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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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yyh1002



Member

60

95 posts

Posted September 22, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

Hey guys,

I would like to share a lever action dual extrusion solution I came up with for Ultimaker 2+.

The approach is based on the great effort everyone put into Mark2 and Ultimaker 3.

The print head holds two hot ends, which are originally to be installed on standard UM2 head for 1.75 filament. The right nozzle move up and down for nozzle swapping.

This compact dual print head can achieve single extrusion print area of 220x223x205, and dual extrusion print area of 202x223x200.



OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...



11 replies

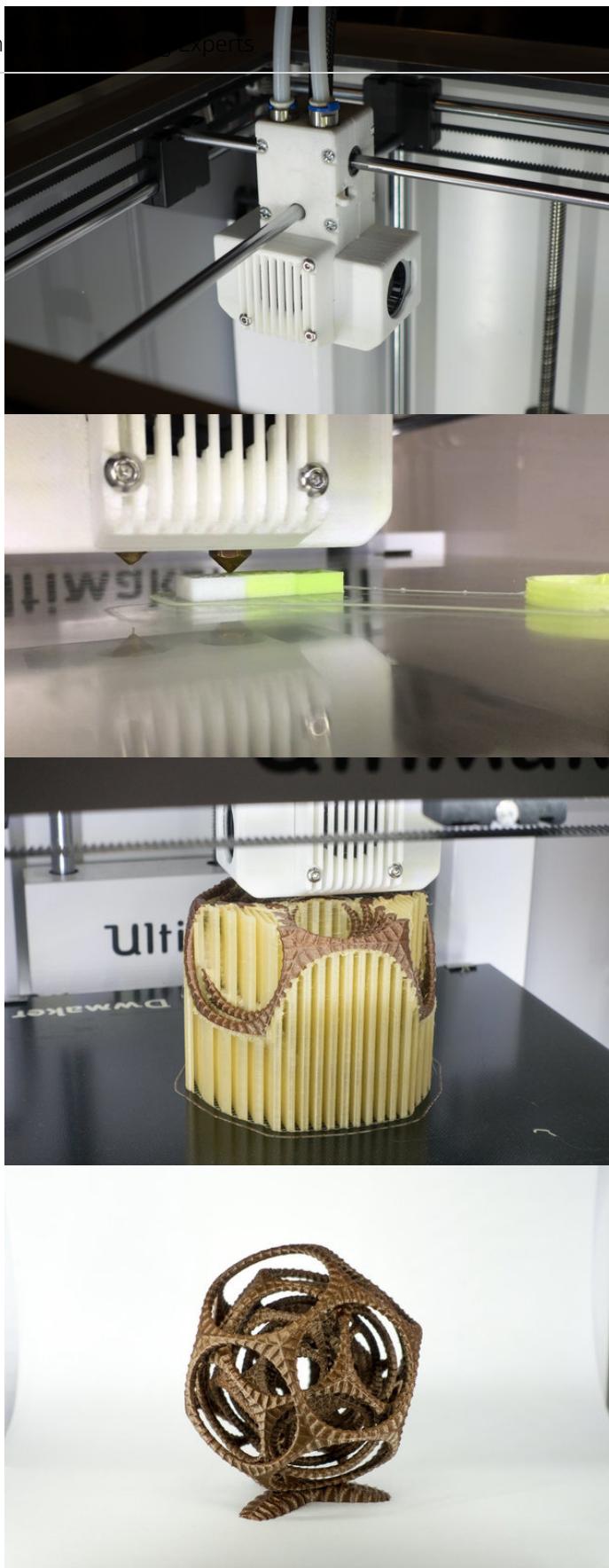


PICKED BY

SandervG, August 17, 2021

[View All](#)





Video clips:

DXU - Dual Extrusion Upgrade for UM2



DXU Timelapses #1



Files and instructions available at:
<https://github.com/yjh1002/DXU>

Credits:

Lever lifting mechanism is inspired by Ultimaker 3.
The firmware is modified based on Mark2 version of Tinkergnome
firmware by @tinkergnome.
CURA profiles are modified based on the Mark2 profiles by
@tinkergnome and @foehnsturm. Used Mark2Tweaks plugin for CURA
by Krys Lawrence.

Edited December 27, 2018 by yjh1002

+ Quote

Razanur, neotko, fergazz and 14 others

16

1



Replies
225

Created
3 yr

Last Reply
Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14

urtxiki

Posted September 23, 2018 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Dormant
 0
3 posts

Hi, congratulations for your work. I am very interested in this update but 2 problems arise, I can not load the .hex file from the priest, could you confirm that this is correct?
Where can I acquire the aluminum pieces that are seen in the presentation?
a cordial greeting



gr5

Posted September 23, 2018 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...



Moderator

+ 1,783

15,502 posts

I just looked at some of the design files for this - really good work. Quite impressive. Instructions for the feeder are fantastic. There are some clever innovations in this. I love that you included a bom with links to where to get the parts. This just seems very thorough.

I see also that you included the firmware both compiled and git source code (so one can see the changes you had to make).

Very impressive.

+ Quote

randyinla, superdave42 and MarcoUbtz

3

**gr5**

Posted September 23, 2018 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...



Moderator

+ 1,783

15,502 posts

What "aluminum pieces"? I believe everything you need to buy is listed in the bom.xlsx file. Everything else is stl files that you can print. One of the items in the bom links to the feeders which have their own bom.

+ Quote

**ultiarjan**

Posted September 23, 2018 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...



Ambassador

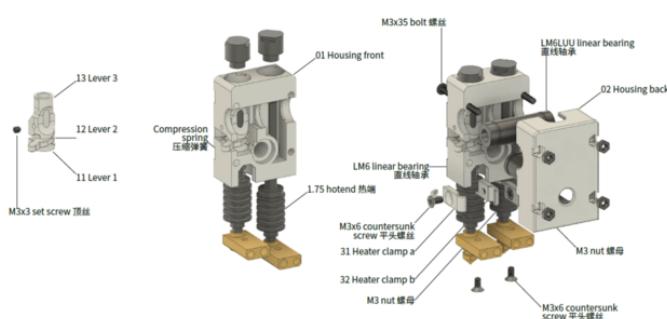
+ 1,212

3,776 posts

Cool !!

I assume it's not possible to change nozzles in this design without taking apart the head?

To make it easy for others... picture from github;



+ Quote



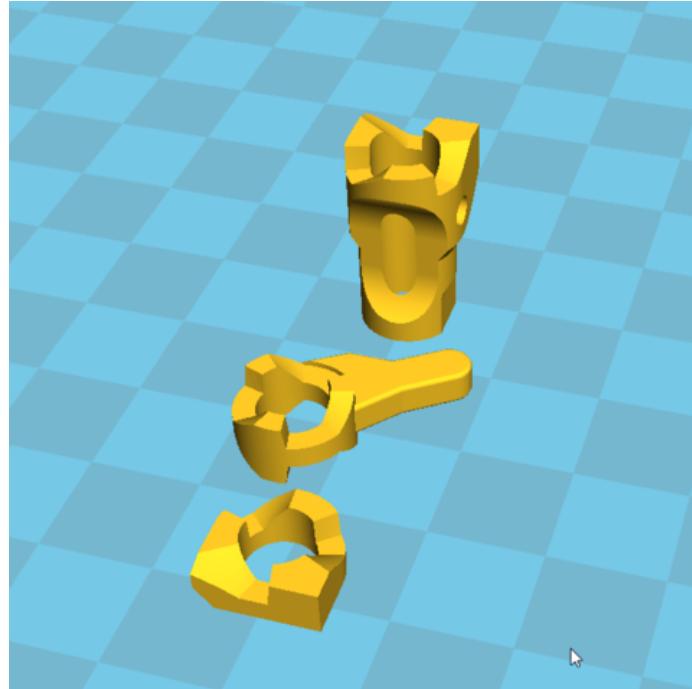


Ambassador

1,212

3,776 posts

Did you print the lever parts? what material did you use?



Quote

**yyh1002**

Posted September 23, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

60

95 posts

On 9/23/2018 at 11:09 AM, urtxiki said:

...

Hi, congratulations for your work. I am very interested in this update but 2 problems arise, I can not load the .hex file from the priest, could you confirm that this is correct? Where can I acquire the aluminum pieces that are seen in the presentation?
a cordial greeting

Thanks. The .hex file is correct. Are you using Cura 3.4 to upload it? For some reason Cura 3.4 cannot upload custom firmware successfully. Earlier versions such as 3.1 works. I'm not sure which aluminum pieces your are referring to. You can find all the links in BOM.



I just looked at some of the design files for this - really good work. Quite impressive. Instructions for the feeder are fantastic. There are some clever innovations in this. I love that you included a bom with links to where to get the parts. This just seems very thorough.

I see also that you included the firmware both compiled and git source code (so one can see the changes you had to make).

Very impressive.

Thanks for the kind words ?

On 9/23/2018 at 3:39 PM, ultiarjan said:

I assume it's not possible to change nozzles in this design without taking apart the head?

There is no need to remove the head or hotend to change nozzle. It takes a plier to hold the heater block to unscrew and install the nozzle with hex socket wrench.

On 9/23/2018 at 3:57 PM, ultiarjan said:

Did you print the lever parts? what material did you use?

I printed everything with unmodified PC at 280 °C with the same hotend. I added a PI ring between the nozzle and PTFE tube for heat resistance, similar to the one by 3D Solex. The lever parts were printed at 0.05 layer height.

Edited September 23, 2018 by yyh1002

+ Quote



DidierKlein



Moderator

+ 729

5,804 posts

Posted September 26, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Nice work! How does this 1.75mm special hotend print? Is it working well? I like the standard um2+ hotend (and the UM3 Core), would be nice if it was adaptable to these

+ Quote



yyh1002



Member

+ 60

95 posts

Posted September 28, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 9/26/2018 at 8:44 AM, DidierKlein said:

Nice work! How does this 1.75mm special hotend print? Is it working well? I like the standard um2+ hotend (and the UM3 Core), would be nice if it was adaptable to these



+ Quote



wong

Posted September 30, 2018 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

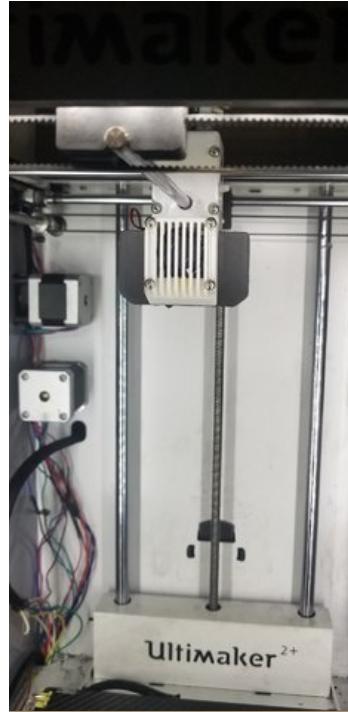


Dormant

• 1

8 posts

Very good design



[+ Quote](#)

yyh1002 1



2 weeks later...

myesil33

Posted October 12, 2018 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Dormant

0

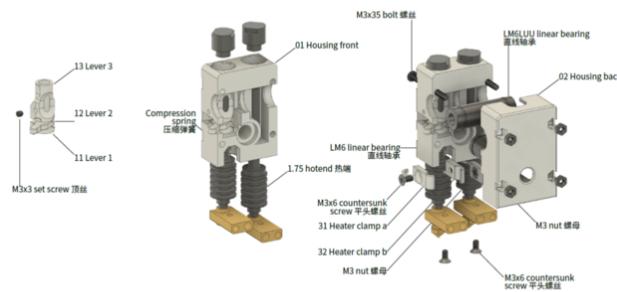
2 posts

On 9/23/2018 at 3:39 PM, ultiarjan said:

Güzel !!

Bu tasarımdaki nozulları kafadan ayırmadan değiştirmek mümkün değil mi?

Başkaları için kolaylaştmak için ... github'dan resim;



According to the drawing and the diagram hotend e3dv6 hotend

[+ Quote](#)

yyh1002



Member

+ 60

95 posts

Posted October 12, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 10/12/2018 at 7:00 AM, myesil33 said:

According to the drawing and the diagram hotend e3dv6 hotend

It's not e3d. E3d has diameter of 22mm. This one is only 13 in diameter and also shorter in length, much more suitable for dual nozzle efficiency.

+ Quote



sint_vaffel



Posted October 12, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

is there any other websites where i can get hot end parts? don't understand language, and google translate is to not much help.

+ Quote

myesil33



1



Dormant

+ 4

8 posts

myesil33



Posted October 13, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Can you get an internet address on aliexpress website?

+ Quote



Dormant

● 0

2 posts

yyh1002



Member

+ 60

95 posts

Posted October 17, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 10/12/2018 at 3:52 PM, sint_vaffel said:

is there any other websites where i can get hot end parts? don't understand language, and google translate is to not much help.

🕒 On 10/13/2018 at 2:50 AM, myesil33 said:

Can you get an internet address on aliexpress website?

Unfortunately the hotend is not sold anywhere else. You might be able to find the part cooling fan on alibaba.com. I imagine there could be order agents for taobao.

+ Quote





Ambassador
+ 310
2,004 posts

Very interesting, so to fit the UM2+, it's dual 1.75mm nozzles?
Are those nozzles pretty easy to source?

+ Quote



neotko

Posted October 19, 2018 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Expert
+ 1,417
4,788 posts

On 10/17/2018 at 5:33 PM, yyh1002 said:



Unfortunately the hotend is not sold anywhere else. You might
be able to find the part cooling fan on alibaba.com. I imagine
there could be order agents for taobao.

The heatsink you use is the same sold on AliExpress for um3 ?

+ Quote



sint_vaffel

Posted October 19, 2018 (edited) · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...



Dormant
+ 4
8 posts

On 10/19/2018 at 11:57 AM, LePaul said:



Very interesting, so to fit the UM2+, it's dual 1.75mm nozzles?
Are those nozzles pretty easy to source?

Nozzles, you can use pretty much every nozzle there is for 1.75. as long
as it's compatible with e3d v6 systems because of the M6 "threaded"
length and you can get them everywhere.

Heatblock, is like olsson block, but for 1.75mm (found on ali)

Heat-throat, colling fins/heatsink and push-fittings: has to be ordered
from taobao, it's really a custom made piece i never seen before.

On 10/19/2018 at 12:50 PM, neotko said:



The heatsink you use is the same sold on AliExpress for um3 ?

Had a look at one on Ali, not the same. the ones used here got "push-
fitting" in the top for bowden tube and don't think the ones from UM3
will fit here.

Have a 2x set on order now, really looking forward to build this print
head.

Edited October 19, 2018 by sint_vaffel

+ Quote

yyh1002



1





Member

+ 60

95 posts

🕒 On 10/19/2018 at 1:07 PM, sint_vaffel said:

Nozzles, you can use pretty much every nozzle there is for 1.75. as long as it's compatible with e3d v6 systems because of the M6 "threaded" length and you can get them everywhere. Heatblock, is like olsson block, but for 1.75mm (found on ali) Heat-throat, colling fins/heatsink and push-fittings: has to be ordered from taobao, it's really a custom made piece i never seen before.

Had a look at one on Ali, not the same. the ones used here got "push-fitting" in the top for bowden tube and don't think the ones from UM3 will fit here.

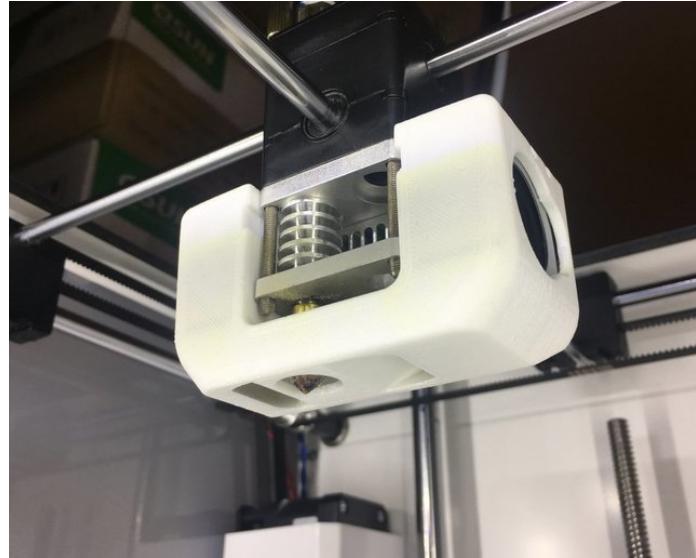
Have a 2x set on order now, really looking forward to build this print head.

Very good observation. May I just correct one detail? The heatblock is not general 1.75 version of Olsson block. The orientation of male/female thread is reverse. It also has to be the specific heatblock from the heatsink seller.

🕒 On 10/19/2018 at 12:50 PM, neotko said:

The heatsink you use is the same sold on AliExpress for um3 ?

It's not the same as UM3. The following photo shows the original application of the heatsink:



+ Quote

**sint_vaffel**

Posted October 21, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+ ...



🕒 On 10/20/2018 at 7:25 PM, yyh1002 said:



Very good observation. May I just correct one detail? The heatblock is not general 1.75 version of Olsson block. The orientation of male/female thread is reverse. It also has to be the specific heatblock from the heatsink seller.

Now when you said it, i had to look closer and you are right. Just hope i get everything i need in my order.

+ Quote

**blueyellowgecko**

Posted October 22, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

+ 2

3 posts

looks great. is there any chance that this design would work with 3mm filament. i do not mind if i loose a bit more or the print space.

+ Quote



4 weeks later...

sint_vaffel

Posted November 14, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

+ 4

8 posts

🕒 On 10/22/2018 at 6:19 AM, blueyellowgecko said:

looks great. is there any chance that this design would work with 3mm filament. i do not mind if i loose a bit more or the print space.

It may be possible if there is a ptfe tube with 4mm OD and 3mm ID. by looking at the parts i got now, you can maybe get away with drilling 3mm hole in the part with "push" fitting on top. it's only 2mm for 1.75 filament. the "pipe" part and all the way down to nozzle is 4mm to be used with ptfe tube. but i don't think it will be any good without the "4od-3id" ptfe tube, as soon as 3mm(2.85) filament gets down to the nozzle it will melt and creep up the heatsink and pipe because of all the spare room around filament and pressure from the extruder motor.

Edited November 14, 2018 by sint_vaffel

+ Quote

**yyh1002**

Posted November 22, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

I pushed some minor updates to the DXU as v1.1.

1. Moved the dock to the right back corner.

If there is imperfection of dual print due to filament conditions, the marks will be on the back of model instead of front. So slightly better print outcome in some cases. The contact of lever and dock while doing bed levelling is gone. The dock liner for drilling is updated with a diagram of how to use it.

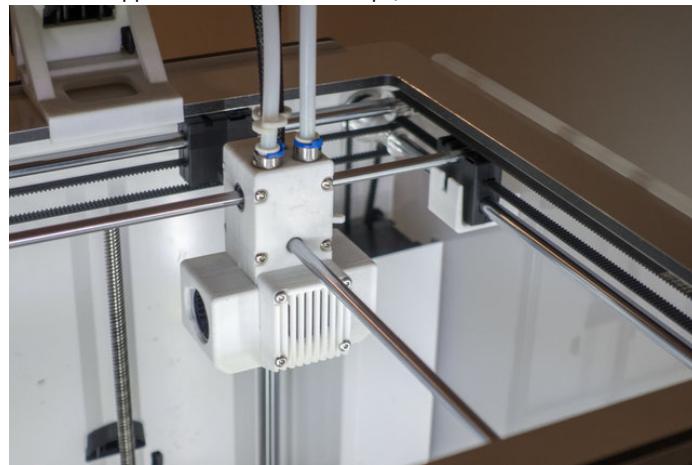


2. Added the link of PI insulator to BOM.

PI insulator is to be installed between the PTFE tube and the nozzle. It allows printing of up to 290°C.

3. Filament fast forward speed now limited by max feedrate of E.

Fast forward speed is now controlled by max feedrate in the menu instead of steps/s in firmware. It is more handy for switching to other stepper driver with lower steps/s limit, such as TMC2208.

[+ Quote](#)

sint_vaffel and dxp

**sint_vaffel**

Posted November 23, 2018 (edited) · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...



Dormant

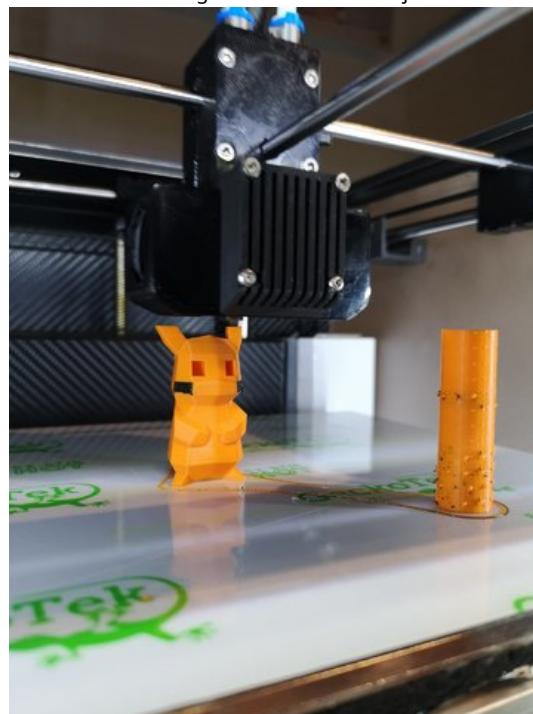


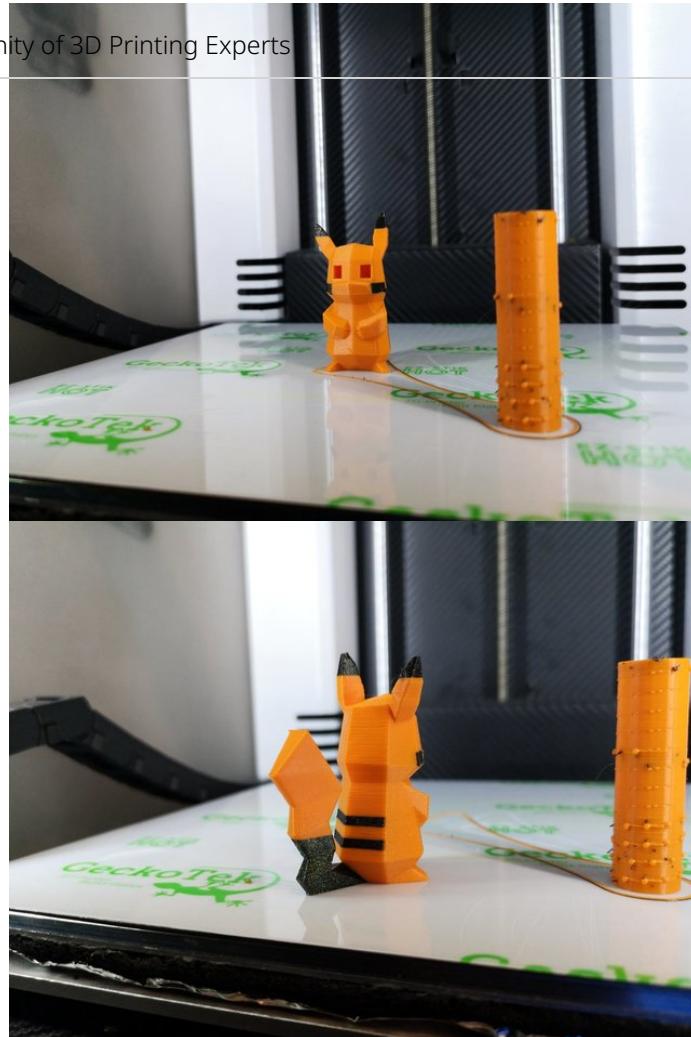
8 posts

Thank you [yjh1002](#). For this awsome mod and all the help i got from you to get this working.

Everything is printed in CPE from Fillamentum. "lever" mechanism is printed in Carbonfiber Nylon.

Still some finetuning left. But it does the job VERY well.





Edited November 24, 2018 by [sint_vaffel](#)

+ Quote

SeanTapscott and yyh1002



yyh1002

Posted November 24, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

⊕ 60

95 posts

🕒 On 11/23/2018 at 2:15 PM, [sint_vaffel](#) said:

Thank you [yyh1002](#). For this awsome mod and all the help i got from you to get this working.
Everything is printed in CPE from Fillamentum. "lever" mechanism is printed in Carbonfiber Nylon.
Still some finetuning left. But it does the job VERY well.





Congrats on being the first to make it from overseas!(except for me;))

+ Quote

SeanTapscott, cloakfiend, ultiarjan and 1 other

4





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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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ProSharp



Dormant

0

3 posts

Posted November 25, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

This setup looks great. I've read through all the files and looked at the stl files. I am trying to make this work on my umo+. Since the um2 and umo+ share a lot of the same hardware. I figured it wouldn't be too much adjusting. I was thinking maybe something like this
-Print x mirrored stl files
-Use the same hardware from the bom
-Slight tweaks on the firmware
-Do I need um2+ upgrade on the umo+ to start off with?
i don't mean to bust in on the thread but figured this would be the best place to start

Quote

Replies
225

Created
3 yr

Last Reply
Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)

6maker

Posted November 26, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Very very very nice Work!

Dormant

10

39 posts

Edited November 26, 2018 by 6maker

Quote

**nilrog**

Posted November 26, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Interresting mod...but the place where the special parts is found is all Chinese...so trying to order it is like playing lottery 😞

Dormant

103

271 posts

Quote

neotko 1

**yyh1002**

Posted November 28, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 11/25/2018 at 7:58 PM, ProSharp said:

...

- Print x mirrored stl files
- Use the same hardware from the bom
- Slight tweaks on the firmware
- Do I need um2+ upgrade on the umo+ to start off with?

I think you might need to swap the plywood sliding blocks with UM2 nylon blocks because the cross shaft on UMO is the other way around. No need to get the UM2+ extrusion upgrade. 90% of the parts on printhead are useless for this setup.

Quote



2 weeks later...

mmame

Posted December 7, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

I tried to order the required hotend kit from taobao but unfortunately, the seller didn't react for weeks. As long as there is no other source for the hotend kit, it looks like we're lost.... 😞

Dormant

0

2 posts

Edited December 7, 2018 by mmame

Quote





Moderator

+ 1,783

15,502 posts

I strongly recommend you stick with the mark2. Much better tested. It works quite well. Maybe better than the UM3. And everytyhing you need to buy is available. On the downside it costs around 500 euros.

+ Quote

**ProSharp**Posted December 7, 2018 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Dormant

● 0

3 posts

Wouldn't it be very expensive to upgrade a umo+ with the Mark 2? Compared to this solution with a few tweaks

+ Quote

**yyh1002**

Posted December 7, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

🕒 On 12/7/2018 at 2:42 PM, mmame said:

I tried to order the required hotend kit from taobao but unfortunately, the seller didn't react for weeks. As long as there is no other source for the hotend kit, it looks like we're lost.... 😞

Normally the seller is very responsive, something probably went wrong. Taobao is a local marketplace, unlike Aliexpress. Sellers ship items overseas through the Taobao's official parcel transfer service. Sellers normally don't directly sent international mail. It's possible that sometime the order is not placed correctly. If you would like to PM me your order number, I'm happy to check with the seller what's going on for you.

+ Quote



2 weeks later...



Dormant

● 0

2 posts

Posted December 18, 2018 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

🕒 On 12/7/2018 at 6:31 PM, yyh1002 said:

Normally the seller is very responsive, something probably went wrong. [...]If you would like to PM me your order number, I'm happy to check with the seller what's going on for you.

Thanks for the support! Items were out of stock and taobao messaging function didn't work as expected. Everything went well. By the way, the hotend seems to be back in stock 😊



**yyh1002**

Posted December 19, 2018 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

•••



Member

+ 60

95 posts

🕒 On 12/18/2018 at 2:02 PM, mmame said:

Thanks for the support! Items were out of stock and taobao messaging function didn't work as expected. Everything went well. By the way, the hotend seems to be back in stock 😊

You are welcome. I updated the BOM with the specific options to avoid confusion.

+ Quote

**yyh1002**

Posted December 27, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

•••



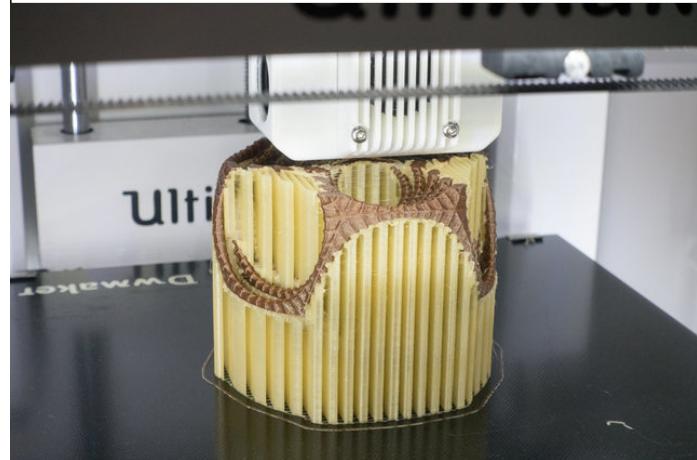
Member

+ 60

95 posts

Some recent timelapse and photos of DXU.

DXU Timelapses #1





Edited December 27, 2018 by yyh1002

+ Quote

owen, tigertooth4, 6maker and 3 others

4

2

6maker



Dormant

+ 10

39 posts

Posted December 27, 2018 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Very Nice printing!!

You finish to convince me to try to print this model! 😊

Thank you too for the calibration model, it's very helpful!

<https://www.thingiverse.com/thing:3318554>

Edited December 28, 2018 by 6maker

add new info

+ Quote

2 weeks later...

DanielSun



Dormant

+ 6

34 posts

Posted January 10, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Hi,

today I got my parts for the DXU update.

Now I have to order a few parts like the bearings and than let it rock

😊

I will post a few pictures when the update is build.

Best wishes from Germany



[+ Quote](#)

yyh1002

**yyh1002**

Posted January 12, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member
+ 60
95 posts

On 12/27/2018 at 1:56 PM, 6maker said:

Very Nice printing!!
You finish to convince me to try to print this model! 😊
Thank you too for the calibration model, it's very helpful!
<https://www.thingiverse.com/thing:3318554>

I only created the Z calibration model. The XY calibration model belongs to Mark2.

[+ Quote](#)**Flowbey**

Posted January 13, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member
+ 7
32 posts

On 1/10/2019 at 6:23 AM, DanielSun said:

Hi,
today I got my parts for the DXU update.
Now I have to order a few parts like the bearings and then let it rock 😊

I will post a few pictures when the update is build.

Best wishes from Germany





Nice

Can you help me to get this parts what are on the picture?

i live in switzerland 😊

+ Quote

**DanielSun**

Posted January 16, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Dormant

+ 6

34 posts

🕒 On 1/13/2019 at 3:07 PM, Flowbey said:

...

Nice

Can you help me to get this parts what are on the picture?

i live in switzerland 😊

Hi,

you have to look for an agent which orders for you.

I make a lot with CNC's and buy all from one seller over Aliexpress and I asked him if he would order it for me and send it to me.

But look for an agent service they will amount a few euro and will send it to you.

Best wishes

Daniel

+ Quote

Razanur  1

**qwerty8224**

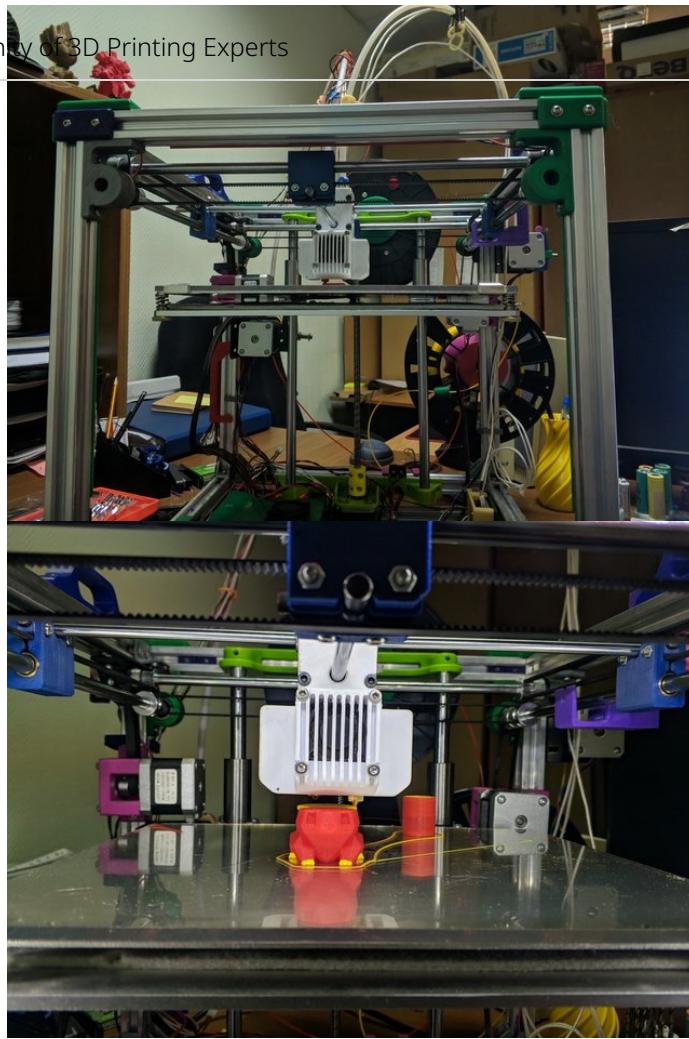
Posted January 22, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Я построил DXU))) спасибо за отличный дизайн, который мне действительно нравится)))
осталось подружиться с ним или приручить этого зверя)))





Edited January 22, 2019 by qwerty8224

+ Quote

yyh1002

1



DanielSun



Dormant

+ 6

34 posts

Posted January 23, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 1/10/2019 at 6:23 AM, DanielSun said:

Hi,

today I got my parts for the DXU update.
Now I have to order a few parts like the bearings and than let it rock 😊

I will post a few pictures when the update is build.

Best wishes from Germany





Hi,

I have to took a decision between 3D printing and cnc milling.

Both are great hobbies but I have to choose one and don't have the time for all hobbies.

So I decided to make cnc as my primary hobby (waf), if you know one from Germany who is interested in an UM2+ clone 1.75mm with the parts for dxu upgrade look here.

https://www.ebay-kleinanzeigen.de/s-anzeige/achtung-selten-ultimaker-2-extended-clone-dxu-update-1-75mm/1038553019-249-8240?utm_source=sharesheet&utm_medium=social&utm_campaign=socialbuttons&utm_content=app_android

Thanks and best wishes

daniel

Edited January 23, 2019 by DanielSun

+ Quote



alexjx



Member

⊕ 8

37 posts

Posted January 30, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

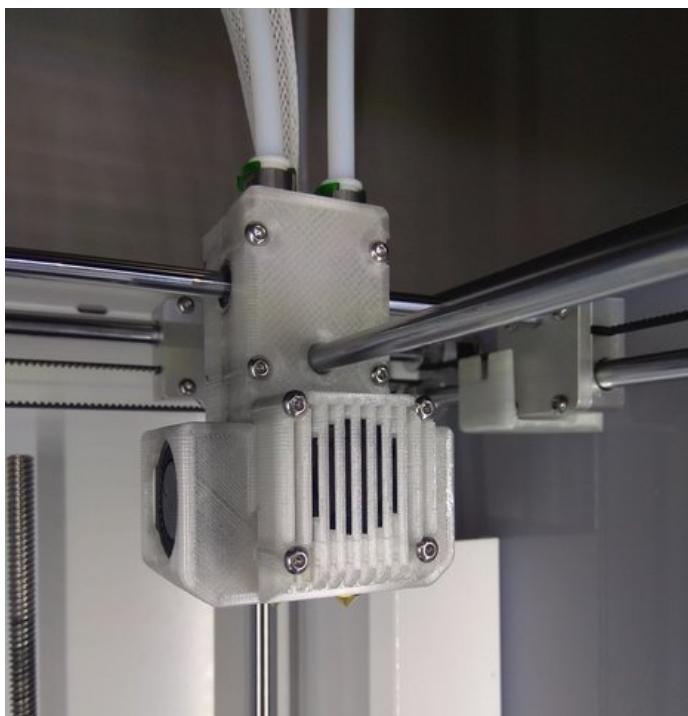
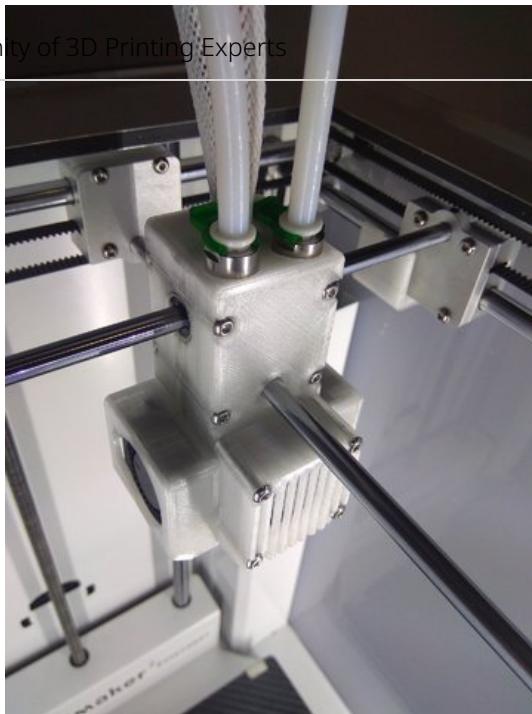
Thank you for your fantastic work. I really liked this compact and efficient design.

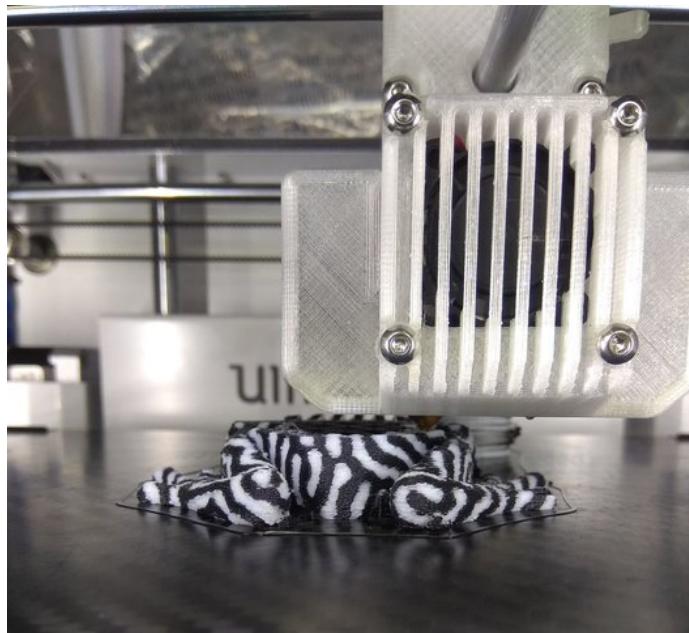
The documentation is thorough and the design is well thought. It's not difficult to print and assemble.

I printed it with transparent PC, so it has its style.

I got pretty good results with it. And most of all, the DXU itself look really good. 😊







qwerty8224

Posted January 31, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

 16

58 posts

Edited January 31, 2019 by qwerty8224

+ Quote



2 weeks later...

Razanur

Posted February 11, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

 0

5 posts

🕒 On 1/16/2019 at 5:25 PM, DanielSun said:

you have to look for an agent which orders for you.
 I make a lot with CNC's and buy all from one seller over Aliexpress and I asked him if he would order it for me and send it to me.

But look for an agent service they will amount a few euro and will send it to you.

Thank you for the tip! Actually just doing a regular internet search for "Taobao agent" several website pop up. So far I'm pretty happy with <http://bhiner.com> - you can simply copy and paste the urls in their search bar. With all the required parts from Taobao I end up with around 53€ (don't know if there is additional shipping costs). I'll edit this post when I ordered and tell you how it goes.

BTW: which diametres and lengths are the heater elements and PT100 for these heating blocks?

Edited February 11, 2019 by Razanur

+ Quote

**alexjx**

Posted February 13, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

 8

37 posts

🕒 On 2/11/2019 at 6:31 AM, Razanur said:

BTW: which diametres and lengths are the heater elements and PT100 for these heating blocks?

For what it worth, here is what I **measured**.

The diameter of the hole for the heater is 4.05mm and 16mm deep. So maybe for 4mm heater.

The diameter of the PT100 hole is 3.3mm also 16mm deep.

+ Quote





Dormant
● 0
5 posts

On 2/13/2019 at 9:24 PM, alexjx said:

For what it worth, here is what I **measured**.
The diameter of the hole for the heater is 4.05mm and 16mm
deep. So maybe for 4mm heater.
The diameter of the PT100 hole is 3.3mm also 16mm deep.

Thanks a lot - that helps! Do you reccon, one could drill the heater hole
to 6mm?

+ Quote



alexjx

Posted February 14, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Member
+ 8
37 posts

On 2/14/2019 at 4:21 PM, Razanur said:

Thanks a lot - that helps! Do you reccon, one could drill the
heater hole to 6mm?

I'm afraid not... since one of the walls is already much less than 1mm
thick.

+ Quote



3 weeks later...

Garufa

Posted March 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

...



Member
+ 3
17 posts

On 12/27/2018 at 5:53 AM, yyh1002 said:

Some recent timelapse and photos of DXU.

DXU Timelapses #1





Thanks for your posts, I have ordered most parts and will try to make the conversion for my UM2+ Extended. What's the difference between the two extended firmware versions ?

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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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gr5



Moderator
+ 1,783
15,502 posts



Posted March 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 12/7/2018 at 6:20 PM, ProSharp said:

Wouldn't it be very expensive to upgrade a umo+ with the Mark 2? Compared to this solution with a few tweaks

Ultimaker tried for years to get two heads to work in the UM2 and it worked - sort of. It would work sometimes. But they did a lot of testing and one of the problems was excess heat with two hot ends in there (pla wouldn't cool completely and would jam up in the upper end of the print head) and the other problem was that the inactive nozzle would leak filament into the print which is particularly ugly with 2 color prints. The solution worked - but not great.

If you want a really good solution then go for the mark2 method where either head can leak a little without messing up the print.

[edit below]

Oops. I got DXU confused with the simpler dual nozzle um2 solution. DXU looks much better with its ability to lift a nozzle and better heat control. This looks just as good as um3. Not sure if DXU or mark2 is better but both appear to be good solutions.

Quote



OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)



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44



17



14

**alexjx**

Member



8

37 posts

Posted March 3, 2019 (edited) · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Interesting, I've been using DXU for a month, but didn't notice the issue mentioned here.

I recognize mark2 is a great design, and what makes other solutions like DXU possible.

However, it doesn't make sense to rule out other also good solutions.

The heat breaker that DXU uses also works well enough to handle two nozzles.

I could use a stronger fan to cool them. I'm using the 2510 variant and observed the cooldown time is much shorter than the original head. I printed regular PC in one head @ 290C, and loaded PLA in another, with an enclosure. Under this situation, the PLA in another head didn't deform enough to jam it.

As the leaking, I think Cura's standby temperature did a great job.

We are talking about modifications, there is a trade-off. The thing I believe mark2 made is space.

The extra head will take up a much larger space than what DXU takes. I think the downside of DXU is really the source of material... It is not so easy to get as mark2.

Edited March 3, 2019 by alexjx



Quote

yyh1002



1

**qwerty8224**

Member



16

58 posts

Posted March 5, 2019 (edited) · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

GR5

I do not want to offend you, but it seems to me that you are not pursuing a good goal - to say that one is better than the other, and give an example of the testing that was. You are an adult and should understand that these are two different approaches to cooling. I will explain to inexperienced people (like you)

UM2 (which has been tested) uses cooling on one plate, that is, 1 nozzle through this plate heats the other nozzle. DXU uses a separate cooling system for each nozzle. There is a separate radiator. Such a system costs UM3 and S5, and the temperature of the first or second nozzle is not connected to each other.

I think for a full understanding, you can just say that the cooling system costs from UM3

for cooling radiators I recommend Sunon fans Gm0502PEV1 selected 1 means flow rate 1 strongly 3 weakly there is also a fan Sunon 1 cm thick but pay attention to 1 at the end.



[+ Quote](#)

yyh1002 and gr5

**burdickjp**

Member



6 posts

Posted March 8, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

I am interested in helping with this project. I'd like to design and manufacture the heat break parts to suit both 1.75 and 2.85 mm filament. I should be able to make them compatible with Olsen and 3D Solex blocks.

[+ Quote](#)

neotko, Turbo-Power and yyh1002

**Garufa**

Member



17 posts

Posted March 13, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Talking about sourcing of materials being difficult- Aliexpress is selling the following for UM3 and perhaps the DXU can work with it
<https://www.aliexpress.com/item/-/32957845038.html>

[+ Quote](#)

neotko

**Turbo-Power**

Member



5 posts

Posted March 21, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Sanbrother sells parts for DXU on ali.

[+ Quote](#)

Razanur and Garufa

**superdave42**

Dormant



19 posts

Posted March 21, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Awesome sauce !! I just found this thread.

As some of you have seen, I am trying to convert my UM2+ to a UM3+ sorta.

I already did Mark2 conversion and that just works great!.

however, I wanted to run the UM3 head with the cores, so I bought the head assembly and some cores, bout the Olimex board etc... Now I see I can just use the UM2 head and ther DXU modified MK2 code to possibly get the dual extrusion working with the shift lever.



I guess what I really learned from this thread was that I don't need the
damn UM3 electronics to make the UM3 head work. sure won't have
the RGB LED function on the cores or the data etc. but it should
mechanically work fine.

Search...



Cool, I may give this a shot over the weekend.

now if it was possible to get the capacitive level sensor working in the
UM3 head 😊 I need to check into that, probably possible.

+ Quote

**yyh1002**

Posted March 23, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

Author

...



Member

+ 60

95 posts

🕒 On 3/3/2019 at 9:14 AM, Garufa said:



Thanks for your posts, I have ordered most parts and will try to
make the conversion for my UM2+ Extended. What's the
difference between the two extended firmware versions ?

You can check out this post for the difference. Firmware 17.10.2 is for
v1.1 update. 17.10.1 is the original.

**DXU - Efficient Dual Extrusion Upgrade for UM2+**

November 22, 2018

**DXU - Efficient Dual Extrusion Upgrade for UM...**

Hey guys, I would like to share a lever action dual extrusion sol...



By yyh1002, September 22, 2018

225 replies

I pushed some minor updates to the DXU as v1.1. 1. Moved the dock
to the right back corner. If there is imperfection of dual print due
to filament conditions, the marks will be on the back of model inste...

2

+ Quote

Garufa



1

**Garufa**

Posted March 29, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

...



Member

+ 3

17 posts

🕒 On 3/23/2019 at 4:46 AM, yyh1002 said:



You can check out this post for the difference. Firmware 17.10.2 is
for v1.1 update. 17.10.1 is the original.



DXU - Efficient Dual Extrusion Upgrade for...

Hey guys, I would like to share a lever action dual extrus...



By yyh1002, September 22, 2018

225 replies

I pushed some minor updates to the DXU as v1.1. 1. Moved the dock to the right back corner. If there is imperfection of dual print due to filament conditions, the marks will be on the back of model...



yyh1002 thank you, the more I check the parts and design, I appreciate more the work and effort put into the DXU, soon I will have all parts from china, thank you again

+ Quote



ultiarjan



Ambassador

1,212

3,776 posts

Posted April 1, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 3/21/2019 at 4:19 PM, superdave42 said:

↶

guess what I really learned from this thread was that I don't need the damn UM3 electronics to make the UM3 head work.

You can use the um3 head on the um2 by simply making a PCB with only the connectors touching the core electronics and wire to the mainboards heater and pt100 connection. No need for any fancy electronics. I've shown it here somewhere including the link to the correct component but on the phone and too lazy to find a link now 😊

+ Quote



burdickjp



Member

6

35 posts

Posted April 1, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 4/1/2019 at 3:28 PM, ultiarjan said:

↶

You can use the um3 head on the um2 by simply making a PCB with only the connectors touching the core electronics and wire to the mainboards heater and pt100 connection. No need for any fancy electronics. I've shown it here somewhere including the link to the correct component but on the phone and too lazy to find a link now 😊

I'm thoroughly interested in doing this. I thought about designing and making the PCB necessary, but couldn't find the correct pogo pins. Care to share?



**gr5**

Posted April 1, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+



Moderator

+ 1,783

15,502 posts

first item listed by google was the right link:

**I made a mini Ultimaker3 :P**

August 29, 2017



modified my diy GO with the Ultimaker3 head ... because I can



8

15 replies

**ultiarjan**

Posted April 2, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Ambassador

+ 1,212

3,776 posts

thanks @gr5

and this link is also relevant to get the parts....

**Using the Ultimaker3 CORE on an Ultimaker2**

October 30, 2016



I love the new CORE, so I'm planning to make a head to use it also on Ultimaker2 I have a few questions I'm hoping somebody can help out with. And just in general, If you have any idea's on the best head de...



6

58 replies

link to connector:

<https://uk.farnell.com/avx-interconnect/9155005003016/connector-battery-5-pos-2-3mm/dp/9728449>

**ultiarjan**

Posted April 2, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

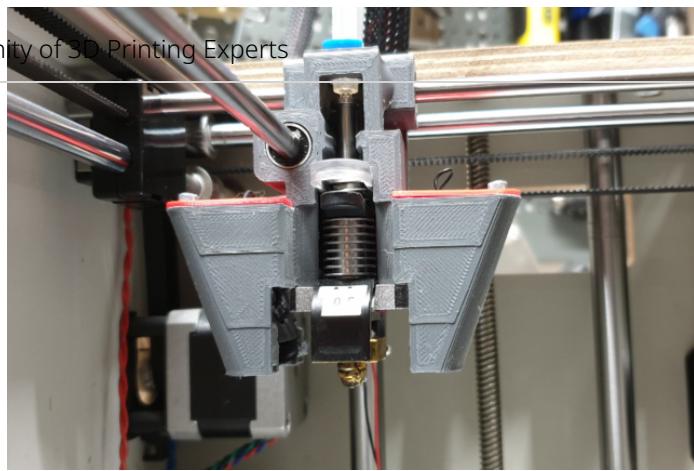


Ultimaker Community of 3D-Printing Experts



An **ARAN** Ambassador
+ 1,212
3,776 posts

Search...



I've also been working on a better single core design for Ultimaker2 for ages, with a metal 3d printed bottom plate. I still need to work on the bottom plate holding the front fan, but with the spare time I have atm it will probably still take ages 😊

+ Quote



rajilpahuja



Dormant
+ 37
129 posts

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+ · ...

Getting Ready 😊😊 all parts in peek and ultem1010.....now just waiting for them parts, hopefully this works even better than mark2 😊





+ Quote

ultiarjan  1



yyh1002

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

 60

95 posts

🕒 On 3/29/2019 at 9:45 PM, Garufa said:

yyh1002 thank you, the more I check the parts and design, I appreciate more the work and effort put into the DXU, soon I will have all parts from china, thank you again

Cheers



On 4/3/2019 at 5:21 AM, rajilpahuja said:

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Wow, that the best PEEK print quality I've ever seen.

+ Quote



rajilpahuja

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

+ 37

129 posts

On 4/3/2019 at 7:22 AM, yyh1002 said:

Cheers

Wow, that the best PEEK print quality I've ever seen.

Thanks my Man..... Peek and Ultem is my specialisation 😊 I saw u made some changes might need to re-print that dock 😊

+ Quote



yyh1002

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

I pushed v1.5 update on GitHub. It is mainly to replace the 19mm short bearing with a long one for better reliability.

Changes:

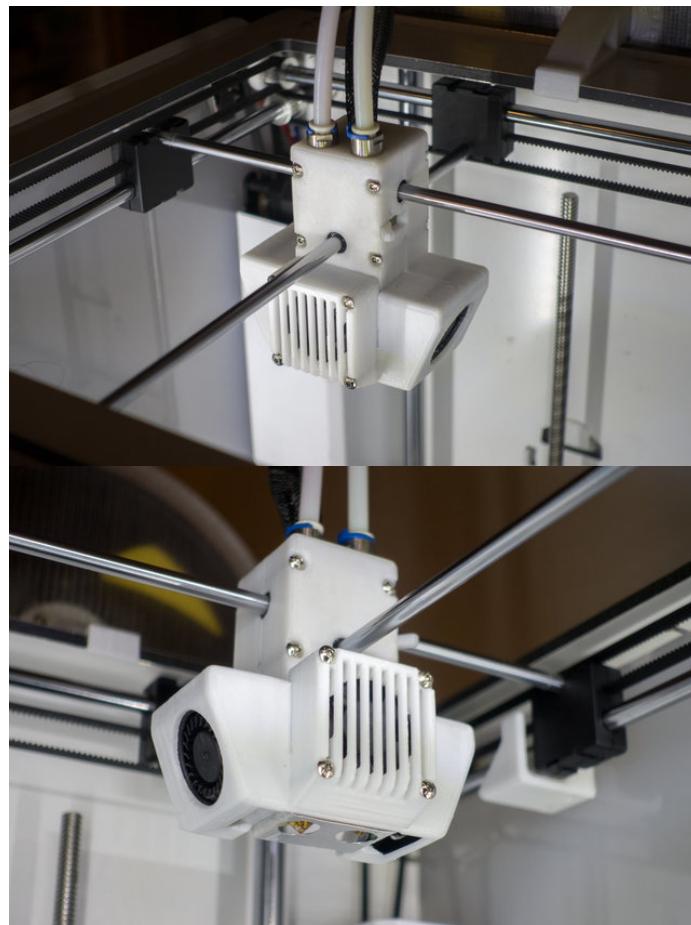
1. Both X and Y bearings are now both 35mm long, same as the original UM2 printhead. It is more stable and reliable. The previous 19mm Y bearing had a few downsides: only misumi sells ones with sufficient build quality, they wear faster than long bearing, etc. To make proper space for the long bearing, I had to increase the X offset of nozzles from 18mm to 19mm, and the housing from 35x35 to 38x38. This resulted in 2mm less X print area but it is well worth it.



2. New fan shroud design. Blower fan changed from 3015 to 3510. Homemade aluminium cover by soda can at the bottom. The fan shroud can be printed with lower temp materials such as modified PC (heat resistance of 90C). 3510 12v fan is easier to source with more consistent stock. For those of you who already bought the 3015 fans, there is still a fan shroud variant to use 3015 with v1.5.
3. Hotend fan changed from 2510 to 3010. Not really for performance improvement. 3010 5v is much easier to source and cheaper.
4. Lever dock is simplified with only one tab. This gives the lever freedom to sweep back at full speed, not limited by the travel speed of printhead. Nozzle 2 falls back to it's position with optimal momentum.
5. BOM is hence modified with the new fans and bearing. The hotend, spring and bolts stays the same.
6. Firmware update for v1.5 moved to dedicated repository.

I may or may not update the assembly images because people can still figure out how to assemble v1.5 based on the original images.

I'll upload the jig and instructions for making the aluminium bottom cover later.



+ Quote

ultiarjan, qwertys224, Razanur and 1 other



rajilpahuja

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 4/3/2019 at 8:17 AM, yyh1002 said:



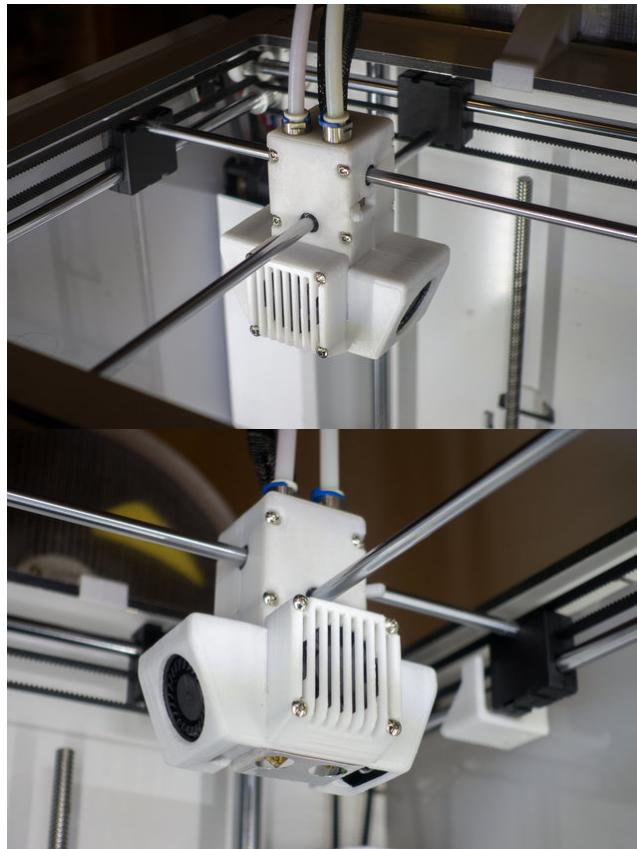
129 posts

Changes:

1. Both X and Y bearings are now both 35mm long, same as the original UM2 printhead. It is more stable and reliable. The previous 19mm Y bearing had a few downsides: only misumi sells ones with sufficient build quality, they wear faster than long bearing, etc. To make proper space for the long bearing, I had to increase the X offset of nozzles from 18mm to 19mm, and the housing from 35x35 to 38x38. This resulted in 2mm less X print area but it is well worth it.
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I'll upload the jig and instructions for making the aluminium bottom cover later.



Community · April 3, 2019 · Printers & Extruders · 1 reply

So need to maybe print the head again 😊, maybe i will try to use first what i made and see how it functions, if there is issues i guess can change the head only maybe its better to have the bigger cooling fans, i guess since my fan shroud is in peek, i dont need metal cause peek takes 280C without load easy 😊

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[+ Quote](#)**yyh1002**

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member
+ 60
95 posts

🕒 On 4/3/2019 at 9:19 AM, rajilpahuja said:

So need to maybe print the head again 😊, maybe i will try to use first what i made and see how it functions, if there is issues i guess can change the head only maybe its better to have the bigger cooling fans, i guess since my fan shroud is in peek, i dont need metal cause peek takes 280C without load easy 😊

You can totally try the existing version first. Short bearing should last at least several months. For the blower fan, 3015 works as good as 3510 thanks to more accurate duct aiming the nozzle and better fan shape.

[+ Quote](#)**burdickjp**

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member
+ 6
35 posts

🕒 On 4/3/2019 at 9:41 AM, yyh1002 said:

You can totally try the existing version first. Short bearing should last at least several months. For the blower fan, 3015 works as good as 3510 thanks to more accurate duct aiming the nozzle and better fan shape.

If the short bearings are wearing then something is wrong. The Ultimaker 3 uses a short bearing on the Y axis rod and lasts a long while. Maybe alignment isn't sufficient and it's wearing because of misalignment?

[+ Quote](#)**yyh1002**

Posted April 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member
+ 60
95 posts

🕒 On 4/3/2019 at 9:49 AM, burdickjp said:

If the short bearings are wearing then something is wrong. The Ultimaker 3 uses a short bearing on the Y axis rod and lasts a long while. Maybe alignment isn't sufficient and it's wearing because of misalignment?



Misalignment is one factor, IMO it is also because the short bearing is off center and the dock apply quite some force to the head during nozzle change. The force transfers to lateral load at the bearing. Looking at example applications of LM6 bearings, a single short bearing for one axis with such a thin rod really seem to be pushing the limit. Ultimaker did a good job getting it to work with their quality control. For individual tinkerers I would try to avoid this situation.



+ Quote

**qwerty8224**

Posted April 4, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 16

58 posts

For those of you who already bought the 3015 fans, there is still a fan shroud variant to use 3015 with v1.5.

Unfortunately I can not find it (((

+ Quote

**yyh1002**

Posted April 4, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

🕒 On 4/4/2019 at 2:50 AM, **qwerty8224** said:



For those of you who already bought the 3015 fans, there is still a fan shroud variant to use 3015 with v1.5.

Unfortunately I can not find it (((

Sorry, it was left out by accident. It's now there.

+ Quote

**qwerty8224**

Posted April 4, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 16

58 posts

Sorry, it was left out by accident. It's now there.

thank)))

Edited April 4, 2019 by **qwerty8224**

+ Quote



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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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Garufa



Member
 3
17 posts

Posted April 6, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

On 3/21/2019 at 3:17 PM, Turbo-Power said:

Sanbrother sells parts for DXU on ali.

thank you !!. this is the link, perhaps faster than using an agent (still waiting for one part)

<https://www.aliexpress.com/item/3D-Printer-Upgrade-Ultimaker-2-UM2-Extended-Newest-Olsson-Block-Nozzle-Hot-end-Kit/32988128287.html?spm=a2g0s.9042311.0.0.79084c4dR7XwgC>

Quote

Replies
225

Created
3 yr

Last Reply
Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)





Dormant

37

129 posts

On 4/6/2019 at 10:11 PM, Garufa said:

thank you !!. this is the link, perhaps faster than using an agent (still waiting for one part)

<https://www.aliexpress.com/item/3D-Printer-Upgrade-Ultimaker-2-UM2-Extended-Newest-Olsson-Block-Nozzle-Hot-end-Kit/32988128287.html?spm=a2g0s.9042311.0.0.79084c4dR7XwgC>

Well i had a small part to play in that..... cause they actually got me the parts from taobao 😊

Quote

**danielkrice**Posted April 7, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

Dormant

4

31 posts

Is this mod still only for 1.75 filament?

Quote

**burdickjp**Posted April 7, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

Member

6

35 posts

On 4/7/2019 at 4:55 AM, danielkrice said:

Is this mod still only for 1.75 filament?

I went looking for a version of the hardware for 2.85 mm filament and had trouble. I'm going to order the 1.75 mm hardware on ali and see what I can make or modify for 2.85 mm filament.

Quote

**bob-hepple**Posted April 7, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

Expert

59

624 posts

Really like the look of this design which Firmware are you using is this custom,, also what slicer I use S3D and find the Mark 2 a little awkward to use with it... VERY Good work though highly impressive.

Quote



2 weeks later...

**sint_vaffel**

Posted April 21, 2019 · DXU - Efficient Dual Extrusion Upgrade for



UM2+

Community of 3D Printing Experts



Search...

Dormant



8 posts

On 4/7/2019 at 4:55 AM, danielkrice said:

Is this mod still only for 1.75 filament?

On 4/7/2019 at 7:19 AM, burdickjp said:

I went looking for a version of the hardware for 2.85 mm filament and had trouble. I'm going to order the 1.75 mm hardware on ali and see what I can make or modify for 2.85 mm filament.



DXU - Efficient Dual Extrusion Upgrade for UM2+

November 14, 2018



DXU - Efficient Dual Extrusion Upgrade for UM...

Hey guys, I would like to share a lever action dual extrusion sol...



By yyh1002, September 22, 2018

225 replies

It may be possible if there is a ptfe tube with 4mm OD and 3mm ID. by looking at the parts i got now, you can maybe get away with drilling 3mm hole in the part with "push" fitting on top. it's only 2m...

+ Quote



2 weeks later...

danielkrice

Posted May 1, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+



On 4/7/2019 at 7:19 AM, burdickjp said:

I went looking for a version of the hardware for 2.85 mm filament and had trouble. I'm going to order the 1.75 mm hardware on ali and see what I can make or modify for 2.85 mm filament.

Any luck?

+ Quote

**jtronics**

Posted May 2, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+



Hi, you could buy a "Ultimaker 3 printcore AA 0.4" for disassembling. Than you could use the 2.85mm parts an the Olson lock (<https://www.igo3d.com/Ultimaker-Core-AA-fuer-UM3>).

Member



10 posts

+ Quote



danielkrice

Posted May 6, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant



31 posts

ummmmmm not a bad idea but was hoping for a cheaper option...

+ Quote

**burdickjp**

Posted May 6, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member



35 posts

My 1.75 mm parts are on the way from alibaba. I'll report back when I've had a chance to investigate them.

+ Quote

neotko

**burdickjp**

Posted May 14, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member



35 posts

My parts came in. They look really good!
I'll take measurements, put together some solid models, and write up a description sometime this week.

+ Quote

**burdickjp**

Posted May 15, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member



35 posts

Here's my first blog post about the hot ends:
<https://burdickjp.gitlab.io/2019/05/14/dxu-1.html>

Verdict: I think I've found an easy way to run 2.85 mm filament.

Edited May 15, 2019 by burdickjp

+ Quote

artistebot

**Garufa**

Posted May 17, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



🕒 On 5/15/2019 at 9:39 AM, burdickjp said:

Here's my first blog post about the hot ends:



When you buy on Taobao you have the option to buy PI rings so the tube is not in contact with the hot end

yyh1002 wrote:

I added a PI ring between the nozzle and PTFE tube for heat resistance, similar to the one by 3D Solex

Edited May 17, 2019 by Garufa

To quote text

+ Quote



2 weeks later...

yyh1002

Member

+ 60

95 posts

Posted May 26, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 4/7/2019 at 11:37 AM, bob-hepple said:

Really like the look of this design which Firmware are you using is this custom,, also what slicer I use S3D and find the Mark 2 a little awkward to use with it... VERY Good work though highly impressive.

Thanks. Software side it works basically the same as Mark 2, hence similar CURA and E3D profiles.

🕒 On 5/15/2019 at 9:39 AM, burdickjp said:

Here's my first blog post about the hot ends:

<https://burdickjp.gitlab.io/2019/05/14/dxu-1.html>

Verdict: I think I've found an easy way to run 2.85 mm filament.

Nice post.

The 1.75 hotend runs with a custom 6.35 OD 2 ID PTFE bowden tube, sold by the same Taobao seller. The major advantage of this PTFE hotend is that there is pretty much no chance of nozzle jam or clog for PLA even with frequent long retractions. With the PI insulator ring applied, the PTFE last much longer and can also handle high temp materials. As for using E3D heatbreak, the current heatsink probably won't be able to cool it down properly because the surface area is much smaller.

You can consider trap a piece of 6.35 OD 3.2 ID or 5 OD 3 ID PTFE tube inside the heatsink. I think the 4*3 PTFE would deteriorate pretty quick due to thin wall thickness, and it is also too soft to hold up to the compression from filament. Making 1.75 and 2.85 hotend components swappable isn't all that necessary. You would need to make compromise on both sides to achieve that. I think it would be better to make two entire printheads with 12pin connector for quick swapping. That would be much less hustle, much more reliable and cost very little.

+ Quote

neotko and artistebot



burdickjp

Posted May 26, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

6

35 posts

On 5/26/2019 at 10:52 AM, yyh1002 said:

The 1.75 hotend runs with a custom 6.35 OD 2 ID PTFE bowden tube, sold by the same Taobao seller. The major advantage of this PTFE hotend is that there is pretty much no chance of nozzle jam or clog for PLA even with frequent long retractions. With the PI insulator ring applied, the PTFE last much longer and can also handle high temp materials. As for using E3D heatbreak, the current heatsink probably won't be able to cool it down properly because the surface area is much smaller.
You can consider trap a piece of 6.35 OD 3.2 ID or 5 OD 3 ID PTFE tube inside the heatsink. I think the 4*3 PTFE would deteriorate pretty quick due to thin wall thickness, and it is also too soft to hold up to the compression from filament. Making 1.75 and 2.85 hotend components swappable isn't all that necessary. You would need to make compromise on both sides to achieve that. I think it would be better to make two entire printheads with 12pin connector for quick swapping. That would be much less hustle, much more reliable and cost very little.

I'm not necessarily looking at being able to swap between 1.75 mm and 2.85 mm with the same hot end. I'm looking to use the same form factor for both. The same, or mechanically compatible, external dimensions.

+ Quote

artistebot

1



2 weeks later...

artistebot

Posted June 6, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

3

16 posts

Looking forward to a 2.85mm solution for this mod, as I simply don't like using 1.75 in a bowden setup. Cheers and great work.

+ Quote



burdickjp

Posted June 11, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

6

35 posts

On 6/6/2019 at 2:09 PM, artistebot said:

Looking forward to a 2.85mm solution for this mod, as I simply don't like using 1.75 in a bowden setup. Cheers and great work.

I am, too!

It will be a short while as I am in the middle of a move. I've got some new ideas, but they're not mutually exclusive ideas.



+ Quote



2 weeks later...

Thomkoopman



New member

● 0

1 post

Posted June 22, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 9/22/2018 at 11:41 AM, yyh1002 said:



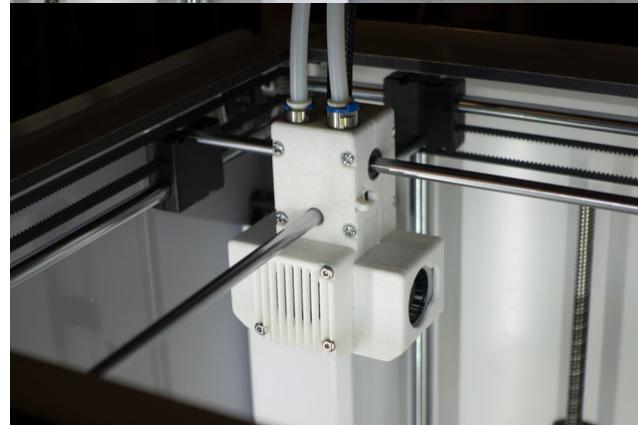
Hey guys,

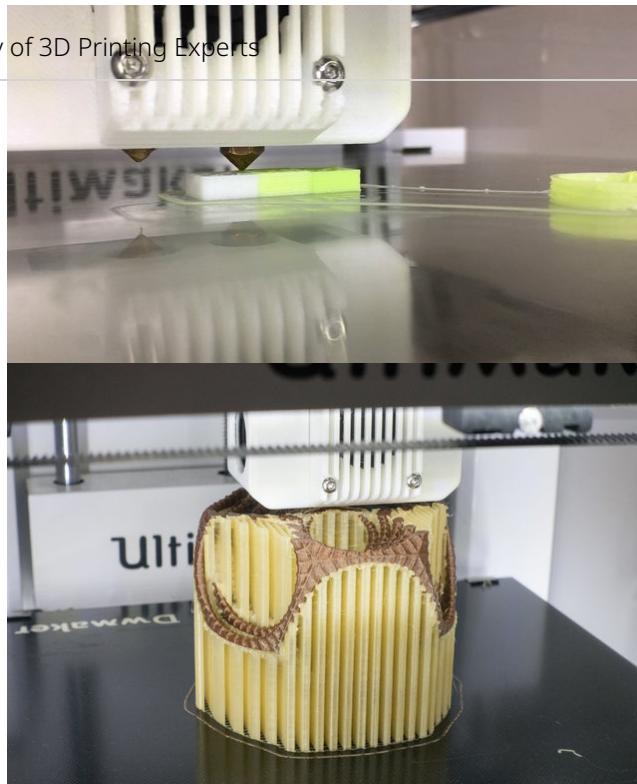
I would like to share a lever action dual extrusion solution I came up with for Ultimaker 2+.

The approach is based on the great effort everyone put into Mark2 and Ultimaker 3.

The print head holds two hot ends, which are originally to be installed on standard UM2 head for 1.75 filament. The right nozzle move up and down for nozzle swapping.

This compact dual print head can achieve single extrusion print area of 220x223x205, and dual extrusion print area of 202x223x200.





Video clips:

DXU - Dual Extrusion Upgrade for UM2



DXU Timelapses #1



Files and instructions available at:
<https://github.com/yyh1002/DXU>

Credits:

Lever lifting mechanism is inspired by Ultimaker 3.
The firmware is modified based on Mark2 version of Tinkergnome firmware by @tinkergnome.
CURA profiles are modified based on the Mark2 profiles by @tinkergnome and @foehnsturm. Used Mark2Tweaks plugin for CURA by Krys Lawrence.

is this upgrade also possible on the UM2?

+ Quote



jtronics

Posted June 23, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 18

10 posts

Yes it is possible. You could do it on UMO, UMO+, UM2.
I upgraded my UMO+ to UM2 DUAL+
<http://www.jtronics.de/werkstatt/3d-drucker-ultimaker-umo-upgrade/>

Next time I will upgrade it to DXU.
The printing results are the same like with my Ultimaker 3.

+ Quote

neotko

1



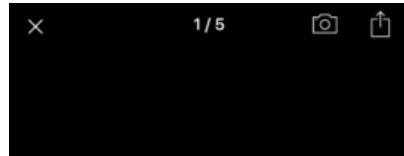
3 weeks later...





Dormant
● 0
3 posts

I cant seem to find the PI insulators on Ali express. I tried ordering from TaoBao but they held my order and never shipped it, they also kept my payment. So I bought what is on Ali and the Heat sink is different, although dimensionally the same, the fins are thinner and more of them. So the heat sink clamps in the files don't fit.



+ Quote



hakkattakk

Posted July 16, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

...



Dormant
⊕ 1
5 posts

Hi all,

I just bought an Ultimaker 2+ Extended and since I have used a CR-10 for about 2 years I still have a lot of 1.75mm filament and the 1.75mm filament is highly available in my country, therfore I would like to convert the UM2+ to 1.75mm.

I would also like to try out dual extrusion and direct drive, and I found this thread, which seems to include the 1.75mm part and also the dual extrusion part. It also seems to do it for around the same price as it would cost to only do the 1.75mm conversion.

I have looked a lot into the BOM and the seller from Taobao's store and found that almost all that is needed is possible to buy from this seller. Are there any reasons why you choose not to do that? Bad quality or something like that?

Here is the list I have created:

Item	Amount	Price/Item	Total Price (RMB)
------	--------	------------	-------------------



UM2 1.75 Hotend Kit				
(Heatsink, Bowden Coupler)	2	35	70	https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.34.576d75aec3Kk6M&id=521401997290
UM2 1.75 Hotend Heat Block	2	25	50	https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.34.576d75aec3Kk6M&id=521401997290
290°C High Temp Print Hotend Insulator 2*4*1	2	32	64	https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.25.60724c2fxu3tfa&id=581596714621
UM2 Heater Cartridge	2	55	110	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.72.21672d37URXeVn&id=521394200175
UM2 PT100 Sensor	2	42	84	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.102.21672d37URXeVn&id=522151832206
2*6.35 PTFE Bowden Tube	2	15	30	https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.32.576d75aec3Kk6M&id=521852878986
6.35 Bowden Coupler	2	1	2	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.40.29752d37CSFSAS&id=521730414662
1.75 Filament Feeder	2			
NEMA17 Stepper Motor	1	49	49	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.97.29752d37CSFSAS&id=561490631135
3510 12v Blower Fan	2			
3010 5v Hotend Cooling Fan	1	7.5	7.5	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.70.29752d37CSFSAS&id=521625926936
Linear Bearing LM6LUU 6*12*35mm	2	16	32	https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.63.4d062d37Au0fUs&id=521432750014
Total:			498.5	

Can I still use the original feeder but with a 2*6 PTFE Bowden tube and then buy this extruder: <https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.72.2ada2d37ndiKyj&id=525270842166> and use a bowden tube made for 1.75mm or would that cause problems? Maybe it's better to buy two of the metal feeder? If so, I guess I only need two "normal" 1.75mm bowden tubes? The 2*4*1 insulator is out of stock right now, I guess 2*4*1.5 wont work, so I need to wait until it's back in stock before I can order anyway.

One of the reasons I would like to order everything or most of the stuff from the same seller is that we pay a fixed tax/package here, the other is to save on shipping, and also that I get all the items at the same time 😊





2 weeks later...

hakkattakk

Dormant



5 posts

Posted July 29, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Hi again,

It doesn't seem like it's possible to edit a post, so I have to create a new one.

I asked a Chinese colleague to ask the seller about the 2*4*1 insulator, and the seller said that he will not restock it. Do someone know if it's possible to order it from somewhere else?

+ Quote

**yyh1002**

Member



95 posts

Posted July 29, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 7/29/2019 at 7:38 AM, hakkattakk said:



Hi again,

It doesn't seem like it's possible to edit a post, so I have to create a new one.

I asked a Chinese colleague to ask the seller about the 2*4*1 insulator, and the seller said that he will not restock it. Do someone know if it's possible to order it from somewhere else?

I asked the seller. PI insulator is still available. The stock from now on is 2*4*1.5, which also works with DXU.

+ Quote

hakkattakk

**klaasie**

Dormant



9 posts

Posted July 30, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

I got it working with 2.85mm filament, I ordered 26mm Stainless Steel heat break with teflon PTFE tube for 3mm filament ([26mm heatbreak with PTFE on aliexpress](#)),

[Teflon PTFE tube OD 4mm / ID 3mm on aliexpress](#)

Have it working for a few weeks now without problems

+ Quote

yyh1002

**burdickjp**

Posted July 30, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 7/30/2019 at 1:24 PM, klaasie said:





I got it working with 2,85mm filament, i ordered 26mm Stainless Steel heat break with teflon PTFE tube for 3mm filament ([26mm heatbreak with the PTFE on aliexpress](#)),
[Teflon PTFE tube OD 4mm / ID 3mm on aliexpress](#)

Search...



Have it working for a few weeks now without problems

Why the heat break?

+ Quote



« PREV 1 2 3 4 5 6 7 8 9 NEXT » Page 4 of 10 ▾



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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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Garufa



Member



17 posts

Posted August 12, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Hello, I have modified my SANJIU Z360 (Ultimaker 2 extended plus-clone) first with the original DXU design and after some under extrusion problems I finally got it tuned. now i have printed the second version of the head / fans and it is working very well. THANK YOU !!!

Quote

yyh1002 1



Replies

225

Created

3 yr

Last Reply

Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14



yyh1002



Posted August 17, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author



On 7/16/2019 at 12:10 PM, hakkattakk said:

Hi all,

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)



Just bought an Ultimaker 2+ Extended and since I have used a CR-10 for about 2 years I still have a lot of 1.75mm filament and the 1.75mm filament is highly available in my country, therefore I would like to convert the UM2+ to 1.75mm.

I would also like to try out dual extrusion and direct drive, and I found this thread, which seems to include the 1.75mm part and also the dual extrusion part. It also seems to do it for around the same price as it would cost to only do the 1.75mm conversion.

I have looked a lot into the BOM and the seller from Taobao's store and found that almost all that is needed is possible to buy from this seller. Are there any reasons why you choose not to do that? Bad quality or something like that?

Here is the list I have created:

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290°C High Temp Print Hotend Insulator 2*4*1	2	32	64 https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.25.60724c2fxu3tfa&id=581596714621
UM2 Heater Cartridge	2	55	110 https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.72.21672d37URXeVn&id=521394200175
UM2 PT100 Sensor	2	42	84 https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.102.21672d37URXeVn&id=522151832206
2*6.35 PTFE Bowden Tube	2	15	30 https://item.taobao.com/item.htm?spm=a1z10.5-c.w4002-9918354853.32.576d75aed3Kk6M&id=521852878986
6.35 Bowden Coupler	2	1	2 https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.40.29752d37CSFSAS&id=521730414662
1.75 Filament Feeder	2		
NEMA17 42*48 Stepper Motor	1	49	49 https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.97.29752d37CSFSAS&id=561490631135
3510 12v Blower Fan	2		
3010 5v Hotend Cooling Fan	1	7.5	7.5 https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.70.29752d37CSFSAS&id=521625926936



Linear Bearing						
LM6LUU				c.w4002-		
6*12*35mm	2	16	32	9900754940.63.4d062d37AuQfUs&id=521432750014		
Total:				498.5		

Can I still use the original feeder but with a 2*6 PTFE Bowden tube and then buy this extruder: <https://item.taobao.com/item.htm?spm=a1z10.3-c.w4002-9900754940.72.2ada2d37ndiKyj&id=525270842166> and use a bowden tube made for 1.75mm or would that cause problems? Maybe it's better to buy two of the metal feeder? If so, I guess I only need two "normal" 1.75mm bowden tubes? The 2*4*1 insulator is out of stock right now, I guess 2*4*1.5 wont work, so I need to wait until it's back in stock before I can order anyway.

One of the reasons I would like to order everything or most of the stuff from the same seller is that we pay a fixed tax/package here, the other is to save on shipping, and also that I get all the items at the same time 😊

Sorry I didn't see your comment earlier.

You can use 2*4*1.5 PI insulator and the original 2+ feeder with 2*6.35 tube with DXU.

In the BOM I try to list a generic link where possible. Only when the parts are very rear, I specifies the Taobao seller. All the parts from the taobao seller are very good quality, you can absolutely by all possible parts from them.

🕒 On 7/30/2019 at 1:24 PM, klaasie said:

I got it working with 2.85mm filament, i ordered 26mm Stainless Steel heat break with teflon PTFE tube for 3mm filament ([26mm heatbreak with PTFE on aliexpress](#)), [Teflon PTFE tube OD 4mm / ID 3mm on aliexpress](#)

Have it working for a few weeks now without problems

I have the same question as [burdickjp](#). Why do you need to replace the original heat break with the all threaded one?

+ Quote



klaasie



Posted August 18, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

I followed the blog of burdickjp himself and that worked for me

Dormant

1

9 posts



On 5/15/2019 at 9:39 AM, burdickjp said:

Search...



Here's my first blog post about the hot ends:
<https://burdickjp.gitlab.io/2019/05/14/dxu-1.html>

Verdict: I think I've found an easy way to run 2.85 mm filament.

Edited August 18, 2019 by klaasie

+ Quote



2 weeks later...

tman79



Dormant

● 0

8 posts

Posted September 1, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

First of all, well done to DXU for making this possible.

Silly question here, I've noticed that both nozzles are never the same height which makes sense given you don't want to drag the second nozzle over the work of the first nozzle. Does the Z axis adjust for the different nozzle height? Also, when installing the heater blocks into the head should these be offset by a certain measurement? and if the Z axis adjusts for the different nozzle height where is this calibrated?

Apologies if this question has already been covered, thanks in advance.

+ Quote



alexjx



Member

⊕ 8

37 posts

Posted September 1, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

On 9/1/2019 at 5:56 AM, tman79 said:

...

Does the Z axis adjust for the different nozzle height? Also, when installing the heater blocks into the head should these be offset by a certain measurement? and if the Z axis adjusts for the different nozzle height where is this calibrated?

Yes. It does. Same as mark2, firmware will adjust the Z height accordingly.

After install this mod, you will have calibrate X, Y alignment and as well as Z. Similar to you leveling your bed.

The difference is that, you have to manually do that (with GUI guided you through it of cause).

Jia

+ Quote





Dormant

● 0

8 posts

🕒 On 9/1/2019 at 10:38 AM, alexjx said:

Yes. It does. Same as mark2, firmware will adjust the Z height accordingly.

After install this mod, you will have calibrate X, Y alignment and as well as Z. Similar to you leveling your bed.

The difference is that, you have to manually do that (with GUI guided you through it of cause).

Jia

Hey thanks for your quick reply,

So i guess when i mount the heater blocks I just make sure they are offset to each other, To be honest I don't know a great deal about Mark2 but that will change soon enough. 😊

The GUI you talk about I assume is on the printers LCD like the bed leveling?

hey thanks again much appreciated.

+ Quote



yyh1002

Posted September 1, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

🕒 On 9/1/2019 at 11:03 AM, tman79 said:

So i guess when i mount the heater blocks I just make sure they are offset to each other

The hardware will constrain you to have a rough nozzle offset of x19mm, y0mm, and z2mm. It then gets fine tuned by calibration models. The calibrated offset, say x19.03, y-0.06, z1.94, is manually set on the LCD manu to firmware.

Basically, the dual print Gcode from Cura gives absolute coordinates, without any offset between the two nozzles. The firmware will step in and shift nozzle 2 relative to nozzle 1 according to the offset values.

Edited September 1, 2019 by yyh1002

+ Quote



tman79

Posted September 2, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Dormant

● 0

Thanks for taking the time to explain this, much appreciated.

+ Quote





2 weeks later...

Anzen



Dormant



6 posts

Posted September 12, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Bonjour

Je ne trouve pas les ventilateurs 35X10 et même les 30x15

Serait il possible de consevoir le support pour des ventilateurs comme sur original

Merci

Hello

I can not find the fans 35X10 and even the 30x15

Would it be possible to consume support for fans like on original

Thank you

+ Quote



tman79



Dormant



8 posts

Posted September 12, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

🕒 On 9/12/2019 at 1:14 AM, Anzen said:

↶

Hi Anzen

these are the fans I used

Hot end 5V

<https://www.digikey.com.au/product-detail/en/sunon-fans/MC30100V1-000U-A99/259-1541-ND/2757811>

12V blowers for cooling

<https://www.digikey.com.au/product-detail/en/delta-electronics/BFB03512HHA-AF00/603-1361-ND/2560485>

these work and fit great in my setup

🕒 1 hour ago, Anzen said:

Bonjour

Je ne trouve pas les ventilateurs 35X10 et même les 30x15

Serait il possible de consevoir le support pour des ventilateurs comme sur original

Merci

Hello

I can not find the fans 35X10 and even the 30x15

Would it be possible to consume support for fans like on original

Thank you



**luke199**

Posted September 16, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

0

5 posts

Hi All,

Can anyone photo actual photos of the PI Hotend Insulator 2*4*1 please

Thanks

Luke

[+ Quote](#)**alexjx**

Posted September 16, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

8

37 posts

🕒 On 9/16/2019 at 6:43 AM, luke199 said:

...

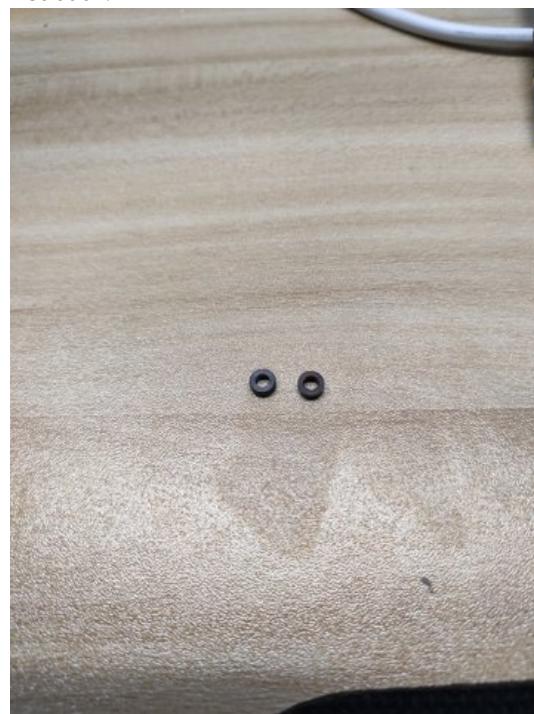
Hi All,

Can anyone photo actual photos of the PI Hotend Insulator 2*4*1 please

Thanks

Luke

Here you are. But actually mine's 2*4*1.5, with 0.5 thicker for better insulation.

[+ Quote](#)

Octocom and luke199

2



OctocomPosted September 18, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Great thank you for the photos, so hard to get hold of. Aliexpress contacts I have made have asked for photos

Dormant

1

13 posts

Quote

**luke199**Posted September 18, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Perfect thank you, having so much trouble trying to get hold of and PI Hotend Insulator and the suggested website to use, is really hard to use.

Dormant

0

5 posts

Quote

**Octocom**Posted September 19, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

Hey, all

I managed to get aliexpress REPRAP store to get the PI Hotend Insulator product for me, the even used your photo Alexjx until they can take a fresh one. you can now purchase on aliexpress which I find better than taobao. <https://www.aliexpress.com/item/4000190893355.html?spm=a2g0o.cart.0.0.29283c00n8Usky&mp=1>

Quote

**Octocom**Posted September 22, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

...

I also asked Aliexpress seller SANJIUPrinter 3D Research Center Store and he managed to source the insulator. <https://www.aliexpress.com/item/4000192534992.html?spm=a2g0s.12269583.0.0.1e76454cuxyrYf>

Dormant

1

13 posts

Quote



2 weeks later...

tman79Posted October 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

...

I've been using this dual head system with success, it's fantastic, just a question with bed levelling though.





is the process

* Use the bed level wizard using nozzle 1

* then after that, go through the process of doing the nozzle 1 offset and then nozzle 2 offset?

I ask this because going through the wizard and turning the knobs on the print bed you would never be able to get them exactly the same every time, therefore making the nozzle 1 and 2 offset to the print bed higher or lower.

So is it a good idea to level the bed then do nozzle 1 and 2 offset every time I want to level the print bed.?

thanks

Quote



alexjx

Posted October 3, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

8

37 posts

On 10/3/2019 at 8:46 AM, tman79 said:

↶

* then after that, go through the process of doing the nozzle 1 offset and then nozzle 2 offset?

I'm not sure about the "nozzle 1" offset you are referring...

The "regular" bed leveling wizard will guide you to level the bed, and set the "active" nozzle offset.

So I normally do that with nozzle 1. After this the bed should be leveled relative to the nozzle.

All you have to do is set the offset of the other nozzle, and that is what the function in the "dual" manual does.

Jia

Quote



tman79

Posted October 4, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

0

8 posts

On 10/3/2019 at 9:44 PM, alexjx said:

↶

I'm not sure about the "nozzle 1" offset you are referring...

The "regular" bed leveling wizard will guide you to level the bed, and set the "active" nozzle offset.

So I normally do that with nozzle 1. After this the bed should be leveled relative to the nozzle.



Jia

Thanks for that Jia,

what I was doing was leveling the bed with nozzle 1, then I would go into the dual extruder menu and set nozzle 1 offset, then change to extruder 2 and set nozzle two offset.

I wasn't sure if every time leveled the bed if I had to do all of the three steps i mentioned above, but it makes sense just leveling the bed with nozzle 1 and then change to nozzle two and set it's offset.

a bit silly of me.

thanks for your help.

Quote

**yyh1002**

Member

60

95 posts

Posted October 5, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 10/4/2019 at 3:22 PM, tman79 said:



I wasn't sure if every time leveled the bed if I had to do all of the three steps i mentioned above, but it makes sense just leveling the bed with nozzle 1 and then change to nozzle two and set it's offset.

There is advantage of doing your three step levelling. Because the standard bed levelling detects corners of the bed with nozzle 1, while the nozzle offset detects center of the bed, there might be discrepancy due to glass not being perfectly flat. However I think the nozzle 1 z offset levelling will overwrite your three point levelling. But IMO the z offset detection is too coarse anyway, i.e. moving increment by turning dial is too much. So what I do to calibrate the z offset is:

1. Do three point levelling with nozzle 1
2. Swap to nozzle 2, do z offset levelling, get a rough offset
3. Print the z calibration model with 0.02 layer height to fine tune the z offset, and update the value in menu.

Once the z offset between 1 and 2 is calibrated, you shouldn't need to redo z offset levelling in the dual print menu unless you did something to throw away the relative position between the two nozzles, such as changing nozzles.

The z offset is very valuable, it takes some effort to get it perfect, it shouldn't be affected by bed levelling.

If you are only changing beds, you only need to do the standard bed levelling with nozzle 1. Both nozzle 1 and 2 should be good to go.

Quote

**tman79**

Posted October 5, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...





Dormant
● 0
8 posts

There is advantage of doing your three step levelling. Because the standard bed levelling detects corners of the bed with nozzle 1, while the nozzle offset detects center of the bed, there might be discrepancy due to glass not being perfectly flat.

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3. Print the z calibration model with 0.02 layer height to fine tune the z offset, and update the value in menu.

Once the z offset between 1 and 2 is calibrated, you shouldn't need to redo z offset levelling in the dual print menu unless you did something to throw away the relative position between the two nozzles, such as changing nozzles.

The z offset is very valuable, it takes some effort to get it perfect, it shouldn't be affected by bed levelling.

If you are only changing beds, you only need to do the standard bed levelling with nozzle 1. Both nozzle 1 and 2 should be good to go.

Thanks for the explanation, this was the information I was after. I have to be honest I'm unsure if I put enough time into the Z model calibration. Just to clarify, with the left and right Z models am I looking for the point where the left and right measure the same height from the print bed using calipers? If so do I then adjust the Z offset according to the Z calibration PDF?

many thanks

+ Quote



yyh1002

Posted October 5, 2019 · DXU - Efficient Dual Extrusion
Upgrade for UM2+

Author

...



Member
+ 60
95 posts

On 10/5/2019 at 9:18 PM, tman79 said:

Thanks for the explanation, this was the information I was after. I have to be honest I'm unsure if I put enough time into the Z model calibration. Just to clarify, with the left and right Z models am I looking for the point where the left and right measure the same height from the print bed using calipers? If so do I then adjust the Z offset according to the Z calibration PDF?

many thanks

For example, in the extruder offset menu, say the detected z offset is 1.90.

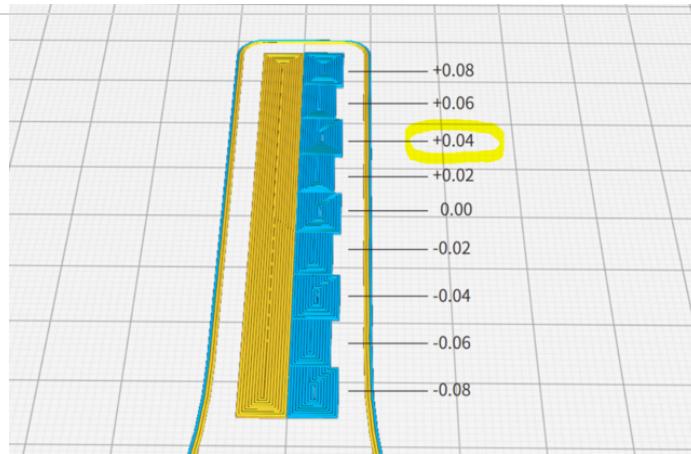
Feel the flush point on the z calibration print with finger.

If the +0.04 section is where the blue is flush with yellow, it means nozzle 2 is 0.04mm lower than ideal.

In extruder offset menu, **increasing z offset will raise nozzle 2 (this is where it's confusing).**

Search...





+ Quote



tman79

Posted October 6, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

● 0

8 posts

On 10/5/2019 at 11:51 PM, yyh1002 said:

↶

For example, in the extruder offset menu, say the detected z offset is 1.90.

Feel the flush point on the z calibration print with finger.

Expand ▾

that makes perfect sense, thanks so much!

+ Quote



garaha2012

Posted October 9, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

● 2

35 posts

Hi, everyone,
congratulation for the great work yyh1002, very impressive!

I do have a question:

The hot end unit that moves up and down surely has some play in it
otherwise it would not move up and down.

When the hot end is in the down position how is the unit held in its
precise x-y-location?

On my UM3 the precision comes from the spring pressing the moving
hot end unit down against a tapered seat in a metal part at the bottom
of the head.

Which part or which lay-out in your design ensures the x-y-
position precisely?

Or do I expect problems where there is none??

Thanks and sorry to ask this after everyone says it prints fine.



+ Quote



luke199

Posted October 9, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

0

5 posts

Hey guys,

just to confirm the PI insulator goes between the nozzle and boden tube? has anyone had any problems with leaks or disassembly where the boden meets the insulator?

Quote

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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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yyh1002



Member
+ 60
95 posts

Posted October 9, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 10/9/2019 at 5:07 AM, garaha2012 said:

Hi, everyone,
congratulation for the great work yyh1002, very impressive!
I do have a question:
The hot end unit that moves up and down surely has some play
in it otherwise it would not move up and down.
When the hot end is in the down position how is the unit held in
its precise x-y-location?
On my UM3 the precision comes from the spring pressing the
moving hot end unit down against a tapered seat in a metal part
at the bottom of the head.
Which part or which lay-out in your design ensures the x-y-
position precisely?
Or do I expect problems where there is none??
Thanks and sorry to ask this after everyone says it prints fine.

Thanks. Good observation. On the front housing, there are two bores to restrain the hotend for xy precision, one is above the heatsink and spring, the other is around the bowden coupler. Both bores have teeth around them so it's easier for the hotend to slide. I made the tolerance quite tight and use a drill to spin the hotend inside the housing to run-in. It's metal vs plastic so they fit quite well without being all fixed.

I agree that it's not as precise as UM3's tapered socket solution, technically. But I think it's good enough for 3D printing purpose if fitted well, just like the brass bushing on XY rails. I would like to go

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY
SandervG, August 17, 2021

[View All](#)



On 10/9/2019 at 12:23 PM, luke199 said:

Hey guys,

just to confirm the PI insulator goes between the nozzle and boden tube? has anyone had any problems with leaks or disassembly where the boden meets the insulator?

The PI insulator does go between the nozzle and bowden tube. The bowden tube coming with hotend is intended to be used without PI insulator, so it needs to be trimmed slightly shorter. But the total length of tube+PI should be slightly longer (about 0.5mm) than the shaft to keep the bowden tube in compression so it doesn't get squeezed shorter by hot filament over time.

You need to make sure the nozzle is right up against the heat break, metal to metal. Heat the block to at least 160 degrees before install. And hold the block firmly when screw nozzle in. If there is cold plastic, debris or air gap between the nozzle and heat break, it will leak.

+ Quote

luke199



Replies

225

Created

3 yr

Last Reply

Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14

luke199



Dormant



5 posts

Posted October 11, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

On 10/9/2019 at 10:03 PM, yyh1002 said:

Thanks. Good observation. On the front housing, there are two bores to restrain the hotend for xy precision, one is above the heatsink and spring, the other is around the bowden coupler. Both bores have teeth around them so it's easier for the hotend to slide. I made the tolerance quite tight and use a drill to spin the hotend inside the housing to run-in. It's metal vs plastic so they fit quite well without being all fixed.

I agree that it's not as precise as UM3's tapered socket solution, technically. But I think it's good enough for 3D printing purpose if fitted well, just like the brass bushing on XY rails. I would like to go with more precise solution if I have easy access to machines.



The PI insulator does go between the nozzle and bowden tube. The bowden tube coming with hotend is intended to be used without PI insulator, so it needs to be trimmed slightly shorter. But the total length of tube+PI should be slightly longer (about 0.5mm) than the shaft to keep the bowden tube in compression so it doesn't get squeezed shorter by hot filament over time.

You need to make sure the nozzle is right up against the heat break, metal to metal. Heat the block to at least 160 degrees before install. And hold the block firmly when screw nozzle in. If there is cold plastic, debris or air gap between the nozzle and heat break, it will leak.

Thank you, just to make sure it's clear. I do the follow.

1 place the PI insulator into the heatsink and screw tight into the heater block

2 screw nozzle in afterwards.

and this would mean the nozzle will stick out the heater block a little more.

+ Quote

**yyh1002**

Posted October 11, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

On 10/11/2019 at 5:18 AM, luke199 said:

place the PI insulator into the heatsink and screw tight into the heater block

Not really. There needs to be about 1-2mm spacing between the top of heat block and hex flange on heat break. The block is loose before install the nozzle, and you can turn it to proper direction so it doesn't touch anything. When nozzle comes in, it will lock everything tight.

+ Quote



3 weeks later...

Garufa

Posted October 27, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 3

17 posts

There is a printer definition in the latest Cura for Mark2 variant, has anyone edited to create a DXU profile in Cura 4.3?

+ Quote

**luke199**

Posted October 28, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...





Dormant
● 0
5 posts

What's the recommended general retraction length and maximum?

+ Quote



2 weeks later...

Garufa



Posted November 6, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

The DXU works with Cura 4.03 if choosing the Mark2, input your printer specific dimensions and filament, even the post processing file works, change the start- Goode to match the DXU profile we have in Cura 3.6 and that's it..so far I have printed calibration cubes with dual color with no issues, have not printed a large model yet. Think it is promising

+ Quote



2 weeks later...

Garufa



Posted November 17, 2019 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

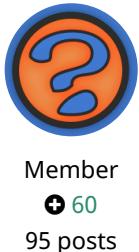
...

DXU and Cura 4.3 - changed the disallowed areas to match the DXU def.json file and the backplate image. Print area is now showing as the original DXU - without it the print area is minimal on the Mark2 def.json if choosing extruder 1 and 2
does anybody knows if other changes are needed?

+ Quote



yyh1002



Posted November 17, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 11/17/2019 at 5:02 PM, Garufa said:



DXU and Cura 4.3 - changed the disallowed areas to match the DXU def.json file and the backplate image. Print area is now showing as the original DXU - without it the print area is minimal on the Mark2 def.json if choosing extruder 1 and 2
does anybody knows if other changes are needed?

I haven't checked the new embedded Mark2 profile. You will also need to change platform shift and print area. I'm not sure if Mark2 has the material adhesion option enabled.

But for me the old DXU profile works directly with Cura 4.3, so I didn't find it necessary to do a new version. Did it not work for you?



On 10/28/2019 at 11:36 AM, luke199 said:

Search...



Hey all,

What's the recommended general retraction length and maximum?

I use 6.5mm, 25mm/s, same as UM2+ default.

+ Quote

**Garufa**

Posted November 19, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 3

17 posts

yyh1002, My bad, when migrating to version 4.0 all my settings became corrupted and could not make it work. I just tried with 4.3 again with your profile and works !!! - thank you.

+ Quote

**Octocom**

Posted November 19, 2019 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

+ 1

13 posts

Thanks **yyh1002**. I run some tests and between 2.70 and 3.50 @25mm/s is perfect depending on material

+ Quote



4 weeks later...

ddt154

Posted December 15, 2019 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

● 0

2 posts

I ran into a problem. I have converted my UM2E over to 1.75mm and 4/2 bowden. The top of the one part is fitted to connect with a 6/3 bowden tube. I was able to use an existing PTFE connector I had and a coupler to mate with the top of the metal tube, however it does not match up with your design. I also switched over to a BMG feeder and it is all setup to use 4/2 bowden as well. Any chance you can send me your housing front in a step or other cad file so I can modify it for my use?





Edited December 15, 2019 by ddt154

+ Quote



1 month later...

Anzen



Dormant

● 0

6 posts

Posted January 18, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Bonjour
puis cura version 4.4.1
quelle que soit l'extrudeuse que je choisis, c'est toujours extruder 1
qui imprime

pouvez-vous me fournir la définition et les fiches de ressources de
l'extrudeuse

using the DXU cura v3.4 source file in nozzle it displays empty

merci
J'ai les fichiers que j'utilise



Edited January 19, 2020 by Anzen

+ Quote



Anzen



Posted January 26, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

comme je n'est pas de réponse
je doit modifier le gcode en rajoutant T1



6 posts ;Filament used: 0m, 0.580902m
;Layer height: 0.15
;MINX:104.25
;MINY:96.75
;MINZ:0.27
;MAXX:133.75
;MAXY:126.25
;MAXZ:19.92
;Generated with Cura_SteamEngine 4.4.1
T1
M82 ;absolute extrusion mode
;material_bed_temperature=60 material_print_temperature=215.0
material_print_temperature_layer_0=215.0
M190 S60
M104 T0 S175
M109 T1 S215.0
M104 T0 S200
G21 ;metric values
G90 ;absolute positioning
M82 ;set extruder to absolute mode
M107 ;start with the fan off
M200 D0 T0 ;reset filament diameter
M200 D0 T1
G28 Z0; home all
G28 X0 Y0
G0 Z30 F2400 ;move the platform to 30mm
G92 E0
T1 ; move to the 2th head
G0 Z20 F2400
G92 E-7.0 ;prime distance
G1 E0 F45 ;purge nozzle
G1 E-5.1 F1500 ; retract
G1 X90 Z0.01 F5000 ; move away from the prime poop
G1 X50 F9000
G0 Z20 F2400
T0 ; move to the first head
M104 T1 S175
G0 Z20 F2400
M109 T1 S215.0
G92 E-7.0
G1 E0 F45 ;purge nozzle
G1 E-5.1 F1500
G1 X60 Z0.01 F5000 ; move away from the prime poop
G1 X20 F9000
G1 E0 F1500
M400 ;finish all moves
G92 E0
;end of startup sequence
G92 E0
T1
G92 E0
G1 F2100 E-5.5
;LAYER_COUNT:132
;LAYER:0
M107
M204 S375
M205 X17 Y17
G0 F2400 X108.876 Y96.761 Z0.27
M204 S250
M205 X10 Y10





+ Quote



4 weeks later...

yyh1002



Member

⊕ 60

95 posts

Posted February 20, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 1/18/2020 at 12:23 PM, Anzen said:



Hello
then cura version 4.4.1
whatever extruder I choose, it is always extrude 1 which prints

can you provide me with the definition and resource sheets of
the extruder

using the DXU cura v3.4 source file in nozzle it displays empty

thank you
I have the files I use



Mark2.zip

Hi Anzen,
Sorry for the late reply.
There is a critical bug for Cura 4.4.1, which is exactly what you found. It cannot generate correct tool number in start code for dual prints.
They fixed the bug in 4.5 beta. You can use 4.5 beta now. But I think the first layer path of 4.3-4.5 is not as clean as 4.2.1.
I uploaded new profile for Cura 4.5 to Github. And also an updated version of firmware.
This new firmware will prevent any tool change when head position is unknown. It avoids the problem of bad start code movement caused by the first "T0" or "T1" generated by Cura which makes the printer to think it's holding a wrong head.
It works together with a new start code that automatically select and purge the nozzle used in a print.
The machine "DXU" should be used for single nozzle print, either left or right nozzle.
The machine "DXU Dual" should be used for dual nozzle print. The difference between the two is start code.

+ Quote

dehicka

1



3 weeks later...

cvansas



Posted March 8, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Hi there,



4 posts

I decided to start building the DXU upgrade for my UM2+ ordered all the hardware parts and polycarbonate for printing all the parts. The only doubt I had was that the 35w heater would be on the light side, so I replaced that with a 40W heater set. It might be too much as well resulting in a less stable temperature, but we will see. As soon as all is finished I'll share the results. Furthermore I managed to get most of the parts directly from Aliexpress and some were ordered via Superuser (good taobaoagent) when there was a substantial price difference for the same quality. The price for all was around 110 euro's.

Best,
Crispijn

Edited March 9, 2020 by cvansas

BOM was incorrect and deleted to prevent confusion

+ Quote

**cvansas**

Posted March 9, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

● 0

4 posts

The previous BOM was the unsaved original. Now the edited version with all the parts from 2 aliexpress suppliers: SANBrother and bolts from Nindjin. Please note the following:

- as earlier mentioned the Hotend kit from SANBrother is slightly different and requires some adjustment of the original DXU design.
- Some parts are available on Ali but much more expensive. Primarily the Fans, PI insulator, extruder motor.

BOM_aliexpress.xlsx.zip

13.23 kB · 32 downloads

+ Quote

**cvansas**

Posted March 11, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

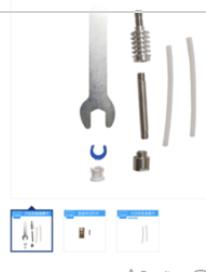
● 0

4 posts

Hi there,

I decided to start building the DXU upgrade for my UM2+, however I noticed that the hotend kit found on taobao is not available at this moment and that the alternative aliexpress variant would differ in size. Therefore I was wondering whether it would be possible to acquire the original design file (fusion 360?) in order to make the necessary modifications to fit the SANbrother hotend. Also I would like to slightly improve the design with snap fit casing, countersunk screws and slightly bigger dimension of the fan part attachment.





* =US \$ 0.00 CN ¥

Orders paid between 18:00-09:00 (BIT) will be processed by 14:00 that day.

1.Chinese Domestic Delivery =>US \$1.53 CN ¥
10 Will send to: Guangdong Warehouse

2.Exclude International Delivery [Delivery Estimation>](#)

Color Classification
New straight through 1.75 dedicated
New straight-through kit
1.75/0.6 nozzle

Shopping Assistant

+ Quote



2 weeks later...

yyh1002

Posted March 20, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member
+ 60
95 posts

On 3/11/2020 at 7:10 PM, cvansas said:

Therefore I was wondering whether it would be possible to acquire the original design file (fusion 360?) in order to make the necessary modifications to fit the SANbrother hotend.

I've just uploaded the step file, something to play with for anyone interested during the crisis .

+ Quote

hakkattakk



1



4 weeks later...

nvcheeko

Posted April 16, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member
● 0
4 posts

What Modifications is needed to use the SANbrother Hotend?

+ Quote



3 weeks later...

dadoblu_2000

Posted May 4, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member
● 0
22 posts

hello I would like to make this change to my um 2+ ext, I would like a couple of information, the components can be sampled in abs and possibly know layer height and filling density, in addition I would like to know if it is possible to keep an original olsen as a second extruder from 2.8mm instead of applying 1.75mm model, thanks





2 weeks later...

dadoblu_2000

Posted May 15, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member



22 posts

the 3510 12v fans are nowhere to be found, they cost more than the printer, do you have any idea where to find them or if it is possible to put 5v fans?

[+ Quote](#)**nvcheeko**

Posted May 15, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member



4 posts

On 5/15/2020 at 4:45 AM, dadoblu_2000 said:

the 3510 12v fans are nowhere to be found, they cost more than the printer, do you have any idea where to find them or if it is possible to put 5v fans?

Just quick search. How much u getting ultimaker for, I'll buy more at that price..



5V / 12V / 24V DC Brushless Fan
3510 35mm x 10mm Reprap Prusa
3D Printer

\$8.95

[+ Quote](#)**dadoblu_2000**

Posted May 15, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 5/15/2020 at 6:23 AM, nvcheeko said:





22 posts



5V / 12V / 24V DC Brushless Fan
3510 35mm x 10mm Reprap Prusa
3D Printer

\$8.95

VOLTAGE

Choose an option

1

||| ◻ <

I don't think they ship to Italy, besides the fans are turbines, not the radials

+ Quote

**nvcheeko**

Member

● 0

4 posts

Posted May 15, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Just go on Aliexpress maybe they have blower fans

+ Quote



2 weeks later...

yyh1002

Member

+ 60

95 posts

Posted May 30, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

DXU profiles are now included in Cura 4.6 by default.
The profiles in 4.6 is pretty much the same as the one on Github for 4.5.
One for single nozzle print and one for dual nozzle print.
The postprocessing script is no longer needed.

+ Quote

Garufa 1



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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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Page 7 of 10 ▾

tomazslapsak

Posted June 3, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



T

Member

● 0

9 posts

Hello,

could anybody share upodate AliExpress links for fans?

Thank you

Quote



Replies

225

Created

3 yr

Last Reply

Dec 23

TOP POSTERS IN THIS TOPIC



10



44



17



14



dadoblu_2000

Posted June 3, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

I on aliexpress have failed. finding them and a few that I found cost 10

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)





Ultimaker Community of 3D Printing Experts

22 posts

times more, so I got the acquired on taobao, I simply registered an account on taobao and then I entrusted to superbuy, I choose the product that buys it for me, I pay my order and I speeded up by reliable and fast express courier service.

+ Quote



Search...



tomazslapsak



Member

● 0

9 posts

Posted June 3, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

@dadoblu_2000 Thank you. But I don't understand chinese and I think that are more of us. So... links with internation shipping would be highly appreciated.

+ Quote



dadoblu_2000



Member

● 0

22 posts

Posted June 3, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

hello, yes Chinese is difficult, you can use eighth notes and use an online translator, after this you use superbuy or any other brokerage service, they think all their international shipments, I'm just waiting for the goods purchased for modification to arrive to DXU via DHL

+ Quote



dadoblu_2000



Member

● 0

22 posts

Posted June 8, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 5/30/2020 at 12:52 AM, yyh1002 said:



I made the change to dxu but the second extruder turns in the opposite direction how can I change the direction of rotation?

+ Quote



yyh1002



Member

+ 60

95 posts

Posted June 11, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 6/8/2020 at 1:55 PM, dadoblu_2000 said:



I made the change to dxu but the second extruder turns in the opposite direction how can I change the direction of rotation?

Have a browse in the menu on the printer, there is an option called motor invert or something similar. You can invert the E2 motor there.

+ Quote





Member

0

22 posts

🕒 On 6/11/2020 at 8:31 PM, yyh1002 said:

Have a browse in the menu on the printer, there is an option called motor invert or something similar. You can invert the E2 motor there.

Yes, thank you very much, I had not thought of checking the menu of the printout, I am also making the modification to the extruder doing the B2D, the steppers relating to the motor are already set in the DXU firmware or I have to replace them based on the formula you indicate in the project and above all how do I insert them permanently in the firmware?

Quote

**yyh1002**

Posted June 12, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

🕒 On 6/12/2020 at 3:37 AM, dadoblu_2000 said:

Yes, thank you very much, I had not thought of checking the menu of the printout, I am also making the modification to the extruder doing the B2D, the steppers relating to the motor are already set in the DXU firmware or I have to replace them based on the formula you indicate in the project and above all how do I insert them permanently in the firmware?

The default esteps is for stock extruder. You do need to change it. The estep value can also be set through the menu.

Quote

**dadoblu_2000**

Posted June 12, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

0

22 posts

ok great news

Quote



1 month later...

bigrjsuto

Posted July 20, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

Could the stock UM2+ hotend fan fit in the "06 Fan Cover 2510.stl"?

Quote





Turbo-Power

Posted July 21, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 3

5 posts

Anyone use DUX with Duet 2 Wifi?

+ Quote

Garufa

1



alexjx

Posted July 21, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 8

37 posts

On 7/21/2020 at 9:14 AM, Turbo-Power said:

Anyone use DUX with Duet 2 Wifi?

I am.

+ Quote



yyh1002

Posted July 22, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

+ 60

95 posts

On 7/20/2020 at 10:53 PM, bigrjsuto said:

Could the stock UM2+ hotend fan fit in the "06 Fan Cover 2510.stl"?

Stock fan is 25*25*7, you might need a 3mm packer to fit it nicely. But be aware that Fan Cover 2510 is not compatible with Fan Shroud 3510. It's a legacy model to be used with Shroud 3015. Only Fan Cover 3010 works with Shroud 3510.

+ Quote



Turbo-Power

Posted July 22, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

+ 3

5 posts

On 7/21/2020 at 9:43 PM, alexjx said:

I am.

Can you share config files, and macro files?



bigrjsuto

Member

1

13 posts

Posted July 22, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

On 7/22/2020 at 6:48 AM, yyh1002 said:

Stock fan is 25*25*7, you might need a 3mm packer to fit it nicely.
 But be aware that Fan Cover 2510 is not compatible with Fan Shroud 3510. It's a legacy model to be used with Shroud 3015. Only Fan Cover 3010 works with Shroud 3510.

Good to know. Thanks! Great work here by the way.

Quote

yyh1002 1

**bigrjsuto**

Member

1

13 posts

Posted July 27, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

yyh1002,

The Hot End Assembly has PTFE Tubing through the heat sink and shaft above it.

Do you know of an all metal alternative? In case I want to go higher temp?

Thanks,
 Bigrjsuto

Quote

**yyh1002**

Member

60

95 posts

Posted July 28, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+ Author

On 7/27/2020 at 2:43 PM, bigrjsuto said:

yyh1002,

The Hot End Assembly has PTFE Tubing through the heat sink and shaft above it.

Do you know of an all metal alternative? In case I want to go higher temp?

Thanks,
 Bigrjsuto

The PI insulator allows to print up to 290 degrees with PTFE.

Quote

**netminder**

Posted August 1, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+





Community of 30+ Rating Experts
Dormant ● 0
3 posts

After looking at the parts required for the project, and seeing the September delivery estimates for the parts req'd based on the BOM, I realized I actually have an extra S3 (Unused) printhead assembly which I'd needed for my S3, but haven't gotten around to installing it.

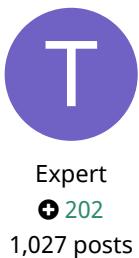
Now wondering, would the S3 printhead be an easy mod for my UM2+ or should I just go with the BOM and order the necessary parts?

Really amazing work btw.. I almost feel like I owe it to your efforts and should just build this DXU project rather than cheating with my surplus S3 Printhead. 😊

+ Quote



Torgeir



Expert + 202
1,027 posts

Posted August 1, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Hi netminder,

The UMS3 use 8mm shaft for the print head, while UM2/2+ use 6mm shaft for the print head.

So there might be some issues here..
As far as I know, the UM3 use 6mm shafts.

Edited.

Just for your info.

Well, good luck with your modification.

Thanks

Torgeir

Edited August 1, 2020 by Torgeir

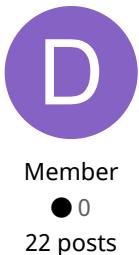
Removing text.

+ Quote



4 weeks later...

dadoblu_2000



Member ● 0
22 posts

Posted August 26, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

someone can explain to me how to perform XY calibration, I just can't figure out how to do it

+ Quote



yyh1002



Posted August 29, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 8/26/2020 at 12:55 PM, dadoblu_2000 said:



You can refer to the mark2 guide <https://magnetic-tool-changer.com/step-6-calibration.html>

Quote



bigrjsuto



Member
+ 1
13 posts

Posted September 6, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

@yyh1002

Thanks for your help so far.

I got a ton of 2.85 material I need to burn through before I start using your great DXU design (I already have it built and ready). So I set up a 2 in 1 (y splitter) setup on my UM2E+ with my older UM2 stepper as the 2nd extruder. This gives me two different e-steps I need to compensate for. Do you know if your firmware could work with a 2 in 1 setup? Does it allow for e-step adjustment of individual extruders? I know the Mark2 firmware allows for the adjustment right on the ulticontroller and your firmware is based off of that. If so, then I could put your firmware on my printer now and not have to switch again when I'm ready for 1.75 material.

Thanks,
Bigrjsuto

Quote



yyh1002



Member
+ 60
95 posts

Posted September 7, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 9/6/2020 at 3:08 PM, bigrjsuto said:



@yyh1002

Thanks for your help so far.

I got a ton of 2.85 material I need to burn through before I start using your great DXU design (I already have it built and ready). So I set up a 2 in 1 (y splitter) setup on my UM2E+ with my older UM2 stepper as the 2nd extruder. This gives me two different e-steps I need to compensate for. Do you know if your firmware could work with a 2 in 1 setup? Does it allow for e-step adjustment of individual extruders? I know the Mark2 firmware allows for the adjustment right on the ulticontroller and your firmware is based off of that.

If so, then I could put your firmware on my printer now and not have to switch again when I'm ready for 1.75 material.

Thanks,
Bigrjsuto

Hi Bigrjsuto,
Yes, it allows individual estep setting for extruders.



yyh1002

Member

60

95 posts

Posted September 8, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

Sorry to interrupt with a random question here:
 Did anyone from Israel ordered an hotend on the Taobao store?
 The seller is trying to reach you (which he can't) and asked me to help out here.
 Please PM me if you see this post.

Quote

**bigrjsuto**

Member

1

13 posts

Posted September 12, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

@yyh1002 It's a pain to try to make the original UM2 stepper work as the 2nd extruder. Do you have an AliExpress link that you KNOW is good? I found one that says it's a UM2+ extruder https://www.aliexpress.com/item/4000398763399.html?spm=a2g0o.productlist.0.0.5a2379e5a1OeM6&algo_pvid=92fdf58-6ebb-4830-aa39-8b684eabd73d&algo_expid=92fdf58-6ebb-4830-aa39-8b684eabd73d-26&btsid=0bb0623f15999570827028856ea2ea&ws_ab_test=searchweb0_0,searchweb201602,searchweb201603 but the dimensions are off so and not many reviews so I don't trust it.

Quote


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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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dadoblu_2000

Posted September 13, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

● 0

22 posts

i use superbuy.com for taobao shopping

Quote



Replies

225

Created

3 yr

Last Reply

Dec 23

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10



44



17



14



dadoblu_2000

Posted September 13, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



<https://item.taobao.com/item.htm?id=534585434807>

Quote



OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies



PICKED BY

SandervG, August 17, 2021

[View All](#)

bigrjsuto

Posted September 13, 2020 · DXU - Efficient Dual Extrusion
Upgrade for UM2+



Member



13 posts

🕒 On 9/13/2020 at 4:31 AM, dadoblu_2000 said:

i use superbuy.com for taobao shopping

Won't let me sign up. Keeps saying "Please enter 6-20 characters, letters, and numbers" regardless of what I put in the password field. Tried Firefox, Chrome, & Microsoft Edge.

+ Quote



dadoblu_2000

Posted September 13, 2020 · DXU - Efficient Dual Extrusion
Upgrade for UM2+



Member



22 posts

make sure the site is the right one, have had problems with sites trying to copy their portal, this is what I use <https://www.superbuy.com/en/> if you can't contact customer service they will help you

+ Quote



bigrjsuto

Posted September 13, 2020 · DXU - Efficient Dual Extrusion
Upgrade for UM2+



Member



13 posts

🕒 On 9/13/2020 at 11:24 AM, dadoblu_2000 said:

make sure the site is the right one, have had problems with sites trying to copy their portal, this is what I use <https://www.superbuy.com/en/> if you can't contact customer service they will help you

Thanks. I'll reach out to them directly.

+ Quote



yyh1002

Posted September 17, 2020 · DXU - Efficient Dual
Extrusion Upgrade for UM2+

Author

...



Member



95 posts

🕒 On 9/12/2020 at 11:06 PM, bigrjsuto said:

@yyh1002 It's a pain to try to make the original UM2 stepper work as the 2nd extruder. Do you have an AliExpress link that you KNOW is good? I found one that says it's a UM2+ extruder [https://www.aliexpress.com/item/4000398763399.html?spm=a2g0o.productlist.0.0.5a2379e5a1Oem6&algo_pvid=92dfdf58-6ebb-4830-aa39-8b684eabd73d](https://www.aliexpress.com/item/4000398763399.html?spm=a2g0o.productlist.0.0.5a2379e5a1Oem6&algo_pvid=92dfdf58-6ebb-4830-aa39-8b684eabd73d&algo_expid=92dfdf58-6ebb-4830-aa39-8b684eabd73d)



Sorry I don't have a good Aliexpress link. You need a 48mm long NEMA17 motor. The popular ones usually don't come with correct connector. You need to change the connector yourself in that case.

+ Quote

**bigrjsuto**

Member
+ 1
13 posts

Posted September 17, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

On 9/17/2020 at 8:47 AM, yyh1002 said:



Sorry I don't have a good Aliexpress link. You need a 48mm long NEMA17 motor. The popular ones usually don't come with correct connector. You need to change the connector yourself in that case.

It's all good. I emailed fbrc8 and they delivered one yesterday. I paid more but I also didn't want to wait 4-8 weeks. Thanks for following up.

+ Quote



2 weeks later...

luciano-berutti

Dormant
● 0
3 posts

Posted September 26, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Really nice work here ...I try mark2 put lost a lot space print, I will try this now but I would like to know if can I use the extra fun from U2 that I have and only buy the kit nozzle?

+ Quote



2 weeks later...

pcky

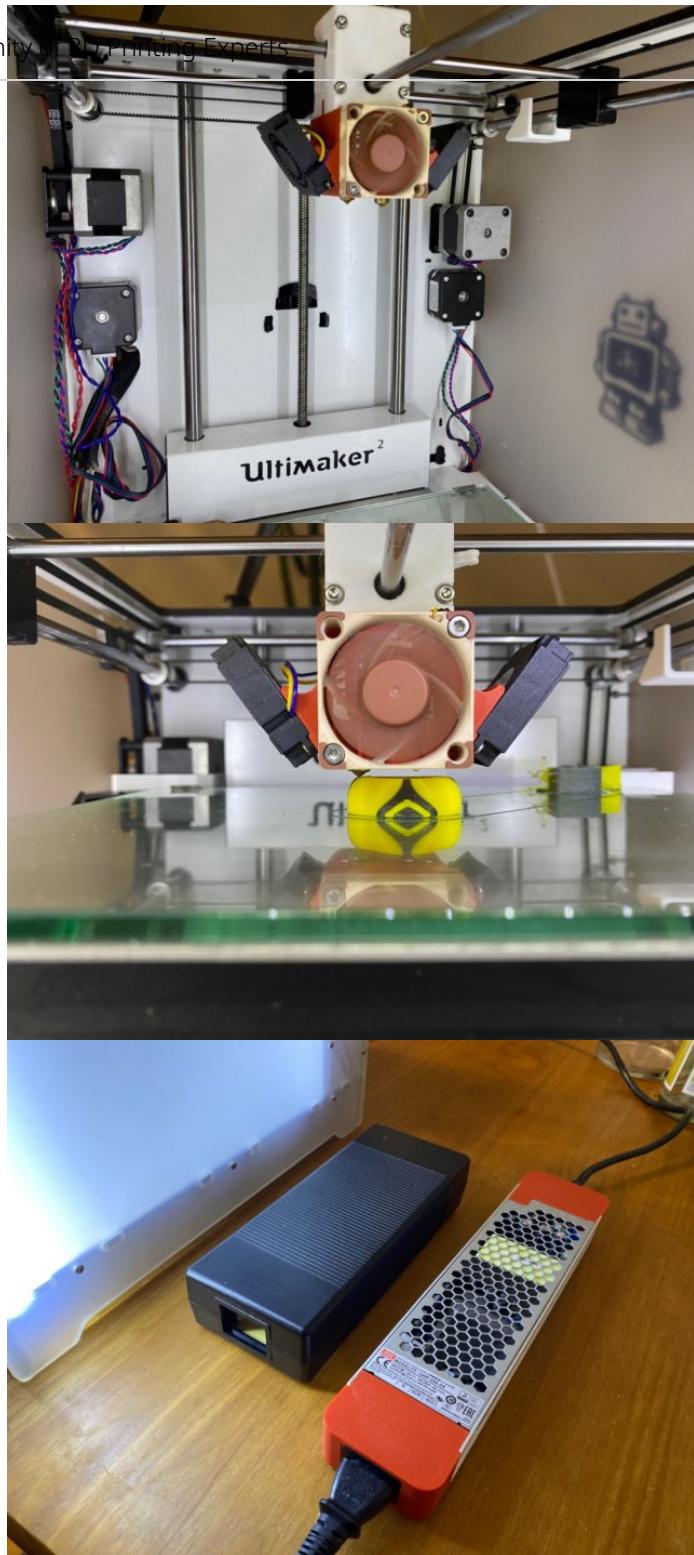
Dormant
+ 4
2 posts

Posted October 7, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Just finished my DXU mod (of course with some modifications 😊) and thought you might appreciate some photos of it:







Edited October 7, 2020 by pcky

+ Quote

bigrjsuto, yyh1002 and Turbo-Power

3



bigrjsuto

Posted October 7, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

1

13 posts

@[pcky](#)

Great looking mod!

Three questions:

1. Could you share your modified hot end design?

2. Why did you remake the the Power supply enclosure?

3. What extruders are those?

Thanks.

+ Quote



pcky

Posted October 7, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

4

2 posts

🕒 On 10/7/2020 at 1:14 PM, bigrjsuto said:

↪

@[pcky](#)

Great looking mod!

Three questions:

1. Could you share your modified hot end design?

2. Why did you remake the the Power supply enclosure?

3. What extruders are those?

Thanks.

1. Sure, see attached STL file for the fan shroud. The hotend cooling fan is a Noctua NF-A4x10 5V. The part cooling fans are stock Ender 3 part cooling fans for 24v. The hotends are the original DXU ones.



2/ That Meanwell UHP-350-24 has 350W. Plenty of power for the heated bed and two 40W hotends.

Search...



3. Those are BMG extruder clones from Amazon with "pancake" style stepper motors.



DXU Alternative Fan Shroud.stl

1.94 MB · 43 downloads

+ [Quote](#)

bigrjsuto



1



2 weeks later...

dadoblu_2000

Posted October 15, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Member



22 posts

how do i adjust the docking position? when I switch from extruder 2 to extruder 1 the lever moves but does not get stuck and therefore it releases, I have to make the lever run longer but I don't know where to find the values that regulate the transition from extruder 2 to extruder 1.

+ [Quote](#)


2 weeks later...

yyh1002

Posted October 28, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member



95 posts

🕒 On 10/15/2020 at 1:49 PM, dadoblu_2000 said:
 

how do i adjust the docking position? when I switch from extruder 2 to extruder 1 the lever moves but does not get stuck and therefore it releases, I have to make the lever run longer but I don't know where to find the values that regulate the transition from extruder 2 to extruder 1.

Use hand to turn lever to lower nozzle 2. Then adjust dock position in menu so the front of lever is touching the back edge of dock. You should be able to get it work with the default travel distance. Make sure the head is close enough to the dock. The travel distance is only adjustable in firmware source code.

Edited October 28, 2020 by yyh1002

+ [Quote](#)
**SteveG**

Posted November 1, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

Hi,





Ultimaker
Community of 3D Printing Experts
2 posts

I've converted my UM2+ Extended to the DXU (thanks to everyone who contributed to this and the Mark2). I've adapted it to use 2.85mm filament using the information on the blog from @burdickjpand from @Klaasie regarding the heat break and 4mm OD 3mm ID PTFE tube.

Search...



I've got the following problem with under extrusion and I hope someone can give me a pointer in the right direction. When I try to print something after about 10 layers, no more filament comes through and the printer carries on printing in thin air. I can change the filament no problem because the nozzle is not blocked.

If I try an extrusion calibration of 100mm filament and the bowden tube is not connected to the headset then 100mm comes out of the bowden tube as expected. When I try the same test with the bowden tube connected and measure at the back where the filament enters the feeder (original UM2+) then only about 50mm goes through.

I've tried 3 different heat break combinations (original AliExpress, 26mm Stainless Steel heat break, E3D V6 Titanium) with practically the same results every time. The PTFE Tube is 4mm outer and 3mm inner. PLA is from Colorfabb, if any more information is needed or photos then I'll happily provide them.

Thanks

Steve

+ Quote



yyh1002



Member

+ 60

95 posts

Posted November 1, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

On 11/1/2020 at 10:03 AM, SteveG said:



Hi,

I've converted my UM2+ Extended to the DXU (thanks to everyone who contributed to this and the Mark2). I've adapted it to use 2.85mm filament using the information on the blog from @burdickjpand from @Klaasie regarding the heat break and 4mm OD 3mm ID PTFE tube.

I've got the following problem with under extrusion and I hope someone can give me a pointer in the right direction. When I try to print something after about 10 layers, no more filament comes through and the printer carries on printing in thin air. I can change the filament no problem because the nozzle is not blocked.

If I try an extrusion calibration of 100mm filament and the bowden tube is not connected to the headset then 100mm comes out of the bowden tube as expected. When I try the same test with the bowden tube connected and measure at the back where the filament enters the feeder (original UM2+) then only about 50mm goes through.

I've tried 3 different heat break combinations (original AliExpress, 26mm Stainless Steel heat break, E3D V6 Titanium) with practically the same results every time. The PTFE Tube is 4mm outer and 3mm inner. PLA is from Colorfabb, if any more information is needed or photos then I'll happily provide them.



Steve

Hi Steve,

It sounds like your feeder gear is slipping on the filament. Try to increase temp to 240 and reduce speed when running the filament through to see if it brings it back to 100mm, to isolate the problem. If that's the case, it probably means the hotend has too much resistance for the feeder, not melting the filament quick enough. Possible solution is upgrading the heater cartridge to higher power like 40W. What's your feeder for the 2nd nozzle? Does it have the same problem?

[+ Quote](#)

SteveG 1

**SteveG**

Posted November 2, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

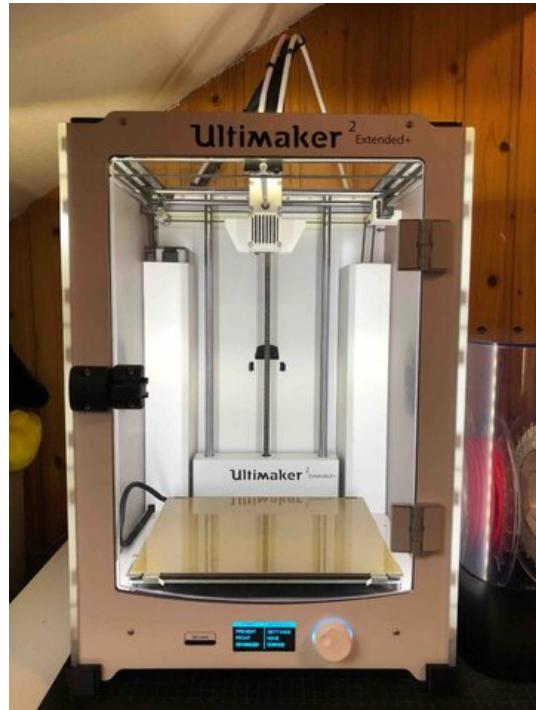


Member

0

2 posts

Thanks, I'll give that a try. The second feeder is also a UM2+ original and it has the same problem.
Looks good, just doesn't print (much) 😞.

[+ Quote](#)**Benleo888**

Posted November 10, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

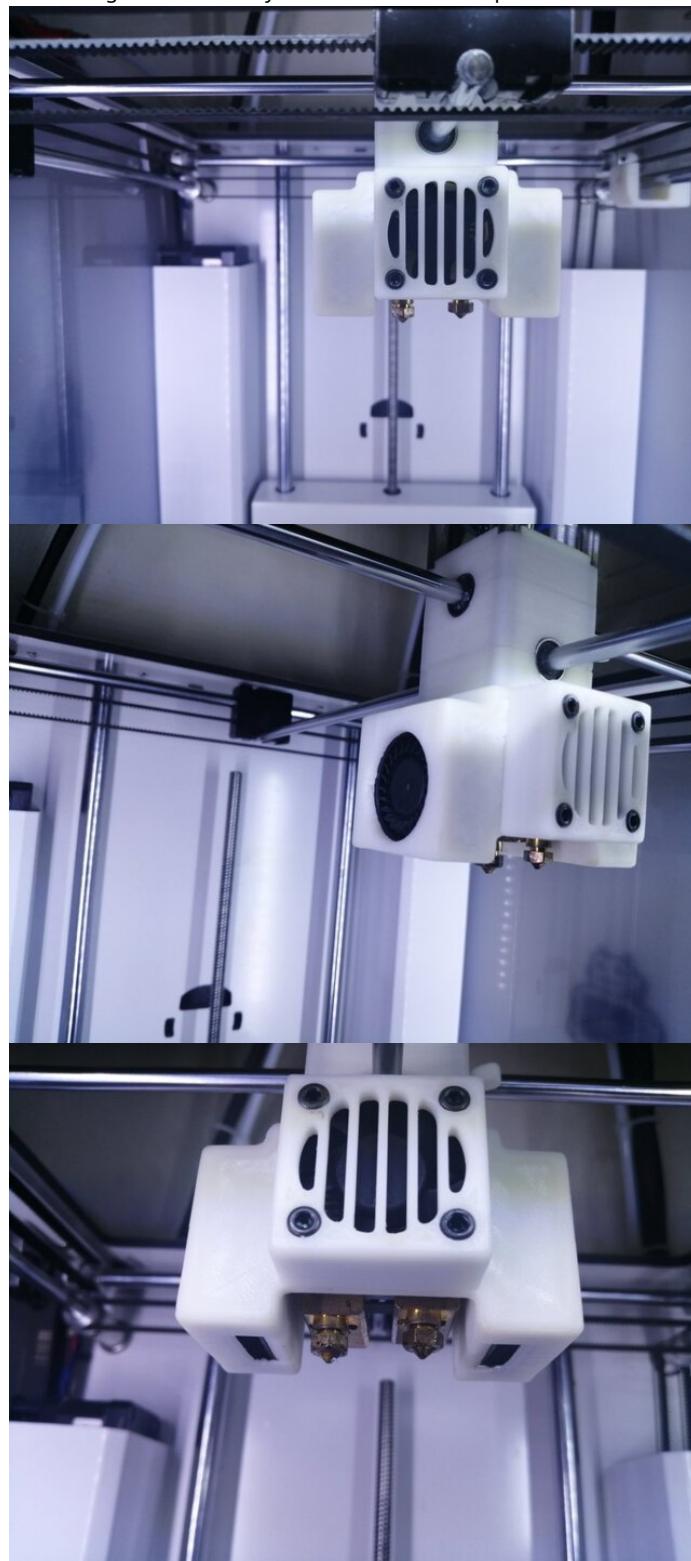
11

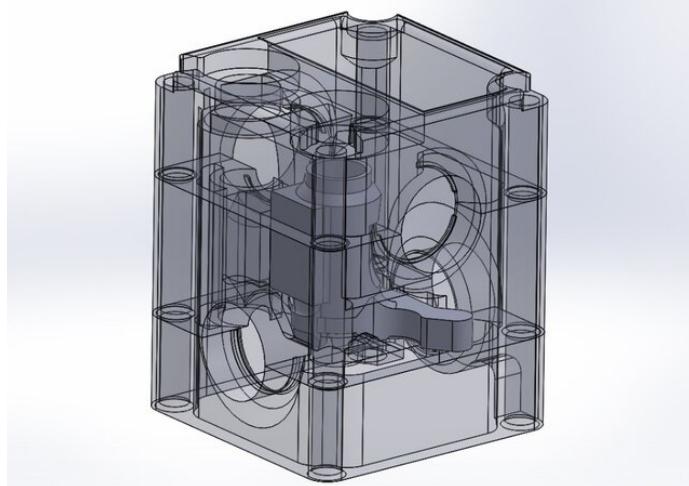
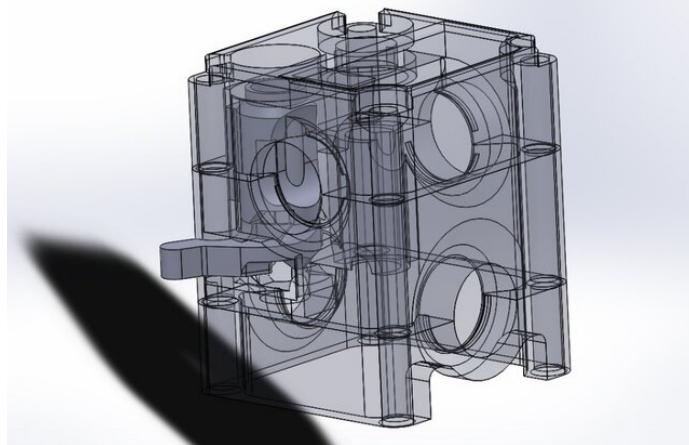
12 posts

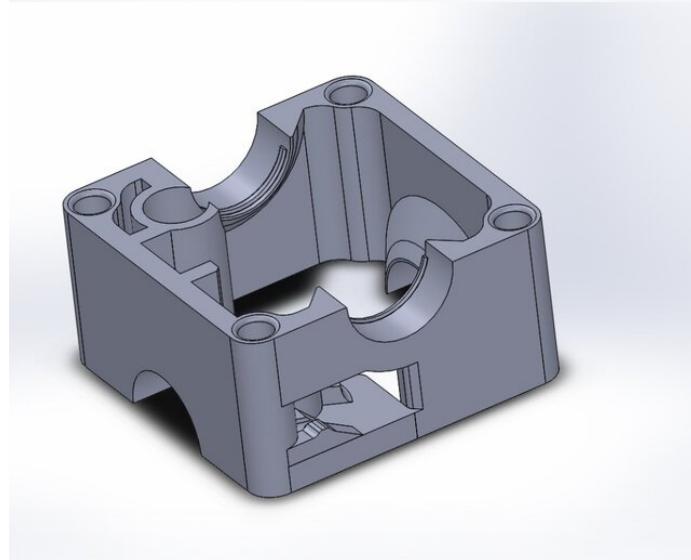
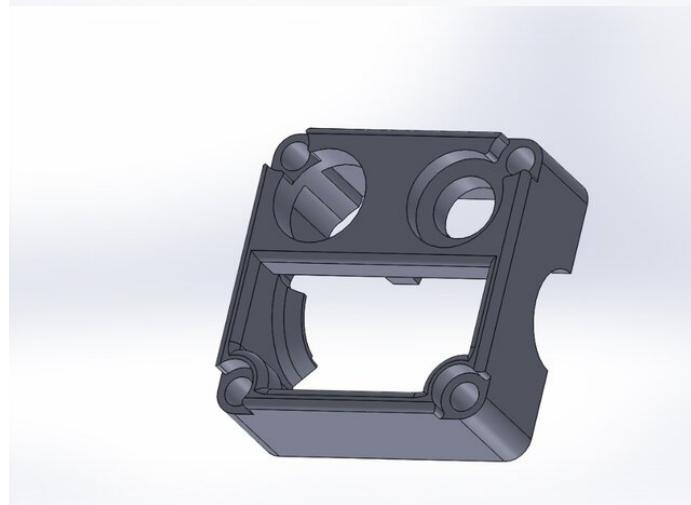
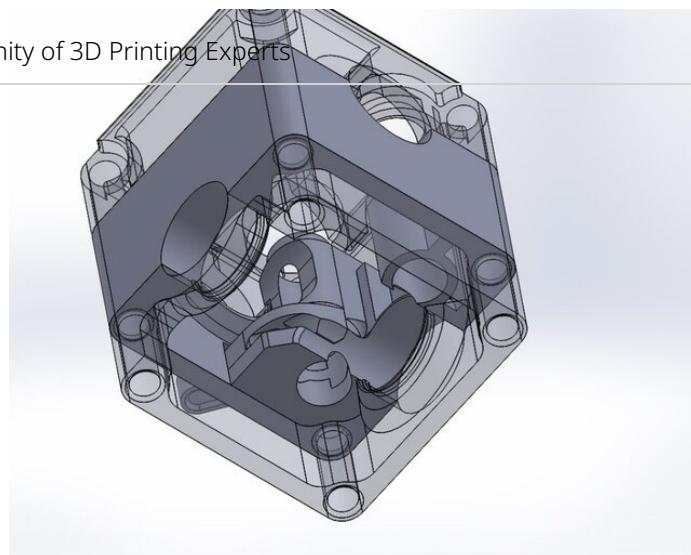
I finally converted my printer to DXU, but I am not using the original DXU print head, instead, I make use of the original head with modification, so that I can keep using the metal parts. I found this modification design from Chat room, however, the author only released the STL files and some them seems not work well. Therefore, I based on the original head dimension and reference to the STL file, I

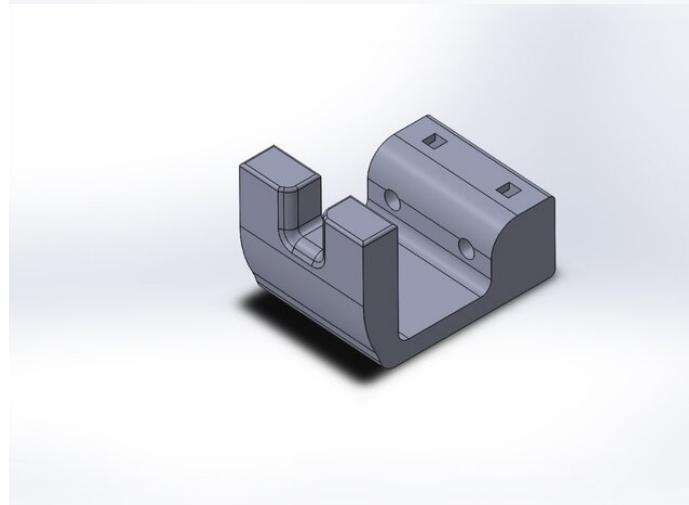
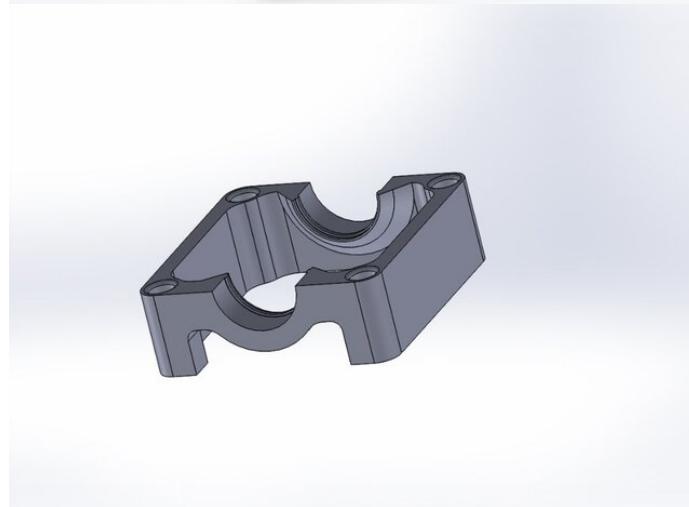
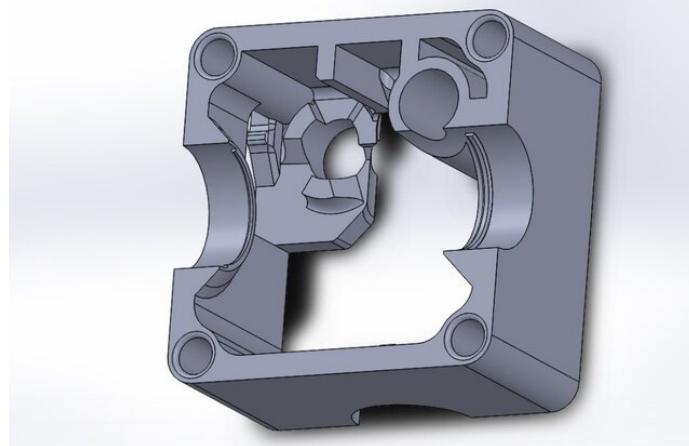


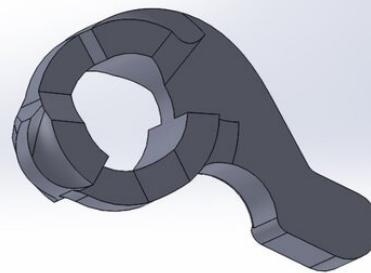
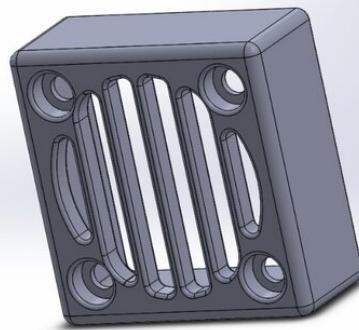
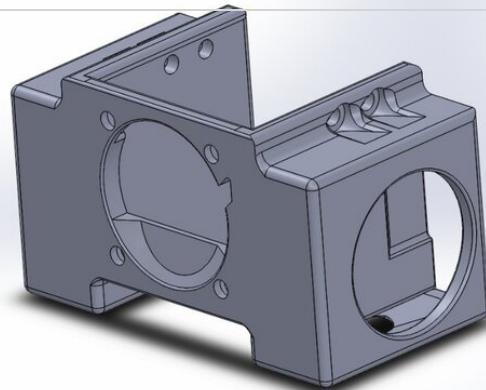
This head now used for over 100 hours, work quite well, I will keeps monitoring it and see if any other modification required.

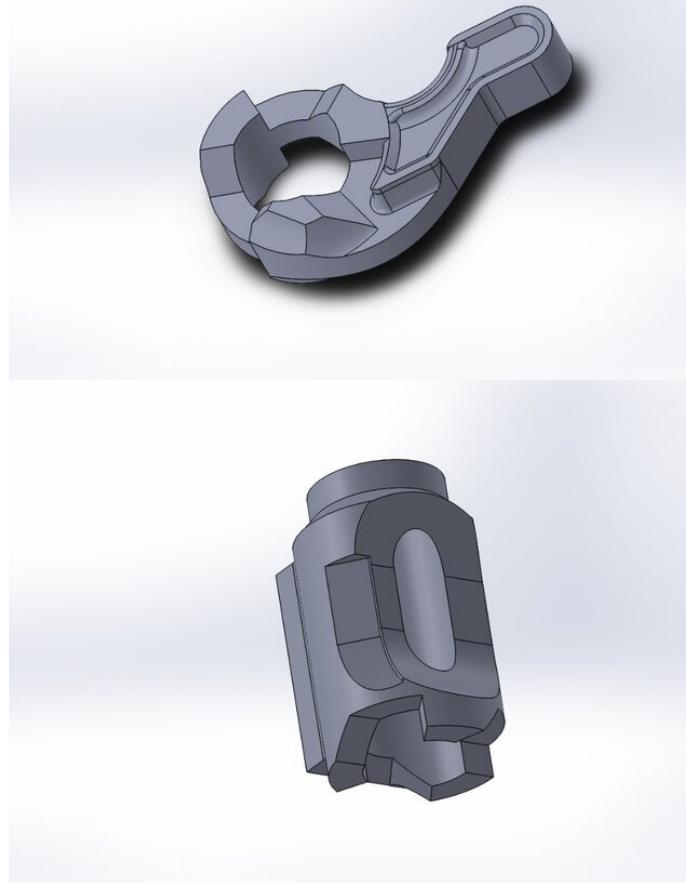












Edited November 10, 2020 by Benleo888

+ Quote

Garufa, yyh1002 and Turbo-Power

3



yyh1002



Member

+ 60

95 posts

Posted November 10, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 11/10/2020 at 2:08 AM, Benleo888 said:

I finally converted my printer to DXU, but I am not using the original DXU print head, instead, I make use of the original head with modification, so that I can keep using the metal parts.

Cool mod! It's like a project on its own. I never knew there was a chat room. Can I join?

+ Quote



Benleo888



Dormant

Posted November 10, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 11/10/2020 at 2:55 AM, yyh1002 said:

Cool mod! It's like a project on its own. I never knew there was a chat room. Can I join?



Actually, it is a QQ group which provide 3D printer parts and support information, someone uploaded the DXU related file to group archive, after I download it, this special idea embedded inside. I tried to print the parts with those STL files, but after the assemble, not working very well, the second head up and down not smooth, also not fit with original plastic parts, the second head will fall down while high speed movement (with vibration).

Search...



But this looks like a very good idea, which can make use of metal parts, so, I decided to redraw all the related parts based on this idea, of course with some modification as well. The fan shroud is designed by myself according to what cooling fans I have, I also added an additional 3010 - 5V cooling fan in front to lower the heatsink temperature.

Edited November 10, 2020 by Benleo888

+ Quote

**yyh1002**

Member

+ 60

95 posts

Posted November 10, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...

🕒 On 11/10/2020 at 4:10 AM, Benleo888 said:

Actually, it is a QQ group which provide 3D printer parts and support information, someone uploaded the DXU related file to group archive, after I download it, this special idea embedded inside. I tried to print the parts with those STL files, but after the assemble, not working very well, the second head up and down not smooth, also not fit with original plastic parts, the second head will fall down while high speed movement (with vibration).

But this looks like a very good idea, which can make use of metal parts, so, I decided to redraw all the related parts based on this idea, of course with some modification as well. The fan shroud is designed by myself according to what cooling fans I have, I also added an additional 3010 - 5V cooling fan in front to lower the heatsink temperature.

In this case I'm in that group and I remember the design you are referring to. It was another dual nozzle approach stored in DXU folder.

+ Quote

**rachael7**

Member

+ 14

65 posts

Posted November 11, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 11/10/2020 at 2:08 AM, Benleo888 said:

I finally converted my printer to DXU, but I am not using the original DXU print head, instead, I make use of the original head with modification, so that I can keep using the metal parts. I found this modification design from Chat room, however, the author only released the STL files and some them seems not work well. Therefore, I based on the original head dimension and reference to the STL file, I redraw all of them with Solidwork, modified some key area, attached the photos of my build as well as the parts photo exported from Solidwork.



+ Quote



Benleo888

Posted November 12, 2020 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant

• 11

12 posts

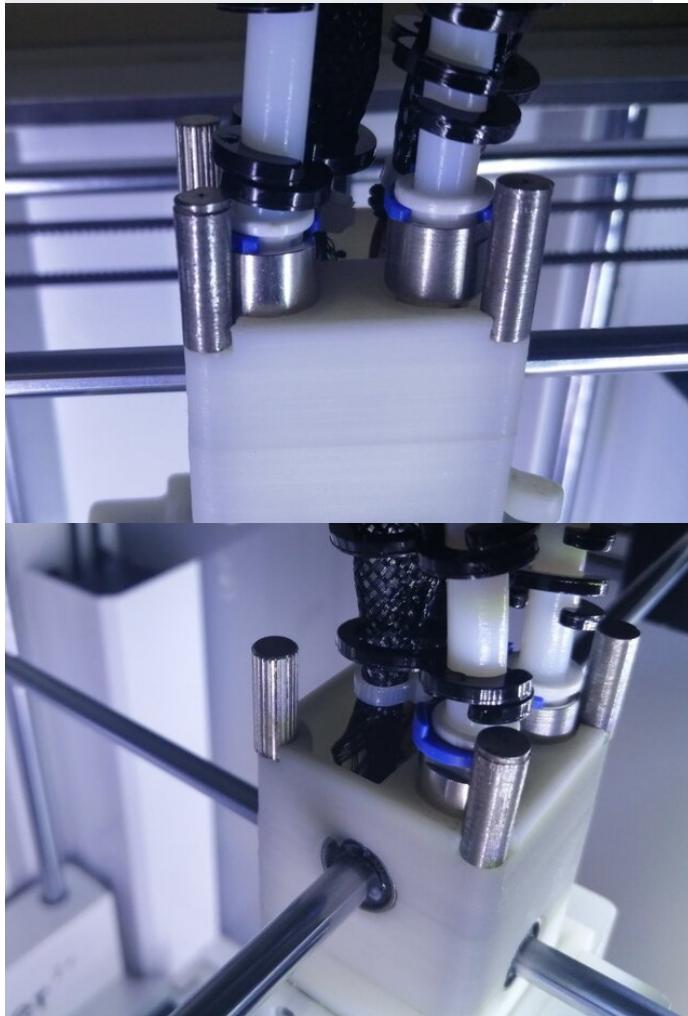
On 11/11/2020 at 3:41 PM, rachael7 said:

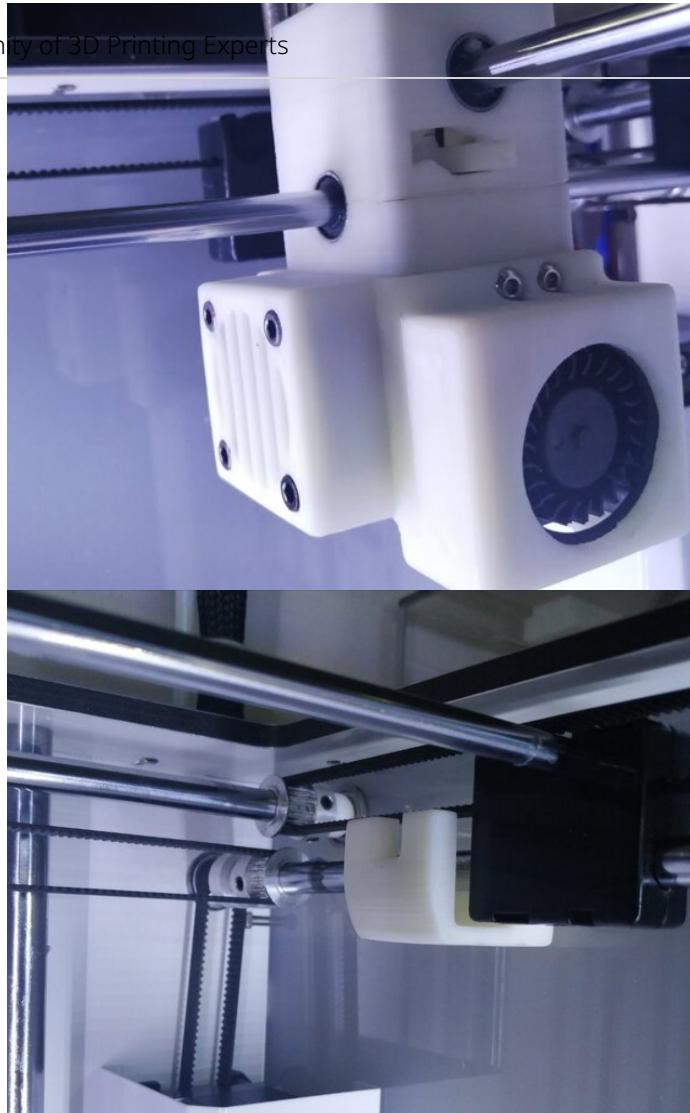


Great work! This is another excellent option! Where can I find/download your new files/BOM? Thanks!

Let me consolidate all related files and upload to Thingiverse, however, apart from those plastic parts (you can print by yourself with ABS), some metal parts also need to be modified and which may not easy for everyone, you can refer to the photos I attached below, I also upload more photos of my mod for reference.







Edited November 13, 2020 by Benleo888

+ Quote

Turbo-Power  1



rachael7



Member

+ 14

65 posts

Posted November 13, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

🕒 On 11/12/2020 at 11:21 PM, Benleo888 said:

Let me consolidate all related files and upload to Thingiverse, however, apart from those plastic parts (you can print by yourself with ABS), some metal parts also need to be modified and which may not be easy for everyone, you can refer to the photos I attached below, I also upload more photos of my mod for reference.

Thank you again! It would be great to be able to get all the files from Thingiverse! Please post back when you've had the opportunity to do that work. Thanks again for making this available to the community!

+ Quote

Turbo-Power  1



Benleo888

Posted November 16, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...





Dormant
+ 11
12 posts

UM2 DXU Special Mod



+ Quote yyh1002, Turbo-Power, Garufa and 1 other 4

Benleo888

Posted November 17, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Dormant
+ 11
12 posts

All related files can be downloaded from Thingiverse now with following URL.

<https://www.thingiverse.com/thing:4655216/files>

+ Quote Turbo-Power, bigrjsuto and yyh1002 3

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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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jtronicsde



Posted November 28, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Hello, where could I buy **Hotends** for **2.85mm** filament. On aliexpress there are only 1.75mm Hot ends available.

New member

● 0

1 post

Quote



Replies

225

Created

3 yr

Last Reply

Dec 23

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10



44



17



14

Garufa

Posted November 30, 2020 · DXU - Efficient Dual Extrusion Upgrade for UM2+



On 11/12/2020 at 11:21 PM, Benleo888 said:



OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

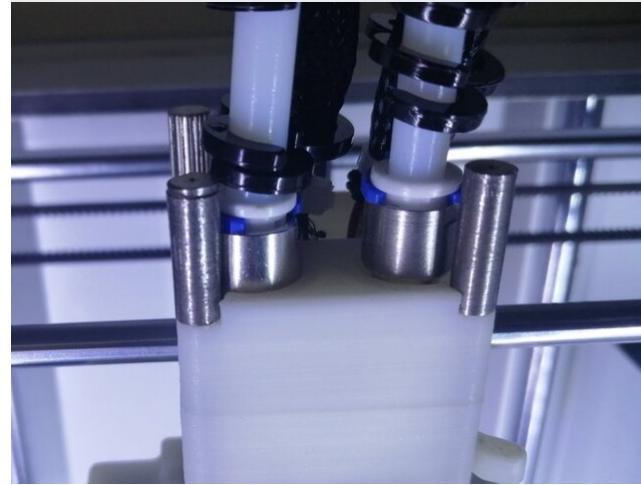
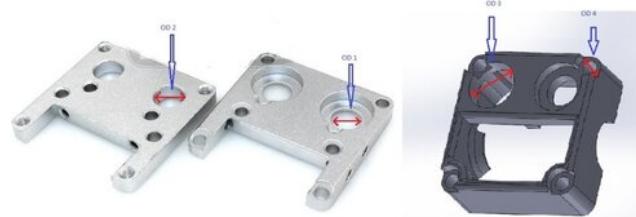
11 replies

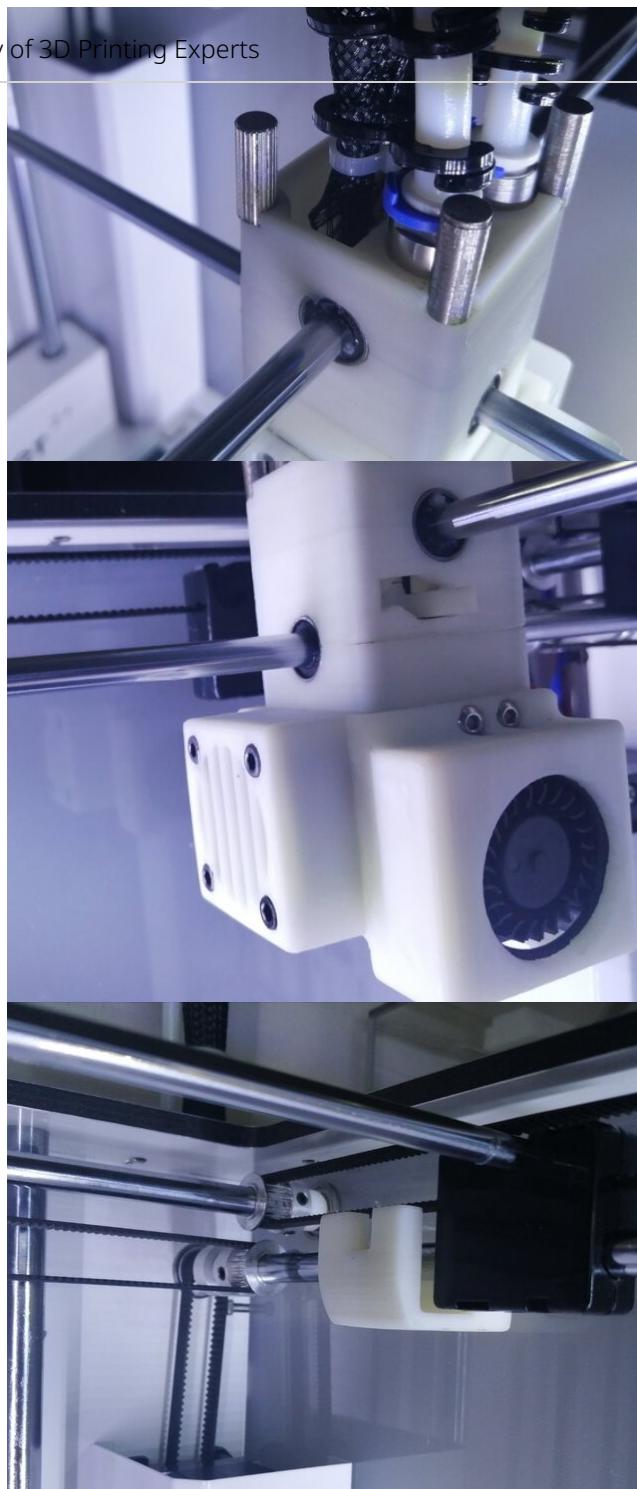


PICKED BY

SandervG, August 17, 2021

[View All](#)





Thank you for your design, I am trying a variation of it to keep the spring inside and not to reduce the cooling rings. please check the photos - if you modify the head bottom section to incorporate the spring adapter is even easier. let me know your comments. The drilling is easy and works great.





+ Quote



nvcheeko

Posted December 1, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Member

● 0

4 posts

Anyone thought of creating a side purge bucket?

+ Quote



Benleo888

Posted December 3, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Dormant

+ 11

12 posts

🕒 On 11/30/2020 at 3:58 PM, Garufa said:

↶

Thank you for your design, I am trying a variation of it to keep the spring inside and not to reduce the cooling rings. please check the photos - if you modify the head bottom section to incorporate the spring adapter is even easier. let me know your comments. The drilling is easy and works great.







Basically, I don't understand how your design work, but my design is try to not modify the metal parts, because they can help to hold the extruder in position and only allow it move up and down.

+ Quote

**Garufa**

Posted December 3, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



Member

• 3

17 posts

🕒 On 12/3/2020 at 4:43 AM, Benleo888 said:

...

Basically, I don't understand how your design work, but my design is try to not modify the metal parts, because they can help to hold the extruder in position and only allow it move up and down.

I hope this images can explain it better, sorry for not having more details before





+ Quote



jtronics



Member

• 18

10 posts

Posted December 4, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

@Garufa, @nvcheeko, @Benleo888

Sorry for that I repeat my question, but do all of you use 1.75mm filament?

Where can I find **Hotends for 2.85mm** or is there a description to modify the hotends?

Thanks for your help

+ Quote





Member

+ 3

17 posts

🕒 On 12/4/2020 at 1:04 PM, jtronics said:

@Garufa, @nvcheeko, @Benleo888

Sorry for that I repeat my question, but do all of you use 1.75mm filament?

Where can I find **Hotends** for **2.85mm** or is there a description to modify the hotends?

Thanks for your help

1.75 only in my case. option you have is to install an UM3 head and always first pre-heat nozzle 2 on your start Gcode



+ Quote

**X-Type**

Member

● 0

31 posts

Posted December 6, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

Hi

Trying to learn about this mod :)

Are the changes to the metals parts I see mentioned in the thread needed for me to modify my UM2+ into DXU?

Or what are they actually needed for?

Thanks

+ Quote

**Benleo888**Posted December 9, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

🕒 On 12/6/2020 at 7:39 PM, X-Type said:





Ultimaker
B
Community of 3D Printing Experts
12 posts

Hi
trying to learn about this mod 😊

Search...



Are the changes to the metals parts I see mentioned in the thread needed for me to modify my UM2+ into DXU?
Or what are they actually needed for?

Thanks

If you arr talking about the mod I post before, the anwser is yes,
mainly the metal heatsink for second extruder. However, for original
UM2+, these extruder design with heatsink is already modify version
and mainly for 1.75mm filament.

+ Quote



2 weeks later...

stefan787



Member
+ 4
21 posts

Posted December 21, 2020 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...

Hi guys!

I do really like this project!
Because of this project I started building a Ultimaker 2 extended.
But I was wondering, is there somebody out there thaths is using the
E3D V6 hotends?
I don't really understand the ones off ultimaker.

I have orderd two of them, but I now see i need more than just that. I
also need those metal plates of the printhead: [Printhead_parts](#)

Thanks!

+ Quote



3 weeks later...

X-Type



Member
● 0
31 posts

Posted January 7, 2021 · DXU - Efficient Dual Extrusion Upgrade for
UM2+

...

🕒 On 12/21/2020 at 2:11 PM, stefan787 said:



Hi guys!

I do really like this project!
Because of this project I started building a Ultimaker 2 extended.
But I was wondering, is there somebody out there thaths is using the
E3D V6 hotends?
I don't really understand the ones off ultimaker.

I have orderd two of them, but I now see i need more than just
that. I also need those metal plates of the printhead: [Printhead
parts](#)

Thanks!



[+ Quote](#)**Garufa**

Posted January 8, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

3

17 posts

On 7/21/2020 at 9:43 PM, alexjx said:

I am.

Can you please share the firmware changes for the Duet to work with the DXU?

[+ Quote](#)

2 weeks later...

dadoblu_2000

Posted January 17, 2021 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

0

22 posts

Ciao @y়h1002 I have inaccurate values in the temperature reading, it is possible to have the factory values for 24v 35w resistance and for pt100 temperature probe in order to compare them with those I have, I tried to do the PID config, the values are different between hotend 1 and hotend 2 is normal? in addition, I find that if I set the same temperature between the two hotends, the filament has a different viscosity, let me explain better, I mold with the same filament, same brand, same color, hotend 1 and 2, from hotend 1 the filament comes out beautifully fluid as it should be, while in hotend 2 less fluid comes out, but the temperatures are identical according to the display, at the moment I don't have an infrared thermometer to be able to check the real temperature.

Edited January 18, 2021 by dadoblu_2000

[+ Quote](#)

2 weeks later...

y়h1002

Posted January 26, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

Author

...



Member

60

95 posts

On 1/17/2021 at 6:18 AM, dadoblu_2000 said:

from hotend 1 the filament comes out beautifully fluid as it should be, while in hotend 2 less fluid comes out, but the temperatures are identical according to the display

Hi. Do you have identical feeders for nozzle 1 and 2? Did you check if the esteps for feeder 2 is correct?



**tomazslapsak**

Posted January 28, 2021 (edited) · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

0

9 posts

Someone using DXU with Klipper?
Edited January 28, 2021 by **tomazslapsak**

Quote



3 weeks later...

Madtraxx

Posted February 12, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



New member

0

1 post

Getting Klipper to work with just the stock UM2+ is already quite the challenge. Making it work with this DXU upgrade would be challenging to say the least

Quote



1 month later...

qwerty8224

Posted March 27, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



Member

16

58 posts

Thank you for the project [yyh1002](#) 2021 the system works and brings pleasure and joy))))

Quote



3 weeks later...

qwerty8224

Posted April 12, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...



good afternoon firmware supports **Linear Advance ?**

Quote



Member

16

58 posts

1 month later...





Member

⊕ 3

17 posts

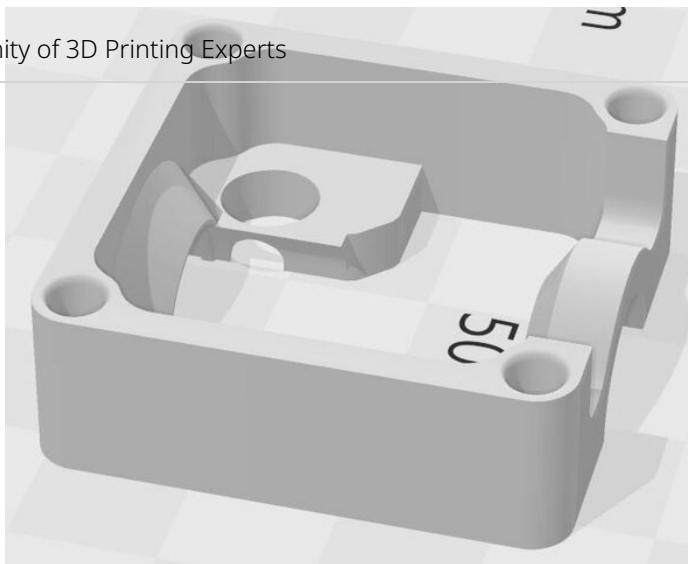
🕒 On 12/3/2020 at 11:51 AM, Garufa said:

I hope this images can explain it better, sorry for not having more details before



Head Bottom modified to keep the spring inside for the DXU adapter,
reusing the UM2 metal shield too





Garufa

Member

+ 3

17 posts

Posted June 6, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 7/21/2020 at 9:43 PM, alexjx said:

I am.

Alexjx, could please share the Duet / DXU configuration files?

+ Quote



1 month later...

qwerty8224

Member

+ 16

58 posts

Posted July 12, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

knows who disappeared where Author yyh1002?

+ Quote



1 month later...

Garufa

Member

+ 3

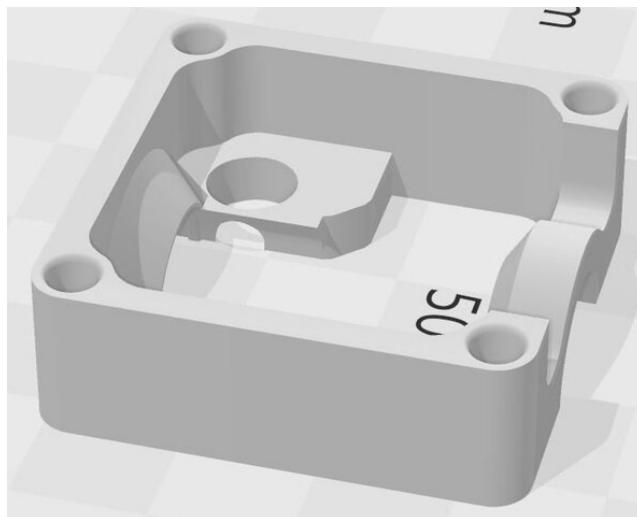
17 posts

Posted August 22, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

🕒 On 5/31/2021 at 10:35 AM, Garufa said:

Head Bottom modified to keep the spring inside for the DXU adapter, reusing the UM2 metal shield too





file of the modified Head Bottom to keep the spring inside, working great for me ! hope it helps if interested.

Head_Bottom Version 2.3mf
168.08 kB · 8 downloads

+ Quote



4 weeks later...

TylerTheFolf

Posted September 14, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

...

Can someone help me get edited files for this to work on an ultimaker





Ultimaker Community of 3D Printing Experts
1 post

original? I feel like this to breathe a lot of life into my older machine, the problem is on the ultimaker original the rod entrance is different (the back and forward rod is on the top while left and right is on the bottom) on the ultimaker 2 its in reverse. I've got no idea how to cad so help would be greatly appreciated as this seemed like a great option for the ultimaker original as far as dual extrusion goes.

I am more than happy to help getting any measurements.

+ Quote

3dprntz 1



4 weeks later...

chanyork

Posted October 11, 2021 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



New member

● 0

3 posts

🕒 On 7/21/2020 at 9:43 PM, alexjx said:

I am.

Hello alexjx,

Can you please share your firmware editing and all the configuration file? Please.

Well be great if you can provide some guide how we can configure duet with DXU setting.

+ Quote



chanyork

Posted October 12, 2021 · DXU - Efficient Dual Extrusion Upgrade
for UM2+

...



New member

● 0

3 posts

where does the PI Insulator goes? Can someone give me a photo showing that?

+ Quote



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DXU - Efficient Dual Extrusion Upgrade for UM2+

UM2+ MOD



By yyh1002,

September 22, 2018 in Third party products & modifications

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« PREV 5 6 7 8 9 10 Page 10 of 10 ▾

bigrjsuto



Member
+ 1
13 posts

Posted December 23, 2021 · DXU - Efficient Dual Extrusion Upgrade for UM2+

On 10/7/2020 at 1:33 PM, pcky said:

1. Sure, see attached STL file for the fan shroud. The hotend cooling fan is a Noctua NF-A4x10 5V. The part cooling fans are stock Ender 3 part cooling fans for 24v. The hotends are the original DXU ones.

2. That Meanwell UHP-350-24 has 350W. Plenty of power for the heated bed and two 40W hotends.

3. Those are BMG extruder clones from Amazon with "pancake" style stepper motors.

DXU Alternative Fan Shroud.stl 1.94...

Any chance you can share the .STEP file of this so I can modify it to use a different fan than the Noctura?

Quote



Replies
225

Created
3 yr

Last Reply
Dec 23

OUR PICKS

New here? Get ahead with a free onboarding course

SandervG posted a topic in Official news, February 9, 2021

Hi,

Often getting started is the most difficult part of any process. A good start sets...

11 replies

PICKED BY SandervG, August 17, 2021

[View All](#)

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