Korg DSM-1 disk drive replacement instructions – Page 1

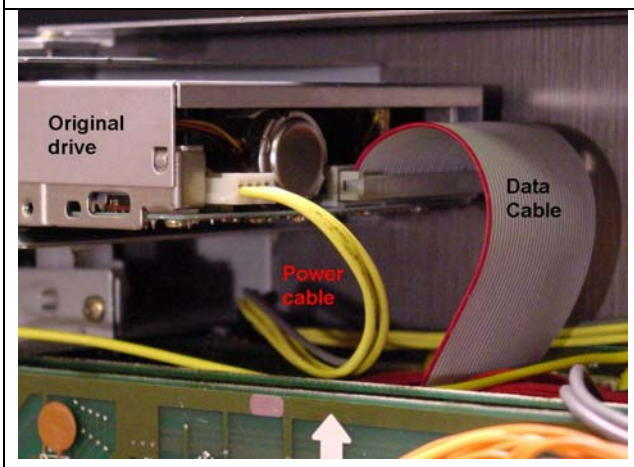
The following instructions will guide you step by step (with photos) through the process of replacing the disk drive in your Korg DSM-1 rack mount sampling synthesizer. These instructions and photographs are the copyrighted property of Larry Hendry. They are designed for your personal use. These may not be reproduced or redistributed in any fashion without my permission. You may link to them from other Korg DSS-1 or DSM-1 related web sites. Proper credit is absolutely expected. You may not copy this material to any other website without my written permission. I assume no liability for damage you may cause to your DSM-1 while attempting to replace the disk drive. The task is relatively easy, but assumes some degree of mechanical aptitude. So, proceed at your own risk.

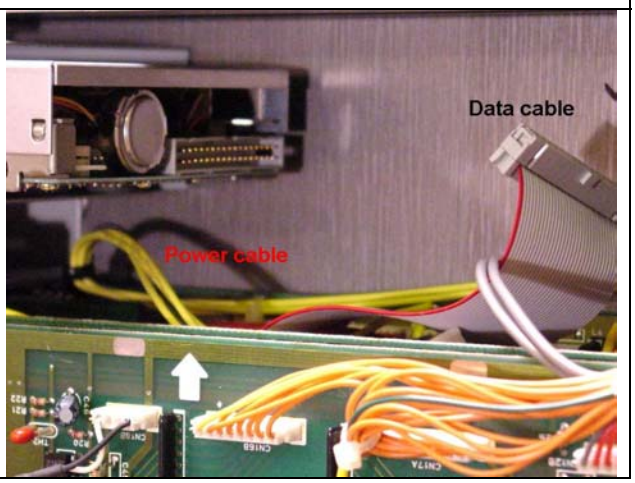
Now that the disclaimers are out of the way, let's get started. The first step is very important to protect yourself and your equipment. Be certain that your Korg DSM-1 is disconnected from the AC power source and that all other connecting cables have been disconnected. You should plan to do this work in a clear work area and have a small container or bag of some nature to retain the screws for re-assembly. The only two tools needed are a Phillips head screwdriver and pair of needle-nose pliers.

The first step in the disassembly process is to remove the rack ears from both sides of the DSM-1. The photo to the right shows that 3 screws hold each of the rack ears onto the side of the DSM-1. These screws are different than all the other screws you will remove in the disassembly. They are metric, so be careful not to lose them.	

The next step is to remove the top cover of the DSM-1 There are 10 screws that hold the cover in place. You will find 2 on each side, 3 across the top near the front edge and 3 on the back. See the three photos detaining which screws to remove.

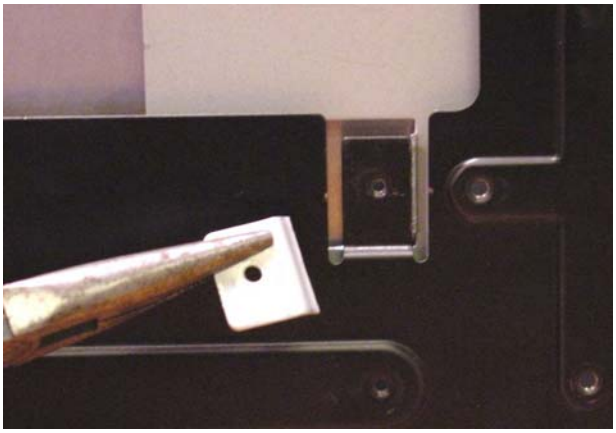
Once the top is removed, the disk drive will be exposed. Disconnect both the power cable and data cable from the back of the disk drive. Note the orientation of both. They will go back on the new drive the same way. Tuck them out of the way for now.



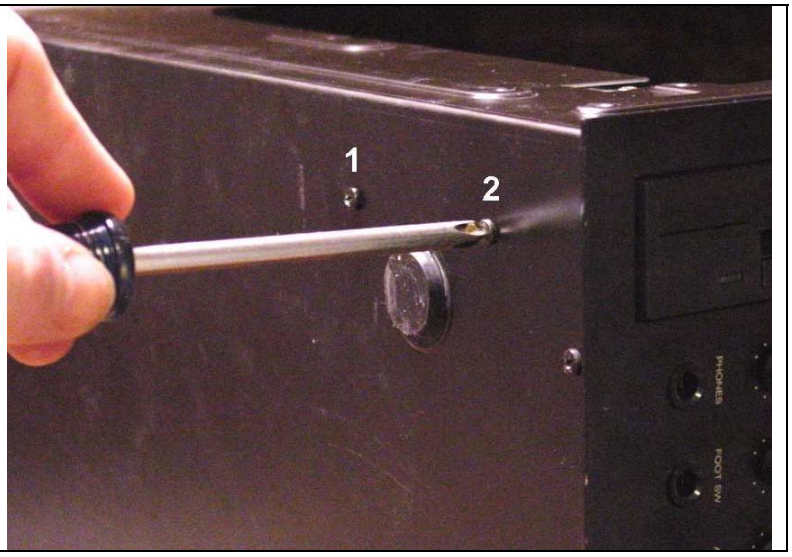


There are six screws that hold the disk drive in place. While they can be removed in any order, I am recommending that you follow my suggested order from removal and replacement and benefit from my experience. When the new drive is installed, it will be secured with only 5 screws. More on that later. First, remove the single screw on the left side of the DSM-1 that holds the drive mounting bracket to the side of the DSM-1.

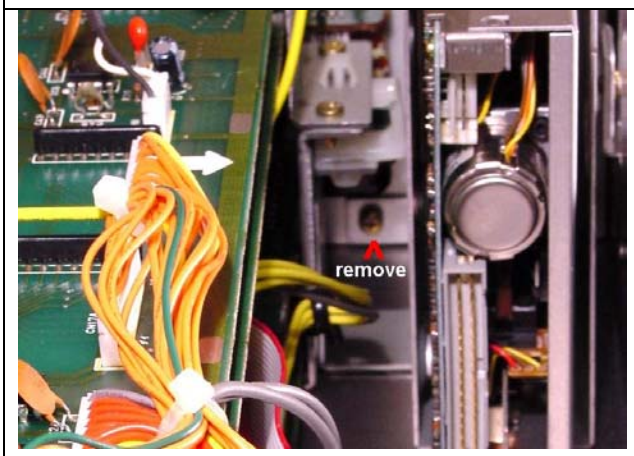
It is clear to me that the disk drive was one of the first components installed in the DSM-1 chassis. However, you don't want to remove the main PCBs just to get the drive out. So, you will need to break the tab off of the mounting bracket where you just removed the side screw. Unless you do this, you will NOT be able to remove your DSM-1 disk drive without removing most of the electronics from your unit. Trust me, this is the easiest way. The tab is not difficult to break off. Grab hold of it with a pair of pliers and work it back and forth at the bend. It will snap off cleanly after bending back and forth 10 to 15 times.

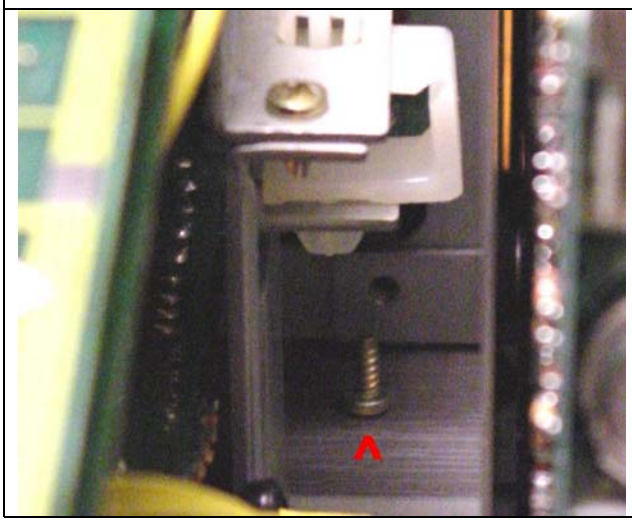


Flip the DSM-1 up on its side (with the disk drive side to the top). Remove the two screws from the bottom as shown in the photo to the right. These hold the drive bracket to the bottom.

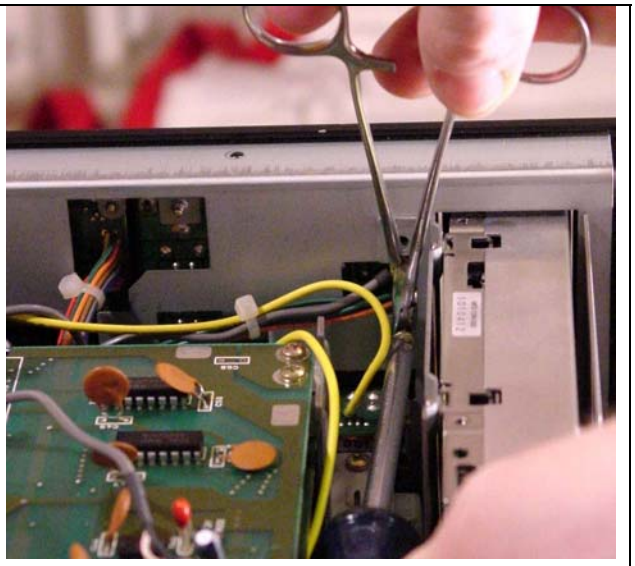


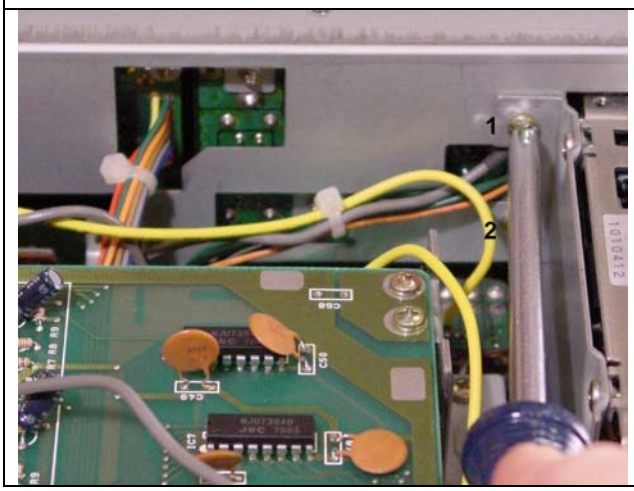
Locate the screw that holds the bottom flange of the drive bracket to the front panel. This screw is difficult to see and reach, but you have no choice. It will come out without difficulty if you use the correct size Phillips screwdriver and are patient, turning slowly and deliberately. Once the screw falls out, you can retrieve it with needle nose pliers or by tilting the DSM-1 cabinet up causing the screw to roll to the back.



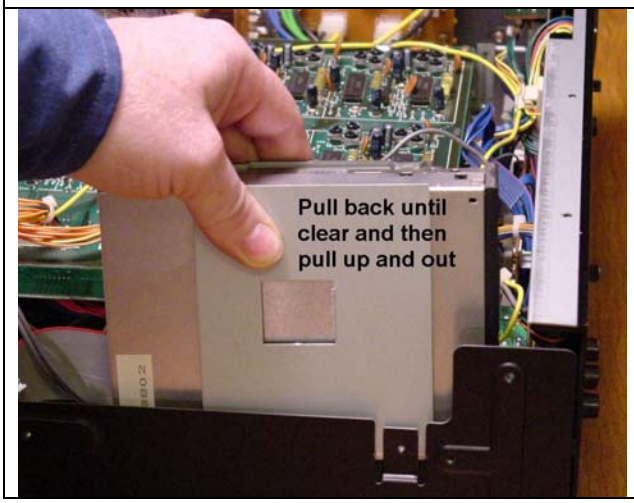


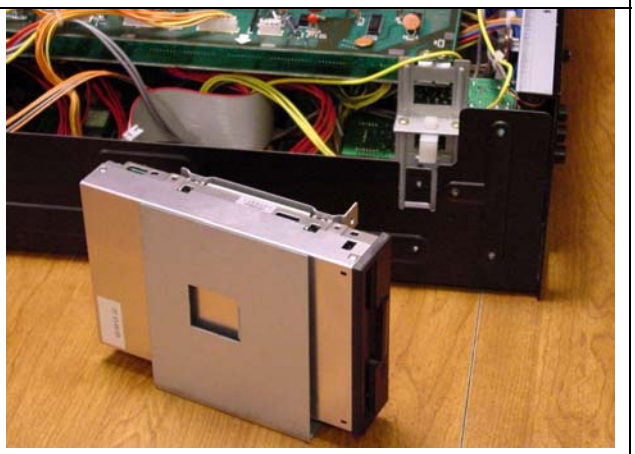
Only 2 screws remain holding your DSM-1 disk drive in place. They are on the upper flange of the drive bracket. They are relatively easy to remove. As you can see in the photo to the right, I elected to use some hemostats to capture these screws as they were removed so as not to drop them into an area where I might have trouble retrieving them. Once you have these last two screws removed, the disk drive (still attached to the drive bracket) will be disconnected and ready to remove.



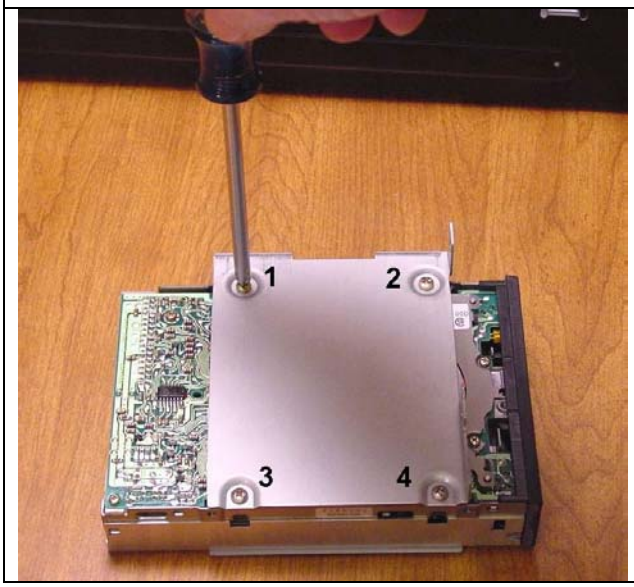


The disk drive and bracket remove as one assembly. Simply pull back on the drive until the front panel is cleared and then lift the drive up and out of the DSM-1.

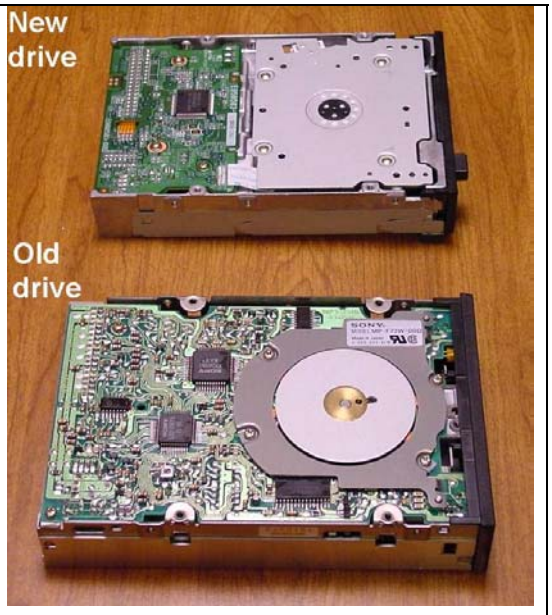


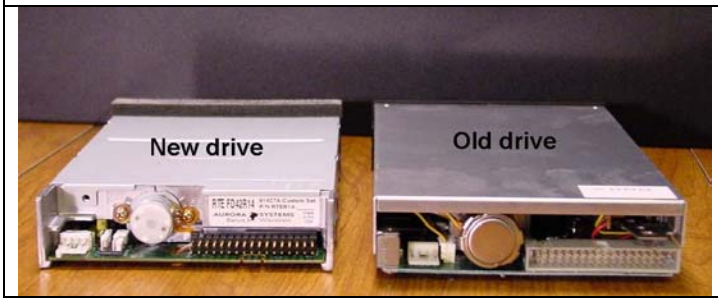


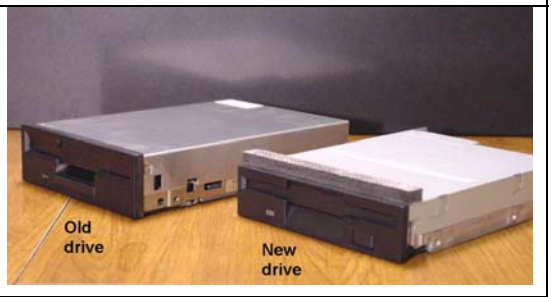
With the disk drive and drive bracket removed from the DSM-1, the disk drive must be removed from the bracket. Remove 4 screws and slide the bracket off of the disk drive.



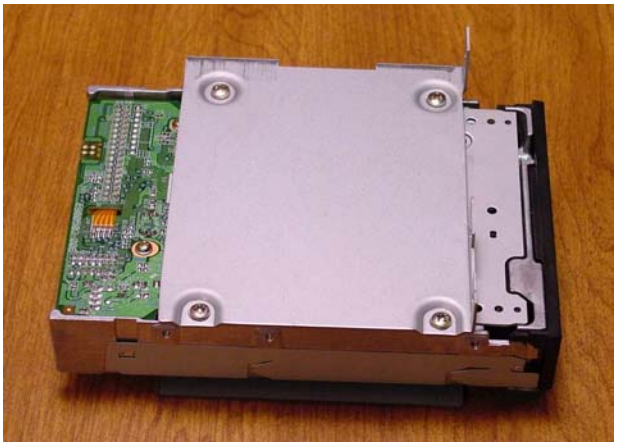
Take a few minutes to compare the old and new disk drives. Physically, the new drive is thinner than the old drive. But, their width and mounting holes are identical. Also identical is the location and orientation of the data cable and power supply connectors. So, your cables will connect to the new drive just as they did the original drive. You can see in the photos below that the replacement drive is supplied with a foam strip mounted across the top. This strip helps fill in the gap caused by the smaller size of the new drive face.



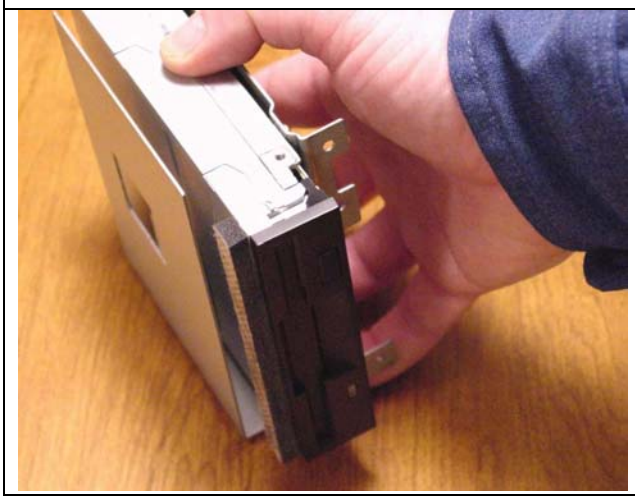


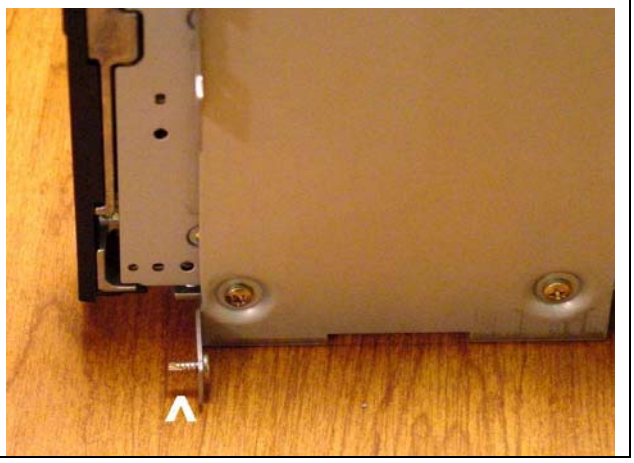


The new drive must be attached to the drive mounting bracket before it can be installed. Slide the bracket over the drive and attach using the same 4 screws that held the original drive to the bracket.



Your new drive mounted on the drive bracket should look like the photo below on the left. Notice that there is some additional space between the new drive and the side of the drive mounting bracket. Before you slip the new drive and bracket into place, insert the lower flange mounting screw through the hole in the lower flange as shown in the lower right photo. This is about the only way you can get that screw back into that tight spot. This worked great for me.

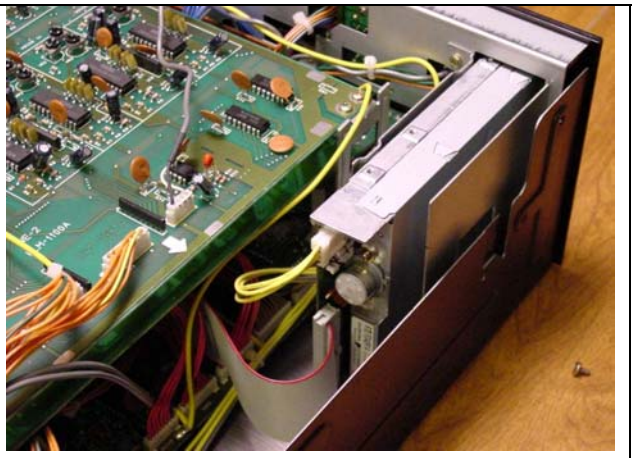




Carefully lower the new drive and bracket assembly into the DSM-1 and slide forward into position. Before pushing all the way forward, position your screwdriver to guide the lower flange screw into the hole in the front panel. This will be the first screw installed. It may be difficult to get started. So, be patient and turn your screwdriver in small increments each time. Do not tighten the screw 100%. You will install all 5 of the drive bracket mounting screws and then tighten them all.

Install the 4 remaining screws that hold the drive bracket into place. Two are inside on the upper flange of the drive bracket as shown below. The last 2 are on the bottom. Notice that the side screw will no longer be used since you were forced to break the tab from the drive mounting bracket. Now, tighten all 5 of these screws.

After the new disk drive and drive mounting bracket are successfully fitted into your DSM-1, you can reconnect the power cables. Notice that the 4 conductor power cable has interlocking tabs so it should fit only one way. It can probably be forced on backwards. So, be careful not to make that mistake. Plug the data cable on to the back of the drive. The red stripe goes to the top. Be careful not to bend any pins. And, be sure you are seating over all the pins and not offsetting the connector to one side or the other.



Here is what your new drive looks like from the front when the installation is complete. The trim fit is not perfect, but your DSM-1 is now working again. Connect the power and test the operation of your new disk drive. If everything works as it should, replace the top cover and secure with the 10 screws originally removed. Replace the 2 rack ears and fasten them with 3 screws each.

Congratulations ! You are finished.