Model VPU100

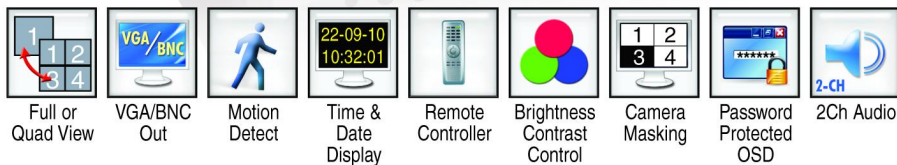**QUADRA** *plus*

with

Removable Front Panel

QUADRA *plus*

- Removable Front Panel
- Excellent Picture Quality
- Records 12FPS Each Channel
- BNC & VGA Output
- Very Low Cost
- Easy Back-Up
- Small Footprint

Standard Quadra Functions

Full or Quad View	VGA/BNC Out	Motion Detect	Time & Date Display	Remote Controller	Brightness Contrast Control	Camera Masking	Password Protected OSD	2Ch Audio

Extra Quadra Functions when HDD fitted

640x272 Rec/CH	Full Screen Playback	Up to 2TB Hard Drive	USB Back-up

This Quadra (VPU100) has a removable front panel to make it more "tamper-proof" with the panel doubling as the unit's IR remote control.

CONTENTS

1.   Features

The Quadra Plus is a remarkable Quad and Multiplexer unit that can be fitted with a Hard Drive and also used as a 4 way DVR. The VPU100 has a clip-in Infra-Red Remote Control that can be used attached to the unit or used remotely. You can play back your recordings direct through the unit or you can load the Quadra Viewer software supplied to playback files, capture sequences or convert files to AVI format.

1.1   Quad Options
Video Input Signal: NTSC / PAL.
Video Compression: Modified MJPEG.
Adjust Up/Down/Left/Right screen position.
Detachable remote control
Support XGA Output.(TYPE1)
Select Quad display mode or single channel full screen mode.
Channel Sequencing: Ensure Screen Menu – Auto Switching time is set.
To start auto sequencing press the ►►/- button. Press again to stop.

1.2   Quadra Functions when HDD fitted
Duplex (Recording, Playback).
50 frames per second Recording Speed across 4 channels
12 frames per second for 4 channels or 25 frames per second for 2 channels
USB memory stick backup.
Manual, Motion Detection & Continuous Recording.
Motion Detection with adjustable Time Duration.
Search Data by Date and Time.
Power Recover Auto Restore Record Mode.
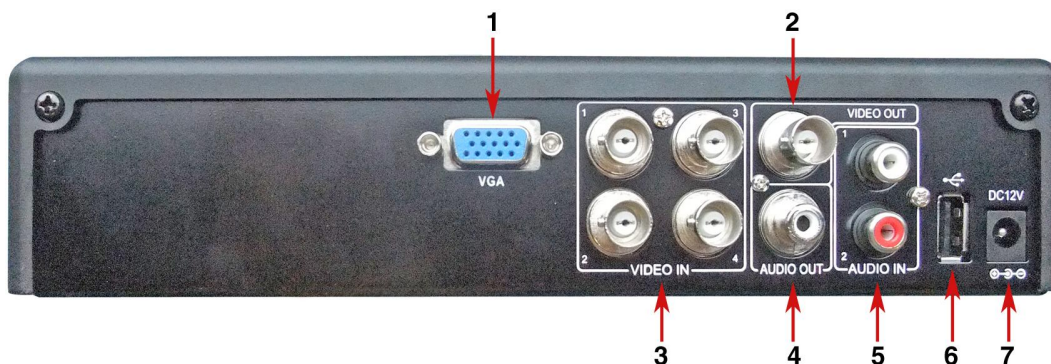Hard Disk LED Indicator when Recording.
Motion Detection.
Audio Recording.
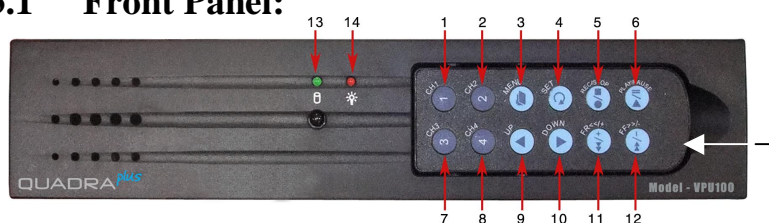SATA Hard Disk up to 2Tb tested.

2.   Installation

2.1   Rear Panel:

1. VGA Output.
2. Video Output：BNC x 1.
3. Video Input：BNC x 1.
4. Audio Output：Phono x 1 Line out
5. Audio Input：Phono x 2 Line in.
6. USB Port.
7. Power Input：For safety reasons, always use the original factory power adaptor
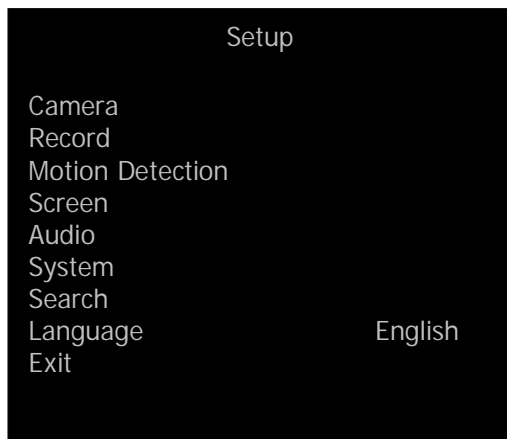   attached. Adaptor: DC 12V / 3A.

3.   Control Panel buttons

3.1   Front Panel:

Detach to use as remote control
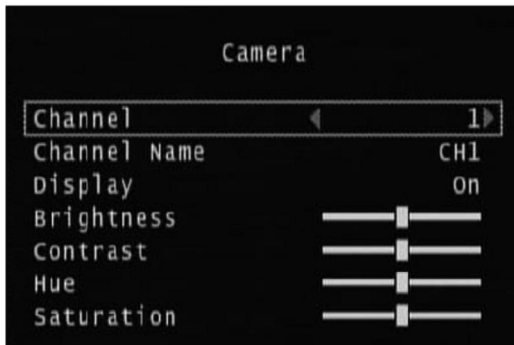
1.   Channel 1 Display
2.   Channel 2 Display
3.   Main Menu
4.   Select/Set
5.   Record/Stop
6.   Play/Pause
7.   Channel 3 Display
8.   Channel 4 Display
9.   Up button
10.   Down Button
11.   Rewind/Value + 1
12.   a. Fast Forward / Value – 1   b. Auto Switch Channel
13.   Hard Drive Indicator
14.   Power Indicator

4.   Menu Operation

```
                    Setup

Camera
Record
Motion Detection
Screen
Audio
System
Search
Language                    English
Exit
```

```
1. Press  ▲▼  to select items.
2. Press  [icons]  to enter.
3. Press  [icon]  to exit.
```

4.1   Camera Setup

```
              Camera

Channel              ◄        1►
Channel Name              CH1
Display                    On
Brightness        ——————■————
Contrast          ——————■————
Hue               ——————■————
Saturation        ——————■————
```

```
1. Press  ▲▼  to select items.
2. Press  [icons]  to enter.
3. Press  [icon]  to exit.
```

4.1.1   Channel: The diagram above shows Channel 1.
4.1.2   Channel Name: Set channel.
4.1.3   Display: Turn On / Off the camera signal
4.1.4   Brightness / **Contrast** / **Hue** / **Saturation**: Adjust brightness, contrast and saturation of channel display. The center point is the factory default. Note that Hue is automatically set.

4.2   Record Setup

```
              Record

Record Speed
Record Quality            High
Event Rec Duration          10
Record Schedule
```

```
1. Press  ▲▼  to select items.
2. Press  [icons]  to enter.
3. Press  [icon]  to exit.
```

4.2.1 Record Speed：Set the number of frames per second (fps).
PAL　：default : 12 fps maximum total frame: 50 fps.
Note: You can set 2 channels at 25fps but must clear 2 streams first.

4.2.2 Record Quality：Choose video record quality: Highest, High, or Normal.

4.2.3 Event Record Duration：5, 10, 15, 20, 25, 30 seconds. Default: 10 secs

4.2.4 Record Schedule Setup

Press ⟳ ⟳ to select left/right;
Select ▲ ▼ to change record status
Press ⟳　　to change all record status.

4.2.4.1 **Range**: 0-24 hours.
4.2.4.2 Set "Red" for continuous recording.
4.2.4.3 Set "Grey" to disable the recording.
4.2.4.4 Set "Green" for motion recording.

4.3 Motion Detection Setup
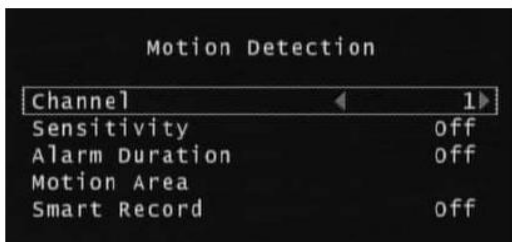
1. Press ▲ ▼ to select items.
2. Press ⟳ ⟳ ⟳ to enter.
3. Press ⟳ to exit.

4.3.1 **Channel**: The diagram above shows Channel 1.
4.3.2 **Sensitivity**: To set off, or 1 to 4, default: Off.
4.3.3 **Alarm Duration**: To set alarm duration when alarm is triggered by a moving object: Off, 5, 10, 15, 20, 25, 30 seconds, or continuous.
4.3.4 **Motion Area**: To select motion detect area.
4.3.5 **Smart Record**：Default is OFF. In normal condition, the system will record the footage by using the setting of Normal Mode (Minimum recording frame for each channel is 3fps); the smart recording mode will start as user's setting when motion or alarm has been triggered. **If you want to enable motion recording complete the setup procedure a and b.**
a：Set SENSITIVITY level from 1 ~ 4 in Motion Detection Setup.
b：Set MOTION RECORDING to GREEN at the time you wish to enable motion recording in Record Schedule.

4.4 Screen Setup

```
                Screen

  Border                      ◄ Off ►
  Video Adjustment
  Auto Switching               05
  Resolution            1024 x 768
```
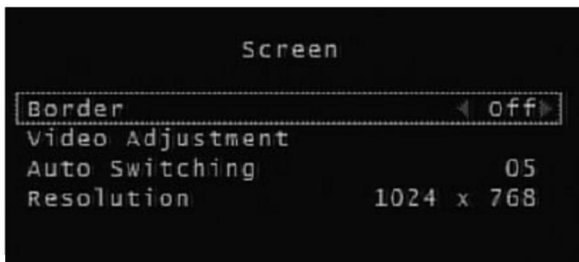
```
1. Press  ▲ ▼  to select items.
2. Press  ⊙ ⊙ ⊙  to enter.
3. Press  ⊙  to exit.
```

4.4.1 **Border**: Turn On / Off, or show divided lines in quad mode.
4.4.2 **Video Adjustment**: Adjust the position of screen display shown.
4.4.3 **Auto Switching**: Set: Off, 1 ~ 10 seconds. Press ►►/- button to start.
4.4.4 **Resolution**: XGA 640 x 480 / 800 x 600 / 1024 x 768 (default) /
1280 x 1024 / 1440 x 900 (TYPE1).

4.5 Audio Setup

```
                Audio

  Channel                   ◄     1 ►
  Record                       On
  Mute                         Off
  Input Volume        ▬▬▬▬▮▬▬▬
  Output Volume       ▬▬▬▬▮▬▬▬
```

```
1. Press  ▲ ▼  to select items.
2. Press  ⊙ ⊙ ⊙  to enter.
3. Press  ⊙  to exit.
```

4.5.1 **Channel**: current source of audio input (choose channel 1 or 2)
4.5.2 **Record**：On /Off
4.5.3 **Mute**：On /Off
4.5.4 **Input Volume**: Adjust input volume.
4.5.5 **Output Volume**: Adjust Output volume.
Note: Audio inputs are designed to be set individually and audio outputs may cause interference. If channel one is set on mute, it will not affect channel two regardless if it is set on or off. Single channel live viewing on channel one or channel two, choosing mute on or off, will only control that particular channel. The mute icon located at the bottom left hand corner indicates the status of audio setting for that channel. Channels 3 and 4 do not support the audio feature. In quad display mode, the audio is on channel 1 only.

4.6 System Setup

```
              System

  Hard Disk Setup
  Password Change
  Time Set
  Event List
  Password Check           off
  Buzzer Alarm             off
  Language               English
  F/W Upgrade         (DVR462R.FWI)
```

```
1. Press  ▲ ▼  to select items.
2. Press  ⊙ ⊙ ⊙  to enter.
3. Press  ⊙  to exit.
```

4.6.1 **Hard Drive Disk Setup**

4.6.1.1 **Overwrite Enable**:

    Enable overwrite when HDD capacity is full:

    Yes: When HDD overwrite is taking place, the data is stored in duration of 4 hours per event and being recorded continuously.

    No: Stop recording.

4.6.1.2 **Format HDD**：

    When choosing this item, Quadra will request a 6 number password. If the password is accepted, the Quadra will start formatting the HDD. A message, "wrong password" will appear on the screen if the password is entered incorrectly. Factory default password setting: **111111**

4.6.1.3 **HDD Status** :

    Indicates current HDD status, including total capacity and percentage of space used. The HDD must be formatted on installation or when changed.

4.6.2 **Password Change**：

Password Setup
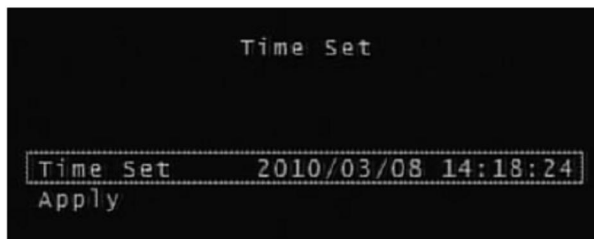

    Current password：_____

    New Password：_____

    Confirm Password：_____

    If current password is incorrect, a "Wrong Password" message will appear on the screen and exit. Factory default Password Setting: **111111**
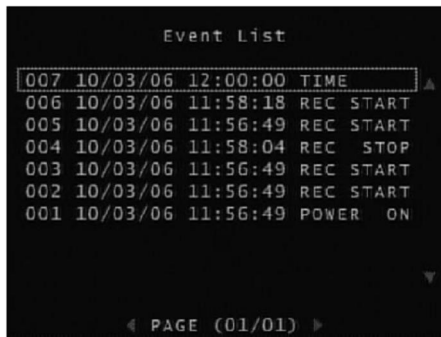
4.6.3 **Time Set**

4.6.3.1 **Time Set**：YYYY/MM/DD HH:MM:SS
4.6.3.2 **Apply**：Update and save all changes.

4.6.4 **Event List**

4.6.4.1 You may choose an individual event from the recorded event list.
4.6.4.2 **TIME**：The Quadra automatically saves events in duration of 4 hours.
4.6.4.3 **Motion**: Motion event list. The symbols, 0 and X represent whether the motion detected function is being activated on each channel.
O -area with motion detection set. **X** –area without motion detection set.

4.6.5 **Password Check**
Set password ON / OFF to enter main menu.

4.6.6 **Buzzer Alarm**
Set buzzer ON / OFF in case of video loss.

4.6.7 **Language**
You can choose between Chinese or English language.

4.6.8 **F/W Upgrade (Firmware Upgrade)**
Do not attempt to upgrade the firmware in this Quadra without assistance from supplier. If the upgrade fails during the upgrade process it can render the Quadra unusable.

Please save upgrade firmware on a USB flash drive. Plug drive into USB port. The screen will show both current version and new version of firmware.

When upgrade is in progress, **<u>DO NOT</u>** operate the unit or remove the USB flash drive to prevent a malfunction or system error occurring. After the upgrade is complete, please restart the unit when "Reboot" message occurs.

IMPORTANT WARNING
Ensure that the HDD is installed before upgrading the firmware as the new firmware is stored in a temporary section on the HDD.

4.7 Time Search

```
            Time Search

Start    2010/03/11 14:07:55
End      2006/01/01 08:07:51


     2010/03/11 14:07:55
```
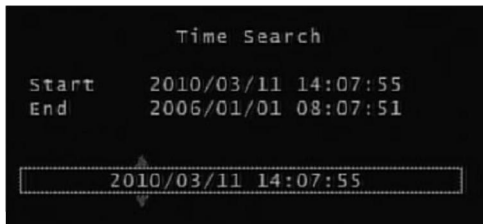
4.7.1   Set Search time, then press   ►/|| Play button to start playback.

4.7.2   **Playback**:

Press button for fast-forward. Press again for faster speed with three variable speeds available.

Press button for fast reverse. Press again for faster speed with three variable speeds available.

Press button to pause.

Press button to stop playback.

Special Note: When entering the date and time you may find that you are unable to enter certain numerics. This is because validation on the field is undertaken before a value is entered. The field must always be valid on entering a character.
For example changing a date from 28 to 30 will not allow you to change the 2 to a 3 with the 8 still present, as this would be 38, so you must change the 8 to 0 first.

4.8 Exit

```
            Exit

Save & Exit
Exit without Saving
Load Setup Default
```
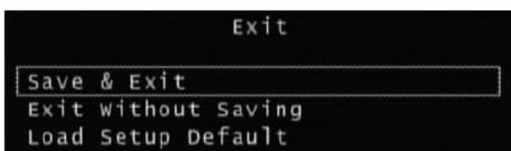
4.8.1   **Save & Exit**: Save and exit changes.
4.8.2   **Exit without Saving**: Exit without saving changes.
4.8.3   **Load Setup Default**: Load factory default setup.

5.   Backup Procedure

5.1   Backup Steps

5.1.1   Fit USB flash Drive into USB port

5.1.2   Press ⊙ button to enter search menu and playback selected event.

5.1.3   Press ⊙ button to enter backup menu.

5.1.4   Press ① button to setup start time.

5.1.5   Press ② button to setup end time. (After setting up both start and end time, the machine will indicate the size of the file.)

5.1.6   Press ④ button to start backup process.

5.1.7   When complete press ⊙ button to return to LIVE mode.

6.   Recording Procedure

Press ● button to start recording. The ● symbol will appear in the top right hand corner of each channel on the screen that indicates it is recording live, regardless of the recording mode which can be set on continuous or motion recording.

7.   Recording Time

The following tables provide a guide to average record times using a range of different hard drives, different resolution quality and different frame rates. The times will vary according to the actual image sizes recorded and are a guide only. Note that the timings are for the total frames across 4 streams. You can run 2 streams at 25FPS as long as the other two streams are cleared.

Video Quality   Normal

Total Frames	500Gb	750Gb	1Tb	1.5Tb	2.0Tb
50 FPS	9dys	14dys	18dy	28dys	37dys
25 FPS	18dys	28dys	37dy	56dys	74dys
12 FPS	37dys	56dys	74dy	112dys	149dys
3 FPS	149dys	224dys	298dy	448dys	597dys

Video Quality   High

Total Frames	500Gb	750Gb	1Tb	1.5Tb	2.0Tb
50 FPS	7dys	11dys	15dys	23dys	30dys
25 FPS	15dys	23dys	30dys	46dys	61dys
12 FPS	30dys	46dys	61dys	92dys	122dys
3 FPS	122dys	184dys	245dys	368dys	490dys

Video Quality Highest

Total Frames	500Gb	750Gb	1Tb	1.5Tb	2.0Tb
50 FPS	5dys	8dys	10dys	16dys	21dys
25 FPS	10dys	16dys	21dys	32dys	43dys
12 FPS	21dys	32dys	43dys	65dys	86dys
3 FPS	86dys	130dys	173dys	260dys	346dys

8. Quadra Viewer User Guide

8.1 Playback Recordings
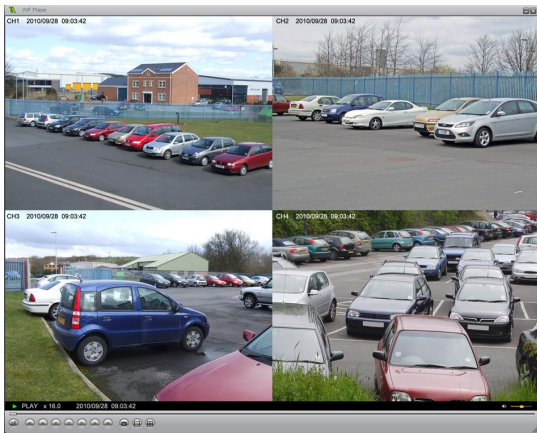
8.1.1   Start VVF Player
8.1.2   Point the cursor on the screen and right-click "Open File". Choose the file
you want to view in (.vvf) and play.
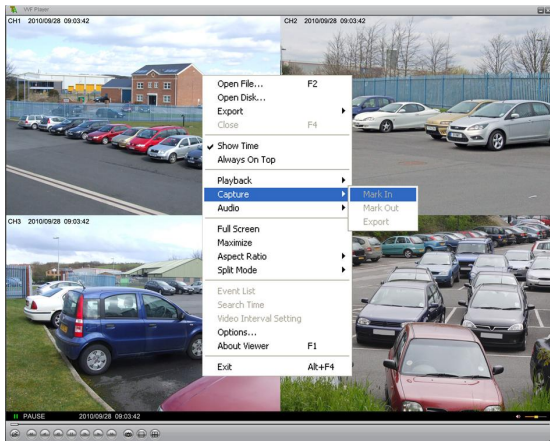
8.2 Capturing Sequences

8.2.1   During the playback of the backup file, click "Pause" located at the bottom of
the screen.
8.2.2   When the image freezes on the screen, press the right mouse button, then
select **Capture** and then **Mark In**. This will set the start time.
8.2.3   Press the Play button again.
8.2.4   To end recording, click "Pause". Press right mouse button, then select
Capture and then **Mark Out**.
8.2.5   Finally, press right mouse button, then select **Capture** followed by **Export**.

8.3 Convert File to AVI Format
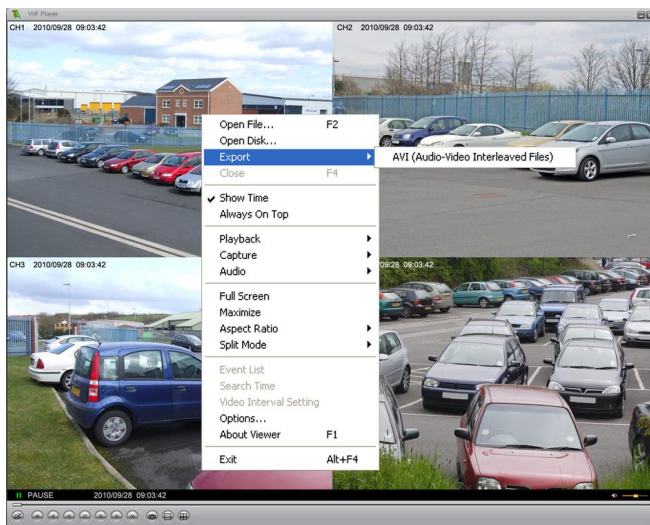
8.3.1 Right click the mouse button and select **Export**. Then click on AVI. The following menu will then be displayed:
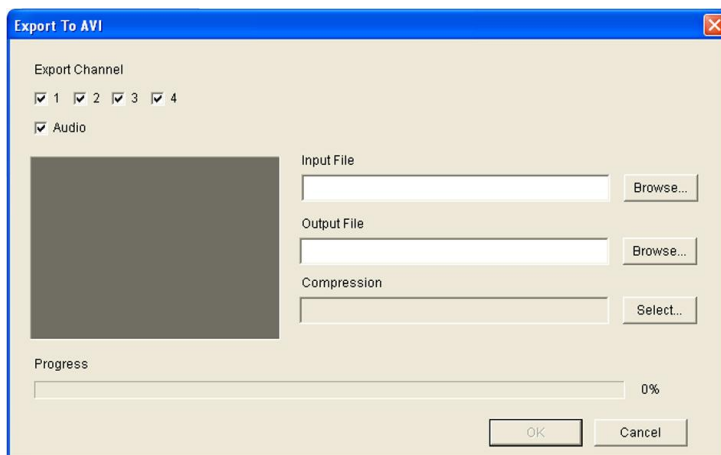
8.3.2 Click on channel number to export and select audio as required. Complete Input File name and Output File name. Use the browse button if necessary. It is recommended that to reduce file size and creation time that if you are using Windows Media Player then select Compression option DIVX5.0.3 codec.

8.3.3 Click "OK" to start converting file to AVI format.

8.3.4 When conversion completes a confirmation will be displayed.

8.3.5 It is recommended that when you wish to play AVI recordings that you select Windows Media Player first and open file through the software. If you just double click the AVI file, you may find that an alternative player is selected.

8.4   Options
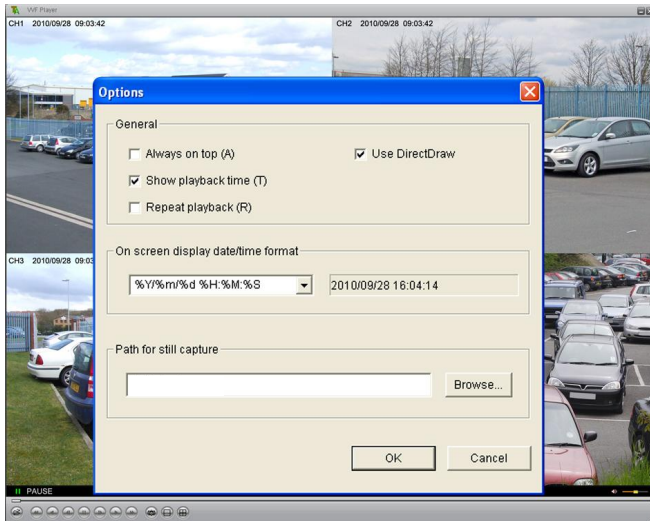
8.4.1   **Always on top**: The sub window always stays on top.

8.4.2   **Use DirectDraw**: DirectDraw, a part of Microsoft's DirectX is used to render graphics in applications where top performance is important.

8.4.3   **Show playback time**: Indicates the length of playback time.

8.4.4   Repeat playback.

8.4.5   **On screen display date/time format**: Indicates date/time.

8.4.6   **Path for still capture**: Indicates the directory and path name of the file. **The default path is:-**
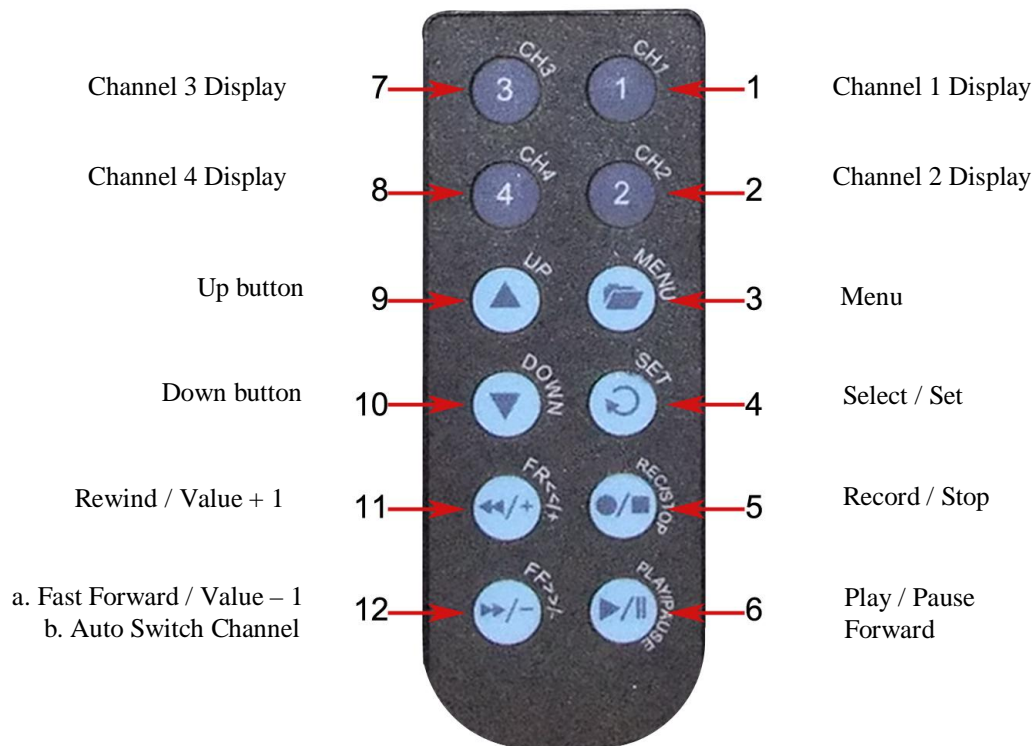
Windows XP
C:\Documents & Settings\All Users\Application Data\Quadra-Player

Windows 7 / Vista
C:\Program Data\Quadra-Player

9. Remote Control Guide

Channel 3 Display	7 →	← 1	Channel 1 Display
Channel 4 Display	8 →	← 2	Channel 2 Display
Up button	9 →	← 3	Menu
Down button	10 →	← 4	Select / Set
Rewind / Value + 1	11 →	← 5	Record / Stop
a. Fast Forward / Value – 1 b. Auto Switch Channel	12 →	← 6	Play / Pause Forward

Replacement Battery is Nickel Cadmium CR2025. When refitting, ensure battery is fitted with correct polarity as marked on battery holder.

This symbol on the products and/or accompanying documents means that used electronic equipment must not be mixed with general household waste. For treatment, recovery and recycling please return this unit to your trade supplier or local designated collection point as defined by your local council.

WEE/CG0783SS

10. Technical Specification

Function		Description	
Video Format		NTSC	PAL
Operating System		Embedded RTOS	
VGA Out		D-Sub 15 pin VGA	
Video Input		4 x BNC	
Video Output		1 x BNC	
Audio Input		2 x Phono	
Audio Output		1 x Phono	
OSD Interface		GUI interface, Multi-Language	
Recording Frame Rate		60 fps (4 x 15)	50 fps (4 x 12.5)
Video Operation		Duplex (Recording and Playback)	
Resolution	Display	640 x 448	640 x 544
	Recording	640 x 224	640 x 272
Video Compression		Modified MJPEG (Normal, High, Highest)	
Hard Drive		1 x SATA HDD (500Gb / 2Tb tested)	
Backup Device		USB	
Searching	Mode	Time/Date or Event List	
	Full Screen	Yes	
XGA Output (Type 1)		640 x 480 / 800 x 600 / 1024 x 768 / 1280 x 1024 / 1440 x 900	
Motion Detection		Yes	
Loss Detection		Yes	
Auto Switching		Yes	
Buzzer Output		Yes	
Brightness Adjustable		Yes	
Contrast Adjustable		Yes	
Watchdog		Power Recover Auto Restore Record Mode	
Power Supply		12vDC 3A (100vAC ~ 240vAC 50/60Hz)	
Dimensions		225(W) x 209(D) x 50(H)mm	
Weight		700g without hard drive	
Remote Controller		Yes when detached from cabinet front	

11. Hard Drive Compatibility List

The following hard drives are recommended for the Quadra

Manufacturer	HDD Size	HDD Model No.
Maxtor	250Gb	STM3250318AS
Maxtor	320Gb	STM3320418AS
Maxtor	500Gb	STM3500418AS
Maxtor	750Gb	STM3750528AS
Maxtor	1Tb	STM31000528AS
Seagate	250Gb	ST3250824AS
Seagate	320Gb	ST3320310CS
Seagate	500Gb	ST3500320SV
Seagate	750Gb	ST3750330SV
Seagate	1Tb	ST31000528AS
Hitachi	250Gb	HDT725025VLA380
Hitachi	320Gb	HDT725032VLA360
Hitachi	500Gb	HDT725050GLA360
Hitachi	1Tb	HDT721010SLA360
Western Digital	250Gb	WD2500AVVS
Western Digital	320Gb	WD3200AVVS
Western Digital	500Gb	WD5000AVVS
Western Digital	750Gb	WD7500AACS
Western Digital	1Tb	WD10EVVS

The following Hard Drives **are not** recommended.

Manufacturer	HDD Size	HDD Model No.
Seagate	250Gb	ST3250310SV
Seagate	500Gb	ST3500312CS
Hitachi	750Gb	HDS721075KLA330
Western Digital	250Gb	WD2500AAJS
Western Digital	320Gb	WD32000AAKS
Western Digital	500Gb	WD5000AAKS