blackbox-av
audio ■ video ■ interactive

22” Open Frame Video Screen

Manual

V1

Contents

Safety Guide 3
Your new 22” Video Screen 4
Setting Up 5
Overview 5
Formatting 6
Programming – Attractor / Looping 7
Programming – Button Activation 9
Button Configuration 11
Alternate Programming Commands 12
Technical Information 13
Technical Drawings 13

Safety Guide

Please observe the following when installing this device.

Warning

• This product is not designed to be resistant to moisture or excessive dirt/dust. When deciding on a suitable installation point ensure there is reasonable protection from environmental damage.

• Do not place the unit in direct sunlight for prolonged periods as this may cause the product to overheat.

• For disposal of old electrical equipment please follow the guidelines associated with your country/territory or ship the unit back to blackbox-av and we will dispose/recycle the unit. The symbol on the left indicates that this product shall not be treated as household waste. Instead it shall be handed to applicable collection point for the recycling of electronic equipment. If you dispose of this unit correctly you will be helping prevent future harm to the environment which is caused by poor waste management of this type of equipment. If the screen has been damaged make extra care to prevent the LCD liquid from leaking out of the unit and wrap in a strong plastic bag with no holes.

Precautions of Use

• Whilst the unit is connected to a mains outlet and the power is switched on it is providing energy for operating the device. If the unit is not being used for long periods of time it is recommended to turn off the power as it will prolong the life of its electronic circuitry.

Your new 22” Video Screen

In the Box:

1. 22” Video Screen and Player
2. IEC mains cable
3. Button Cables
4. Remote Control
5. USB or SD Card
6. Speakers

22” Video Screen

The 22” Open Frame Video Screen is an all in one media player and screen. It’s used to display video, images and audio in a small compact manner.

Play Modes

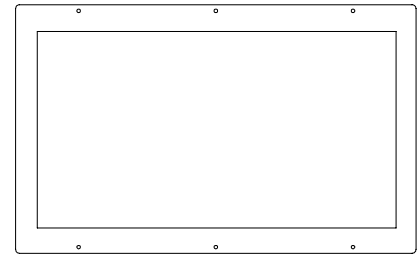
It can be looping or use up to 12 programmable activation buttons.

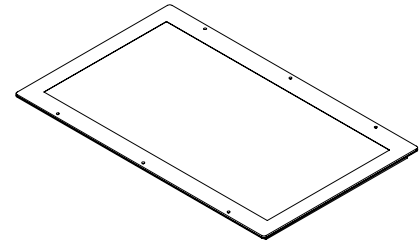
Output Options

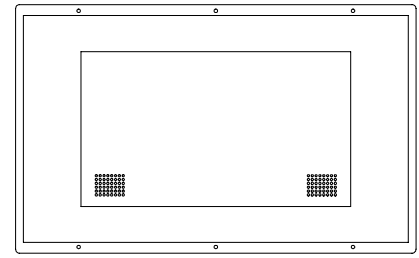
You may output to both the in-built speakers and headphones (not included) at the same time. Headphones / Handsets can be powered via the 3.5mm Audio Out.

In Built Speakers

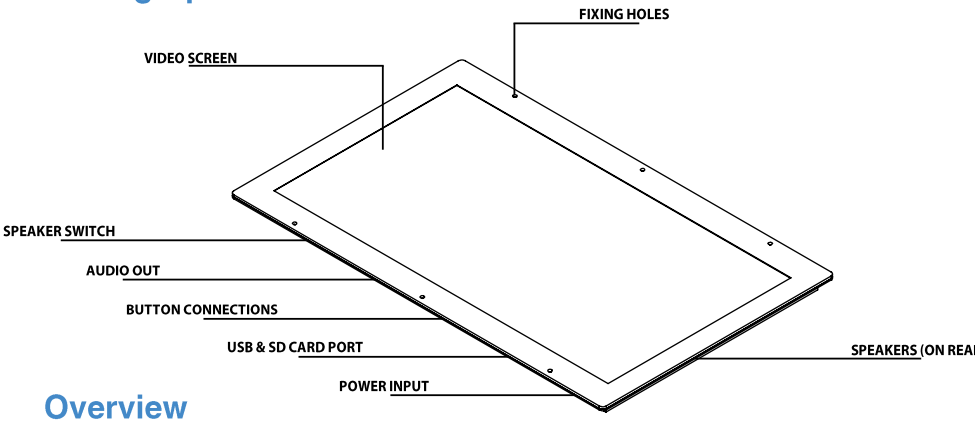
Speakers are built into the 22VS. Disabling the speakers for headphone use can be done via the switch at the bottom of the screen.







Setting Up



Overview

Power Input

Powered by an IEC mains cable, the 22VS can be turned on/off via mains.

USB/SD Card

The 22VS provides both USB and SD Card slots for importing content (supplied as standard with an SD Card). Go to 'Programming' for information on how to program your USB or SD Card.

Fixing Holes

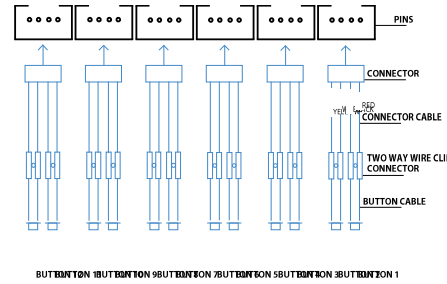
The 22VS is built with 4 fixing holes for easy mounting (two on either side).

Audio Out

Output any headphones / handsets through the 3.5mm Jack Audio Out. As standard the 22VS will output to both headphones and speakers at the same time. There is an on-board switch to turn the speakers off at the bottom of the screen.

Connecting Buttons

If you wish to use button activated content or allow user volume control, attach the required number of buttons using the button wires supplied to the appropriate input as displayed below;



1. The cables come attached to the connector. Simply insert to the pin as demonstrated above.
2. Connect the remaining ends of the cables to the two-way wire clips by following the cable colours.
3. Connect the button cable from your push button (not supplied) to the alternate end of the two way wire clip connector.

You will need to program the button as explained on pages 8-11.

Formatting

Converting your Content

Before putting the content onto the USB it needs to be in the right format as listed below. Your USB must be formatted to FAT32.

Below displays the file requirements that need to be met for the 22" Open Frame Video Screen:

Video	Category	Codec/FourCC	Max Res	Max Bitrate
	MP4	MP4	1920x1080 30fps	10M
Photo	Sub Type	Codec	Max Res	Size
	JPG	YUV400 YUV420 YUV422 YUV440 YUV444	1920x1080	No Limit
Audio	Category	Codec	Sample Rate	Bitrate
	MP3	MP3	64-320Khz	32Kbps-448kbps

Image Playback

For optimal image playback we recommend images be 1920x1080 pixels and saved as a JPEG.

Video Playback

For optimal video playback it is recommended that your video is 1920x1080 pixels and runs at 30 frames per seconds in MP4 format.

Audio Playback

For optimal audio playback it is recommended that your audio file is formatted to MP3 and has a bitrate of 44.1Khz.

Programming – Attractor / Looping

This section will tell you how to set your video screen to play in a looping fashion (requiring no user input). This can be used to display looping content, create an attractor screen or even button listings.

Content for the 22VS is stored on a MicroSD Card (supplied pre-programmed). We suggest you use this as a template for uploading your own content.

Should you need to use a different MicroSD Card we suggest you format the new card first to 'FAT' or 'FAT32'

To Program your content you will need;

1. A PC or laptop with Windows OS
2. Your content formatted correctly
3. SD Card (supplied)

1. Windows OS

Windows OS is required to program your 22VS using a PC or laptop (xp – 10). MacOS is not supported due to hidden files generated by the OS.

2. Looping your Content

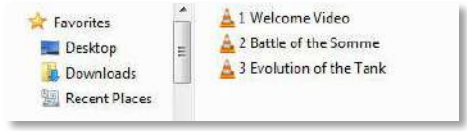
The 22" Screen plays content stored in the root of the storage device on a constant loop as standard. Content is played in numerical order:

Track 1 – "001.MP4"
Track 2 – "002.MP4"
Etc.

It's important to note that the 22VS can loop video, images or audio. The order in which content plays depends on the media type and name of your file.

The media type is prioritised, so videos are played first, followed by images and lastly audio. This means the file type supersedes the file name.

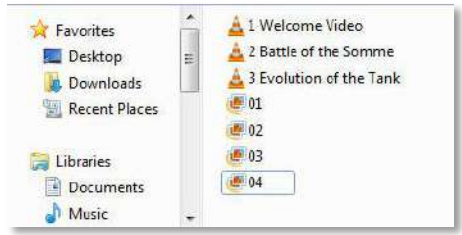
3. Video



This configuration allows the player to loop constantly through all videos in the following order:

1 Welcome Video
2 Battle of the Somme
3 Evolution of the Tank
1 Welcome Video
2 Battle of the Somme
Etc…

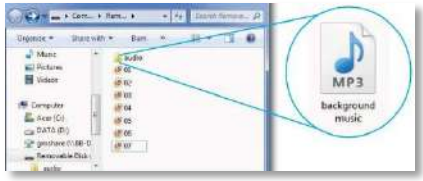
4. Video & Images



This configuration will play through all videos and images in the following order:

Video - 1 Welcome Video
Video - 2 Battle of the Somme
Video - 3 Evolution of the Tank
Image - 01
Image - 02
Etc…

5. Looping Images with Audio



This configuration constantly loops through images, it will also play the audio file located in the folder ‘audio’ as background music. The audio will restart with the slideshow.

Programming – Button Activation

This section will tell you how to set your video screen to play in a button activated fashion. See page 12 for instructions on your buttons.

There are 12 programmable buttons available with the 22VS.

As explained previously, to Program your content you will need;

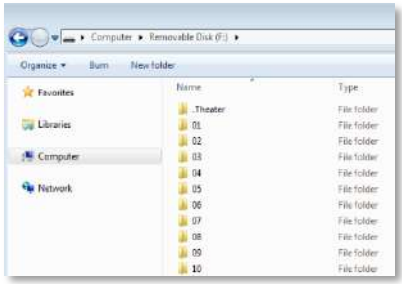
1. A PC or laptop with Windows OS
2. Your content formatted correctly
3. SD Card (supplied)

1. Windows OS

Windows OS is required to program your AV Point using a PC or laptop (xp – 10). MacOS is not supported due to hidden files generated by the OS.

2. Your Content

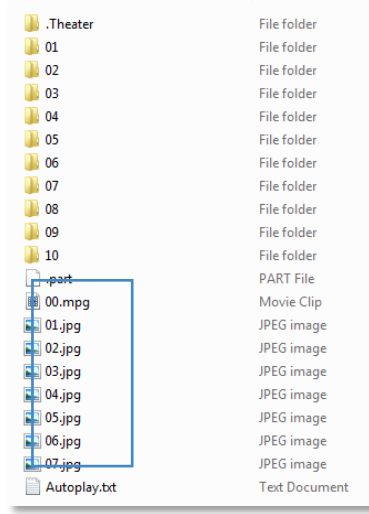
Place your files into the folders as seen below.



File 01 – Button 1
File 02 – Button 2
Etc.

3. Loop Files

As mentioned previously, any files left in the root of the USB will be played in a loop when button content is not being played.



4. File Order

You can store up to 99 files within each folder. Should you require more than one file in each button activation folder, you must number your files 01 – 99.

The order in which content plays depends on the media type and name of your file.

The media type is prioritised, so videos are played first, followed by images and lastly audio. This means the file type supersedes the file name.

Below are some scenarios in which the files will be played:

Order 1
004.mp4 (Played first)
003.jpg (Played second)
001.mp3 (Played third)
002.mp3 (Played fourth)

Order 2
001.mp4 (Played first)
002.mp4 (Played second)
003.jpg (Played third)
004.mp3 (Played fourth)

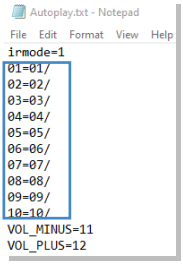
Button Configuration

This section is about how you program your buttons as well as other options, such as the default volume levels.

The 22VS can associate two buttons as volume control leaving the other 10 for content. Our test content which is pre-loaded has a configuration file called Autoplay.txt

Button Number

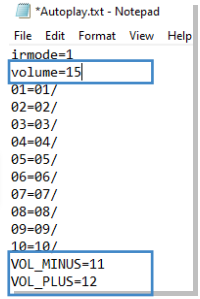
To configure your buttons, you will first need to go into the Autoplay.txt file.



The numbers inside the blue box are associated with your button numbers. The numbers on the left are your buttons (1-10) and the numbers on the right are the folders associated with the button number. We have defined the buttons 01 – 10 with the folders 01 – 10 on the USB Stick. If any of these buttons are pressed the associated folder will open and the 22VS will play the files inside that folder.

Volume Buttons

Below is a demonstration of the volume buttons:



The first box displays your default volume. This will be the volume played upon looping (0-31)

The second box is associated with your volume buttons.

VOLUME_MINUS and VOLUME_PLUS are extra commands which are linked with buttons 11 and 12 to control the screens volume.

IR Mode - 1

This must be kept in your Autoplay.txt file in order for the remote control sensor to be active. The IR Sensor is located at the bottom rear of the screen.

Alternate Programming Commands

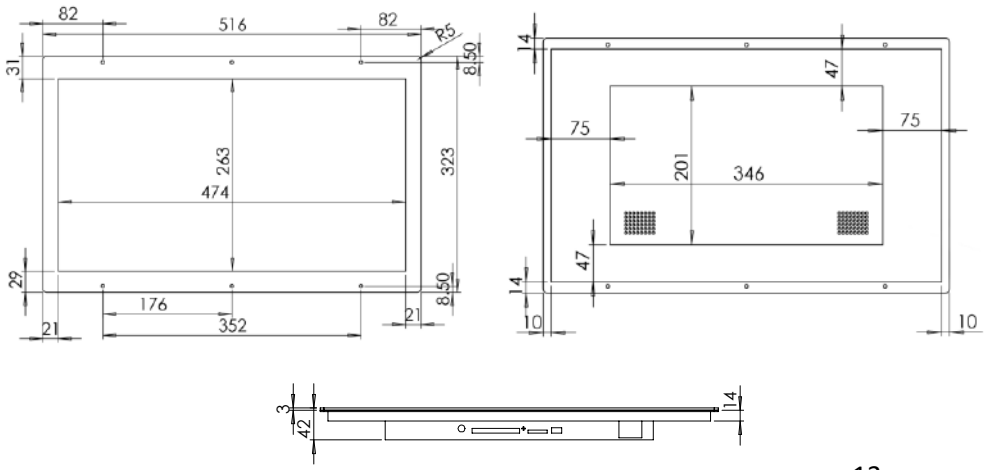
The 22VS can be configured with additional commands should you wish, these can be included in the Autoplay.txt file.

Command	Example	Description
Vol_plus=	Vol_plus=10	Assigns a button to volume up to a maximum of 31.
Vol_minus=	Vol_minus=11	Assigns a button to a volume down to a limit of 0.
[vol:--]	01[vol:20]=01	When a button is pressed and a folder content is to be played, The volume can be pre-set. In the example when button 1 is pressed and folder 1 is to be played, the volume is preset to 20.
[n]	20[n]=02	When a button is pressed and a folder content is to be played, The content can be uninterruptable. In the example when button 2 is pressed and folder 2 is to be played, the file or files in that folder cannot be interrupted via another button being pressed.
Mute=	Mute=03	A button can be set to control the AV Point mute command. In the example, button 3 will not mute / unmute the audio
Pause=	Pause=05	Assign a button to pause/un-pause playback. In the example button input 5 will be a pause button.
Next=	Next=07	Skips to the next track (should you have multiple files in a currently selected folder) to be played – In the example key no 7 is assigned to next.
Prev=	Prev=08	Skips to the previous track (should you have multiple files in a currently selected folder) to be played – In the example key no 7 is assigned to Prev.
Stop=	Stop=09	The stop command can be assigned to a button so that playback will return to the beginning of the loop file wherever it may be. If the loop is being played it will start from the beginning. If content is being played inside a folder, playback will stop and return to the beginning of the loop file.

Technical Information

Weight	3Kg
Dimensions	562 x 430 x 138 mm
Screen Size	521 (W) x 324 (D) x 42 (H)
Button Inputs	12
Storage Medium	USB / SD Card
Playable Format	Video: .MP4, Audio: .MP3, Images: .JPG
Video Resolution	1920 x 1080
Viewing Angle	U89°/D89°/L89°/R89°
Contrast Ratio	800:1
Luminance	250-300cd/m^2
Integrated Speakers Out	Stereo 5W x 2
Output Type	With Speakers / 3.5mm Out
Power	100-240V 50/60hz
Power Consumption	25W

Technical Drawings



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