settings.
   - No: to ignore the programmed settings.
8. Press MENU to confirm the current set-up and return to the previous menu.
9. Press MENU again to exit and close the Timer menu.

d) Recording Mode Set-Up

1) Enter "Record" menu

Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" on p. 7)

Press ▲ or ▼ until 'Record' is selected (cf. figure on the right).



Press ENTER to enter the recording menu. A screen as shown on the right will be displayed.

2) IPS Set-Up (images per second)

1. Press ▲ or ▼ to select 'Record IPS' and press ENTER to open the IPS set-up.
2. Press ▲ or ▼ to set the IPS recording speed : 60-30-15-8-4-2-1 (NTSC) or 50-25-12-6-3-2-1 (PAL).
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the record menu.

3) Recording Quality Set-Up

1. Press ▲ or ▼ to select 'Record Quality' and press ENTER to open the record quality set-up.
2. Press ▲ or ▼ to set the recording quality level : best / high / normal / basic
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the record menu.

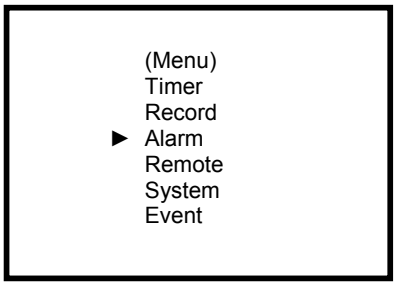
4) Recording Mode Set-Up

1. Press ▲ or ▼ to select 'Record Mode' and press ENTER to open the recording mode set-up.
2. Press ▲ or ▼ to set the recording mode: frame / field
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the record menu.

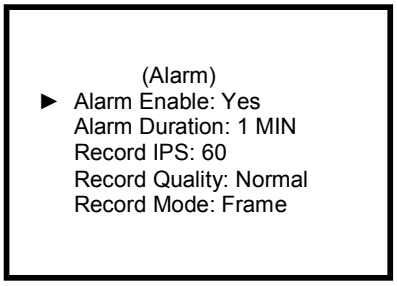
e) Alarm Set-Up

1) Enter Alarm Menu

Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" on p. 7)
Press ▲ or ▼ until 'Alarm' is selected (cf. figure on the right).



Press ENTER to enter the alarm menu. A screen as shown on the right will be displayed.



2) Alarm Enable ON/OFF Set-Up

1. Press ▲ or ▼ to select 'Alarm Enable' and press ENTER to open the alarm enable set-up.
2. Press ▲ or ▼ to set the alarm ON or OFF.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the alarm menu.

3) Alarm Duration Set-Up Option

1. Press ▲ or ▼ to select 'Alarm Duration' and press ENTER to open the alarm enable set-up.
2. Press ▲ or ▼ to set the alarm duration (1 min / 3 min / 5 min / 10 min / 30 min / 1 hour / always).
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the alarm menu.

4) Alarm Recording Speed Set-Up (IPS)

1. Press ▲ or ▼ to select 'Record IPS' and press ENTER to open the IPS set-up.
2. Press ▲ or ▼ to set the recording speed IPS: 60 / 30 / 15 / 8 / 4 / 2 / 1 (NTSC) or 50 / 25 / 12 / 6 / 3 / 2 / 1 (PAL).
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the alarm menu.

5) Alarm Recording Quality Set-Up

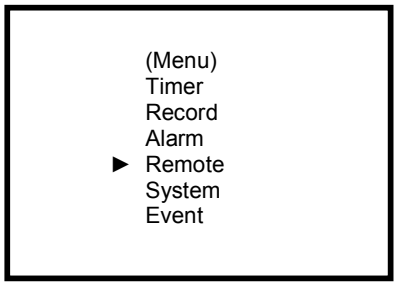
1. Press ▲ or ▼ to select 'Record Quality' and press ENTER to open the recording quality set-up.
2. Press ▲ or ▼ to set the recording quality level: best / high / normal / basic.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the alarm menu.

6) Alarm Recording Mode Set-Up

1. Press ▲ or ▼ to select 'Record Mode' and press ENTER to open the record mode set-up.
2. Press ▲ or ▼ to choose the recording mode: frame / field.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the alarm menu.

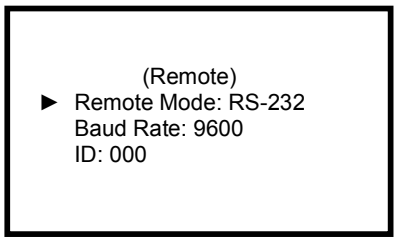
f) Remote Protocol Set-Up

1) Enter Remote Menu



Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" on p. 7)
Press ▲ or ▼ until 'Remote' is selected (cf. figure on the right).

Press ENTER to enter the remote menu. A screen as shown on the right will be displayed.



2) Remote Protocol Mode Set-Up

1. Press ▲ or ▼ to select 'Remote Mode' and press ENTER.
2. Press ▲or ▼to select the protocol: RS-232 or RS-485.
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the remote menu.

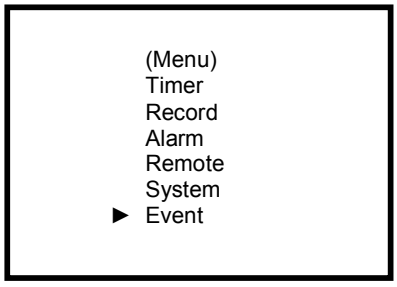
3) Remote Protocol Transmitting Baud Rate Set-Up

1. Press ▲ or ▼ to select 'Baud Rate' and press ENTER.
2. Press ▲ or ▼ to set the baud rate: 115200 / 57600 / 19200 / 9600 / 480 / 3600 / 2400 / 1200
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the remote menu.

4) Remote Protocol ID Set-Up

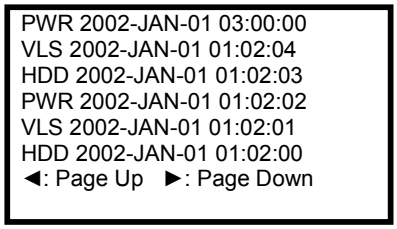
You can use the RS232 remote protocol to control more than 1 **DVR1A**. The ID number can range from 000 to 999.
1. Press ▲ or ▼ to select 'ID' and press ENTER.
2. Press ▲ or ▼ to set numerical number and press ◄ or► to move digit location (3 digits).
3. Press MENU to confirm the current set-up and return to the previous menu.
4. Press MENU again to exit and close the remote menu.

g) Event List



Press the MENU button on the front of the device, enter the password and confirm it by pressing ENTER (cf. "**4a: Open Main Menu**" on p. 7)
Press ▲ or ▼ until 'Event' is selected (cf. figure on the right).

Press ENTER to see the entire 'list of events'. A screen as shown on the right will be displayed.



Press ◄ or ► to switch pages (8 events on 1 page) and press ▲ or ▼ to select the desired event. Press ENTER to play it.

HDD: HDD error time.
VLS: video loss time.
PWR: recovery time after power shutdown (e.g. power shut down at 01:00 and power recovery at 03.00. The display indicates that the device restarted at 03:00 after a power shutdown).

5. Operation

a) Power ON

Before turning power ON make sure the HDD has been locked, and the power LED is red. After pressing the POWER button, the POWER LED will turn to orange and all the other LEDs will turn RED, except the LED for HDD. The screen will display "HDD Detecting" ; power on period will be approx. 5 to 15 seconds. If HDD is set as master, the screen will display "HDD Master Connect". If HDD is set as slave, the screen will display "HDD Slave Connect". In order to shorten the power on running time, we suggest setting the HDD as master (by means of the jumper on the HDD itself). When the **DVR1A** has powered on completely, the POWER LED will turn to green.

b) Recording

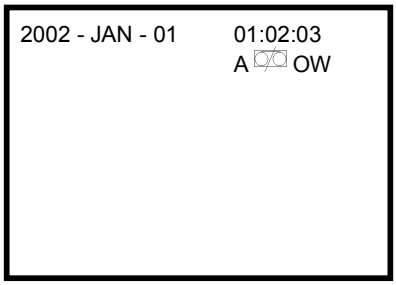
Your **DVR1A** offers a variety of flexible recording modes. You can set it up to record continuously or programmed, or only to record events ; you can even set the recording speed and resolution. All these options are set through the system menu. If there should be a power cut during recording, the device will automatically resume recording when the power returns. The original recording set-up will be respected.

There are 4 recording modes for your device: alarm recording mode, external trigger recording mode, programmed recording mode and manual recording mode. All recording modes are described here:

1) Alarm Recording

When the **DVR1A** receives an alarm input, it will start to record immediately. The recording speed & quality will be as set in the alarm recording mode set-up.

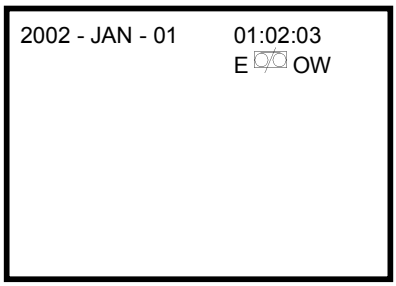
The screen will be as displayed on the right.
A = alarm trigger
⌧ = recording
OW = HDD overwrite
32GB = if the OW location shows 32GB, it means that there is 32GB recording capacity left on the HDD.



2) External Trigger Recording

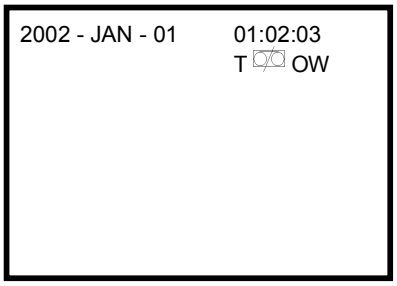
The **DVR1A** can be programmed to start recording when it receives a trigger from an external device. When a 'REC START' command is received (RS232 pin 6), the recording will start. The recording speed and quality will be as set in the recording mode set-up.

The screen will be as displayed on the right.
E = External trigger recording
⌧ = recording
OW = HDD overwrite
32GB = if the OW location shows 32GB, it means that there is 32GB recording capacity left on the HDD.



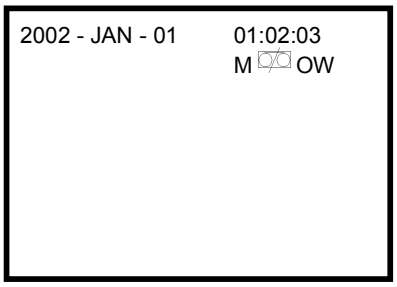
3) Programmed Recording

The **DVR1A** will follow the timer set-up to record and the recording speed & quality will be as set in the TIMER menu.



T = Timer recording
⌧ = recording
OW = HDD overwrite
32GB = if the OW location shows 32GB, it means that there is 32GB recording capacity left on the HDD.

4) Manual Recording



M = Manual recording
⌧ = recording
OW = HDD over write
32GB = if the OW location shows 32GB, it means that there is 32GB recording capacity left on the HDD.

c) Playback

Press PLAY: the **DVR1A** will go into play mode and will start playing the last recording.

1) Fast Forward (F.F.) & Fast Rewind (F.R.)

- Press PLAY then press ►► for fast forward searching. Press once for double speed, press twice for quadruple speed, 3 times for 8x, 4 times for 16x and 5x for 32x (maximum speed).
- Press PLAY then press ◄◄ for fast rewind searching. Press once for double speed, press twice for quadruple speed, 3 times for 8x, 4 times for 16x and 5x for 32x (maximum speed).

2) Slow Forward (S.F.) & Slow Rewind (S.R.)

- Press PLAY then press SLOW for slow play. Press ►► once for half speed, press twice for quarter speed, 3 times for 1/8x, 4 times for 1/16x and 5x for 1/32x (minimum speed).
- Press PLAY then press SLOW for slow play. Press ◄◄ once for half speed, press twice for quarter speed, 3 times for 1/8x, 4 times for 1/16x and 5x for 1/32x (minimum speed).

3) Pause

Press PLAY then press PAUSE, the image will be paused.

4) Stop

Press STOP and the **DVR1A** will stop all actions and display the incoming signal.

5) Image by image

- Press play then press PAUSE, the image will be paused. Then press ►► to go to the next image. Keep ►► pressed for faster image progression.
- Press PLAY then press PAUSE, the image will be paused. Then press ◄◄ to go to the previous image. Keep ◄◄ pressed for faster image progression.

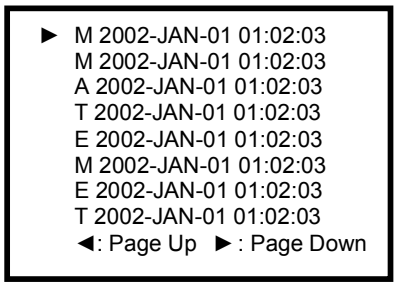
d) Search

1) SEARCH menu / last recording

Press the 'search' button ; a screen as shown on the right will be displayed. Press ENTER to play the last recording.

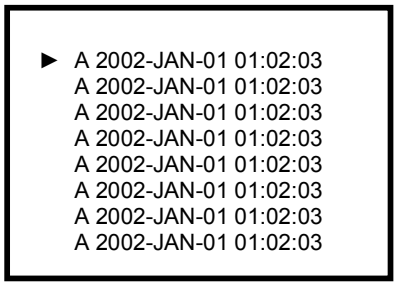
2) Full list of recordings

Press the 'search' button and ▲ or ▼ to select 'Full List'. Press ENTER to obtain the full list and a screen as shown on the right will be displayed.
Press ◄ or ► to switch pages (8 events per page) and select the desired recording with ▲ or ▼ .
Press ENTER to play the selected recording.
M = manual Recording
A = Alarm Recording
T = Timer Recording
E = External Recording



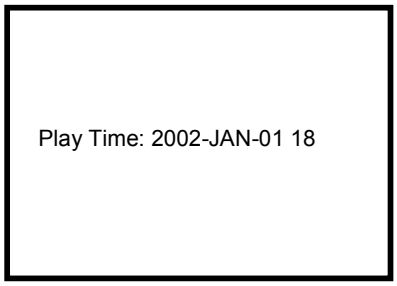
3) Recorded Video in Alarm List

Press the 'search' button and ▲ or ▼ to select 'Alarm List'. Press ENTER to obtain the alarm list and a screen as shown on the right will be displayed.
Press ◄ or ► to switch pages (8 events per page) and select the desired recording with ▲ or ▼ .
Press ENTER to play the selected recording.



4) Search a recording by time

Press the 'search' button and ▲ or ▼ to select 'Time Search'.
Press ENTER to obtain the search screen and a screen as shown on the right will be displayed.
Press ◄ or ► to switch parameters and ▲ or ▼ to change the parameter value.
Press ENTER to play the selected recording. If there is no recording available for the time provided, the screen will display "**Time Not Found**".



e) Video Loss

The screen will display "Video Loss" if the **DVR1A** does not receive a video signal.

f) Key Lock

Press MENU and ENTER simultaneously to lock the control keys.
Press MENU and ENTER simultaneously to unlock the control keys.

6. Troubleshooting

What may appear as a malfunction of the device may not be that serious at all and can be easily corrected. Check the table below before contacting your **DVR1A** dealer.

PROBLEM	SOLUTION
No power	Check power source cable connections.
	Confirm that there is power at the outlet.
Not working when press any button	Check if it is under key lock mode.
	Press MENU and ENTER simultaneously to skip the key lock mode.
No recorded video	Check if the HDD has been installed properly.
Record enable does not working	Check if 'record enable' is set to "YES"
No live video	Check camera video cable and connections
	Check monitor video cable and connections
	Confirm that the camera is powered
	Check camera lens setting
REC LED is ON but the device does not record	Device is in Timer mode. It will only record during assigned time.

7. Compatible Brands

a) Compatible Multiplexers

Manufacturer	Model	System	Test Result
AV TECH	AVC707N	NTSC	OK
AV TECH	AVC707P	PAL	OK
AV TECH	AVC706N	NTSC	OK
AV TECH	AVC706P	PAL	OK
ATV	DPX16	NTSC	OK
CAPTURE	CPT_CD16	PAL	OK
Dedicated Microphones	SLDX9C	NTSC	OK
Dedicated Microphones	SLDX16C	PAL	OK
PELCO	MX4016	NTSC	OK
SONY	VS-DX504	NTSC	OK
ROBOT	MX99e	NTSC	OK
ULTRAK	KX1610CN	NTSC	OK
FVS	FVX	NTSC	OK

b) Compatible HDD Brands (Appendix B)

Manufacturer	Model	Capacity	Rotation
IBM	Deskstar 120GXP (40GB)	40GB	7200rpm
IBM	Deskstar 60GXP IC35l060	60GB	7200rpm
IBM	Deskstar 120GXP (80GB)	80GB	7200rpm
IBM	Deskstar 120GXP (120GB)	120GB	7200rpm
Maxtor	DiamondMax 536DX (60GB) 4W060H4	60GB	5400rpm
Maxtor	DiamondMax Plus 9, Model#6Y120L	120GB	7200rpm
Seagate	Barracuda ATA IV ST340016A	40GB	7200rpm
Seagate	Barracuda ATA V, ST3120023A	120GB	7200rpm
Western Digital	Caviar WD400BB-00BSA0	40GB	7200rpm
Western Digital	Caviar WD400EB-00CPF0	40GB	5400rpm

Remarks

- The listed brands have been tested and are compatible with the **DVR1A**. Do not use other brands than these.
- In order to avoid damage to the HDD, leave the device switched off during at least 60 seconds before removing it.