VideoDR-S
Quick Start Guide

Quick Start Guide version 1.0 (July 2003)

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1 First run

The program started for the first time displays a window asking for selection of the user interface language and cameras' TV system (**NTSC** or **PAL**). Select the **language** from the drop-down list and press OK.

1.1 Entering licence number

In next step you will be prompted for entering the program license number that could be found in the supplied package.
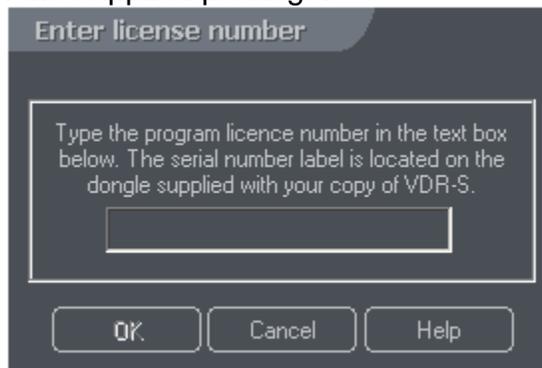
Enter the number and press **OK**. If you cannot find the number you should contact the distributor or manufacturer but for the time being you can click **Cancel** and program will run. An hour later after you clicked the Cancel you will be prompted again for entering the license number. You can always do it by selecting menu **About** and then click **Enter license number**.

The next window is the warning message:

Warning: No archive recordings found. Recording/Playing will not be possible.

This is a reminder to configure the database for recording (description in **Chapter Configuration of archive files** of the manual)

1.2 Enter login and password of the administrator

The program will now ask for a new user name and password. This new user ID will have **administrator status and rights**.
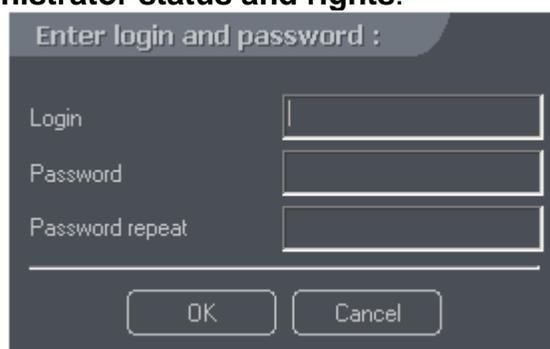
NOTE!!! Remember the user name and the password of the administrator, as it is necessary to use this login until other users with administrative rights are created. Creating other user accounts and editing existing accounts is described in **Chapter *Configuration of server access accounts*** of the manual.

When running the program in the future, it is necessary to enter a valid user name and password.

Initial configuration is required the first time the program is started.

1.3 Camera Settings

Set the quality of the recorded image and the sensitivity of the changed fragments replacement. You can mask an area, decide when the image should be recorded and set the motion detection threshold. Additionally, you can select the color of displayed texts and set other personal preferences. More functions of individual elements of the window are described in **Chapter *Configuration of camera settings*** of the manual.

1.4 Captured resolution settings

You can also select the required resolution of image recording, as necessary. The higher the resolution, the better the image quality, but it results in a reduced frame per second rate and also larger files. For settings see **Chapter *Configuration of the video capture card*** of the manual.

1.5 Creating Archives

Before starting the recording you have to create video archive databases. Here you select archive files size and disk space thresholds and locations. Click **Add a new location** button and type the path where you want to store archive files. By default it will try to create a folder **C:\Videobase** and will try to reserve 80% of hard disk if it is **C:** disk. (More about this in **Chapter *Configuration of archive files*** of the manual). After you create the archives folder you can start recording. Click the button with small red circle to start recording. If everything is OK (video data base is created) it will start blinking – that means the VDR-S system is recording.

1.6 Video server feature

If you want to configure the VideoDR-S as a video server, in order for the client application to connect to it through a network, you have to activate the video server. (See **Chapter *Configuration of Network Settings – video server*** of the manual)

1.6.1 Server settings

Network settings - Server - button "Enabled"
Network Settings - Server - "**Dynamic IP address**" button selected if you use dynamic ip feature.
Remember what kind of ports in Network Settings you have chosen (available range from 1024 to 65000).
User account - you should connect to the server using regular user account.
It is good practice at this point to create an additional user in the system, especially for the remote connection, due to security considerations such as insecure connections. Remember to assign access rights for cameras, the archive, time, domes, etc.
At the start the administrator account is created with all rights enabled but it is excluded from remote connection. By default administrator account has a tick in the checkbox in the "**Incoming external connections**" and therefore it is not possible to connect to the server using this account. You would have to uncheck it or create another user. Creating regular user for external connections is recommended. To do so - go to Users Settings and click ADD. New user by default has no rights so you have to select what right the user will have and set in what hours can he connect to the server. (More details are in **Chapter *Configuration of server access accounts*** of the manual.)

1.6.2 Client settings

You MUST know the IP address of the server. If it is PUBLIC IP you can connect to the server anywhere you are but if you have an IP from PRIVATE class (beginning 192.168. or 10.10) you will be able to connect only from the same local network. (More about private, public IP you will find in the FAQ section)
Connection from PC: install VideoDR-C client software, Go to Address book, enter server name it would be identified in the list, enter IP address or DNS, enter port the server is listening at, enter username you have set up in the server, enter the password for that user.
Connection from Mobile phone: download appropriate program version and run it. Go to Address book, enter server name it would be identified in the list, enter IP address or DNS, enter port the server is listening at, enter username you have set up in the server, enter the password for that user.

1.7 Dynamic IP

If the computer where the server is installed has a static IP then you can try to register dynamic DNS service with our system. (More about private, public IP you will find in the FAQ section)

Register domain for dynamic IP address

Domain name :	.vdr-s.com
Interface:	

Your data

Name :	
Address :	
Person :	
Postion :	

Demo server

☐ Publish demo server domain

Demo port :

Register   Close

Required domain name,

for instance: example

Interface: Select the one with PUBLIC IP
(do NOT select anything starting with:
127.0.., 192.168.., 10.10..)

Name of the company

Your address

Your first and last name

Your position in company

If you like to publish your server for the public
put a tick in this box and enter demo port and then
create user demo with password demo.

Then in the server you will have to check the button "Dynamic IP address" (this button has to be enabled)

Network settings

Server

Server name :

SOPOT DEMO

Ports :

9000   9001

Connect to the port specified here

Dynamic IP address

If you use Dynamic IP feature you must select this button

Enabled   *this button ENABLED*

Web server

Port	80
Quality	

Enabled

OK   Cancel

If the register process is successful and you enabled "Dynamic IP address" button in Network settings you can run the client and you enter all necessary information in the address book and then go to the connect window and select your server from the list.

If you entered "example" in the "Domain name" you will have to type in the "Server address": example.vdr-s.com
The rest of fields: Port must be the same as you have entered in your server's Network settings, Login and Password the user that has the rights to connect to the server.

Example configuration with dynamic IP service established:
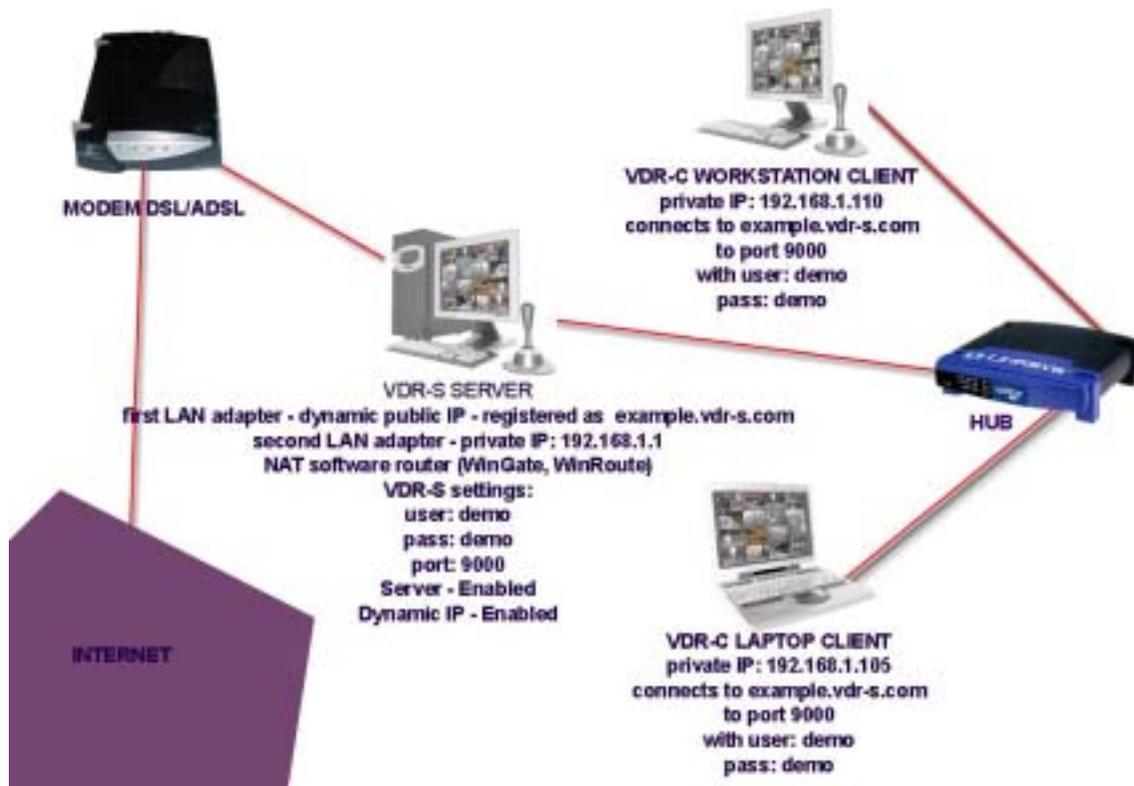
Example configuration without dynamic IP service established and computers in local network are using private IP class to connect to the server:
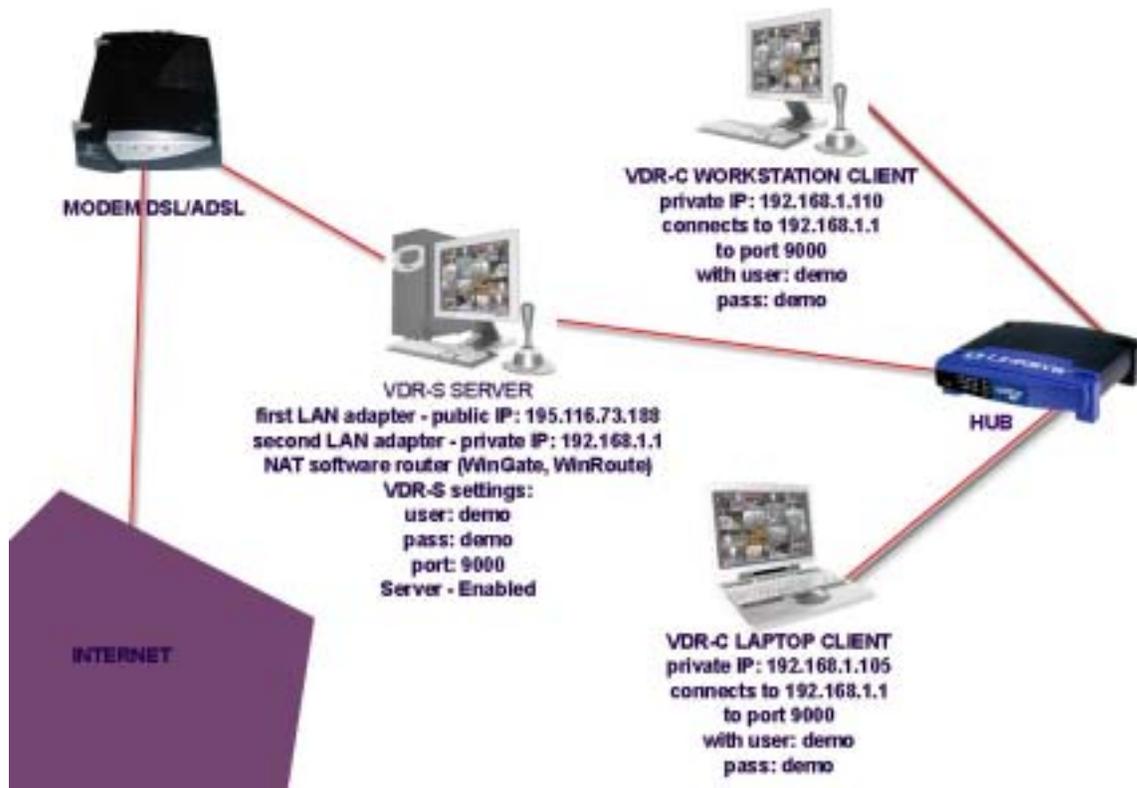
2 FAQ

2.1 RECORDING TIME

2.1.1 Example1: big supermarket:

Captured resolution: 368x288, 16 cameras, 5 frames per second, 120GB, 16 days of recordings - 1 day requires about 0.6GB for each camera.

2.1.2 Example2: Sopot Demo:

Captured resolution: 756x288, 4 cameras, 7 frames per second, 50GB, 12 days of recordings - 1 day requires about 1.5GB for each camera.

Adjusting the quality of captured frames and the sensitivity of deltas and the captured frames rate and the resolution settings you can change the storage requirements.

It strongly depends on the settings in software. There might be deviation up to 2 times of the above examples using different settings.

2.2 COMPRESSION

Compression method is JPEG DELTA - differential compression system. It records only when the motion is detected and only the fragments that actually change between frames.

2.3 SCHEDULE

Examples of schedule settings.
1. Idea: Easy way to check if schedule is working, if motion detected on camera 1 turn on the output #1:
Solution: Name the task, select camera # 1, click "Set outputs" button and select output #1. Click Add button, and OK.
Effect: Now every time the motion is detected by camera 1, the output number one is turned on.
2. Idea: Send an email notification and add bookmark of any motion detected on cameras 1-4 during 9pm-10.55pm and 11.05pm-6.00am
Solution: You have to create 2 tasks in scheduler.
Name the task #1. Start:21:00 End:22:55, Select cameras 1-4, click "Send email" button, select required emails from the list. Click "Add bookmark" button Name the task. #2. Start:23:05 End:05:99, Select cameras 1-4, click "Send email" button, select required emails from the list. Click "Add bookmark" button (Current program version has a bug: you can only set up schedule in Start field for :00 to :29 minutes and in End field for :30 to :59 minutes. I have just discovered this bug in the software and it will be eliminated in future versions.)
Effect: bookmark will be set and email will be sent every time motion is detected by cameras 1-4.
3. Idea: Record only during the working hours +/-1hour for camera 2 and 3. Period: 7.00am-5.00pm
Solution: Go to "Camera Settings" window, select camera 2, Set up Recording to DISABLED, do the same for camera 3. Now open the Scheduler window. Name the task. Click camera 2 and 3. Start: 07:00, End: 16:59. Check if Motion only is selected (it is by default). Click "Add" button and OK.
Effect: Only during this period of time the motion will be recorded for camera 2 and 3.

2.4 What are IP addresses

To give the most simple explanation, IP numbers, like 209.204.13.67 can be described as phone numbers, and "fully qualified names" like ip-067.wmld.com can be described as the name of the device at that number. The DNS service or "Domain Name Server" is a software system of keeping track of what name is equivalent to what number, and vice versa. Much like the phone book.
Let's think about the telephone system. Joe Smith has a telephone number of 323-555-1234, and Mary Jones has a telephone number of 323-555-1987. If Joe needs to call Mary but doesn't know her number, he could dial 411 and ask for the number for Mary Jones. The operator may reply that there is more than one

listing for a Mary Jones so he needs to be more specific, and provide an address. He then tells her he needs the number for the Mary Jones at 123 Main St., of which there is only one listing, and he gets the number. Conversely, Mary Jones might be looking at her telephone bill, and see a call to 323-555-1234 and wonder who she was talking to. Mary could look thru her rolodex until she found the number, and she would see that she had called Joe Smith.

The internet uses a very similar system, the combination of IP numbers and "fully qualified domain names", and the DNS server is the "411 service" keeping track of the matching records between the two. When a person using a computer needs to connect in some way to someone else's computer, they need to either know the IP number (like a phone number) of their computer, or they need to know the fully qualified domain name (like a person's name along with their street address) of their computer so the DNS system can look up the IP number of thier computer and return it to the requestor (just like the 411 operator does). IP numbers are structured as 4 numbers, from 0 to 255, each separated by a dot. 206.205.204.203 is just as valid a number as 1.2.3.5 or 16.7.200.34.

"Fully Qualified Domain Names" are much like a name along with an address, and can vary widely in their structure, but the most common are in the form "host.domain.extension". "host" being the "name" you or your system administrator has assigned to your computer, l:ike "sneezy", and "domain.extension" is like a virtual "area" in which your computer can be found, like bigcompany.com. A domain name like "bigcompany.com" is very similar to the "areacode-prefix" combination used by phone companies to identify which region of the city your number is in, and which switching center your number is handled out of. "323-465" tells Pacific Bell that a number is in the "North and West of Downtown LA" area (323) , and served from the Hollywood #1 switch center (465) along with many other prefixes. "bigcompany.com" tells the network world that your computer is in the "area code" handled by BigCompany Inc. and "sneezy" tells the network world which computer inside that "area" to look up when looking for (or "resolving") an IP number from a fully qualified name. Therefore, when a computer program looks to the DNS server for the IP number assigned to "sneezy.bigcompany.com", the correct IP number is returned. If the computer program in question were to simply query the DNS for a computer called "sneezy", there might be thousands and thousands out there, and no way to resolve which one is which without the "street address" of the one you're looking for, in this case "bigcompany.com".

The name structure within a company can be varied to show more breakdown or to organize computers into department specific groups, like "sneezy.marketing.bigcompany.com". The setup and system for the prefix to a company's domain name is up to the administrator at the company and/or their internet service provider to decide on and implement.

2.5 Public vs. Private IP numbers

Private IP numbers are the source of much confusion for many new networking users. Many home "powerusers" with more than one computer, small offices, and

just about any user of a broadband IP connection to the internet like DSL or Cable Modem has probably come face to face with this issue. The whole use of IP numbers is generally hidden from your typical Internet user who uses a modem and PPP software to connect to the internet - they are transparently and dynamically assigned an IP number while they are dialed in by their ISP, and don't really have to think about it. That is until the user starts to get curious about running a webserver on a machine in their house, or moving up to faster "always on" connections like ISDN, DSL, Cable Modem, or other methods.

Think about what happens when a small city runs out of phone numbers, but can't split up an area code. Things could get difficult and providing additional phone service as the city expands would be a nightmare. One method of preventing an area from going totally overboard on providing separate phone numbers is to have one or a handful of numbers used in a shared manner amongst many phone users, like any large office would do. A large company with 250 workers in an office building each with a phone at their desk wouldn't want to pay the phone company for 250 discreet and separate lines for each desk, nor would the phone company want to give all those numbers to them if they were trying to conserve numbers. Therefore, offices use internal equipment to "share" a smaller number of lines amongst their users, like maybe 20 or so used in rotary. By doing so, each desk can have an inter-office extension number, which is bridged to an outside phone company line when the user picks one up to dial out and one is free at that moment. In this case, any number of offices in the city might have an "extension 123" within their office, but each "extension 123" in these offices would never conflict with each other because they are "behind" the company's phone equipment which serves up the company's outside lines to those extensions when needed. The internal office extensions can communicate with each other perfectly fine, but must be connected to an outside line to connect to an extension at the company across the street. 213-555-1200 thru 1210 would be BigCompany, Inc.'s "public" phone lines, and extensions 1 thru 250 would be BigCompany, Inc.'s, "private" phone lines.

IP protocol networks use a system very similar to the above to prevent the world from running out of IP addresses. Even though 0-255.0-255.0-255.0-255 is technically 4,228,250,625 numbers, the useable amount of numbers is much lower due certain types of numbers set aside for special signaling and identification uses and not for typical "device" identification and traffic. Also consider that just about EVERY device that will handle IP traffic must have a unique number, and there are probably just as many routing and switching and serving devices on "the net" as there are actual computers. Add all that up and one can see how the current IP number structure really doesn't go all that far, and there is a need for computers and devices in certain groups to be able to use "private extensions" that work behind a group's "public numbers", just like the large company offices example above.

The organizations that agree on the technical standards behind the IP protocol have issued a standard for "Private IP number blocks", or numbers that can be used within an enterprise as long as the enterprise has the technical capability to separate those private IP numbers from the rest of the Internet at large, and

properly gateway the traffic between the internal stations at the enterprise in question and the public Internet. For Example, when a large company with 200 computers in the office needs to implement IP networking and connectivity both between the computers in the office *AND* supply inbound and outbound connectivity to the Internet from within their office network, that company would avail themselves of a block of IP numbers within the "private" numbers set aside for just that purpose. There is most certainly many other computers somewhere in the world using your IP number if your IP number is one of these private numbers, but both yours and the other private IP numbers in the world are safely operated behind other IP routing equipment which handles all the internal network's traffic out to and in from the public Internet, just like all the "extension 105" numbers in offices throughout the world are safely operated behind telephone equipment that bridges those extensions in and outbound thru a given office's public telephone system number.

The private IP addresses that you assign for a private network (inter-office LAN, Internet Service Provider customer bases, campus networks, etc) should fall within the following three blocks of the IP address space:

10.0.0.1 to 10.255.255.254, which provides up to 2^{24} Class A addresses, which would use subnet mask 255.0.0.0. (Theoretically up to 16,777,216 addresses, good for VERY large enterprises)

172.16.0.1 to 172.31.255.254, which provides up to 2^{16} Class B addresses, which would use subnet mask 255.255.0.0. (theoretically up to 65,536 addresses, good for up to large enterprises like colleges)

192.168.0.1 to 192.168.255.254, which provides up to 2^{16} Class C addresses, which would use subnet mask 255.255.255.0. (theoretically up to 65,536 addresses, same use as above)

Explanation of Subnet masks, Network classes, and other technical info is readily available on the internet.

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