

Hornby HM7000 Bluetooth Controllers

"Default channel" CV1: 3

Control Options CV12: 2 Bluetooth
CV12: 0 DCC model

Information Sheets for the HM7000 Range. Please be advised, Always follow the setup and installation instructions from the manufacture for linking the HM7000. However... Some products and locomotives may need a little modification for you to get the best operating experience. The details here have been checked and tested. However any modification are done at your own risk. Myself and the people I reference, or link to, do not take any responsibility for any modifications you make. These are guides and helpful tips to get the best out of the products mentioned. We are not affiliated with any products or brands mentioned. It has been made as a quick reference guide to help the community. If you would like more information or help, you of course can reach out to us, and the wider community and we will do our best to guide you.

January 2026

HM7000 - 6 - DCC Decoder 6 Pin R7321 (no sound)

Pin	Name	Function	Wire Colour If applicable
1	MTR +	Motor Right (positive)	Orange
2	MTR -	Motor Left (negative)	Grey
3	POWER +	Right Rail Pickup	Red
4	POWER -	Left Rail Pickup	Black
5	F0 f	Forward Light	White
6	F0 r	Reverse Light	Yellow

Dimensions
18 mm Length x 8 mm Width
4 mm Height

HM7000 - 8 TXS - DCC Sound Decoder R7336

Pin	Name	Function	Wire Colour
1	MTR +	Motor Right (positive)	Orange
2	F0 r	Function Output B (rear headlight)	Yellow
3	Aux 1	Auxiliary Output 1	Green
4	Power -	Left Rail Pickup (negative)	Black
5	MTR -	Motor Left (negative)	Grey
6	F0 f	Function Output A (headlight)	WHITE
7	VCC	Positive Common	Blue
8	Power +	Right Rail Pickup (positive)	Red
	Aux 2	Auxiliary Output 2	Purple

Dimensions
28.5mm Length
14 mm Width
4.7 mm Height

HM7000 - 8 - DCC Decoder 8 Pin R7335 (no sound)

Pin	Name	Function	Wire Colour
1	MTR +	Motor Right (positive)	Orange
2	F0 r	Function Output B (rear headlight)	Yellow
3	Aux 1	Auxiliary Output 1	Green
4	Power -	Left Rail Pickup (negative)	Black
5	MTR -	Motor Left (negative)	Grey
6	F0 f	Function Output A (headlight)	WHITE
7	VCC	Positive Common	Blue
8	Power +	Right Rail Pickup (positive)	Red
	Aux 2	Auxiliary Output 2	Purple

Dimensions
18 mm Length x 8 mm Width
4 mm Height

HM7000 - N18 TXS: - DCC Sound Decoder R7345

Pin	Name	Function	Wire Colour
1 & 18	Power +	Track Power Right +	Red
2	MTR +	Motor Right +	Orange
3	Aux 1	Auxiliary Output 1	Purple
4	Aux 3 / TBCLK	Auxiliary Output 3 /	
5 & 14	GND	Common Ground after Decoders Rectifier	
6 & 15	Vcc	Common Positive after Decoders Rectifier	
7	Aux 6	Auxiliary Output 6	
8	F0 f	Forward Headlight	White
9 & 10	Power -	Track Power Left -	Black
11	MTL -	Motor Left -	Grey
12	Aux 2	Auxiliary Output 2	
13	Aux 4 / TBDAT	Auxiliary Output 4	
16	Aux 5	Auxiliary Output 5	
17	F0 r	Reverse Headlight	Yellow

Dimensions
28.5mm Length
14 mm Width
4.7 mm Height

These have all been tested and played with to get the best of the products to help you get the best of the model railway experience possible

Now I fully understand you may not want to attempt some of the modifications or upgrades, like changing a motor, adding lights, or hard wiring a board within the model. I have added links to how to guides and where to get the motor upgrades from.

I am more than happy to have a conversation with you to support you. However should you wish then I am able to offer these upgrades and many others. Along with models and enhancements for your model world.

Head over to www.modelrailworks.co.uk to contact me and see more. Or Feel from to message me on Facebook or Instagram, same company names or me Richard Turnbull. **Don't forget to follow my page**

High Fell on YouTube

Here is the link to [High Fell](#) YouTube Video, this video talks about how to help these Stayalives work more efficiently with the HM7000 6 & 8 Pin non sound Bluetooth systems. While I could explain in words, I believe seeing it will help many more. Above are images of the pads and locations talked about in the video.

www.youtube.com/@HighFell

Don't forget to like & subscribe

THIS WAY WORKS On YouTube and his Website

For your Motor upgrades and replacements personally recommend This Way Works. Supplies cordless motors and long with a few other bits.

He has a number of videos on YouTube show these upgrades and some other modifications. I have personally used these motors myself and they give fantastic control over the Locos Stock motors. I also uses these in customer upgrades.

www.baylissbespokedesigns.co.uk/shop
www.youtube.com/@ThisWayWorksTWW/featured

Don't forget to like & subscribe

!!! TOP TIP !!!

When you first link your new HM7000 decoder to your phone/tablet remember to make a note of the reset code and the code of the unit. This is just for back up for any issues where the decoder needs a reset and therefore a code will be needed. This saves you time from having to wait for HORNBY to email you a master reset code. You also get this code emailed to you, the email is the same as your Hornby account email. (Check spam)

!!! BONUS TIP !!!

When you link your phone to the HM7000 decoder it writes a CV value. Now in the add it takes seconds to change from Bluetooth control to Traditional DCC control. I believe, should you need to, you can change this on your DCC controller. This is handy should something happen to your phone or device and want to play trains for a bit while you wait for a replacement. You need to check your DCC controllers manual as you will need to write a CV value. The how to can be very different from controller to controller. But you need to **Edit CV12**. CV12 - 0 is DCC mode CV12 - 2 is Bluetooth mode You original connected phone / tablet can override this at any time you like and don't need to do this on the DCC control to go back to Bluetooth control, The App can do it, again only from the original linked device.

Train-O-Matic SPP Nano Stayalive HM7000 Plug attached

12 mm Length
4 mm Diameter

Dimensions
12mm Long x 6mm Wide
2.6 mm Height

All seems to work well on the TXS 8 and N18 Sound Decoders. However, it might still benefit from the modification in the video from High Fell

This Train-O-Matic Smart Power Pack (SPP) nano stayalive uses small 0.3F Supercapacitors. The SPP Nano with the Hornby plug needs a workaround to work with the Hornby HM7000 6 and 8 pin Non sound decoders. Suggesting DCC standards with that decoder have not been met, this could be hardware or software. However I, and High Fell (YouTube) have investigated the issue and found a workaround, separately but this does work. The Train-O-Matic SSP works well with the TXS HM7000 hardware. Giving that extra piece of mind to help with any small part of dirty track or power drop and continuous running on your layout.

Scan The QR Code to follow a link to his video.

High Fell on YouTube

Here is the link to [High Fell](#) YouTube Video, this video talks about how to help these Stayalives work more efficiently with the HM7000 6 & 8 Pin non sound Bluetooth systems. While I could explain in words, I believe seeing it will help many more. Above are images of the pads and locations talked about in the video.

Don't forget to like & subscribe



Positive of Stayalive
Negative of Stayalive

SMD 0402 LED
FIRE BOX

Simple diagramme for the fire Box LED wiring to the Aux1 (F1) option. This can be turned on within the HM7000 app or your DCC controller. Please check your LED to work out your resistor value.

FUNCTION 1 Turns the light on/off Change CV53 - 1 Fire Box Effect

AE Model 2-Wire Stay Alive

Compatible with Hornby TXS (HM7000) decoders to give improved performance and connectivity. This AE model comes as standard with the HM7000 plug, to help make it as simple as possible for installation on the Sound system boards. Please also take note, the HM7000 6 & 8 Pin Non Sound decoders also suffer a charging problem. The solution in the QR linked video should help to eliminate this issue. The Sound HM7000 boards seem to work well as plug and play.



AE Model Stayalive Dimensions
Capacitors 12mm x 5mm each
Control Board 12mm x 8mm x 3.5mm

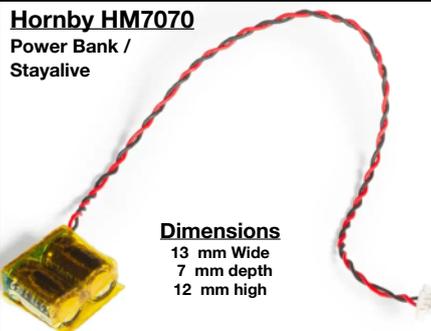
Train-O-Matic Next18 Female Adaptor Board

Type A
Dimensions
9mm Long
9.6 Wide

Type B
Dimensions
9mm Long
9.6 Wide

TR/TL	Track Right/Left (TR1 and TR2 are same)	+VCC	Plus (blue wire)
RL/FL	Rear/Front light	CLK	Clock
M	Motor	DAT	Data
SP	Speaker	A1-6	AUX/Output 1-6
GND	Ground/Mass (GND1 and GND2 are same)		

Hornby HM7070 Power Bank / Stayalive



Dimensions
13 mm Wide
7 mm depth
12 mm high

Hornby HM7070 R7377

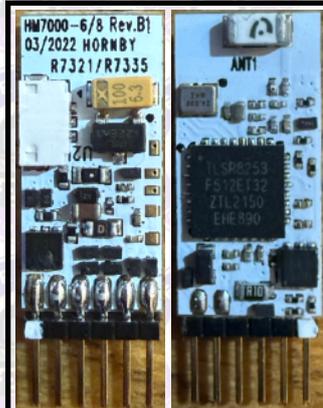
Simply plug this into the board to enhance our operating experience across points and dead or dirty small areas of track. This works extremely well as standard with all the HM7000 range. No modification is required, however, the issue is the size. Its a little big for some of the new small TT:120 locos.

Name	Function	Wire Colour
F0 r	Function Output B (rear headlight)	Yellow
Aux 1	Auxiliary Output 1	Green
F0 f	Function Output A (headlight)	WHITE
VCC	Positive Common	Blue
Aux 2	Auxiliary Output 2	Purple

Just an Idea of how LEDs could be done for something. This set up would work well on a Class 08. Or no Aux2 and only a front and back LED for a Steam Engine. Play and think how you would like it. Its just a simple way to show what you could do. Wiring like this, Forward driving FO f would turn on the LEDs on the Right. Driving Backwards FO r would turn on LEDs on the left. Aux 1 as a single LED, say a Fire box light or Cab Aux 2 as a single LED and could be a Cab Light or another Running Light or Flood Light

!!! TOP TIP !!!

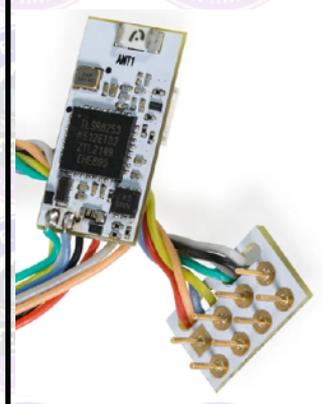
When you first link your new HM7000 decoder to your phone/tablet remember to make a note of the reset code and the code of the unit. This is just for back up for any issues where the decoder needs a reset and therefore a code will be needed. This saves you time from having to wait for HORNBY to email you a master reset code. You also get this code emailed to you, the email is the same as your Hornby account email. (Check spam)



HM7000 6 & 8 Pin non Sound Decoder Tips (some also will be relevant for all HM7000 devices)

So you have just purchase your new loco and the new HM7000 6 Pin Bluetooth decoder. Here are some helpful tips and tricks that have helped many, and some just wont need them. However, I recommend you still look at doing the following for a number of reasons. Things you need to know are;

- A. DCC control or Bluetooth control, it doesn't really matter, as the control for all these kinds of systems are done to a basic setting / standard, and need a fine tune to help improve the performance for your mini world.
- B. Not evterting is an exact copy, even a factory making the same thing for hours on end, can have some very small differences. Not noticeable by the eye, but can be from a machine code.
- C. No layout s the same. This can be the way your track is laid to the environment, to the time of the year. Not just humidity, temperature, but also other factors of electrical interference not to mention the equipment used.
- D. This information can be applied to any and all HM7000 range as well as other DCC systems. However, YOU must check the relevant CV codes for your system. The codes listed along with tips are for the HM7000 range and the hardware shown/listed within these pages.
- E. What motor is in your loco? "Pole motors" are the normal standard, Coreless are slowing coming as standard, but the "DCC standard" still seems to be pole motor types. The system really does need to know. Great Place to look for a new motor [THIS WAY WORKS www.baylissbespokedesigns.co.uk](http://www.baylissbespokedesigns.co.uk) currently offering A1, A3, A4 and the Class 08.



Hornby HM7070



AE Micro Stayalive SSC.1



SPP Nano Stayalive Train-O-Matic For Hornby HM7000



TESTING STAGES

TESTING STAGES
Zimo STACO4A

1. Make sure your track is clean, I'm not just talking of the look of it being clean. But clean of grease and dust as well as items. I use a simple cleaning pads available from many rail model shops, I am not a fan of track rubbers as they do take the top layer of metal off. However it is your line and you can use what works for you.
2. Don't forget to check all the wheels on the loco, pickups as well need checking, that they do not have anything in between them, the wheels again clean from grease and dust. A simple cotton bud can be very handy here, just don't leave and fluff behind (the cheaper ones can come apart more easily).
3. New loco, bought DC option... Run the loco in now. Just makes life easier and this makes sure the loco is fully working. DCC bought... Then follow the below as normal. Some of these tips are useful for all the HM7000 range, definitely if you have upgrade / replace the motor of any locomotive.
4. Always make sure you are using the latest OS (operating system) on your device. Then check for any updates of the HM7000 App. Remember devices do go out of usability after time. This is down the the developers and hardware makers.
5. Personally put on a "Do Not Disturb" mode. You do not want a call or notification to come through mid install that could end with a crashed install then needing a reset. Its okay if it got past the point of the email reset code. However if it happens before the link to your Hornby account then you may have to contact Hornby for the master reset.
6. Search and install the HM7000 decoder as per instructions. Remember the power cycles and do not touch anything while its doing its thing. ***Remember to copy and save your reset code*** Run all updates as well with your install, it should give you that option automatically. Power cycles must be completed when asked for.
7. Okay so all installed and all you want to do is play play play... sadly a couple of small things need to be done now. First thing to do, remember above with the motor options even an upgraded / replaced motor. You need to let the system know what hardware you are actually playing with. As it stands from time of writing, the Terriers and J50s have coreless motors as standard. Class 08 standard from Hornby no need to do this and you can go to step 6. You need to let the HM7000 know this how to power the motor therefore the options are; **Edit CV144** from 0 to 1 "coreless motor". **CV144** at 0 for the "standard motor".
8. Now the hardware and software is aware how to power the motor correctly you need to run a short test on the motor so the rest of the software knows how to control said motor. This should be done on all locos to really get the best out of the equipment. Make sure all functions on the loco is off. You need a nice stretch of level track with minimal curve radius possible, can use up to 1.5 meters, no load attached. **Edit CV149** from 2, to 0. This enables auto calibration mode. Now on the main screen **Press F0** (daytime light) the loco should shoot off setting up its own CVs for you. Once it has done its thing and fully stopped. **Press F0** to turn the model back off. Once it has been turned off (**F0**), you need to go back and **Edit CV149** back to 2.
9. All this has been done without a stayalive in your model, however you can add a stay alive as well. This was just the beginning of helping to improve your running experience. A Stayalive will help you to eliminate and potential power drop outs, this is the biggest issue for bluetooth connectivity. A slight drop in power and the hardware and software need to link back up again. This can be 5-60 seconds.
10. Weight of the loco plays a big part to this. This is kind of down to few things, the loco itself, needs to be on the track and "held" down on the track, keeping things clean helps with this as well believe it or not. But also your train laying, if it has a kink, a slight lift, a bend, it can all create a section small enough for the locos wheel to come away fro the tracks causing said power loss.

I have done these tests on several locos having a perfect success rate for me, even without a stayalive and seen a wonderful improvement to the running characteristics. Adding the stayalive is an added bonus! Where possible try and add a stay alive more so to the smaller locos, see the above liked video for some ideas. Happy to help or upgrade your items for you should you feel you are not comfortable do it.

I will of course keep this updated as best as possible.

Please feel free to reach out if you have any questions, comments or concerns.