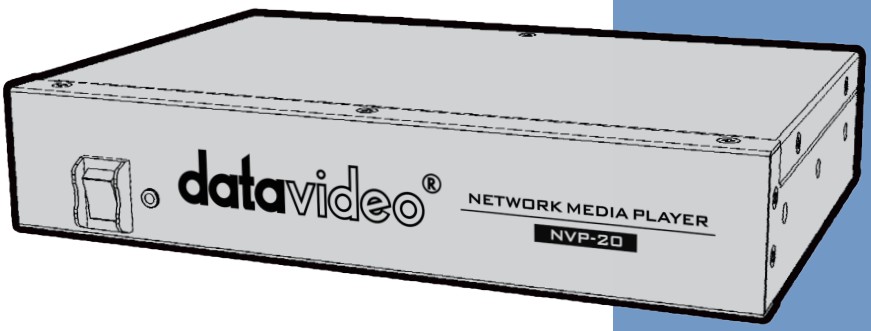
datavideo



NETWORK MEDIA PLAYER

NVP-20

Instruction Manual

www.datavideo.com

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Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord's rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
    a. When the power cord is damaged or frayed;
    b. When liquid has spilled into the unit;
    c. When the product has been exposed to rain or water;
    d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
    e. When the product has been dropped or the cabinet has been damaged;
    f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

Standard Warranty

- Datavideo equipment are guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- The product warranty period begins on the purchase date. If the purchase date is unknown, the product warranty period begins on the thirtieth day after shipment from a Datavideo office.
- All non-Datavideo manufactured products (product without Datavideo logo) have only one year warranty from the date of purchase.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered under warranty.
- Viruses and malware infections on the computer systems are not covered under warranty.
- Any errors that are caused by unauthorized third-party software installations, which are not required by our computer systems, are not covered under warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- All accessories including headphones, cables, and batteries are not covered under warranty.
- Warranty only valid in the country or region of purchase.
- Your statutory rights are not affected.

Three Year Warranty

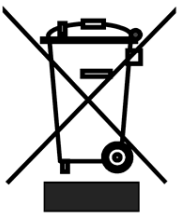
- All Datavideo products purchased after July 1st, 2017 are qualified for a free two years extension to the standard warranty, providing the product is registered with Datavideo within 30 days of purchase.

- Certain parts with limited lifetime expectancy such as LCD panels, DVD drives, Hard Drive, Solid State Drive, SD Card, USB Thumb Drive, Lighting, Camera module, PCIe Card are covered for 1 year.
- The three-year warranty must be registered on Datavideo's official website or with your local Datavideo office or one of its authorized distributors within 30 days of purchase.

Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

Disposal



For EU Customers only - WEEE Marking

This symbol on the product indicates that it will not be treated as household waste. It must be handed over to the applicable take back scheme for the recycling of Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

Product Overview

The Datavideo NVP-20 is a fully automated, remote controlled H264 video player. The NVP-20 can use any USB 2.0 storage device as its media source. Video files can then be added to the media player by copying them to the USB storage device or by transferring these files over an IP network/LAN using FTP.

The Media Player's feature rich web interface allows the user to create and load playlists as well as remotely control video playback.

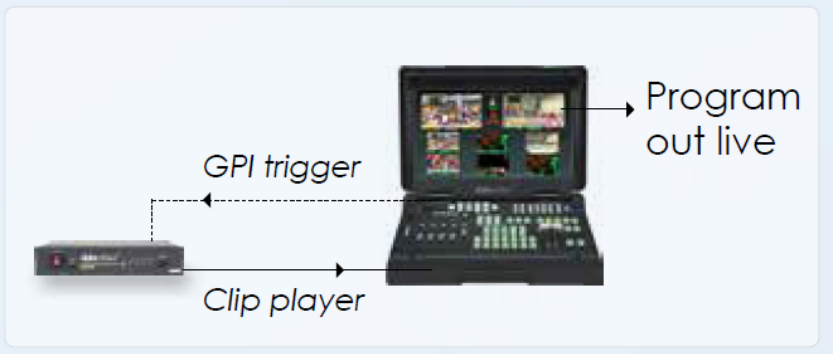
The NVP-20 can also be used completely stand alone without IP connectivity. Simply connect a USB keyboard and mouse [not supplied], then use the on screen playlist manager to create and control playlists.

Alternatively video playback can also be triggered via GPI connection or by using the Contour Shuttle Express jog wheel [separate purchase].

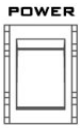
Features

- Operates on standard 10/100Mb Ethernet networks
- IP,GPI, Keyboard and jog shuttle control options
- Supports multiple playlists
- Excellent image quality up to 1080p60
- Supports mp4,.h264,.mkv,.mov,.ts files
- IP control supports play next clip, play all clips, loop play all, pause, resume and seek
- Pre-load feature for instant clip playback
- Supports NTFS and FAT/FAT32 formatted USB storage
- Feature-rich Web interface for configuration and control
- Built in video scaler - HD to SD or SD to HD
- Supports Full HD 1080p video and audio
- Supports concurrent HDMI and Composite video output
- Supports simultaneous digital embedded and analogue audio output
- Small form factor, rack mountable using RMK-1
- 12V DC input

Example Workflows



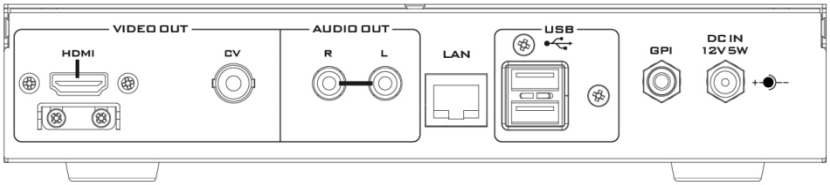
Front Panel

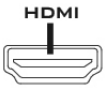


Power On/Off Switch

Switches the power On / Off

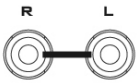
Rear Panel





HDMI OUT
HDMI digital signal output connector

CVBS OUT (BNC)
Composite video output



AUDIO OUT (RCA)
RCA stereo for a line level analogue audio

Ethernet Port (RJ-45)
10/100M base Ethernet Network Interface

USB x 2
USB 2.0 interface for connecting external storage, keyboard, mouse or shuttle controller.

GPI
A contact closure GPI (General Purpose Interface) switch

DC In Socket
Connect the supplied 12V PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC-IN plug to the socket

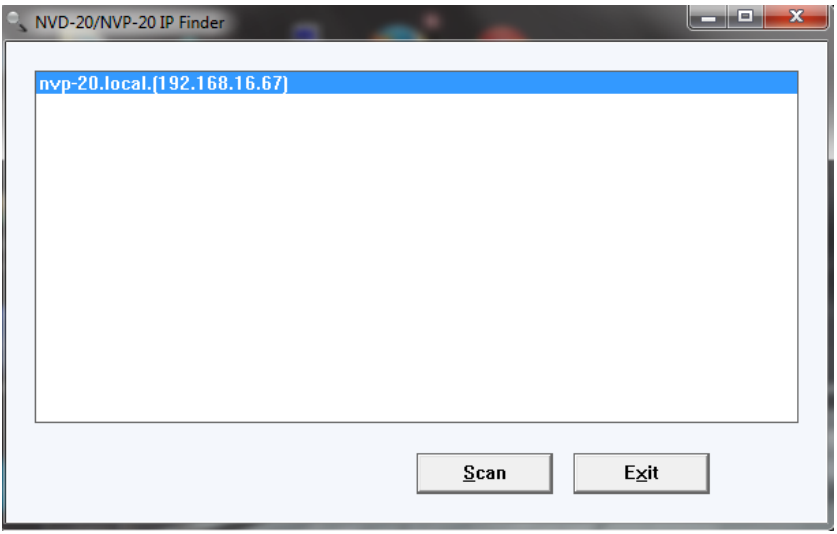
How to find the NVP-20 on an IP network

By default, once the physical connections have been made, the **NVP-20 will try to obtain an IP Address from a DHCP network server**. As we will see this can be changed later to a Static IP address if required.

How to use the NVP-20 IP Finder utility software

Datavideo supply a free, *Windows based* utility, called **NVP-20 IP Finder**.

The first time this software is used on the computer you may need to allow it permission through your computers firewall / anti-virus software in order for it to be able to scan or search the local network.



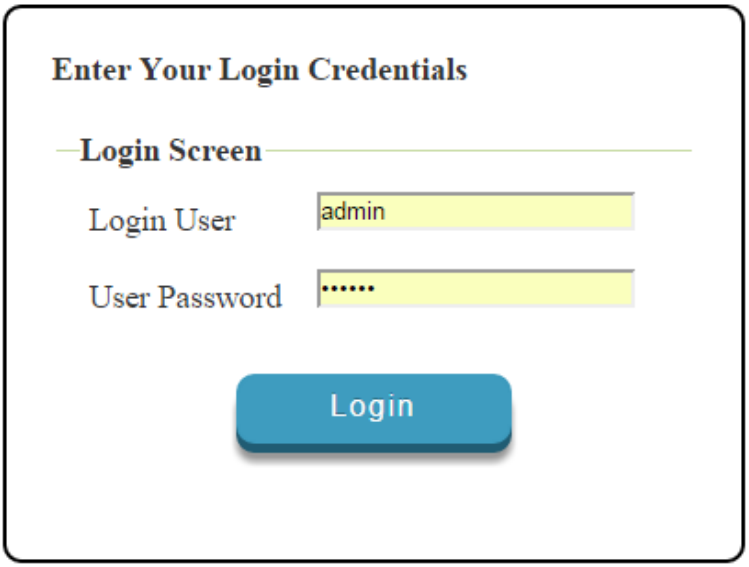
When the utility scans the LAN that the computer is connected to, it displays the current IP address for any NVP-20 units found on this local IP network. Double clicking on the device listed will automatically open your computers default web browser and navigate to the login page of the NVP-20.

If you are using an Apple computer then you can use an alternative utility app such as Fing or Network Analyzer Lite.

NVP-20 Login using a web browser

Type the numbers of the IP address for the NVP-20 into the search bar of the browser. Remember to include the dots in between the numbers. When entered you will then be asked to login to the NVP-20.

Alternatively you can simply double click the IP address listed in the NVP-20 IP finder.



Please Note: We recommend the Mozilla Firefox web browser

Default Login details

All NVP-20 units are delivered from the factory with the same default user name and password. This can be changed at a later stage to suit your needs.

User = admin **Password** = **000000** [Zero six times]

NVP-20 web browser Home page

Once we have logged into the NVP-20 we are presented with the **Home page**.

Welcome to NVP-20 Web Server!

Please click on the Settings menu to configure the media player for the first time.

By default this device will output via the HDMI interface with embedded audio,

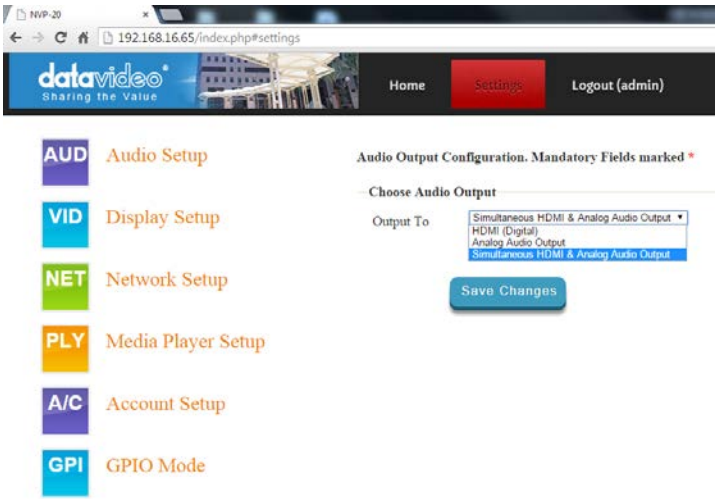
for optimal performance please set the output resolution and frame rate to match the source video.

Settings option

When clicked, the Settings option tab will open a new page. There are five sections of settings which can be looked at. These are: **Audio Setup**, **Display Setup**, **Network Setup**, **Media Player Set Up**, **Account Setup** and **GPI Setup.**

Settings > Audio Setup

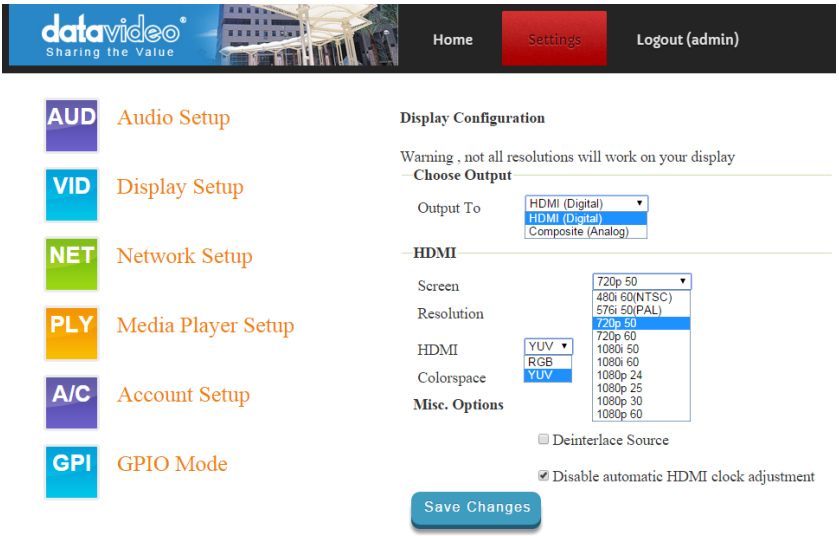
By default the NVP-20 will output audio over the digital HDMI connection and the analogue stereo connections. Alternatively you can choose to output digital or analogue audio only.



Settings > Display Setup

By default the NVP-20 will output video over the digital HDMI port at a resolution of 720P 50 fps and YUV colourspace.

Please note: The set resolution is only applied once the device has booted, the device will output your monitors preferred resolution as it boots.



Output To

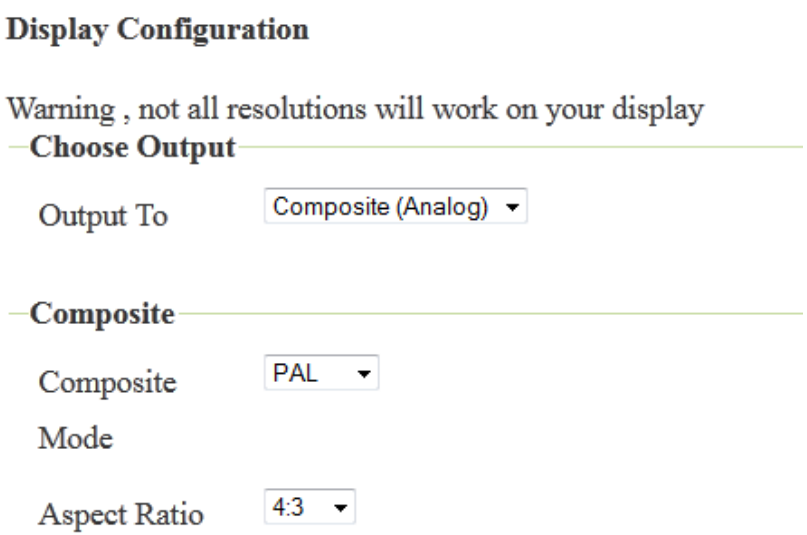
Here you can select to output video digitally over HDMI or over the SD analogue composite connection.

HDMI (Digital)

When digital is selected you can select a screen resolution from SD PAL/NTSC right up to HD 1080P60. The NVP-20 will scale your source video to match the output resolution however the aspect ratio (4:3 or 16:9) should be matched to avoid black space on the output, for optimal performance match the output resolution to the source video. The colourspace can be switched between YUV and RGB, most video equipment will use the YUV colourspace however if the colors appears wrong on your display please try RGB.

Composite (Analogue)

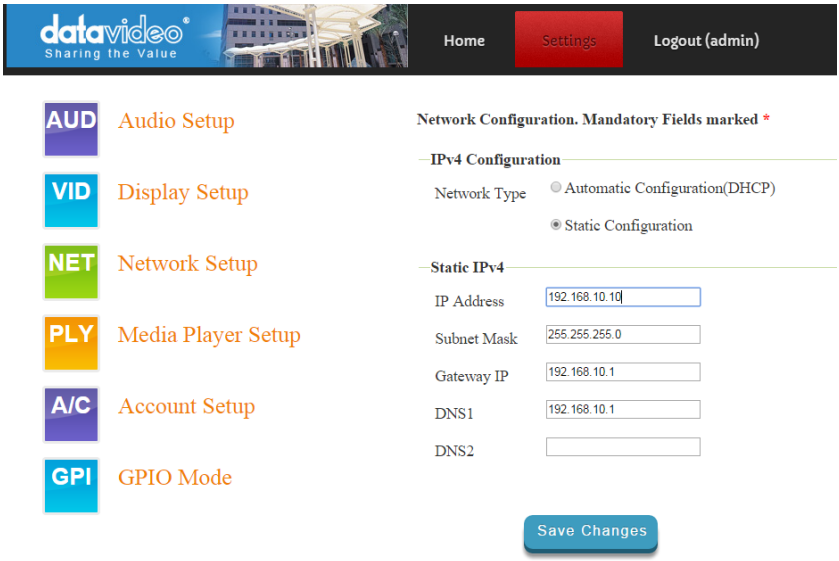
When analogue is selected the UI will change and you can only select between PAL and NTSC resolution with a 4:3 or 16:9 aspect ratio.



Settings > Network Setup

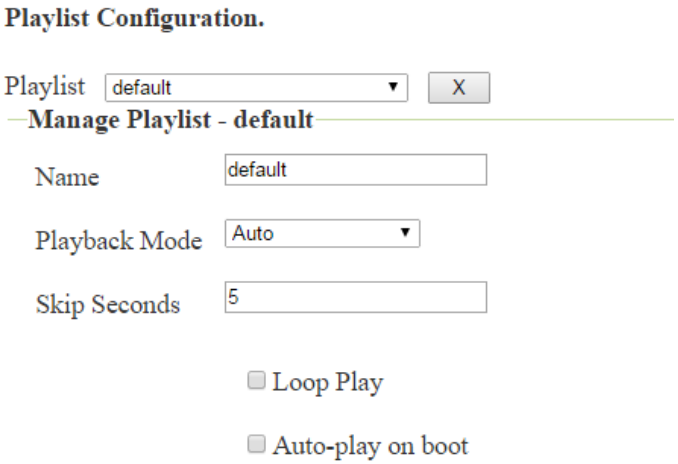
By default the NVP-20 will obtain its IP addres automatically from a DHCP server. If this behaviour is not desired or if you intend to use the NVP-20 directly connected to a PC or network without a DHCP server you should assign a manual address by selecting ‘Static Configuration’

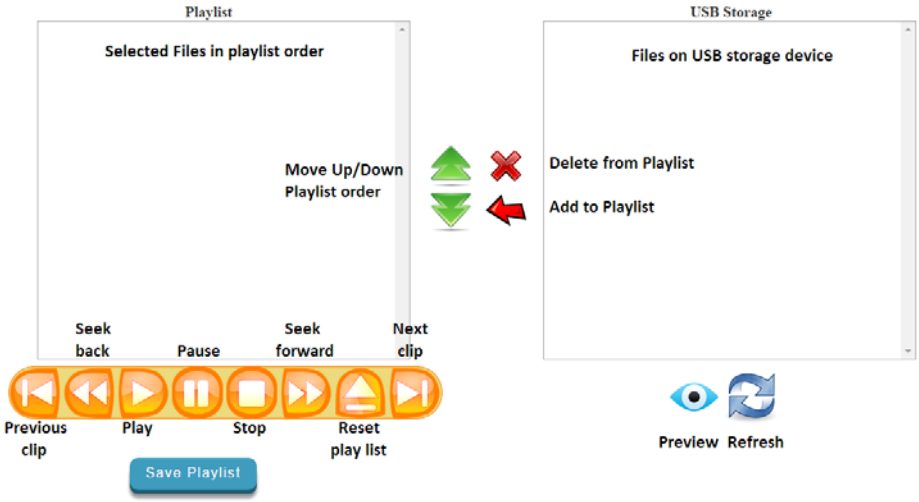
We recommend only advanced users that are aware of how IP addressing fucntions to set a manual IP address, the address assigned to the NVP-20 must be on the same subnet as the rest of your network for it to be accessible.



Settings > Media Player Setup

From this page you can control and configure the media player.





To preview clips directly from the USB storage

The USB Storage box lists all compatible video clips found on the USB storage device (H264 files with .mp4, h264, .mkv, .mov, and .ts wrappers).

To refresh the contents of this list hit the refresh button.

To preview a clip first select the clip in the list (It will be highlighted blue when selected) and then hit the preview button, you can stop the preview using the main stop button. However, once stopped, the clip cannot be replayed.

Adding clips to a playlist

First add clips to the playlist one by one. Select the clip you need in the 'USB Storage' list and then hit the red left button to add that clip to the playlist, to remove a clip from the playlist select it in the 'Playlist' list and hit the red X button.

To change the order of the playlist select a clip in the list and move it up or down using the green arrows.

Playlist settings

All the following settings are saved on a per playlist basis. The playlist must be saved before the settings are in effect.

Playback mode

Auto – In this mode once playback is triggered the NVP-20 will automatically play all clips sequentially until it reaches the end of the playlist.

Manual – In this mode the NVP-20 will only play one clip at a time and wait for playback of the next clip to be manually triggered.

Manual (Pre-Load) – The same as manual mode except that clips are loaded into memory and a freeze frame displayed on screen ready for instant playback. In this mode the first clip must be pre-loaded by triggering the play function. When you create a 'Manual (Pre-Load)' playlist the first clip must be loaded on screen by pressing the play button or triggering the GPI subsequent clips are automatically loaded on screen ready for playback. If you want the first clip to be loaded on screen when you boot the device simply check the 'Auto-play on boot' option.

Skip Seconds

This option sets the amount of video that is skipped at a time when using the seek forward and seek backwards buttons.

Please Note: It is not recommended to set a value less than 5 seconds, this could cause the player to stall when seeking.

Loop play

When checked the NVP-20 will return to the first clip in the list when playback of the last has completed.

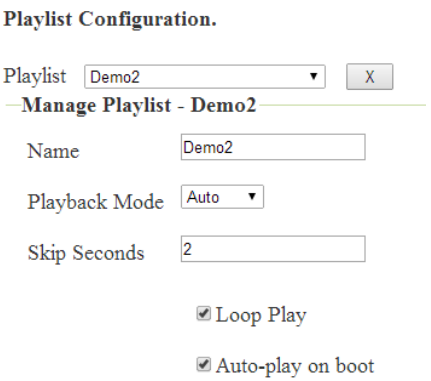
Auto-Play on boot

When checked the NVP-20 will play the previously loaded playlist on boot.

Please Note: When in manual playback mode only the first clip will be played.

Saving and loading playlists

Please Note: A playlist must be saved before it can be used. It can only be played from the first clip but not from any in-between.



Saving a playlist

Once you are done creating your playlist, you can save it. To do this, simply enter a name into the “Name” box and click to save the playlist. A message will appear below this button to let you know the playlist was successfully saved.

To create additional playlists, simply make the required changes to the current playlist contents, enter a different name and click the ‘Save Playlist’ button again.

Loading a playlist

To load a playlist, simply select the name of the playlist from the pull-down menu located at the top of the page.

Deleting playlist

To delete a playlist, simply select the name of the playlist from the pull-down menu at the top of the page and press the grey button marked X to the right of the drop down list.

Playing a Playlist

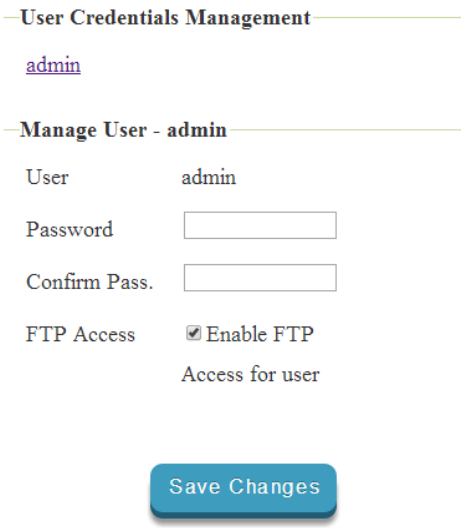
To play a playlist, locate the row of buttons shown below. Click on the corresponding buttons to control the playback of a playlist.

Settings > Account set up

The NVP-20 has one admin user account and password. This account is used to keep the NVP-20 secure and gives access to the streaming settings.

Default user name = **admin** Default password = **000000** [Zero six times]

This section describes how to change the default username and password shown above to something new which is more secure.



1. Log in with the NVP-20 server as normal using the computer web browser.
2. Click **Setting**
3. Click **Account Setup**
4. Click admin and then enter the new **user name and password**.
5. Click 'Save Changes'

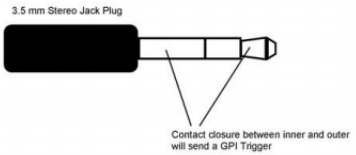
Please Note: Please be careful and memorize the new login details as the old or default login is deleted during this process.

Settings > GPI set up

The NVP-20 can be controlled externally via a GPI (General Purpose Interface) switch.

This could be a push button, foot switch, switcher or any relay or circuit that is able to provide a simple contact closure. Contact closure between the Outer and Inner contacts on the jack plug will trigger a user selected event.

The GPI interface is a 3.5mm Jack Socket which is situated on the rear panel of the NVP-20.



Please Note: Power is supplied by the NVP-20 and is less than 5V DC.

SAFETY FIRST
The cabling required needs to be designed specifically to connect the NVP-20 to the chosen GPI source as they are not all the same. The cabling required can be made by yourself or a competent technician. Please speak with your Dealer or local Datavideo office to get further help and advice.

The NVP-20 supports two GPI trigger modes selectable via the web interface.

Level Trigger

Contact closure between the Outer and Inner contacts on the jack plug will trigger the PLAY button to be pressed once, if the contacts are released during clip playback the PAUSE button will be pressed once.

Pulse Trigger

Momentary contact closure. Contact closure between the Outer and Inner contacts on the jack plug will trigger the PLAY button to be pressed once, if GPI is triggered during clip playback the PAUSE/RESUME button will be pressed.

Transfer clips via FTP

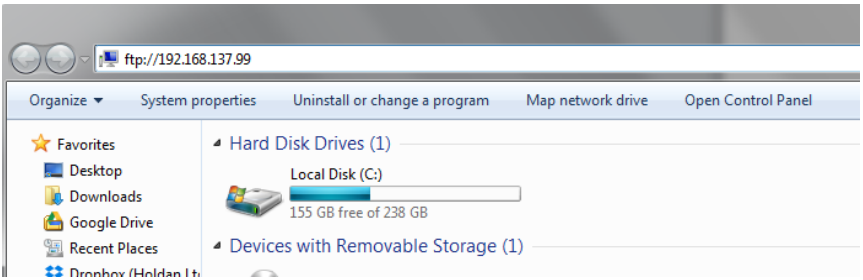
The NVP-20 allows you to transfer clips to the connected USB storage device over a network using FTP. This feature means you can add, remove and rename clips remotely over IP as well as controlling playback and managing playlists.

To use the FTP feature you must first ensure that FTP is enabled under account setup, please see the previous page.

Then you simply need to connect to the NVP-20 using your favorite FTP client, Filezilla and Windows explorer are examples of FTP clients. Below I will connect using Windows explorer as it is built in to Windows.

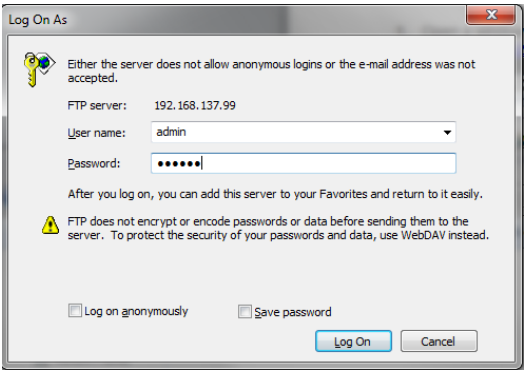
1. Open a windows explorer window

2. Enter ftp://nvp20ipaddress into the bar at the top

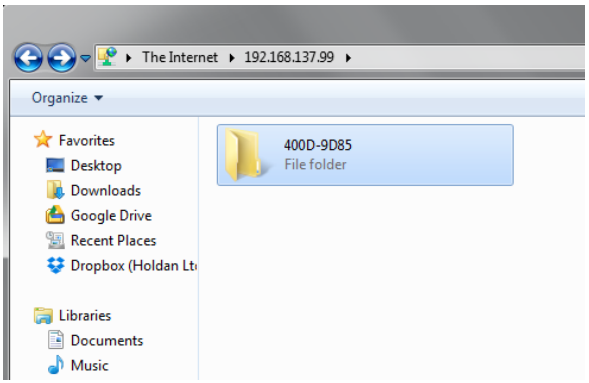


3. Hit enter and you will be asked for a username and password. Login with the same details you use to access the NVP-20s web interface.

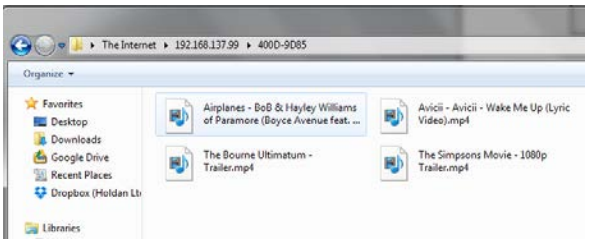
   By default the User = admin and Password = 000000



4. You will see a folder named after the ID of your USB storage device.



5. Open this folder

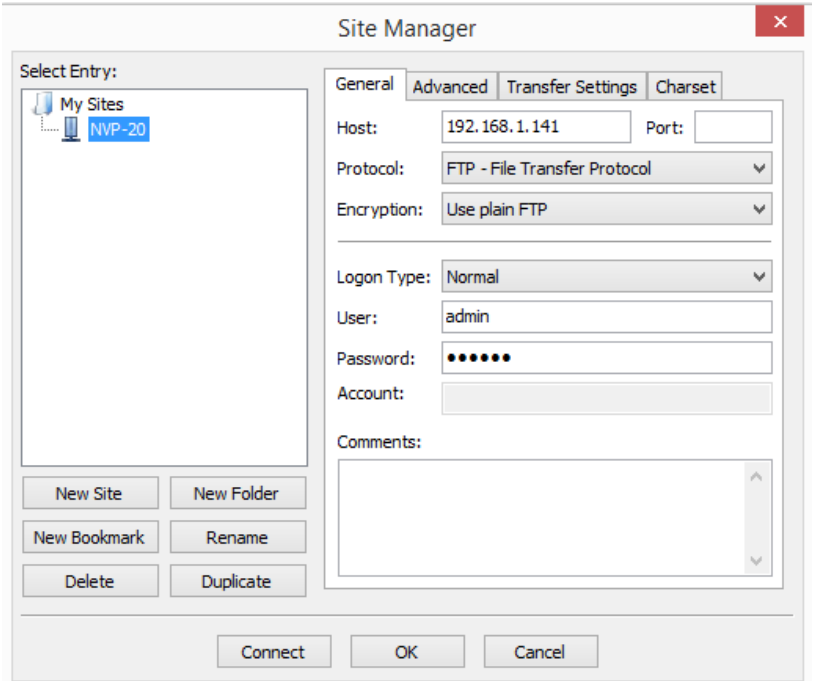


6. You can now copy and paste or simply drag and drop your clips on to the NVP-20.

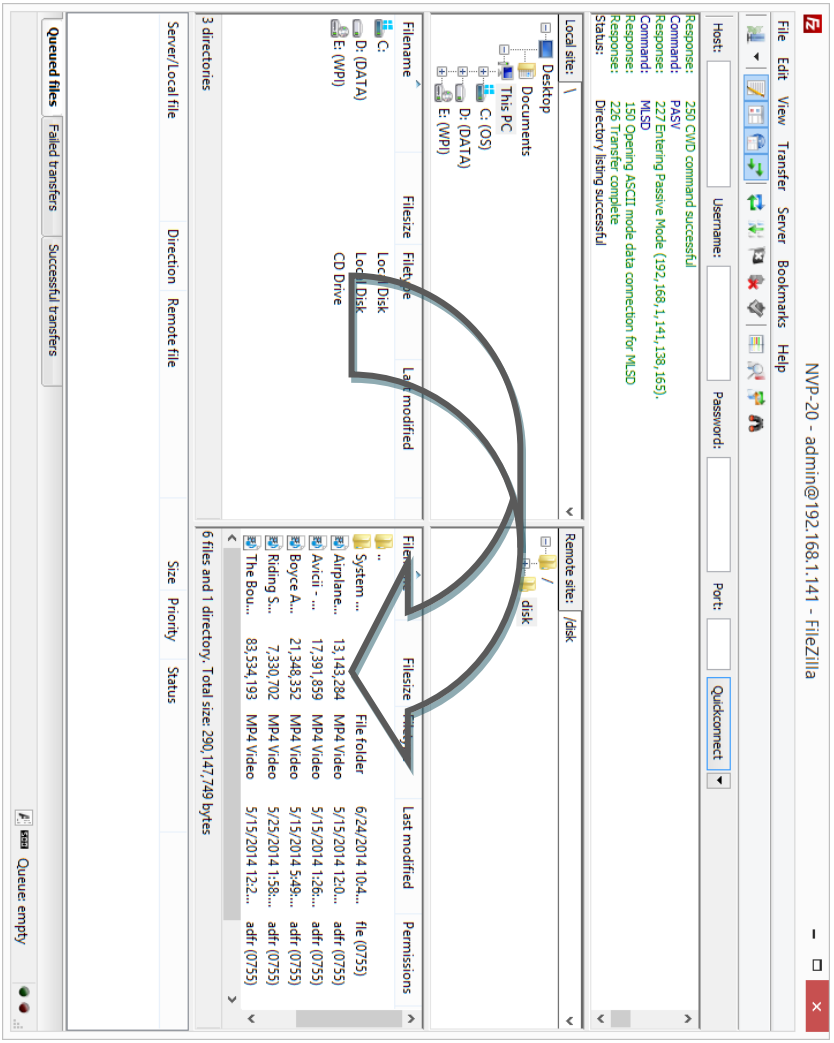
FileZilla

FileZilla is a free FTP solution that allows the user to gain access to the remote storage device such as the USB storage media connected to the NVP-20.

Open FileZilla and configure (File → Site Manager) the site information as shown in the diagram below. Enter the IP address of the NVP-20 into the host box. The login credential will either be the default login information or something that you create. Port number is 21 for establishing FTP connection.



Click on the “Connect” button and you will be directed to the directory where the clips are saved as depicted in the diagram below.



On FileZilla, the user is then allowed to copy and paste clips between your computer and the NVP-20, delete clips on the NVP-20, and add clips to the NVP-20.

Keyboard + Mouse Control

NVP-20 playback can be controlled with a USB keyboard, the control keys are as follows:

SPACE	Play / Pause
← and →	next / previous clip in playlist
>	Seek forward
<	Seek back
Esc	Stop

Please Note: Pressing the ‘Stop’ button when already in the stop state will display the on screen playlist manager.

Optionally a USB mouse can also be connected, this allows the on screen playlist manager to be used to create and edit playlists standalone with no IP connectivity.

Contour Shuttle Express Control

NVP-20 playback can also be controlled by connecting a Contour Shuttle Express controller, the control keys are as follows:

1	2	3	4	5
Previous Clip	Stop	Play & Pause	Reset Playlist	Next Clip

Small Wheel Not currently used

Big Wheel Fast Seek Forward & Fast Seek Backward

Please Note: Pressing the 'Stop' button when already in the stop state will display the on screen playlist manager.

Port Forwarding on your firewall / router

So that the NVP-20 can be used seen on the internet (beyond the default gateway) certain network related 'ports' should be opened on your router or firewall. Your local network administrator or I.T. support should be able to help you with this.

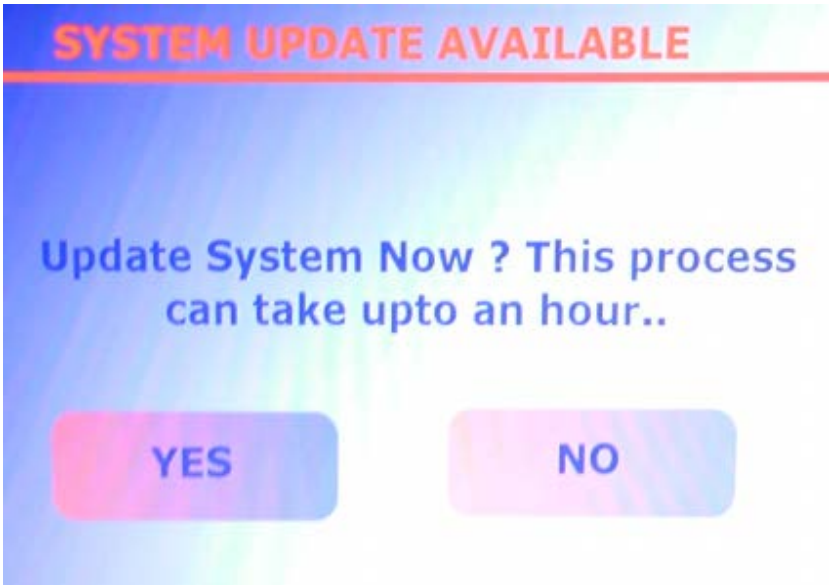
Enable the "port forwarding" function or open below ports within the router settings.

Web Server	FTP
80 (Over TCP)	20 (over TCP)
	21 (over TCP)

Automatic Updates

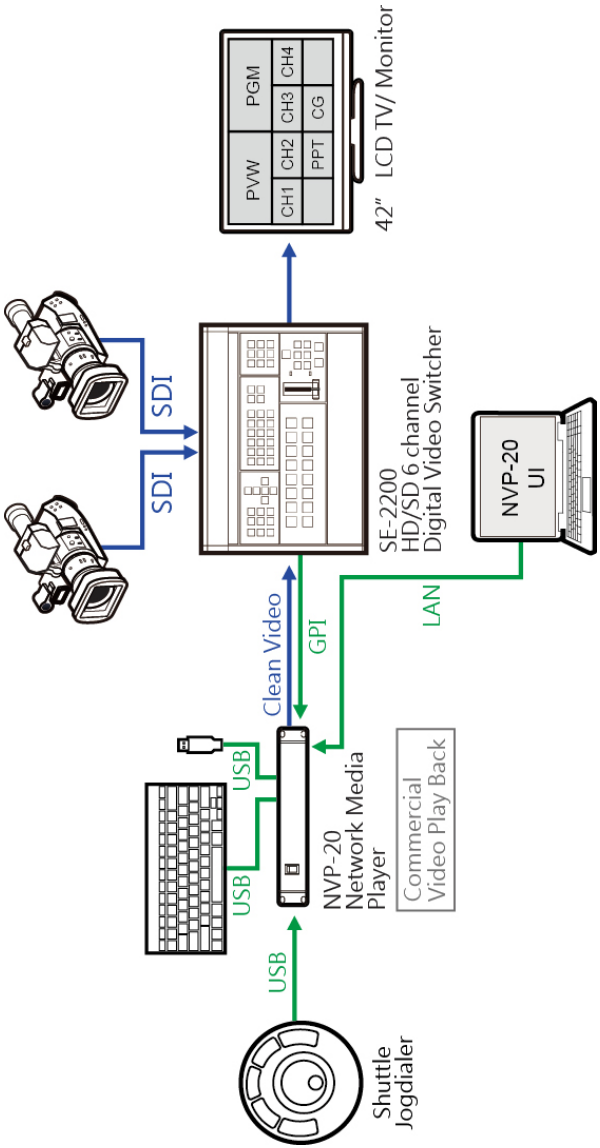
The NVP-20 features an automatic update system to avoid the need for the user to have to manually install firmware upgrades. The NVP-20 will automatically check for updates in the background whenever it is connected to the internet.

You will be notified if an update is available when the unit is next booted, a message will appear for 10 seconds on the selected video output (HDMI or Composite) to update simply click the Yes button on the prompt.



Please note: A USB mouse must be connected to install updates.

Example Set Up



Specifications

Audio Output	2 x Phono Connectors
	HDMI embedded audio
Video Output	Composite (analogue)
	HDMI (digital)
Network Feature	1x RJ-45 Female (10/100M Ethernet) DHCP/Static IP
Supported Video Resolutions	480 i60 (NTSC) 576 i50 (PAL) 720 @ 50p / 60p 1080 @ 50i / 60i 1080 @ 24p / 25p / 30p / 60p
Control	Web UI for system configuration and control over IP, as well as GPI, USB Keyboard, USB Mouse and jog shuttle control options
Update	Automatic firmware upgrade
Power	Input AC 100 ~ 240V Switching Adaptor Output DC 12V / 0.5 A
Environmental Conditions	Operating temperature.：0～50°C Storage temperature：-10～60°C

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

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www.datavideo.com/product/NVP-20

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