Cloud Disk Sync (S&F) - VPS

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Thank you for choosing our device Ecler PLAYER ONE / PLAYER ZERO! We appreciate your trust.

This is a Tutorial developed exclusively to answer any questions you may have on this particular topic and, in this way, improve your experience with our products.

We remind you that you can also visit our website at www.ecler.com where you can access the complete user manual of the product.

If you still have any questions after reading, you can contact your supplier or distributor, or fill in the contact form on our website, at Support / Technical requests.

1. INTRODUCTION

The Store and Forward (S&F) module allows PLAYER devices (Player ONE and Player ZERO) to download remote audio content to local storage media (USB/uSD).

When it is active, it checks a remote location that hosts audio content on a daily basis, compares it to the current content stored on local media (USB/uSD) and, if necessary (if differences are detected), syncs the local content to make it an exact copy of the remote content. This is a safe method of playing content on the device during working hours (during the day), storing it on local media without the risks associated with real-time streaming.

The Store and Forward (S&F) utility for remotely synchronising music content uses the Rsync (Remote Sync) tool.

⚠️ This exemplified and orientative technical tutorial is intended for qualified IT personnel only.

⚠️ The third-party tools and procedures discussed in this manual are for information purposes only, and no support queries will be answered in relation to them.

💡 From now on in this tutorial, we will use the word PLAYER to refer both to Player ONE and to Player ZERO models.
2. CREATE A VPS and SET IT UP WITH UBUNTU 22.04

2.1 Necessary tools
- Ubuntu 22.04
- VPS Provider

💡 VPS is a virtual private server. It acts as an isolated server. Unlike shared hosting, it works as if it were your own private server.

2.2 Necessary steps

⚠️ The steps may differ depending on the contracted VPS provider, but the principle is the same.

First of all, you need to have an active account and subscription with a VPS provider. To do this:

1. Log in to your account and look for the "VPS" section.
2. Choose server size, amount of RAM, amount of storage space and amount of CPU.

![Starter plan]

3. Choose the operating system you want to install. In this case, we recommend Ubuntu 22.04.

![Operating system selection]

- Distribution only
- Ubuntu
  - Version 23.04
  - Free
4. In the time slot section, you must select the region in which you want to create your VPS.

<table>
<thead>
<tr>
<th>Slot</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America, Virginia (United States), Vint Hill (US-East-VA)</td>
<td>- + 1</td>
</tr>
</tbody>
</table>

5. In the Renewal Frequency section, you must select the desired option.

6. Verify that all information is correct and proceed to finalise the subscription.

7. Once subscribed, in the VPS configuration screen, you will be able to adjust network settings, add additional storage, adjust security, etc. Configure these settings according to your preferences and needs.

8. Once the VPS has been created, you will be able to access it through the provider’s console by entering your Ubuntu user details.

💡 **Recommended security tips to protect your VPS.**

- Be sure to update and patch the server after the initial installation to keep it safe and secure.
- Consider changing the SSH listening port, which defaults to 22.
- Change the password of the root user.
3. CONNECT TO VPS VIA SSH VIA PuTTY SOFTWARE

Once your VPS has been created and validated, the provider should provide you, via your email account, with all the relevant information you will require to enter in the PuTTY terminal:

- IPv4 address of the VPS.
- Name of the VPS.
- Administrator account.
- User.
- Password.

1. You can access the server through a command line terminal (on Linux or Mac) or using third party software on Windows, we recommend PuTTY, which will be used in this example.
2. Download the PuTTY software from its official website: [https://www.putty.org/](https://www.putty.org/)
3. Open PuTTY and in the "Host Name (or IP address)" section enter the IPv4 address of the VPS you wish to connect to.
4. In the "Port" section, enter the communication port you have established, in this case we will use the default port "22".
5. Select "SSH" as the connection type
6. Click "Open" to start the SSH session.
7. Accept the security message.

8. Enter your VPS username and password when prompted.

9. You are now connected to your VPS.

10. As you are now logged in with high permissions (a sudo user), you can enter commands to perform administrative tasks. We recommend that you change your password first.
4. USER CREATION FOR STORE & FORWARD (S&F)

Now that we have our VPS up and running through the Putty terminal, let’s create a new user for the specific use of S&F.

⚠️ It is important not to use the ADMIN user for the S&F implementation.

1. Before creating the new user, both for new versions of Linux and Ubuntu 22.04, we must enter the following commands.

   This procedure will restart your VPS and stop the SSH connection, so you will need to reconnect via SSH.

   ```bash
   sudo sh -c 'echo "HostKeyAlgorithms +ssh-rsa" >> /etc/ssh/sshd_config'
   sudo sh -c 'echo "PubkeyAcceptedAlgorithms=+ssh-rsa" >> /etc/ssh/sshd_config'
   sudo reboot
   ```

2. Shut down the Putty terminal and reconnect.

3. We create the specific user for Store & Forward. In this case, our user will be called “SAF”.

   ```bash
   sudo adduser --home /home/saf/ saf
   ```

4. Enter the new password for the SAF user.

5. Leave the following requested data (Full name, room number...) empty and press ENTER.

6. Press the "y" key to accept that the information is correct.

7. Enter the following commands in the terminal to change the user to SAF.

   ```bash
   su saf
cd
mkdir sync
   ```
5. GENERATING SSH KEYS

1. We use the command `ssh-keygen -m PEM` to generate the keys and press ENTER directly in response to each question (without typing anything).

```
ssh-keygen -m PEM
```

2. Add the public keys to the authorised keys with the following command and then press ENTER:

```
cat .ssh/id_rsa.pub >> .ssh/authorized_keys
```

3. You may view the private key that you need to enter in the Store and Forward configuration page of the PLAYER:

```
cat .ssh/id_rsa
```

💡 The private key that we must place in the S&F Module of our PLAYER is from "----BEGIN RSA..." dragging the cursor to the end, in "...PRIVATE KEY----".
6. UPLOADING CONTENT TO VPS WITH FileZilla (FTP)

1. Download and install FileZilla on your computer.
2. Open FileZilla and select "File" from the toolbar.
3. Click on "Site Manager" and then on "New site".
4. In the "Protocol" section, select "SFTP".
5. Enter the IP address of your VPS in the "Server" field.
6. In the "Port" field, enter "22" or whatever you have entered instead.
7. In the "Login type" field, select "Normal".
8. Enter the username and password provided by your VPS provider.
9. Click on "Connect".

![Image of PuTTY with connection settings]

10. Once connected, you will be able to see the files on your VPS in the right-hand window of FileZilla.

![FileZilla window with files]

- Click on "Connect".
- Once connected, you will be able to see the files on your VPS in the right-hand window of FileZilla.
11. To upload files to your VPS, simply drag and drop files from your computer to the right-hand window of FileZilla to place them in the "sync" folder.

12. When you have finished uploading the files, **log out of the SFTP session** by clicking on the icon under the toolbar.
7. STORE and FORWARD MODULE (Rsync)

Now that you have all the necessary data to implement the configuration, you will implement it in the S&F module of your PLAYER.

1. “General” Section

- **Enabled**: In this section, activate the S&F Module (Rsync) by checking the box.
- **Time**: this is a very important point, as this is where the exact time of media synchronisation between your SSH server and the PLAYER is configured so that Rsync does the rest automatically.

Next, please press **SAVE**

⚠️ It is very important that both the PLAYER and the SSH server have continuous network access during media synchronisation. Otherwise, the LOG module will show a synchronisation error message.
2. **“Remote Source” Section**

In this section you must fill in all the data that we have previously configured and completed. 

In our example:

- **Host:** 5.196.22.104
- **Port:** 22
- **Folder:** /home/saf/sync
- **Username:** saf
- **Private Key:** key we saved earlier.
- **Timeout:** 25 sec.

⚠️ Make sure that all parameters are entered correctly.

⚠️ Remember to press **SAVE** when you have finished configuring each tab.

💡 For your convenience, you can resize the "private key" text field to your liking.
3. “Local Target” Section

In this section, you will indicate where Rsync will synchronise the files it receives from the SSH server, either on a USB stick or SD card inserted in the PLAYER, in FAT32 format.

a) Indicate the Path you wish to use, which you will later configure in the associated PRESET1. In this example: usb://

b) PRESET 1 of our PLAYER is configured, so that the files from our USB or SD can be played.

c) Press SAVE to save the Preset.
d) Restart the PLAYER.

The S&F module starts automatically and will start to dump and playback the contents to the storage previously indicated.

Example of display in Player ONE (Player ZERO does not have a display and must therefore be monitored via the Web App).

e) Lastly, check the PLAYER’s LOG to make sure that everything is correct.

From FileZilla it is possible to access the server folder to modify, add or delete files. When you restart the PLAYER they will be synchronised as they are in that folder.
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S&F module (Rsync)

All product characteristics are subject to variation due to production tolerances. NEEC AUDIO BARCELONA S.L. reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.

For technical queries contact your supplier, distributor or complete the contact form on our website, in Support / Technical requests.

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