

Yamaha FS1r Battery Replacement Procedure

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Purpose of Document

Like a lot of synthesizers, the FS1r uses **CR2032** Lithium Cells to backup the data memory.

These batteries tend to go for 20+ years without any problems; much longer than the typical life quoted in the user manual.

Recently my FS1r started showing the LOW BATTERY warning, so it was time for a replacement. Whilst I was undertaking this procedure, I was surprised to find that the FS1r is a little "different" when it comes to opening up the case! So, I decided to write a guide to help others.

Why is the FS1r different? It is the first rack I have ever come across where you get access via the bottom of the case, not the top. You can waste a lot of time removing the top screws when you don't need to, and I did! So, I thought I would do the guide to hopefully help others avoid that mistake!

Disclaimer

Whilst I have taken care in preparing this guide, I cannot be held responsible for any damage that you could do to your machine or injury to yourself and/or others as a result of you following these notes; either on your own account or by any error or omission in this guide. You do this upgrade entirely at your own risk!

Please bear in mind that during a production run of any manufactured item, a manufacturer can make changes, and I can't guarantee that all FS1r machines are identical, as I only have the one. So, care is needed in checking that the steps advised are appropriate for your machine, as it might be different to mine.

Pre-Requisites

First of all, make sure that you're comfortable with the concept of dismantling your beloved FS1r.

You will need the following tools to do this job:

- Posidrive screwdrivers, and a small flat blade screwdriver;
- An anti-static wrist strap is recommended;
- Optional Voltmeter (to check battery voltage before closing up, if you wish).

You need to ensure that you take anti-static precautions whilst the synth is open. If you don't have an anti-static wrist strap, then ensure that you regularly earth yourself on an earthed metal object, such as a radiator to prevent the buildup of any static charge.

Electrical Safety

Do not undertake this task with the FS1r plugged into the mains. There is no need for this whilst doing the battery swap.

Procedure

Step 1 – Backup your Data

Removing the backup batteries whilst power is off may cause data loss, so ensure that all of your user data (Voices and Performances) is backed up to computer before starting.

Step 2 – Find a Good Work Area

You'll be working on this for a little while, so find somewhere comfortable and where there's plenty of light. My kitchen table was the best place for this in my house, using towels to avoid scratching the table.

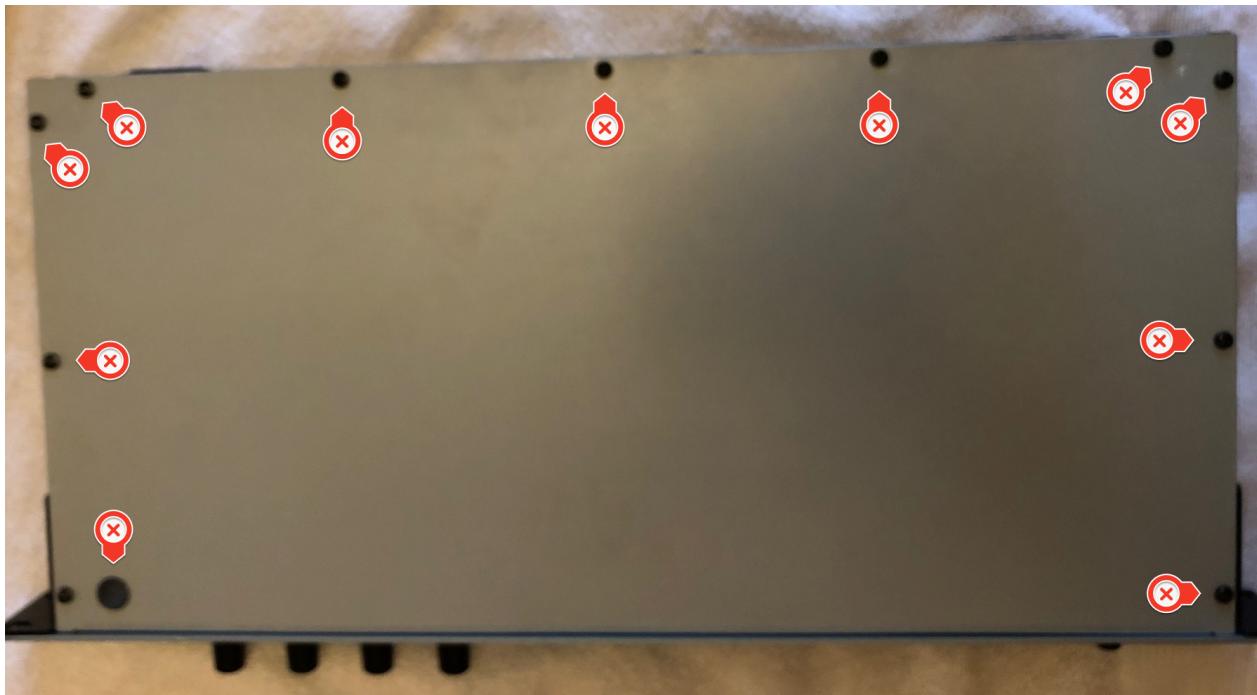
Step 3 – Remove the Case Cover

The first big step is to undo all the screws that hold the case cover in place. Like any Yamaha, there are a lot of screws to undo! I would keep them in a bowl or small container once they are removed to avoid losing them. The following pictures show the screws that you need to remove.

First the top of the front of the case. You need to remove the screw that is bottom centre.



Then the underside of the case.



Now you can remove the case, and you will have the following view. The front of the FS1R is towards the bottom of the picture.



Before removing the battery, ensure that the other one is ready. Some batteries now come with a self-adhesive warning sticker that needs removing first, so you want to remove that if present, otherwise the circuit will not be made!



The battery holder in my FS1r is spring loaded. To remove the battery, you need to gently push the battery towards the back of the holder (so push leftwards in the picture above), and gently tilt it up as well as you do so.

Now the old battery is removed, quickly insert the new battery, with the text CR2032 facing upwards. It should slide into place quite easily as you push it in from towards the front of the synth towards the back.

If you are quick, you may be able to do the replacement without losing the data contents of the synth's memory, but you cannot guarantee this (hence the importance of step 1!).

If you have a volt meter, you can quickly check the new battery voltage to ensure it is fine, but this is not essential.

Step 5 – Putting it all Back Together

Easier said than done, but you just need to reverse Step 3.

The FS1r battery replacement is the first time I have ever lost the data, despite being fast in changing the battery (hence the importance of Step 1!).

So, I did a factory reset using **UTILITY/INITIAL/FactSet** option, and I then reloaded the data contents.

And that is it then. Your synth battery is probably good for another 20 years!

Conclusion

It's as simple as that, and I hope that you find this guide useful!

Links

The Yamaha UK forums provides a very good forum for all things Yamaha (and more):

<http://www.yamahaforums.co.uk/>

Finally, a bit of blatant self promotion(!):

My website for my Java based x.factory librarians, available for the EX5/EX5R and EX7, AN1x, FS1R, Motif ES and SY77/SY99, TG77.

<http://www.xfactory-librarians.co.uk/>

My Pink Floyd Tribute Band, Welsh Floyd

<http://www.welshfloyd.co.uk/>

My Celtic/Ambient/Progressive project, Carreg Ddu

<http://www.carregddu.co.uk/>

And my progressive/classic rock influenced project, Echoes

<http://www.echoes-music.co.uk/>