DR-M4

digital Video Recorder

INTRODUCTION

One of the main purposes for which it prepares a video surveillance system is the ability to video-record images continuously in order to keep clear track of every happened. Until a few years ago, the only devices capable of performing this function were the VCR cassette in so-called TIME-LAPSE versions for extended recording. Digital video recorders

They are the natural
Digital evolution of these and allow their analog ancestors in
them a large number of
advantages.

Some advantages of digital registration in respect of the videotape recording

- **Images unchanged in time** - I

analog video recorded on a magnetic support delicate and perishable,
such as there
videotape. The Time-Lapse models, which often come up in a continuous manner, subjecting the cassette to high wear which requires continual replacement of the cassettes whose quality deteriorates at every overwriting. A digital recorder, records instead

Hard Disk, or on a computer disk that does not require maintenance and ensures outstanding image quality over time.

- **No maintenance** - The analog video recorders are based on precision mechanical

organs, very delicate. If this can not be a defect in the normal domestic use, it certainly becomes the record

uninterrupted, where you will need
provide regular maintenance for the replacement of consumable parts. Digital video recorders do not have this problem and require no scheduled maintenance over time.

- **fluid Images** - The usable in videotapes

analog video recorders may contain 180 minutes actual recording REAL-TIME. To stand on the support 24, 48 or more hours of recording time, the TIME-LAPSE VCR recording fewer frames than the 25 frames per second required by the PAL video format. This results in images

"Jerky" very unpleasant. THE
digital video recorders instead use a support such as the Hard Disk, much more spacious than a videotape and can record several days of images allowing a more fluid vision.

- **Management of more cameras** - A

analog VCR has only one video input. To connect more than one camera to a VCR is necessary to use a multiplexer. This shall be recorded on a cassette frame for each camera in sequence, in order then to review each camera individually. The use of the multiplexer multiplies the problem of "jerky video" described above, as divided by 4, 8 or more, the number of frames / second registered (depending on how many cameras must manage). The multiplexer is also an object rather expensive. Digital video recorders DR-M4, provide yourself with managing multiple video inputs, without the need for expensive equipment and without affecting the fluidity of images.

- **software Features** - The use of microprocessors

high-level, makes the DR-M4 digital video recorders capable of performing advanced functions, not feasible with analog systems, such as motion detection and generation of alarms.

- **Simple management video clips** - I

Digital video recorders allow you to manage large video files finding the images of interest quickly. In analog video the need to unwind and rewind the tape makes viewing images and search for relevant episodes, much more uncomfortable.

Digital Video PC-based and stand-alone

There two solutions for to achieve a video recorder digital: use a PC (PC-based video recorders) or use a specific device (called Stand-Alone) as DR-M4 models. THE

recorders digital

PC-Based they use PC hardware, which are installed one or more capture cards

such as, to example, The cards D-Vision. The functions of recording are controlled using software that uses the PC's operating system (Windows or **Linux). THE VCRs Stand alone DR-M4 are specially constructed machines for digital** recording. We see the advantages and disadvantages of the two solutions:

- Greater **Stability** Operating in long periods due to non-use of external operating systems such as Windows or Linux, even version embedded.
- Greater **reliability of the compression** static MOTION JPEG, in against compressions dynamics such as MPEG4.
- Possibility of **installation in harsh environments,** where a PC would pose problems in commissioning works and operation.
- **No configuration** to perform. The VCR immediately ready for work without requiring any computer skills.
- Does not require **Mouse and keyboard**
- **THE 'Power 12VDC** allows battery power and use even on vehicles or wherever it is not available on 220V.
- Inability to manipulate images with video editing programs for computers. Greatest **worth trying** recording, as unalterable
- **Unbeatable value for money** thanks hardware optimized for the use required.

Main advantages of PC-based digital video recorders D-Vision

- More **comfortable viewing of long periods** - Thank you the use of scroll bars for quick viewing.
- More **Software Functions** - Video recorders D-Vision-based PC, allow more programmable software functions through windows menu
- Greater **Compression** and then longer periods of registration for equality of Hard Disk capacity, thanks to dynamic compression algorithms.
- Management of **audio inputs**

Main advantages of digital video recorders Stand-Alone DR and DR-C4-C8

GENERAL CHARACTERISTICS

- **Compression** MOTION JPEG (MJPEG), the most widely used for stand-alone video recorders, for its stability in the long term.

- **Management of 1 or 2 Hard Disk** interiors of any size and brand, without the need for any prior formatting. **Management of 4 inputs** video and **1 audio input** combined with a choice of 4 cameras. Entrance **audio with adjustable sensitivity. 2 audio and video outputs** for 2 monitors
- **4 alarm inputs** for any external sensors
- **1 alarm output** to activate external devices (eg. siren) in case of alarm detected by a sensor or by the motion detection

- watching **multiple cameras simultaneously** screen by dividing it into quadrants of the monitor display in **scan cyclic** cameras possible to bring all **full screen camera** with the push of a button Superimposing **Date, Time and Number** of the camera. Different play speed **moviola** and the possibility of the movie frame by frame analysis functions **video search** on an hourly basis and search alerts
- **High resolution** image (640x272)
- **Great reliability** thanks to the absence of operating systems such as Windows or Linux, even in embedded version.
- **acquisition capacity.** Display: 25 frames / second per channel. Registration: 25 frames / second acquisition distributed on 4 channels.

- Different **Recording mode:** continuous, programmed on time slots, as a result of external alarm and as a result of motion detection. Possibility to stop recording no space or overwrite the oldest images.

- **Motion Detection** programmable for each camera. Sensitivity adjustment for the prevention of false alarms.

- **alarm Memory**
- Protection **password** to stop recording and to access the programming menu
- **Hard Disk removed from the front.** And 'possible to extract the main hard disk.
- **12VDC power supply.** 220V adapter supplied. Door **RS485** for the PTZ camera control (Speed Dome cameras) with Pelco protocol D.
- **TV remote** infrared
- **Software** for reading of 'Hard Disk PC. During movie playback you can save pictures in JPG format and entire video clips in AVI format.

- Wings for mounting **19 "rack (** 2 units)

IN THE BOX

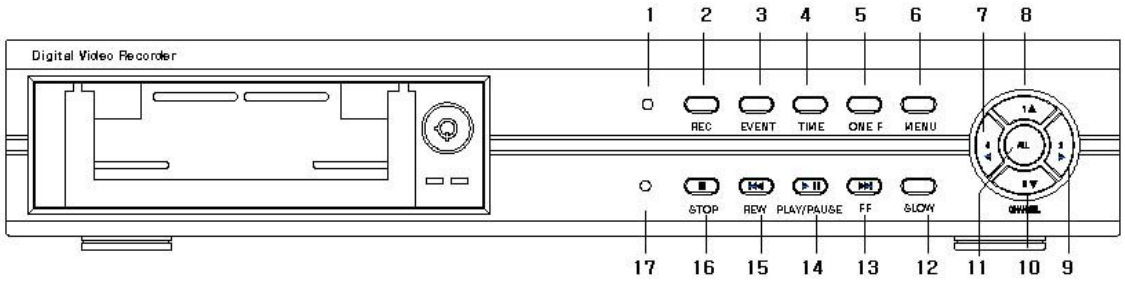
1. Video

2. Remote Control

3. Power supply 220V

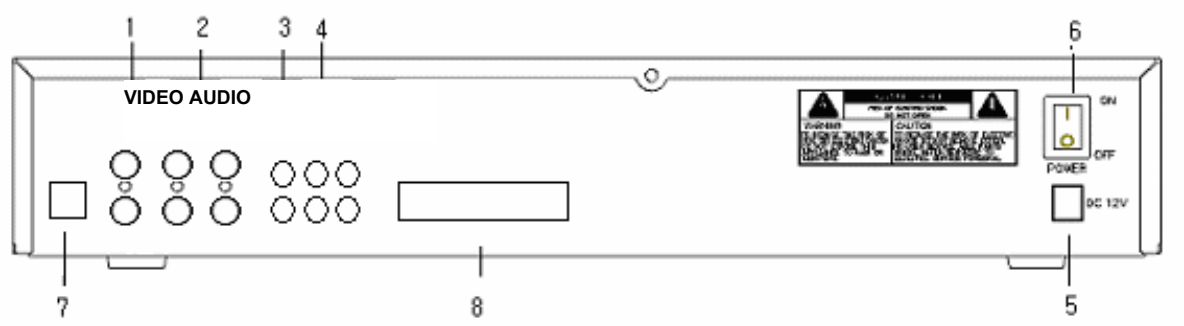
4. CD Manule

FRONT CONTROLS



1	LED	Green Power Led
2	REC button	Enables logging depending on the programmed mode
3	button EVENT	alarm events Search
4	TIME button	Video search by date and time
5	ONE FRAME Frame advance button during playback slow motion 6	
	button MENU	Access to the configuration menu with password required
7	Button 4 or left	Bring the camera 4 to full screen or moves to the left in the menu options
8	Button 1 or	Door Camera 1 full screen or moves up in the menu options
9	Button 2 or right	Door Camera 2 full screen or moving to the right in the menu options
10 Button 3 or so		Door camera 3 full screen or move down in the menu options
11 Puls. QUAD or ENTER Contemporary Vision of 4 cameras or ENTER button in the menu options 12 Button SLOW		
		slow motion playback
13 Button FF		fast Play
14 PLAY / PAUSE button to start playback or pause arrest 15 REW button		
		Fast backward playback
16 STOP button		Stop recording or playback.
17 IR LEDs		Infrared receiver for remote control

CONNECTIONS



1	VIDEO OUT	2 BNC video outputs to connect monitor, TV, etc.
2	VIDEO IN	4 BNC video inputs to connect 4 cameras
3	AUDIO OUT	2 RCA audio outputs for connecting external speakers
4	AUDIO IN	4 RCA connectors for ambient microphone. 1 only usable input of your choice.
5	DC 12V	for 12VDC power supply connector provided
6	POWER	Ignition switch
7	Unused 8	
	Terminal	4 alarm inputs for sensors 1 alarm output for alarm drives 1 RS485 port for speed dome cameras control Pelco D Protocol

ASSEMBLY AND INSTALLATION

Hard Disk Installation

The first thing to do is to install the Hard Disk (maximum 2) inside the equipment. Without hard disk, the recorder is obviously not able to function. You can use any brand as long as Hard Disk

7200 rpm and also enter the same unit two HD brand and capabilities. There is no limit to hard drive capacity for which we recommend using a high capacity (at least 120GB). Hard disks must be either EIDE, SATA Hard Disk are not compatible.

The DR-M4 video recorders do not require that the hard disk is formatted before being inserted into the device.

CAUTION - Handle the HDD with the utmost care. It is a very delicate and even a slight bump object, such as the fall from the hand on the table, can damage it irreparably.

Installation main hard disk

- Do not connect the power cable Remove the front pull-out drawer. Set the HDD jumper
- to MASTER (see the documentation provided by the manufacturer).
-
- Insert the hard drive into the tray and secure it with screws.
- Close the drawer and turn the latch key to prevent the opening.

Installing Additional Hard Disk

- Do not connect the power cord
- Remove the lid by unscrewing the fixing screws.
- Insert the hard disk into the interior by setting the jumper to SLAVE. a standard IDE cable with 3 connectors and a splitter for supplying HDD will be required. (Not supplied).
- Then close the lid of the VCR.

CAUTION !!!

Why Hard Disk is correctly recognized it is necessary that it is closed the locking tumbler of the extractable drawer.

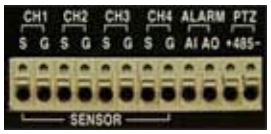
Connections

- **Video inputs -** the cameras they go connected to the BNC VIDEO IN (Channel 1 ... 4). If the cable of which you have has RCA connectors you need to use an adapter RE-BNCRCA1

- **Monitor Outputs -** A classic CRT monitor or a TV, or a VCR, can be connected to the VIDEO OUT outputs with BNC attack. E 'indifferent use the top or bottom connector. You can not connect directly to a computer screen with VGA input.
- **Audio Input -** The DR-M4 is equipped with 4 RCA inputs where it is possible to connect the audio output of a video camera, or an environmental microphone independent. Only one of the channels, if desired, can be used.
- **Audio Output -** There are 2 RCA audio outputs for connecting the audio input of a monitor or external speakers.
- **Supply** - To the right are the connector for feeding where to connect the supplied power and the power switch.

On the back of the device it is also available with other advanced terminal connections.

- **Inputs of alarm** CH1..4. - They allow you to connect external alarm sensors that can activate the recording. I'm compatible with both NO contacts NC.



- **Alarm -** NO alarm contact to activate an external device in the event of an alarm.
- **PTZ** - RS485 output for speed cameras dome.

Initialize Hard Disk

When starting the unit of which the research of the hard disk (master and slave) installed. If there is a hard drive you'll see the message: OK HDD, while the written HDD NOT INSTALLED will mean that the recognition did not happen. In this case the Hard Disk verified connections, the location of the jumpers (Do not use CS Cable Select) and check that the key to the drawer is in a closed position. The recognition of the Hard Disk can take more than 30 seconds if one of the Hard Disk is not present. In recognition of a new Hard Disk the device may ask you to specify a sequence of Hard Disk valid. Proceed as follows:

- **Access to the programming menu -** Press MENU and enter the password 111111.
- **Select HDD SEQUENCE -** the down key '
- **Select a valid option.** Press the ALL button to select a valid option which usually starts with the HD MASTER
- **Press MENU to exit**

MONITOR AND RECORD

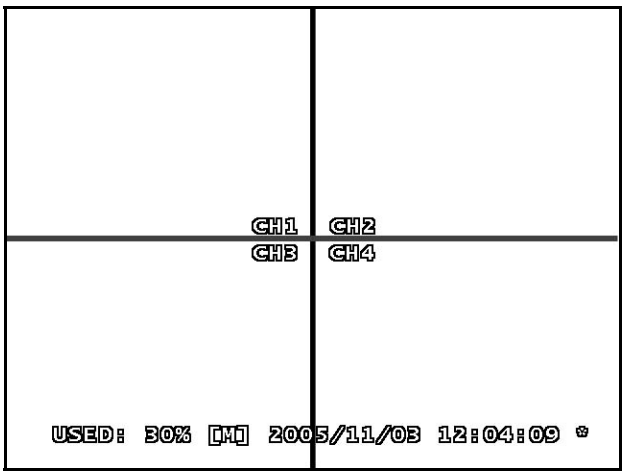
Switching on the DVR

After fixing Hard Disk and connected
the device to the cameras and the monitor, as described above, you can proceed to the first ignition by pressing the POWER button.

NOTE : Do not turn on the power until you have connected the monitor, because all the information necessary for the use of the recorder appears on the screen, and without the monitor could not see.

Monitoring

When the device after the correct
recognition of the Hard Disk, will appear on the monitor images from the cameras. If you see one on a blue background screen will need to check the connections and the good operation of the video sources.



They are available in over impression the following data.

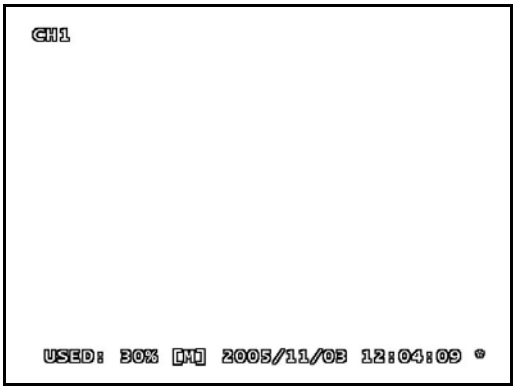
- **USED XX%** - Indicates the percentage of Hard Disk
already occupied. The letter M or S below indicates whether you are writing on the Hard Disk Master and Slave.
- **DATE AND TIME** - They'll set later.
- * - The presence of the asterisk to the right indicated that it is enabled the overwriting of older images out of disk space function.

Regardless of the recording settings live reproduced images are played back at 25 f / sec real-time.

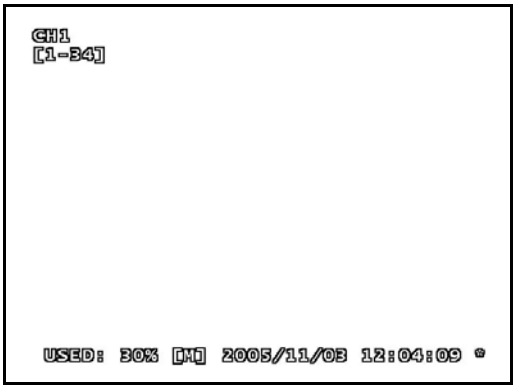
monitoring Options

There are several possible viewing possibilities.

- **FULL SCREEN** - Press the buttons to 1,2,3,4
display the camera full screen



- **cYcLIcAL SCAN** - Press the
channel that has been exposed to full screen to start scanning of the cameras one by one. The residence time of each camera is adjustable in the settings (factory 2 sec.). To stop scanning, press any key.



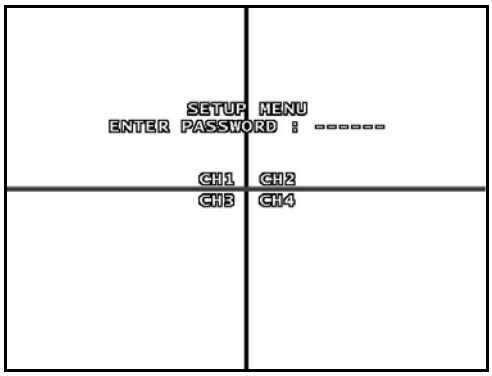
- **QUAD** - To return to the initial quadrivisione
press ALL

SYSTEM SETTINGS

Access MENU Settings (Log-in)

To access environment of the VCR programming is necessary to make a LOG-IN. You should do the following:

Press the MENU button; Log-In will appear asking you the introduction of the access password screen

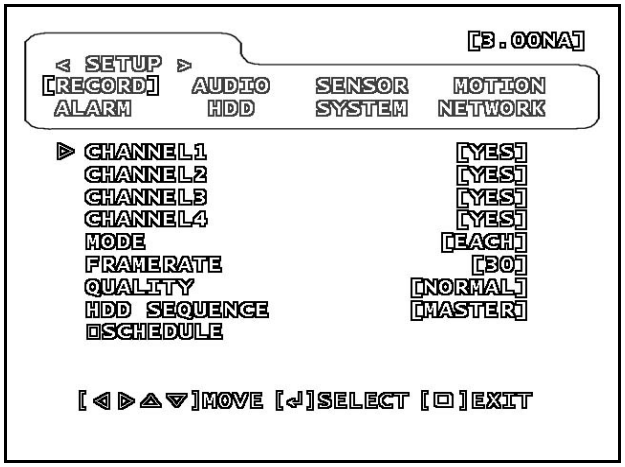


CAUTION!!!

THE ACCESS PASSWORD TO SET

FACTORY AND ': 111111.

Type the password 111111 factory for access programming. Afterwards you can change the password by entering a pleasure.



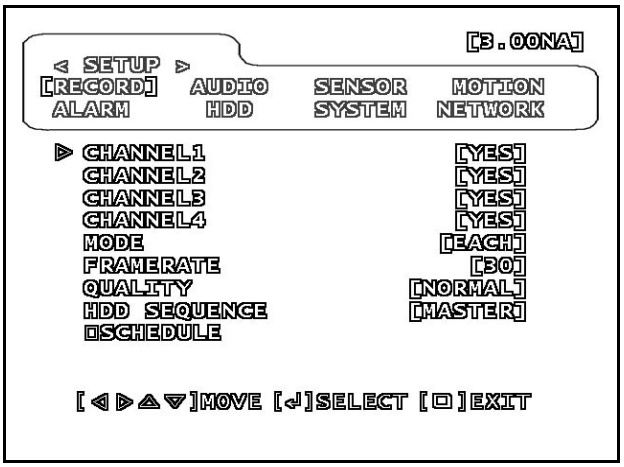
Getting around in the settings MENU

The boxed area in the top of the menu, shows all the menu pages (RECORD, AUDIO ETC.). Use the LEFT / RIGHT buttons (2/4) to select the page that will appear in the bottom of the screen. To move in the programming page use the up / down keys and change values by pressing the ALL button.

The SET UP menu items are described below one by one.

Record Setup - Recording settings

After you access the settings menu with the LOG-IN procedure (see above), the first menu that is proposed it contains the recording options.



- **CHANNEL1 ... 4** - With the ALL button to select YES

if you want the channel is being recorded or NO if you prefer that the channel serves only for monitoring and is not recorded.

- **MODE** - This option sets the option to

EACH or QUAD recording. By choosing EACH each camera will be recorded independently, and you can review images

recorded each

camera full screen. By setting the QUAD mode all cameras will be recorded together in one image quad. In QUAD mode it will not be able to bring a full screen single camera during playback.

- **FRAMERATE** - E 'can set the number of

frames per second acquisition. The maximum capacity is 25 frames per second. And 'possible to reduce this value in order to contain the hard disk a longer time recording, but the video will be less fluid.

- **QUALITY** - There are 3 levels of quality

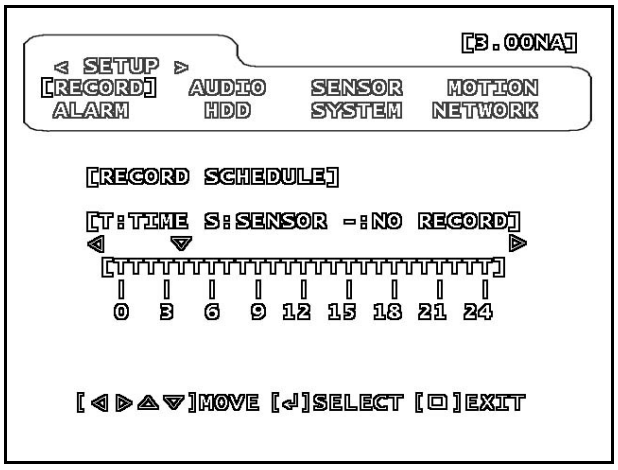
Video: LOW, NORMAL, HIGH (low, normal, high). Obviously the more quality video will match most occupied space on the hard disk. Note that this setting has no effect on the quality of recorded images only and not on the real-time images visible.

- **HDD SEQUENCE** - You must select the sequence

of hard disks use.

- **SCHEDULE** - Selecting and pressing SCHEDULE

ALL leads to time programming.



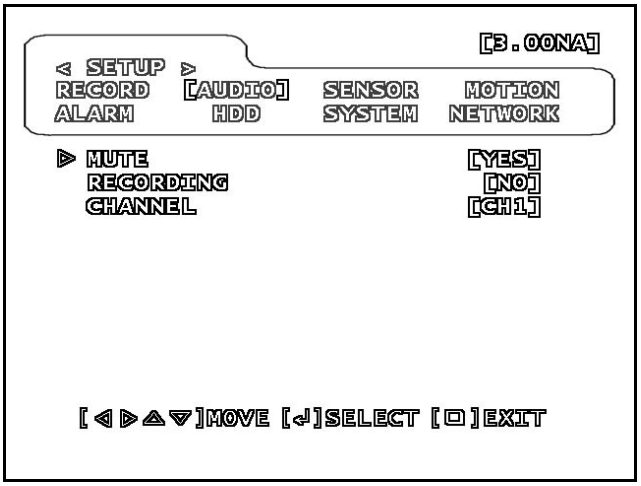
the hours of the day are reported from 0 to 24. For every hour you can choose

T = Continuous Recording for the selected time S = Recording only in case of generated by external sensor alarm or motion detection

- = No registration in the hour selected. Press MENU to return to the previous menu.

Audio - Audio settings

From the Setup menu, press the LEFT / RIGHT button and select the item: Audio.



- **MUTE** - The YES option tacit audio output
- **RECORDING** - If you select the option to YES

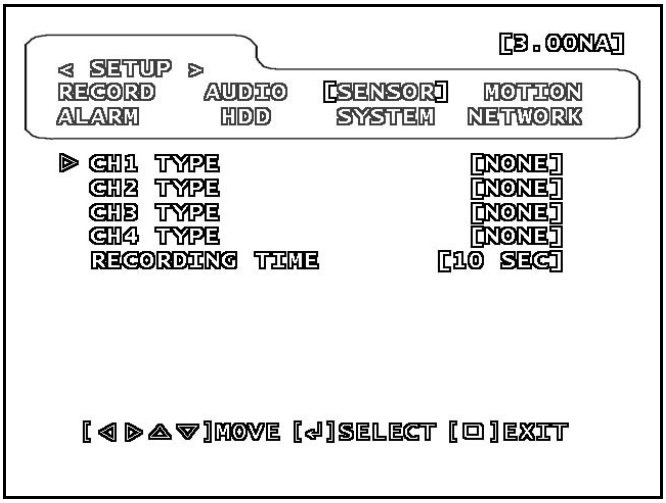
records audio along with the video. By selecting NO. the audio is only listening Live Viewing, but will not be recorded.

- **CHANNEL** - Select at which audio channel

input has been connected to the microphone. Although there are 4 CH1..4 inputs, only one input is usable.

Sensor - Set alarm inputs

In this section it is possible to setting up the operation of the external alarm inputs which can activate the recording in case of intrusion.



- **IT IS NOT** - Sensor not installed

- **N / CLOSE** - Sensor connected with input

Normally Closed

- **N / OPEN** - Sensor connected with input

Normally Open

- **RECORDING TIME** - And 'the recording time

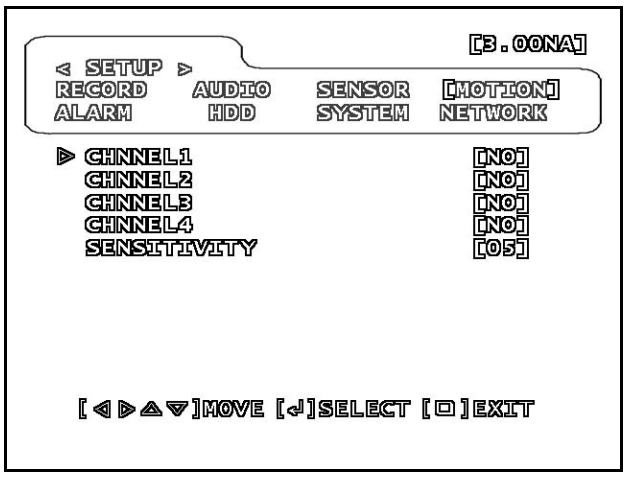
after the activation of the sensor (10 ... 60 sec.). The registration will take place throughout the sensor activation time and will continue after his return to rest, for the time set.

CAUTION - The value RECORDING TIME (Recording time) set will also have effect on alarms from motion detection.

Yes remember that for it to be possible to activate the recording with external sensors or motion detection must be programmed on the hourly S band of interest in the section RECORD / SCHEDULE as already described.

Motion - the motion detection settings

The DR-M4 video recorder allows you to start recording after an intrusion by analyzing the change of the recorded picture. This function is defined DETECTION OF MOTION or MOTION DETECTION. In this section you can set the operation of the motion detection.



- **CHANNEL 1..4** - E 'you can enable detection

the movement of one or more inputs.

- **SENSITIVITY** - E 'can set the sensitivity

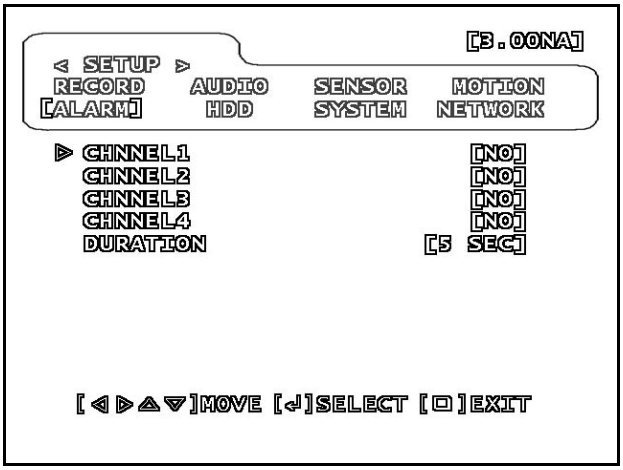
the motion detection (1 to 12) to avoid false alarms.

The recording will take place for the entire period of movement of permanence and will further continue for the time set previously in the section SENSOR / RECORDING TIME.

Alarm - Alarm Output Settings

The DR-M4 VCR has the rear alarm output that can be activated in case of alarm generated by external sensors or motion detection for controlling external devices such as alarms and warnings.

The alarm output turns on and off based on motion detection and sensor EVEN IF THE SYSTEM IS NOT 'IN REGISTRATION. The contact given is normally open.



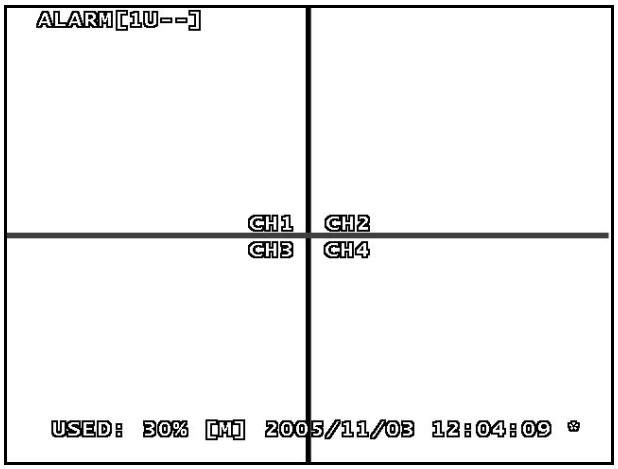
- **CHANNEL 1..4** - E 'can combine the output of

alarm to one or more video inputs.

- **RECORDING TIME** - It 'the time spent in

activation of the alarm relay after the return to rest of the alarm condition (5 ... 30 sec.). The relay output will be active for the whole of the sensor activation time and will continue, after its return to rest, for the set time. Selecting the option CONT, the relay will remain active even after the alarm to be terminated with signaling function of alarm occurred until it is not permute the PLAY button.

If it matches the alarm output to one or more inputs status indication will appear superimposed



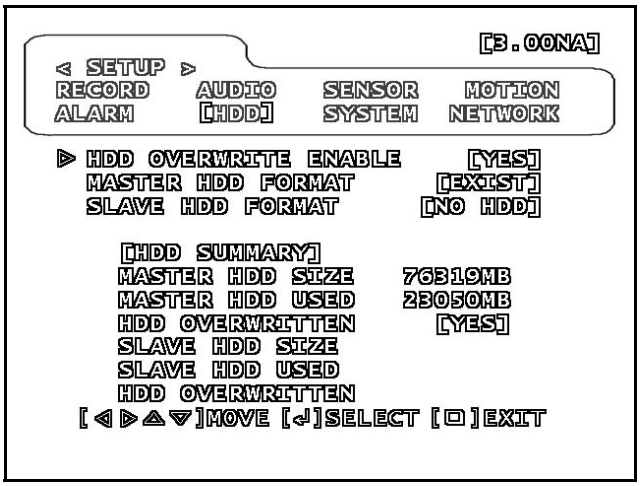
U = The input is not programmed to activate the output relay.

- = The input can activate the alarm relay but is inactive

1,2,3,4 = The input is activating the alarm output.

HDD - Hard Disk Management

This section allows management of Hard Disk installed into the



- **HDD OVERWRITE ENABLE** - By choosing YES,

exhaustion of space on the hard disk (1 and 2), the system will continue to regsitrare providing to overwrite the oldest images. If you choose NO, at the end of disk space, recording stops.

- **MASTER HDD FORMAT** - The inscription indicates EXIST

the Hard Disk MASTER is recognized. In the event of hard drive not installed or not recognized, it will read HO HDD. E 'can format the Hard Disk pressing the ALL button. This will erase all the recorded data ..

- **SLAVE HDD FORMAT** - Similarly to

seen in the previous paragraph for the Hard Disk slave.

SUMMARY The following HDD data can not be changed, but summary information on the use of Hard Disk.

- **HDD SIZE** - Capacity Hard Disk
- **HDD USED** - Part of the Hard Disk occupied by

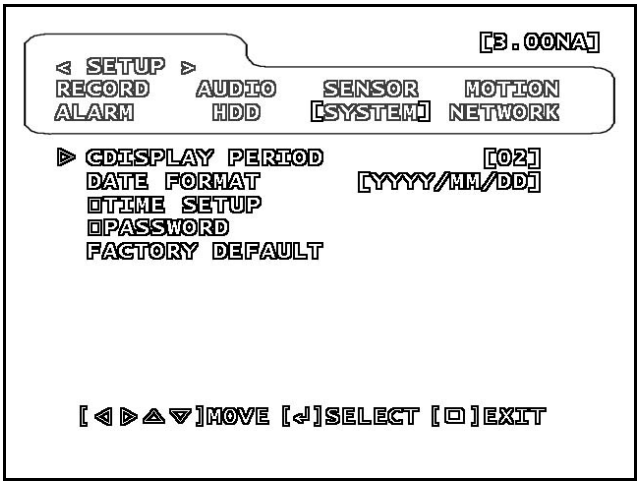
registration

- **HDD OVERWRITTEN** - YES / NO - Specifies whether the Hard

Disk is in overwrite course after finishing the space available.

Information is available for both Hard Disk Master and Slave.

SYSTEM - General Settings



- **DISPLAY PERIOD** - Dwell time of

cameras during polling. To start loop scanning press the number of the camera being viewed in full-screen. (1..10 seconds)

- **DATE FORMAT** - Choose the date format. In

Italian DD / MM / YYYY (day / month / year)

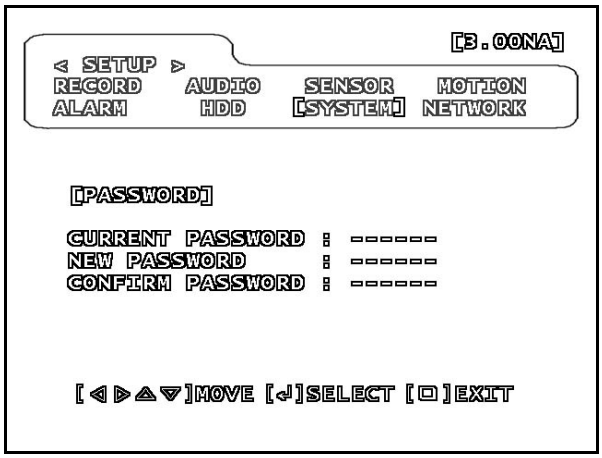
- **TIME SET** - Setting the date and time. Move

the value with the left / right keys and change with ALL, then come out with MENU.

- **PASSWORD** - E 'can change your password

Access that is set to the value Factory

111111. The password can consist of 6 numbers each between 1 and 4. And 'need to enter your old password 111111 (Current password) and then the new 2 times (New / Confirm).



Take care to remember the passoword changed and not allow access to personal programming that might accidentally change it.

- **FACTORY DEFAULT** - And 'possible return the fixture to its programming factory erasing all your settings.

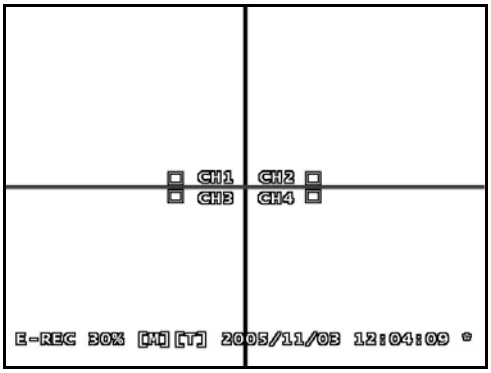
REGISTRATION

CAUTION !!!

And 'advisable to set correct date and time before proceeding with the first recording.

Start recording

To start recording, press the REC button. The recording settings will define themselves in the settings menu, as seen in precdenza. A white square will appear next to each camera to indicate the current recording.



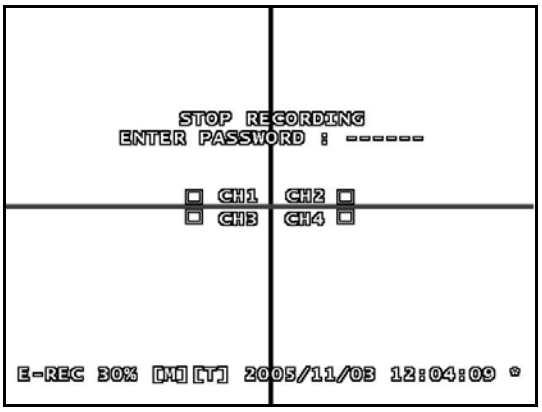
They are available in over impression the following data.

- **E-REC / REC-Q** - Indicates the recording mode active E-REC (every camera recorded individually) or Q-REC (all the cameras recorded in a single vision quad).
- **USED XX%** - - Indicates the percentage of Hard Disk already occupied.
- **M / S -** The letter M or S indicates whether you are writing on the Hard Disk Master and Slave.
- **T / S** - T = Continuous recording or on an hourly basis
  S = only in alarm recording (sensor or motion detection)

- **DATE AND TIME** - They will go adjusted in settings.
- * - The presence of the asterisk to the right indicated that it is enabled the overwriting of older images out of disk space function. The recording mode (continuous, or just tripped) is established in the settings.

Stop recording

To stop recording, press STOP. You will be prompted to enter the administrator password. The factory setting is 111111



Recording Capacity

The DR-M4 video recorders make MJPEG compression, excellent stability and quality. The table below shows the recording capacity in hours for the different grades of selectable image. The data refer to the maximum acquisition rate (25 f / sec)

	Video quality		
Capacity HDD (GB)	low	Normal	High
20	15 hours	12 hours	9 hours
40	30 hours	24 hours	18 hours
60	45 hours	36 hours	27 hours
80	60 hours	48 hours	36 hours
120	90 hours	72 hours	54 hours
160	120 hours	96 hours	72 hours
200	150 hours 125 hours		90 hours
250	190 hours 156 hours		115 hours

With 2 Hard Disk 250GB is thus contain up to over 9 days of images at full video quality. If you have requests for higher recording capacity is recommended

the use of registration with

Detection of Movement or the use of PC-based video recorders like the D-Vision system.

Restore after blackout

If the recording is to be interrupted by a power failure, the DR-M4 video recorder is able to resume recording at the end of the blackout.

REPRODUCTION

Unlike the old Video Cassette Recorders requiring rewinding and physical conduct of the cassette, DR-M4, it allows the playback management functions to handle with ease long recording periods. You can play back images in a continuous way since the last recording start, or search for a specific period or an alarm event.

instant Playback

To make the video footage must first stop recording (see above). By pressing the PLAY button on the video recorder will start playing from the last start recording. Stops playback by pressing the STOP button.

Superimposed are shown the date and time of the period being played.

Playback controls

During playback are possible various commands:

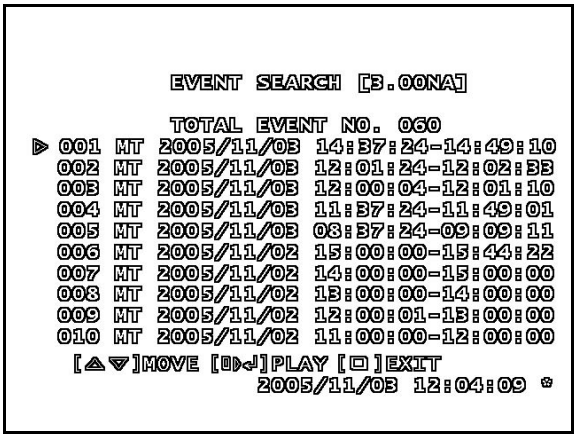
- **PLAY / PAUSE** - This button starts there playback or pause.
- **FF** - Pressing the button increases the speed of playing at 4x, 16x 32x 64x and 128x
- **REW** - Playback backwards. Speed 4x, 16x 32x 64x and 128x
- **SLOW** - Slow motion at 1/2, 1/4 and 1/8 speed normal
- **ONE FRAME** - During replays active the frame advance.
- **STP** - Ends playback and returns to the vision live.

If the recording was made in EACH way, it will be possible during playback switch between quad view in full screen. If the recording has been carried out in QUAD mode it will not be possible to bring it to full screen a single camera.

Events Search

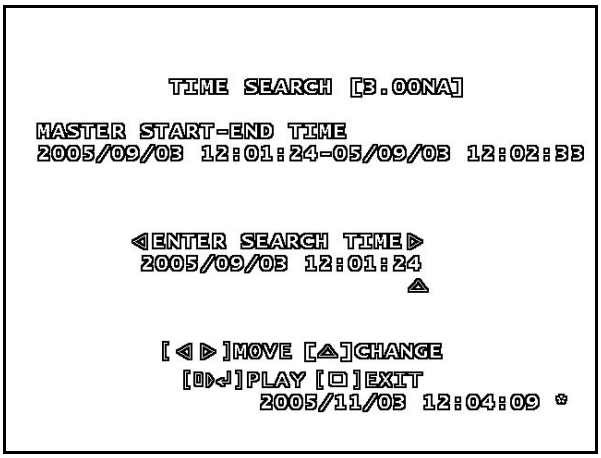
To search for an alarm event that has occurred as a result of the activation of a sensor or motion detection, press the EVENT button.

You will see a list of the last 64 alarm events that you can scroll with the up / down buttons. Press the ALL button to start playing the video associated with the alarm.



Search by Date / Time

E 'can search for images related to a specific time by pressing the TIME button.



Set the date and hours required and press ALL to start playback.

The system will display an error message if there is no corresponding entry to parameters required.

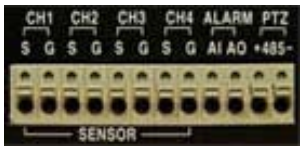
CONTROL SPEED DOME CAMERAS

The DR-M4 VCR is able to directly control of motorized cameras speed dome avoiding the **use of a dedicated console. And 'available the protocol Pelco D which allows to control the** speed dome cameras series SD22 and SD27 as well as the most common types

on the market. There

speed of the Pelco D protocol is implemented: 2400 bps

The camera is connected with a twisted pair using the rear RS485 port. Refer to the camera manual for the correct wiring



The DR-M4 VCR is prepared for the use of a single speed dome camera connected to choice to any one of the four video inputs.

To control the speed dome camera, you press the SLOW button during live viewing. You will **see the message Pelco D PTZ CONTROL**

Now choose the video channel that is connected to the video signal of the speed dome camera by pressing the ALL button repeatedly. Once the camera is displayed, you can take action on the following commands:

Button	Command
SLOW	Access to speed dome control
CH1	Movement SU
CH2	Movement RIGHT
CH3	June Movement '
CH4	move LEFT
ONE FRAME	ZOOM +
MENU	ZOOM -
ALL	Chooses the camera channel

Main technical data

FEATURE	DR-M4
Multiplex	Simplex (while playing the recording is stopped)
video Inputs	4 channels - 1 Vp-p 75 Ohm
video Outputs	2 outputs 1 Vp-p 75
video Connections	BNC female
VGA video output	Not available
audio Input	1 2V pp channel 50 Ohms
video Outputs	2 outputs 2V pp 50 Ohms
audio connections	RCA female
Hard Disk compatible	Max. 2 Hard Drive 7200 RPM EIDE without capacity limit and brand
Hard Disk Serial mounted	Nobody
Monitor Output Video Resolution	480 TV Lines
screen Division	Single camera, Quadrivisione, Cyclic scan.
cyclical selection	Yes, with programmable dwell time from 1 to 10 sec.
Resolution LIVE Vision	PAL 640x576 NTSC 640x480
recording resolution	PAL 640x272 NTSC 640x224
Frame Rate Live Viewing	PAL: 25 f / sec per channel (real time) NTSC: 30 f / sec per channel (real time)
Frame Rate recording	PAL: 25 f / sec NTSC Total: 30 f / sec total
Compression	Motion JPEG
Recording Mode	Real Time, Time Lapse, Motion Detection, Programmable external alarms to daily time slots
remote access	Not available
Back up movies	Possible to remove hard drive and connect to PC
Software included	It is for connecting the hard drive to PC
Connection PTZ speed dome	RS485 port
Protocols including high speed domes	PELCO P 2400 bps (series Cameras SD22 and SD27)
Alarm inputs for sensors	4 inputs NO / NC
Alarm output	1 relay NO
Supply	12VDC (supplied power supply 5A)
Infrared remote control	including
Operating temperature	+ 5 ... + 40 ° C / 20..80% RH
dimensions	368 (L) x69 (H) X310 (P)
Weight	Approx. 4.3 kg (without HD)