Macrium Reflect

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- An image backup for Windows PCs
- A recovery Flash Drive
- Recovery using Macrium

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Macrium Reflect is a free backup tool that works with every version of Windows from Windows XP to Windows 10. It creates a replica of everything on your hard drive in a single file (called an image file) including Windows itself, all your applications, settings, passwords and all your saved data so that everything can later be restored even to a replacement hard drive (HDD) or a new solid-state drive (SSD).

If you have a disk failure or major virus or ransomware attack Macrium can restore your system. In most instances you may want to engage the assistance of a technical person for the repair or process and you will both be greatly assisted and relieved by the Macrium backup you have made.

These notes cover the basic use of Macrium. Experienced users will find expanded options in the Help menu.

Just a geek note about disks, drives and partitions. Your PC will mostly have one disk and it may be of the conventional hard disk (HDD) variety so called because it has spinning disks inside, or more recent type of solid-state disk (SSD) which has no moving parts. The Windows setup partitions the physical disks for various purposes and some are turned into Drives by giving them a letter designation such as C, D etc. By convention A was never used, B was for a now rare Floppy Disk, and C was for the main partition of the HDD (or SSD) where Windows and your applications and data usually reside. Drives can be viewed with File Explorer. You will see as you view your disk in Macrium that there are a number of other partitions that don't have Drive letters and these don't display in File Explorer. As you plug in devices like Flash Drives or External Drives, Windows assigns each a temporary drive letter such as D, E, F etc depending on how many are already plugged in. This letter assigned to a particular device will change depending on the sequence of plugging in.

Macrium works at the disk, drive and partition level for backup and cannot just select your individual favourite folder or file. The backup will require external storage with capacity at least 50% of your HDD or SSD. I recommend a USB connected drive of 500GB but certainly no less than 250GB. As an alternative, the external drive could be cloud storage if you have access to vast capacity in One Drive or Google Drive or a networked drive.

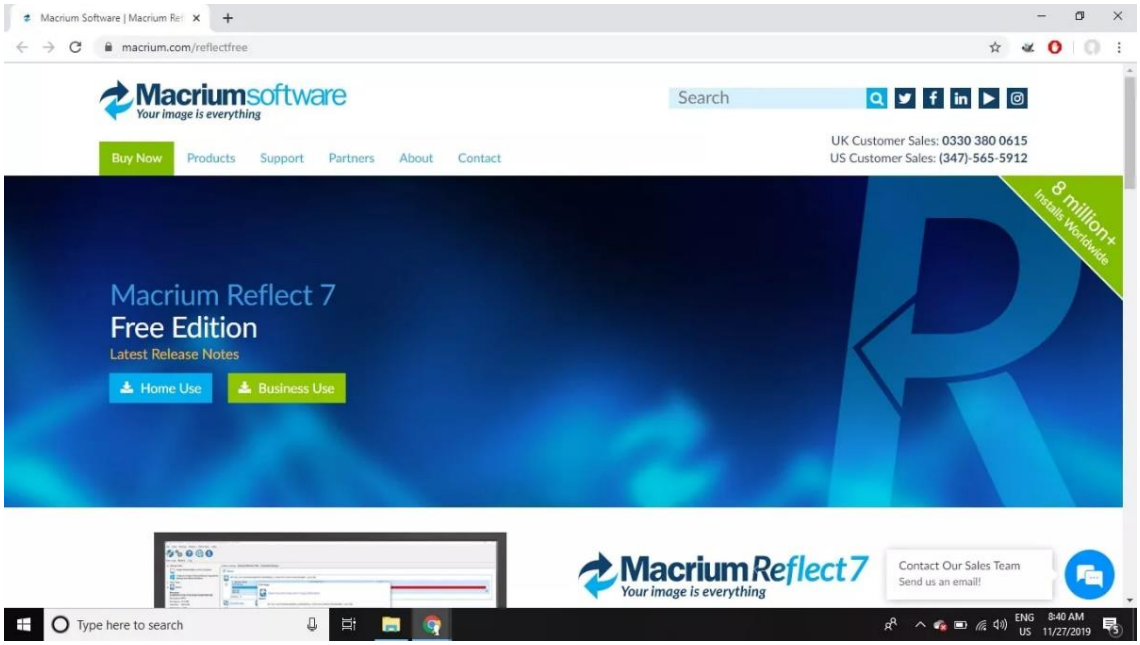
Macrium has provision for using a DVD as backup but they are of less than 5GB capacity and are seldom provided on laptops now days so these notes will ignore DVDs.

How to Set Up Macrium Reflect with the free version of Macrium Reflect 7

To obtain Macrium Reflect, you must go through a somewhat lengthy download and setup process but you only do this once:

Go to the Macrium Reflect download page https://www.macrium.com/reflectfree and select **Home Use**. You'll be asked to provide your email address.

Check your email for a message with a registration code and follow the link to download Macrium Reflect.



Click to open the **ReflectDLHF.exe** file you just downloaded. This is just the special downloader for Macrium (If it's not visible in the bottom left of your screen, go to **File Explorer > Downloads Folder** and it will be the last item downloaded.)

Then select **Free** under Select Installation Package, then select **Download**.

If you're asked about downloading WinPE components, select **Yes.**

Select Next when the installer appears. Select **Next** again and accept the license agreement

when prompted.
Select **Home**, then select **Next**.

Enter your email address and the registration code (found in the message you received from Macrium), then select Next.

If you deselect the box beside "Register this installation of Macrium Reflect", the program will ask you to register every time you open it.

Select Browse to choose an Install location, or preferably accept default then select **Next.**

Select **Install**.

Once the installation is complete, select **Finish** to open/run Macrium Reflect

Windows security will ask for permission for this App to make changes. **Yes**

And pat yourself on the back as the hard part is over.

How to Create a Recovery Drive with Macrium Reflect

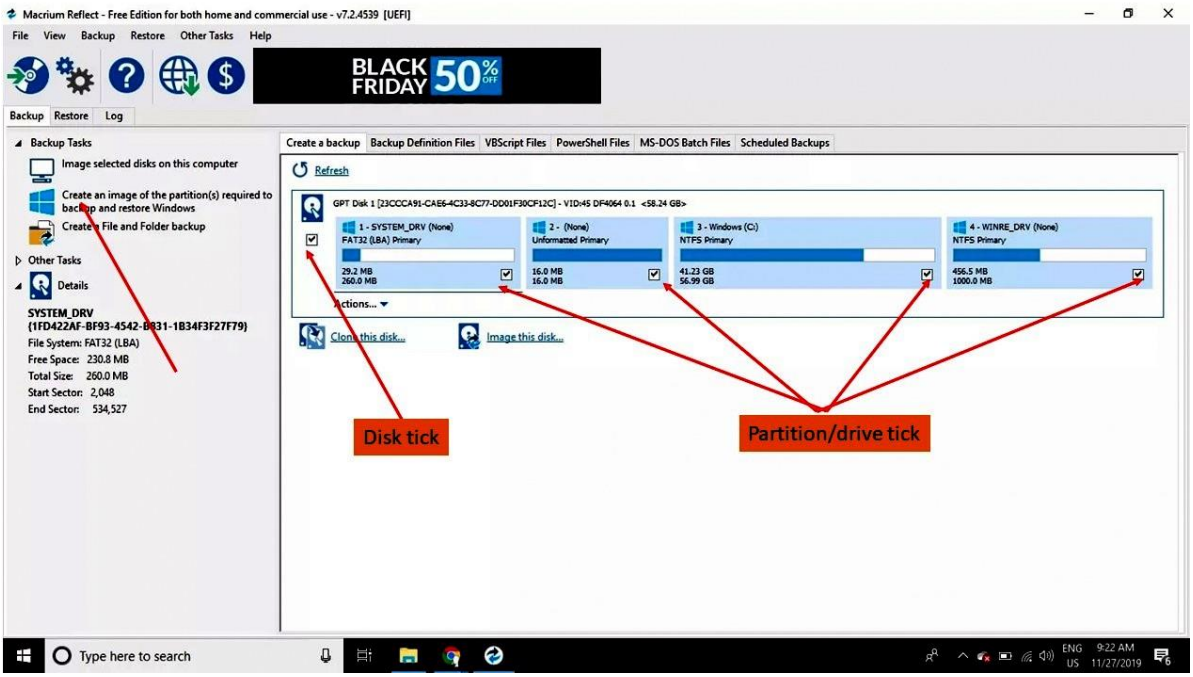
Macrium Reflect will back up everything. (More experienced users can choose to backup selected partitions and should consult Macrium Help).

To back up everything:

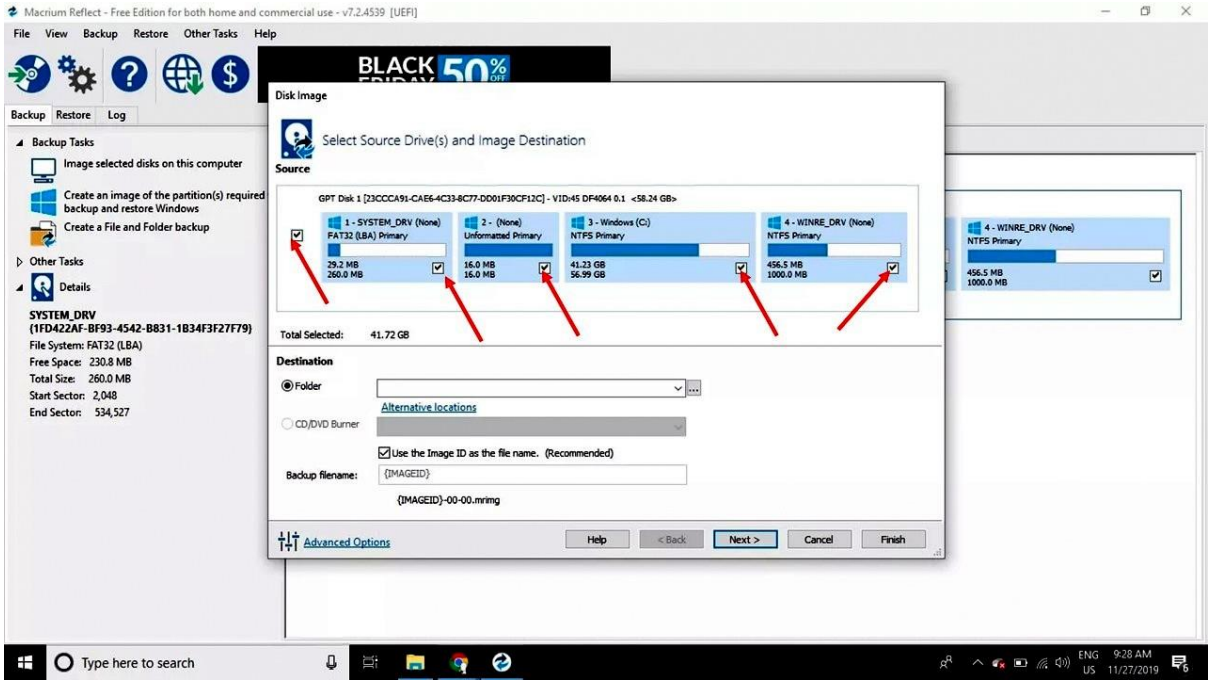
With Macrium open at the first screen look for **Backup Tasks** in the left panel and tick the item "**Create an image of the partitions(s) required to backup and restore Windows".**

This will open the second screen with selection ticks in squares beside the physical drive and each partition in it.

(Or you may have selected **Image this disk** to the right of Clone this disk gets you to the same screen.)



The second screen lets you choose a **Destination** for the image.



Tick the Folder button and select the ellipses (...) beside the Folder field to choose the external location for the backup image file by drive name and drive letter. The drive letter gets entered into the Folder field.

Click **Next.**

This takes you to the third screen, and skip to item **3 Define the Retention Rules**.

There are options to select **Full** or **Differential** backups. You need at least one **Full** backup. Incremental backup is only available in the paid version. Depending on the size of the backups and the capacity of your backup storage you can select how many of historic versions of the backup to **Keep**. A minimum of 40 GB up to about 50% of your disk usage is required per back as compression is used, and takes from 10 minutes upwards.

The simplest option for home is to only use the **Full** back up. Just remove the tick from **Differential** backup then there is no difficulty in choosing which to use. The other option to set is how may backups to retain as this lets you go back in time if a virus has been found the current backup or the live install. If you set say 5 in **Keep** and set **Run Purge** before backup and **Purge Oldest** backup if say only 5GB remains you will not run out of capacity.

*When used **Differential** backup follows a **Full** back up by just recording changes. It is faster for large disk usage as it only includes changes since the last **Full** backup and requires less storage. Each **Differential** backup is a record from the last **Full** backup so in undertaking restoration you need the last **Full** backup plus the last **Differential** back up.*

There is provision purge the oldest backup when storage capacity drops to a chosen amount.

You can immediately run your first **Full** backup by unticking **Differential** and clicking **Next** then **Finish t**hen **OK.**

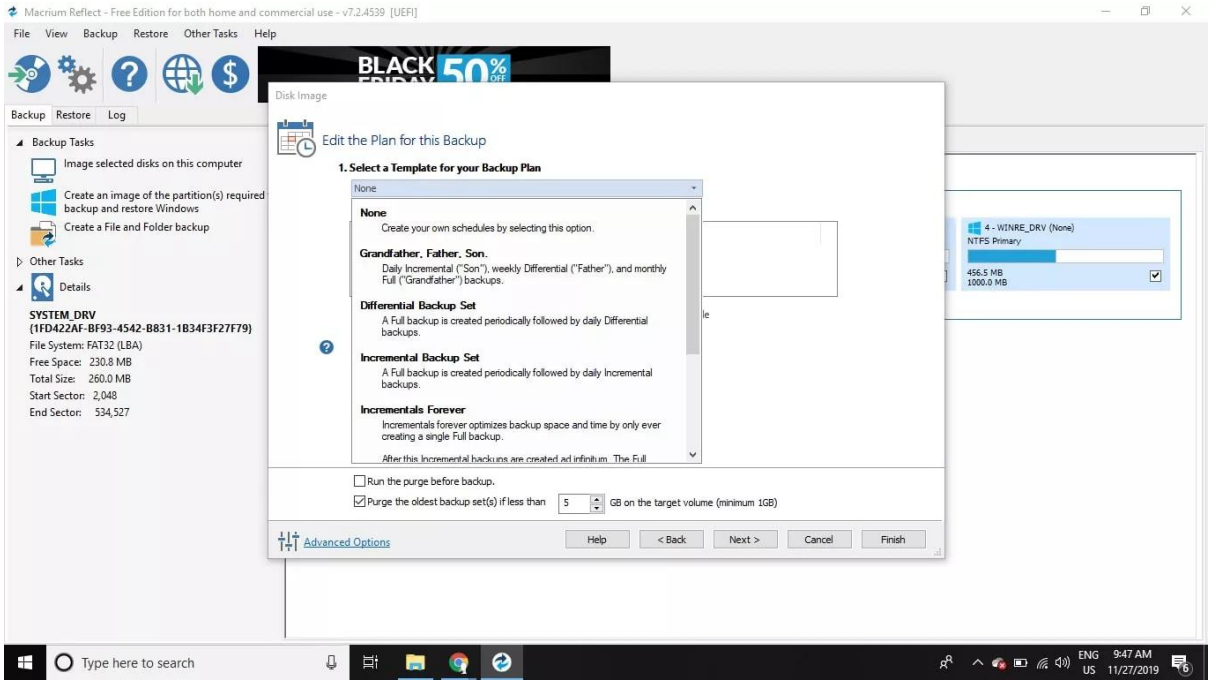
Macrium will report progress and give indication of time taken and storage capacity required.

This is quite satisfactory for home use. Repeat run Macrium whenever significant changes occur and at say monthly intervals.

Automated schedule

For the adventurous an automated schedule can be set up but intended for business or other use where the computer is on all day.

To create an automated backup schedule progress through to the third screen and choose one of the options in the drop down under **Select a Template for your Backup Plan**.



A default schedule is proposed and can be changed by opening **Edit Schedule**. Adjust to your requirement and select **OK.**

Just check the retention rules in case they have been changed by your selection.

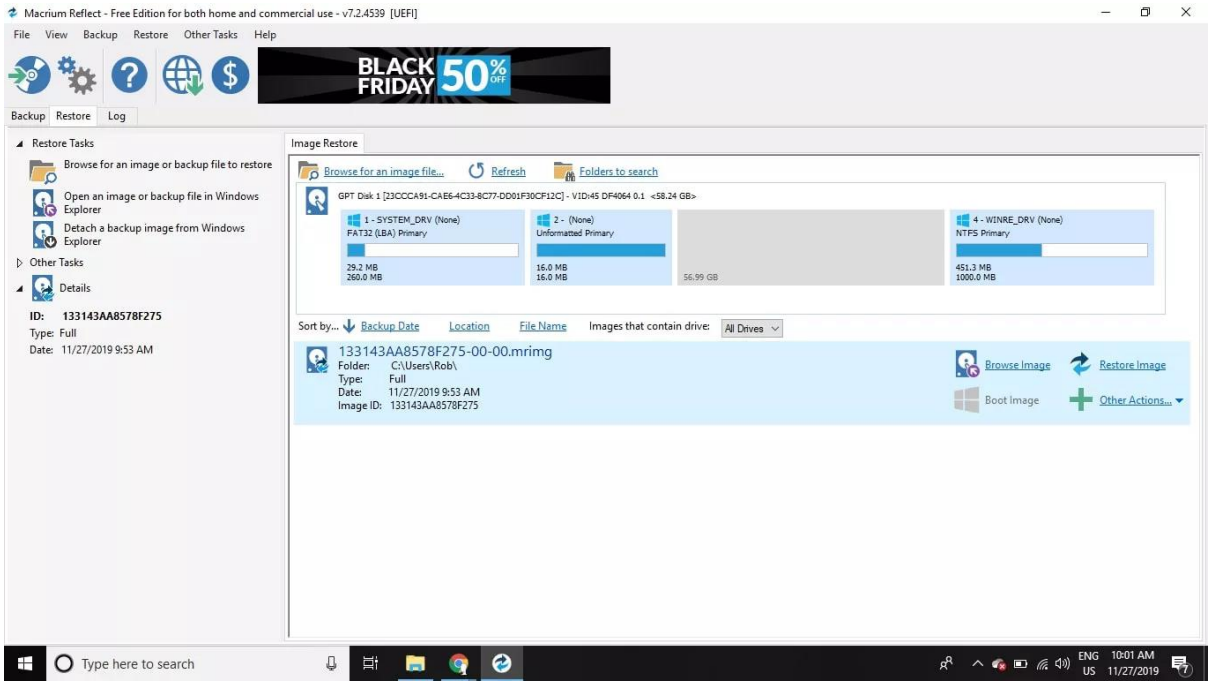
The **Next** and wait for the backup to complete, then select **OK** and Close.

How to Restore Your Backup Files with Macrium Reflect

You have two choices for restoring the Macrium Reflect backup image:

For a total recovery you use a recovery USB flash drive. (see How to Create a Macrium Reflect Recovery Disc next)

You can use Macrium to restore from within your computer, but limited only for partitions that do not have the Windows 10 operating system. This usually means any partition other than the drive partition labelled C. For the first option, select the Restore tab in Macrium Reflect, then select Restore Image next to the backup file.

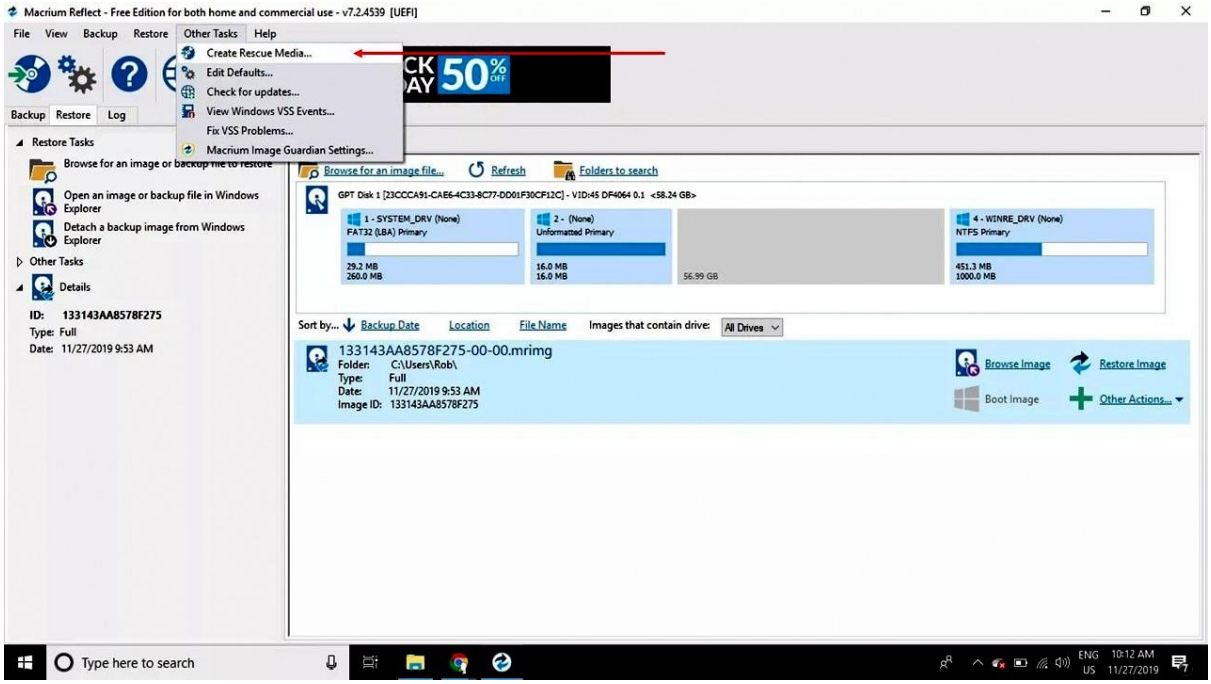


How to Create a Macrium Reflect Recovery Disc

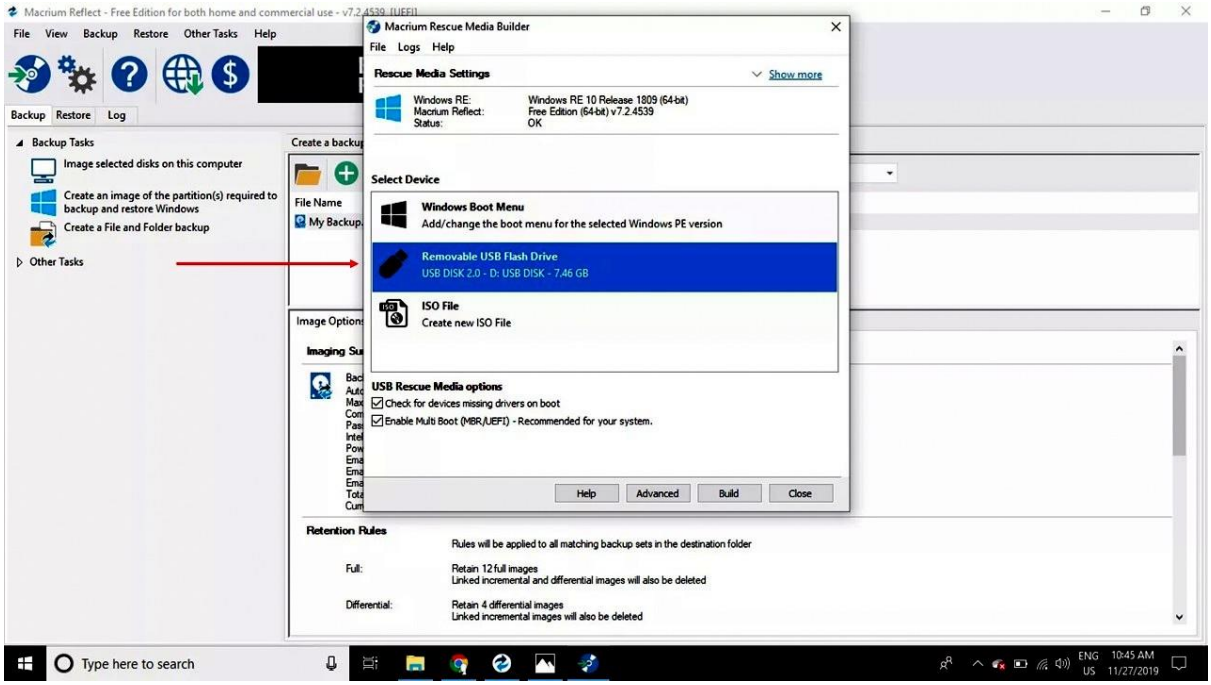
The recovery disc option lets you use a DVD or USB flash drive running Macrium Reflect to restore the backup file. This method is necessary for restoring the Windows partition as it is intended to work when Windows won't start. To get started:

Insert a blank DVD or flash drive into your computer. 4 GB minimum.

Open Macrium Reflect and select **Other Tasks** > Create Rescue Media.



Select the DVD drive or USB drive, make sure all the boxes under Rescue Media options are checked, then select **Build**.



Select Advanced to further customize your backup preferences

Once the process is complete, remove the disc or flash drive and store it somewhere safe. When the time comes, you can boot from the disc or boot from the flash drive to restore the backup. (Click on these links for advice)