

Media Encryption

Centre Guidance Academic Year 2023-2024

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Introduction and purpose

This document is designed to assist you with all queries associated with encryption before you send your USB to AQA.

Support from AQA

AQA support two methods of encryption:

- BitLocker, a default program for Windows operating systems
- 7-Zip, a free file archiver available online. FAQs and instructions are available <u>here</u> or found later in this guide

Any other methods of encryption may cause delays or require resubmission if we are unable to access the device.

If you experience any difficulties with encryption, please email our Media Support team at <u>mediasupport@aqa.org.uk</u>. Please include your centre number, component code, and the number of students for which this issue applies, and details of any steps you have already taken to encrypt the media.

Please note that AQA do not support encryption queries associated with Apple software.

Components requiring encryption

The table below shows all media components which must be encrypted. If your component does not appear in the table there is no requirement for student assessments to be encrypted.

To locate your password, please find the Centre Password List document available on <u>Centre Services</u>.

If your school or college requires encryption of media, please use the relevant password for the level and series of the component found on the Centre Password list on Centre Services, and include a note when posting the media that you have used the relevant password.

Components requiring encryption for the academic year 2023-2024			
Subject	Component Code		
A-level Dance	7237/X		
A-level Drama and Theatre Studies	7262/X		
A-level Physical Education	7582/C		
Projects Levels 1, 2 and 3	7991, 7992, 7993		
GCSE Drama	8261/X		
GCSE Physical Education	8582/C		

Using BitLocker to encrypt a device

BitLocker is the default Windows operating system encryption program. It cannot be downloaded and is a default program installed on computers when manufactured.

BitLocker will not decrypt or encrypt CDs or DVDs. You will need to use 7-Zip or a similar program to encrypt media of this type if you receive it.

This is a step-by-step guide for the BitLocker encryption process. If the program does not appear after step 2, you will need to use 7-Zip to access the materials.

If you experience any difficulties with encryption, please email our Media Support team at <u>mediasupport@aqa.org.uk</u>. Please include your centre number, component code, and the number of students for which this issue applies, and details of any steps you have already taken to encrypt the media.

- 1. Plug the USB or media device into your computer.
- 2. Click on **My Computer** on your desktop. If you're unable to find this, click on the Windows icon in the bottom left of your screen and then click **Computer**.

In the image in step 3 you can see the drive is called **Removable Disk.** Yours could be labeled differently, but if you plug in the drive after opening the **My Computer** screen, you will see it appear.

If you're unsure, double click the icon and check the files inside to confirm.

3. Once you're sure that it is the correct drive, right click on it. A list of options will appear. Click on **Turn on BitLocker.**



- 4. A dialogue box will open, tick the box in the top left hand corner that says **Use a password to unlock the drive.**
- 5. When prompted, type the corresponding password that can be found on the Media Password list on Centre Services. If you're unable to locate this, please email <u>mediasupport@aqa.org.uk</u>.

6. You will need to enter the relevant password for the series and level twice for verification, once in the **Type your password** box and then a second time in the **Retype your password** box. When complete click **next** in the bottom right of the window

	997 99 <u>7</u>
Choose how you war	nt to unlock this drive
Use a password to unloc	k the drive
Passwords should contai	n upper and lowercase letters, numbers, spaces, and symbols.
Type your password:	
Retype your password:	[]
Use my smart card to un	lock the drive
You will need to insert yo	our smart card. The smart card PIN will be required when you unlock the dri

7. The next window will ask you if you want to save or print your recovery key file. At this stage you should click **Save the recovery key to a file**.



Once you've named the recovery file and decided where to store it, click the save button. We
recommend saving this somewhere like My Documents. The recovery key file is used if you
mistyped the password to the device and can no longer access it. If this occurs, please e-mail
mediasupport@aqa.org.uk.

🧿 🖉 🖷 Desktop		• 4	Search Desktop		- 1
Organize • New	folder			\$F •	0
Favorites	â.	No items match	your search.		
E Desktop					
Downloads					
1 Recent Places	8				
Libraries					
> Documents	10				
> 👌 Music					
Pictures					
Videos					
Computer					
) 👗 Local Disk (C:)					
Electron C	itLocker Recovery Key	C854A420-1E39-4AA3-89C9-8	E62664573C4.txt		
File name: 0	ant Eiler				-
Save as type:	CULTINGS				

9. You'll then be brought back to the window shown in step 3. At this stage click the **next** button in the bottom right hand side of the window. The window below will appear detailing what will happen once you have encrypted the USB. Once you've read the information then click on **Start Encrypting**.

🗲 🌺 BitLocker Drive Encryption (b)		
Are you ready to encrypt this drive?		
You will be able to unlock this drive using a password.		
Encryption might take a while depending on the size of the drive.		
Until encryption is complete your files will not be protected.		
	Start Encrypting	Cancel

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10. Once the encryption has started, a dialogue box will appear on screen detailing the progress of the encryption. This may take several seconds or minutes depending on how much information is on the USB drive.



Please ensure you do not remove media devices while encryption or decryption is occurring, as this may corrupt the media device and the files.

11. Once the encryption is finished, another window will appear informing you that the process is complete. Your USB is now fully encrypted using BitLocker.

BitLocker Drive Encryption	×
Encryption of E: is complete.	
	Close

12. You can check whether your password is correct by opening the file. Double click the files and you will be prompted to enter the password that you selected during encryption. Click **Unlock** and the device should unlock giving you full access to your USB and the files stored within it.

This drive is protected by BitL	ocker Drive Encryption
Type your password to unlock this drive	
•••••	
Show password characters as I type the	m
Automatically unlock on this computer fro (forcot my password)	m now on
Why do I have to unlock the down?	

13. When you have finished using your USB, right click on the media device and select eject, once the device is removed it will lock itself automatically.

Using BitLocker to access an encrypted device

This is a step-by-step guide to accessing an encrypted device with BitLocker.

If you experience any difficulties with encryption, please email our Media Support team at <u>mediasupport@aqa.org.uk</u>. Please include your centre number, component code, and the number of students for which this issue applies, and details of any steps you have already taken to decrypt the media.

- 1. Insert the USB or media device into your computer.
- 2. Click on **My Computer** on your Desktop. If you're unable to find this, click on the Windows icon in the bottom left of your screen and then click on Computer.

In the image below you can see the drive is called Removable Disk. Yours may be labelled differently, but if you plug in the drive after opening the My Computer screen, you will see it appear.

You will also see that there is a gold padlock displayed on the drive – this means it is currently locked.



3. Double-click on the drive with a padlock and it will bring up the following screen.

of 238 GB	
Dual Lock of 29.2 MB	Disk (E:)
	🕞 🎭 BitLocker Drive Encryption (E:)
	This drive is protected by BitLocker Drive Encryption Type your password to unlock this drive Show password characters as I type them Automatically unlock on this computer from now on I forgot my password
	Why do I have to unlock the drive?
	Unlock Cancel

4. In the field, type in the password provided. You can click on the box which states *Show password characters as I type them* if you need to check that you're typing in the correct password. Once you've done this, click **Unlock.**

53 GB free of 238 GB	
with Removable Storage (2)	
D Drive (D:) Dual Lock bytes free of 29.2 MB DFS Removable Disk (E:)	
	G Ref BitLocker Drive Encryption (E:)
	This drive is protected by BitLocker Drive Encryption Type your password to unlock this drive Type your password to unlock this drive
	Why do I have to unlock the drive?
	Unlock Cancel

5. If the password is correct, the drive will be unlocked and it will appear as the following screenshot with the padlock now being open. You now have access to the media device. The drive will stay unlocked until you remove it from your computer - or until you turn your computer off. Once this occurs, the drive will lock and you will need to enter the password again.



Downloading and installing 7-Zip

This is a step-by-step guide to downloading and installing 7-Zip file archiving software.

1. Go to 7-Zip's website <u>here</u> and navigate to the *Downloads* page. You'll need to download the correct version for your computer. The version will be the top link, shown in red in the picture below, which is the 32-bit Windows Version. This will support both 32-bit and 64-bit computers and we recommend using this version only.

Link	Туре	Windows	Description
Download	.exe	32-bit x86	7-Zip for 32-bit Windows
Download	.exe	64-bit x64	7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
Download	.7z	x86 / x64	7-Zip Extra: standalone console version, 7z DLL, Plugin for Far Manager
Download	.7z	Any	7-Zip Source code
Download	.7z	Any / x86 / x64	LZMA SDK: (C, C++, C#, Java)
Download	.msi	32-bit x86	(alternative MSI installer) 7-Zip for 32-bit Windows
Download	.msi	64-bit x64	(alternative MSI installer) 7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)

2. Your computer may ask you to Open/Run the file, or save it. Please click **Open** or **Run**. Once complete, it will either open automatically, or you may need to click the item in the bottom of your screen, shown below in the bottom left of the following screenshot.

7ZIP	Download 7	-Zip 19.	00 (2019-02-21)	for Windows:
	Link	Туре	Windows	Description
Home 7z Format	Download	.exe	32-bit x86	7-Zip for 32-bit Windows
LZMA SDK	Download	.exe	64-bit x64	7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
Download	Download	.7z	x86 / x64	7-Zip Extra: standalone console version, 7z DLL, Plugin for Far Manager
Support	Download	.7z	Any	7-Zip Source code
Links	Download	.7z	Any / x86 / x64	LZMA SDK: (C, C++, C#, Java)
Fuellah	Download	.msi	32-bit x86	(alternative MSI installer) 7-Zip for 32-bit Windows
Chinese Simpl. Chinese Trad. Esperanto	<u>Download</u>	.msi	64-bit x64	(alternative MSI installer) 7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)
7z1900.exe	^			

3. Once you click the downloaded file, or it opens automatically, the screen below will appear. You may select a custom installation location if you wish, or press **Install** to continue.

2 7-Zip 19.00 Setup	×
Destination folder:	
C:\Program Files (x86)\7-Zip\	

4. The setup window will confirm when the program is installed.

Using 7-Zip to encrypt

This is a step-by-step guide to encrypting a folder using 7-Zip file archiving software.

If you experience any difficulties with encryption, please email our Media Support team at <u>mediasupport@aqa.org.uk</u>. Please include your centre number, component code, and the number of students for which this issue applies, and details of any steps you have already taken to encrypt the media.

- 1. Please ensure that the USB or media device is plugged into your computer. You will need to open 7-Zip. Click on the Windows icon in the bottom left of the screen and type in the search box 7-Zip. The program **7-Zip File Manager** should appear. Click this to open the program.
- 2. Alternatively, if using an older version of Windows, click the start menu, then click All Programs then 7-Zip and finally click on **7-Zip File Manager**. Once you've done this, the program will open and you should see a screen similar to the following screenshot.



- 3. Double Click on **Computer**. You will be given a list of several alphabetical storage devices. There should only be one device labelled *Removable* in the list. This should be your media device, outlined in red below.
- 4. To check if you have the correct folder, double click the device and the contents will be displayed. To go back to the previous view at any point, click the folder icon, shown in blue on the image below. Double click this folder.

Computer						
<u>File Edit View Favorites</u>	<u>T</u> ools <u>H</u> elp					
	🔿 🗙 i	1				
Add Extract Test Copy	Move Delete In	fo				
🌮 📙 Computer\						
Name	Total Size	Free Space	Туре	Label	File System	Cluster Size
🟪 C:	239 110 975 488	48 490 041 344	Fixed		NTFS	4 096
🔜 D:	1 000 202 039 2	126 629 314 560	Fixed		NTFS	4 096
🕳 E:	500 104 687 616	34 636 419 072	Fixed		NTFS	4 096
📷 F:			Removable			

Please note that if you have a DVD or CD, it will show as the image below, with the type being **CD**-**ROM** or **DVD**. The remainder of the steps will still be relevant as you're encrypting the folder and not the media device.

Zz Com	puter\
--------	--------

File	Edit	Viev	w Fa	avorites	Tools	Help				
d			\checkmark	•	-	×	ĩ			
Add	Extra	act	Test	Сору	Move	Delete	Info			
1	C	ompi	uter\							
Nam	e					Total Size		Free Space	Туре	Label
C :]				499 51	3 245 696	308	8 294 696 960	Fixed	
🕳 D:					2 000 39	96 742 6	1 59	8 253 580 2	Fixed	New Volume
🔐 E:									CD-ROM	

5. Please note, in the screenshots for the remainder of the guide there may be a folder called System Volume. Please ignore this folder as it should appear on some media devices, but it is nothing to be concerned about.

You will be taken to the screen below. In this case, our folder is labelled *Centre XXXXX*. If you right click on the folder, a menu will appear. Click on **7-Zip**, then click on **Add to archive**.

Zz G	:\										
<u>F</u> ile	<u>E</u> dit	Viev	v F <u>a</u>	vorites	Tools	Help					
÷		•	~	•=>	-	×	บี				
Add	Extra	ect	Test	Сору	Move	Delete	Info				
1	🕳 G:	1									
Nam	ne					Size	Modifi	ed	Created	Comment	Folders
	entre X	xxx	×.				2010-0	1.10 10.10	2010-04-10 10	-20	
S	ystem \	Volu		7-Zip				>	Add to archive		
				Open			Ente	r	Compress and e	email	
				Open In	side	0	trl+PgD	n	Add to "Centre	XXXXX.7z"	
				Open In	side *				Compress to "C	entre XXXXX.7z" and er	nail
				Open In	side #				Add to "Centre	XXXXX.zip"	
				Open O	utside	SI	nift+Ente	r	Compress to "C	entre XXXXX.zip" and e	mail
				View			E	3	•		
				Edit			F	4			
				Rename			E	2			

6. A screen will appear with several options. We only need to look at the ones highlighted in red in the screenshot on the following page.

Ensure that your options match those highlighted in red in the screenshot before doing anything else. All the other options should be left as default.

Once done, you should not need to change these options again. It is worth checking the first two media devices you encrypt each day, to ensure the options have not reset.

Archive format:	zip	~	Update mode:	Add and replace files	
Compression level:	Store	~	Path mode:	Relative pathnames	
Compression method:		~	Options		
			Create SFX arc	hive	
Dictionary size:		~	Compress share	ed files	
Word size:		\sim	🗹 Delete files afte	r compression	
Solid Block size:		\sim	Encryption		
Number of CPU threads:	4 ~	/4	Enter password:		
Memory usage for Compressing:		1 MB			
Memory usage for Decompressin	ıg:	1 MB			
Split to volumes, bytes:			Show Password	1	
		~	Encryption method	AFS-256	~
Parameters:			2.0.,	120200	

7. Under the *Enter password* box, type in the corresponding password for the relevant exam series.

A full list of passwords for the current academic year can be found on Centre Services.

For the following example, we used the password *TestPassword*.

rchive fomat: zip VDpdate mode: Add and replace files tompression level: Store Path mode: Relative pathnames tompression method: Options Create SFX archive Compress shared files Vord size: Compress shared files Vord size: Compress shared files Delete files after compression Create SFX archive Compress shared files Delete files after compression Encryption Enter password: Test Password Image for Decompressing: 1 MB Memory usage for Decompressing: 1 MB Plit to volumes, bytes: Plit to volumes, bytes: Arameters: Add and replace files Path mode: Relative pathnames Plit to volumes, bytes: AES-256	Centre_Cand_	Joe Bloogs_ 8700C	zip		× .
Compression level: Store Compression method: Compression method: Dictionary size: Dictionary size: Compress shared files Compress shared files Compress shared files Delete files after compression Mumber of CPU threads: 4 4 /4 Encryption Encryption Encryption Show Password Encryption method: AES-256	vchive format:	zip	~	Update mode:	Add and replace files
ompression method: ictionary size: ictionary size: /ord size: olid Block size: umber of CPU threads: 4 /4 lemory usage for Compressing: 1 MB lemory usage for Decompressing: 1 MB plit to volumes, bytes:	ompression level:	Store	~	Path mode:	Relative pathnames
ictionary size: /ord size: Olid Block size: umber of CPU threads: 4 4	ompression method:		~	Options Create SFX are	chive
/ord size: olid Block size: umber of CPU threads: 4 <td>ictionary size:</td> <td></td> <td>~</td> <td>Compress shar</td> <td>red files</td>	ictionary size:		~	Compress shar	red files
olid Block size: umber of CPU threads: 4 <t< td=""><td>/ord size:</td><td></td><td>~</td><td>Delete files after</td><td>er compression</td></t<>	/ord size:		~	Delete files after	er compression
umber of CPU threads: 4 4 /4 Enter password: TestPassword TestPassword Image: to volumes, bytes: Image: to volume, byte, byt	olid Block size:		\sim	Encryption	
Iemory usage for Compressing: 1 MB Iemory usage for Decompressing: 1 MB plit to volumes, bytes: Image: Comparison of the comparison of	lumber of CPU threads:	4	/ 4	Enter password:	
Iemory usage for Decompressing: 1 MB plit to volumes, bytes: arameters: Show Password Encryption method: AES-256	lemory usage for Compressi	ng:	1 MB	Testrassword	
plit to volumes, bytes: → Show Password Encryption method: AES-256	lemory usage for Decompre	essing:	1 MB		
Encryption method: AES-256	plit to volumes, bytes:			Show Passwor	rd
	arameters:		~	Encryption method	d: AES-256 ~

8. Once you've checked the password is correct, click **OK**. You'll then see a progress bar similar to the one in the following screenshot.

Please note that if you have a very large media device, this may take some time. Occasionally, even though it states it is 100% complete, the program may need to do some background progress, so you may have to wait. When it has been completed, the progress box will disappear.

2 37% Compressing			-		×
Elapsed time: Remaining time: Files: Compression ratio: Updating	00:00:02 00:00:03 0 / 1 100%	Total size: Speed: Processed: Compressed size:		18	1017 M 9 MB/s 384 M 384 M
Centre_Cand_Joe Bloogs_87	00C.MP4				
	Background	Pause		Cancel	

9. Once complete, return to the 7-Zip screen, the folder will now appear with a different image. To check if this has been encrypted, simply double click on the new folder. It will ask for a password as in the image below.

Add Extract Test Copy	→ X 1 Move Delete Info				
) 👝 G:\					
Name System Volume Informa Centre XXXXX.:_	Size Modified 2019-04-10 19:19 648 281 074 2019-04-10 20:41	Created Comment 2019-04-10 19:19 2019-04-10 20:41		Folders	File
0% Opening		- 0	\times		
Bapsed time: Remaining time: Files:	00:00:03 Total size Speed: 0 Processe	e: sd:	618 M 0		
Compression ratio:	Enter password Enter password:	×			
	Show password	el			
	Background	Pause Cancel			

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- 10. Type the password you used before into the box and it should give you access to the folder. If this is the case you have successfully encrypted the folder in the media device.
- 11. Finally, remove the media device as you normally would, by ejecting the USB drive in the My Computer screen.

Using 7-Zip to decrypt

This is a step-by-step guide to encrypting a folder using 7-Zip file archiving software.

If you experience any difficulties with encryption, please email our Media Support team at <u>mediasupport@aqa.org.uk</u>. Please include your centre number, component code, and the number of students for which this issue applies, and details of any steps you have already taken to decrypt the media.

 Please ensure that the USB or Media device is plugged into your computer. Then, open 7-Zip File Manager. You can usually find this on your desktop, but alternatively you can click the Windows icon in the bottom left of the screen and type 7-Zip in the search bar and then click on 7-Zip File Manager.

In the 7-Zip screen double click on Computer. If you cannot see Computer, then click on folder with a green arrow on it. You may need to click this button multiple times until you see the list of items shown in the image below. The button is highlighted in red circle in the image below.



2. Once you've done this, double click on the drive you have plugged in. Usually this will have the type set as *Removable*

Zz Computer						
<u>File Edit View Favorites</u>	<u>T</u> ools <u>H</u> elp					
	→ ×	นี้				
Add Extract Test Copy	Move Delete I	nfo				
🌮 📙 Computer\						
Name	Total Size	Free Space	Туре	Label	File System	Cluster Size
🟪 C:	239 110 975 488	48 490 041 344	Fixed		NTFS	4 096
D:	1 000 202 039 2	126 629 314 560	Fixed		NTFS	4 096
i E:	500 104 687 616	34 636 419 072	Fixed		NTFS	4 096
🚔 F:			Removable			

- 3. Double click the device. If a member of the school/college staff has encrypted the whole USB, it will immediately ask you for the password. To access to this, please go to the Associate Extranet under *Library* where you will find the centre password list. Type the relevant password for the series to access the files.
- 4. Type the password and it will open the device. At this stage it will give you access to the media. You can either double click the file(s) to view them or you can save a copy to your PC.

If the folder opens without a password, 7-Zip will instead allow you to view the files, and will ask for the password when you open one of them. You don't need to type this in again as long as you keep 7-Zip open for each centre. It will appear like the screen below.

Name	~	Date modified	Туре	Size				
Centre XXXXX		10/04/2019 20:41		633,087 KB				
				0% Opening			- 0	×
				Bapsed time: Remaining time: Files: Compression ratio:	00:00:02 0 Enter password Enter password:	Total size: Speed: Processed: X		618 M 0
					Show password	Cancel		
					Background	Pause	Cancel	

5. To save a copy to your PC right click the folder, and click on **Copy To.**

ile Ed	dit View Favorites	Tools Help				
dd E	Extract Test Copy	Move Delete	5			
	G:\Centre XXXXX.7z\	0.5				
lame		Size	Packed Size	Modified	Attributes	CRC
G ·	100007	CCC 000 533	648 280 816	2019-04-10 20:32	D	4D9003C2
	Open	Enter				
	Open Inside	Ctrl+PgDn				
	Open Inside *					
	Open Inside #					
	Open Outside	Shift+Enter				
	View	F3				
	Edit	F4				
	Rename	F2				
	Сору То	F5				
	Move To	F6				
	Delete	Del				

6. The screen below will appear. Then click on the ellipsis icon highlighted in red, followed by **Desktop**, then on **OK**. Then click **OK** again. This will create a copy of the whole folder to your desktop.

Сору			Browse For Folder	×
Copy to:				
G:\		✓ …		
Folders: 1 (666 980 523 bytes)			Desktop	^
G:\Centre XXXXX.7z\ Centre XXXXX\			> Chebrive	
			> 💻 This PC	
			CENTRE XXXX (G:)	
			> USB Drive (F:)	
			> interview Network	~
	ОК	Cancel	Make New Folder OK	Cancel

- 7. When complete, the dialogue box will close.
- 8. To view these files, minimise all your other programs then locate the new folder on your desktop with the same name as the folder you have just accessed. In the example case it would show *Centre XXXXX*.
- 9. You can then disconnect the device as you normally would with full access.