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Casio SK-1 MIDI Retrofit Guide

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☐ 06-13-2012, 04:36 PM   #**1**

John ◯
Moderator

Join Date: Jan 2009
Posts: 3,007

📄 **Casio SK-1 MIDI Retrofit Guide**

Step #0: Read the UMR2 user manual! You can download it from the UMR2 product page.
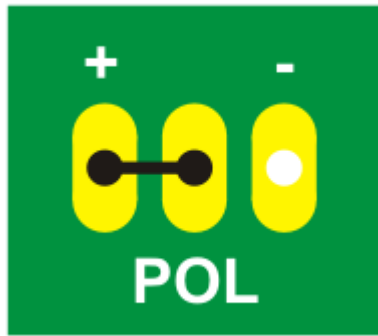
Always remove batteries and disconnect any power supply from the SK-1 before wiring activity.

1. (VERY IMPORTANT) Connect Matrix Polarity Jumper

Connect the UMR2 Matrix Polarity Jumper for the "Active High" setting. You can do this by soldering a small piece of wire as shown.

2. Power and MIDI: Wiring and Test

Connect the UMR2 "DC IN" terminals and MIDI terminals as shown in the diagram. (Note: some users have suggested a series diode in the DC IN "+" connection to allow the UMR2 to reliably power down in sync with the host.)
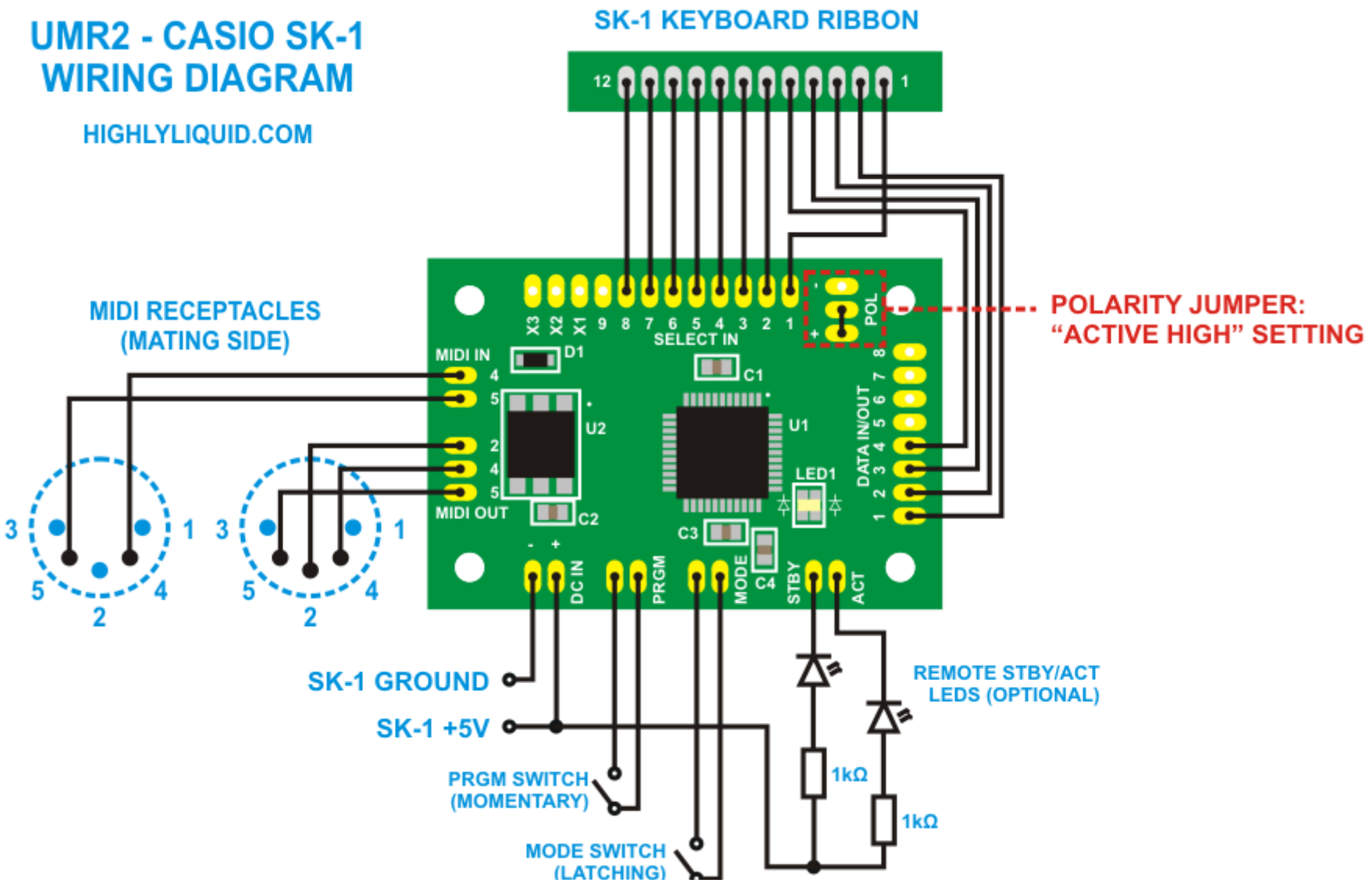
With the host keyboard powered on, test the MIDI signal path by making the following connections:

MIDI Controller MIDI Out -> UMR2 MIDI In
UMR2 MIDI Out -> Sound Module MIDI In

Test the UMR2 "software MIDI thru" by attempting to control the sound module with the MIDI controller. This confirms that the MIDI and power wiring are correct.
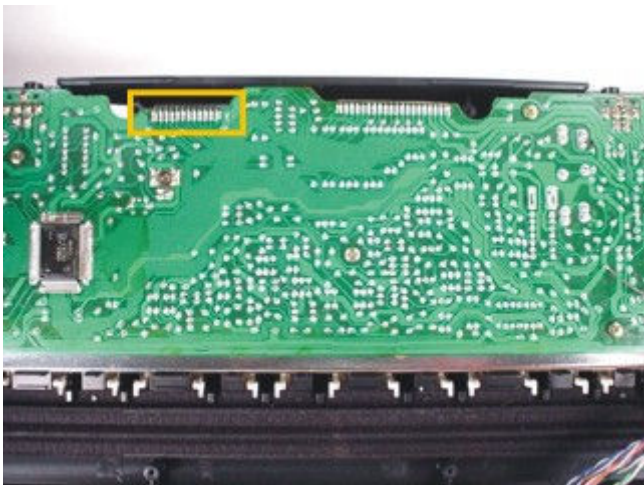
3. Matrix and Switch Wiring

Complete the matrix wiring and PRGM and MODE switch wiring as shown in the diagram.

UMR2 - CASIO SK-1 WIRING DIAGRAM

HIGHLYLIQUID.COM

SK-1 KEYBOARD RIBBON

MIDI RECEPTACLES (MATING SIDE)

POLARITY JUMPER: "ACTIVE HIGH" SETTING

SK-1 GROUND

SK-1 +5V

PRGM SWITCH (MOMENTARY)

MODE SWITCH (LATCHING)

REMOTE STBY/ACT LEDS (OPTIONAL)

1kΩ

1kΩ

Host ground and +5V locations:

Host keyboard ribbon location:

4. UMR2 Setup Procedure

Complete the UMR2 Setup Procedure as described in the UMR2 user manual. This allows the UMR2 to "learn" the keyboard switch matrix configuration of the host, and also sets the MIDI channel and note range.

5. Post Feedback

Post a reply to let us know how this worked for you. 🙂

Last edited by John; 02-26-2014 at 12:34 AM.

Quote

📄 06-13-2012, 04:39 PM

#**2**

John ⦿
Moderator

Join Date: Jan 2009
Posts: 3,007

With a future UMR2 firmware version, I'd like to add the possibility of CC I/O for the SK-1 control panel buttons. Anyone interested in something like that?

Last edited by John; 06-13-2012 at 04:43 PM.

Quote

06-14-2012, 07:59 PM   #**3**

skippy76901 ◉
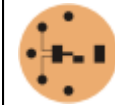Junior Member

Join Date: Jun 2012
Posts: 1

That would be great. I thought I was going to have to buy 2 and use one to control the preset buttons with midi notes.

Quote

06-14-2012, 08:21 PM   #**4**

John ◉
Moderator

Join Date: Jan 2009
Posts: 3,007

Hi Skippy, welcome. Thank you for the feedback.

Quote:

> Originally Posted by **skippy76901** ⟩
> *That would be great. I thought I was going to have to buy 2 and use one to control the preset buttons with midi notes.*

At the moment, that is the only solution.

But it definitely seems much more efficient to get combined mixed note/cc working on a single UMR2. We'll see what happens. 🙂

Quote

06-15-2012, 08:48 PM

#**5**

labelwhore ○
Member

Join Date: Mar 2012
Posts: 42

First thanks for posting this! I can't wait until my UMR2 arrives.

Now for my question, how would I go about connecting the UMR2 to get midi control over the extra drum pads on my SK-5?

Quote

06-18-2012, 05:16 PM

#**6**

John ○
Moderator

Join Date: Jan 2009
Posts: 3,007

Quote:

> Originally Posted by **labelwhore** ▷
> *First thanks for posting this! I can't wait until my UMR2 arrives.*
>
> *Now for my question, how would I go about connecting the UMR2 to get midi control over the extra drum pads on my SK-5?*

The pads on the SK-5 share the same data lines as the keyboard.

For now, anyway, the UMR2 can support up to 9 select lines. So it's just a matter of connecting the unused UMR2 select input (Select 9) to the select pin for the 4 pads you want to control. I forget the pin number at the moment--it's on the 25-pin control panel ribbon.

Quote

📄 06-18-2012, 09:33 PM

#**7**

labelwhore ○

Member

Join Date: Mar 2012
Posts: 42

Quote:

> Originally Posted by **John** ›
> *The pads on the SK-5 share the same data lines as the keyboard.*
>
> *For now, anyway, the UMR2 can support up to 9 select lines. So it's just a matter of connecting the unused UMR2 select input (Select 9) to the select pin for the 4 pads you want to control. I forget the pin number at the moment--it's on the 25-pin control panel ribbon.*

That seems easy enough, I'm sure I can figure it out. Thanks!

Quote

📄 07-02-2012, 10:26 PM

#**8**

aldegra ○

Junior Member

Join Date: May 2011
Posts: 14

📑 **Sk5?**

Does this same Matrix wiring apply to the SK5? Where is the 5V and the GROUND? Has anyone found which pin to connect the 'select 9' to in order to midi control the extra pads?

Quote

07-02-2012, 10:56 PM   #**9**

labelwhore ○
Member

Join Date: Mar 2012
Posts: 42

there's a good picture here:

I think you need to connect select 9 to pin 4 of the 25 pin ribbon cable for access to the 4 sample pads.

Quote

#**10**

07-04-2012, 03:09 AM

aldegra ○
Junior Member

Join Date: May 2011
Posts: 14

Ive installed the umr2 in my sk5 with the same matrix wiring as described in this thread for the sk1 and it's not functioning properly. I have the 5v and the ground as described by the photo in the last post. Should the ground maybe go to the same solder point as the green wire in that photo? (the letters 'GR' are printed on the board next that point).

I've setup the umr2 three times according to the manuals instructions.

Right now I can get the midi controller mode to work but only by turning the sk5 power off, disconnecting the batteries, turning the sk5 power switch on, then connecting the batteries. I think this works because the sk5 and the umr2 power up at the same time this way.

I've gotten the sound module mode to work twice when I first connected it to two different midi controllers. But after powering off the sk5 and turning it back on, it won't work with either in this mode. The red act light blinks with every note from the controller but no notes are triggered on the keyboard.

Thanks for the help so far, I'd really be thrilled if I could get this thing to function as a sound module.

Quote

#**11**

07-05-2012, 10:32 PM

John ○
Moderator

Join Date: Jan 2009
Posts: 3,007

Quote:

Originally Posted by **aldegra** ▣

Ive installed the umr2 in my sk5 with the same matrix wiring as described in this thread for the sk1 and it's not functioning properly. I have the 5v and the ground as described by the photo in the last post. Should the ground maybe go to the same solder point as the green wire in that photo? (the letters 'GR' are printed on the board next that point).

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Thanks for the help so far, I'd really be thrilled if I could get this thing to function as a sound module.

Hi Aldegra,

Thanks for the trouble report. Let me create an "official" SK-5 install thread so that we can discuss these issues.

By the way, the green wire that you are referring to is the "case ground" for the SK-5. I have had better success using the logic ground instead.

![Quote]

🗋 12-21-2012, 09:52 PM   #**12**

merics ◉
Junior Member
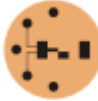
Join Date: Dec 2012
Posts: 2

Is it possible to get both midi in and midi out with the UMR2 and SK-1? The SK-1 would make a neat little midi keyboard.

Quote

☐ 12-22-2012, 12:34 AM

#**13**

John ○
Moderator

Join Date: Jan 2009
Posts: 3,007

Quote:

> Originally Posted by **merics** ▶
> *Is it possible to get both midi in and midi out with the UMR2 and SK-1? The SK-1 would make a neat little midi keyboard.*

Yes. 🙂 The UMR provides both MIDI in and out for the SK-1.

Quote

☐ 12-22-2012, 01:55 AM

#**14**
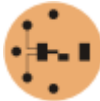
merics ○
Junior Member

Join Date: Dec 2012
Posts: 2

Perfect! It will go nicely with my vostok as a sampler and keyboard.

Quote

☐ 12-22-2012, 03:23 PM

#**15**

John ○
Moderator

Join Date: Jan 2009
Posts: 3,007

Quote:

> Originally Posted by **merics** ⊠
> *Perfect! It will go nicely with my vostok as a sampler and keyboard.*

It would be really cool to see them playing together!

Quote

☐ 04-07-2013, 03:00 AM   #**16**

deathstarchris ○
Junior Member

Join Date: Apr 2009
Posts: 7

John,

I have a question. Based on 4.1 in the user manual as refers to mode. If I wanted to run both modes at the same time, could I do this with 2 UMR2 modules? One hardwired as sound module mode and one hardwired as midi controller mode? I have a crazy idea I want to try out.
Thank you,

DSC

Quote

☐ 04-09-2013, 10:45 PM   #**17**

John ⊙
Moderator

Join Date: Jan 2009
Posts: 3,007

Quote:

> Originally Posted by **deathstarchris** ⊡
> *John,*
>
> *I have a question. Based on 4.1 in the user manual as refers to mode. If I wanted to run both modes at the same time, could I do this with 2 UMR2 modules? One hardwired as sound module mode and one hardwired as midi controller mode? I have a crazy idea I want to try out.*
> *Thank you,*
>
> *DSC*

Hi Chris,

Interesting idea, and good question. 🙂 I haven't tested such a setup, but I think it could work. One issue is that the UMR2 acting as a sound module (MIDI input) will likely trigger activity on the UMR2 acting as a MIDI controller (MIDI output). So if that is not a problem, I don't see any reason why the two units can't coexist.

Quote

☐ 04-10-2013, 01:07 AM

#**18**

deathstarchris ⊙
Junior Member

Join Date: Apr 2009
Posts: 7

Quote:

> Originally Posted by **John** ⊠
> *Hi Chris,*
>
> *Interesting idea, and good question.* 🙂 *I haven't tested such a setup, but I think it could work. One issue is that the UMR2 acting as a sound module (MIDI input) will likely trigger activity on the UMR2 acting as a MIDI controller (MIDI output). So if that is not a problem, I don't see any reason why the two units can't coexist.*

Thank you John, I will let you know what I come up with. 🙂

Quote

☐ 04-11-2013, 03:21 AM   #**19**

gmeredith ⚪   Join Date: Mar 2013
Junior Member   Posts: 26

If that were the case, the MIDI OUT UMR2 would be acting as a pseudo "MIDI THRU". It should work, so long as you didn't use the MIDI OUT/THRU port of the MIDI IN UMR2 at the same time. Otherwise you will get 2 sets of MIDI data replicated - one set from the incoming data going into the MIDI IN UMR2 and coming out it's MIDI THRU port, and another same set coming out of the MIDI OUT UMR2's OUT port, being triggered by the MIDI IN activity on the key matrix. A simple switch should be able to connect/disconnect one of these PORTS at will.

Cheers, Graham

Quote

☐ 04-26-2013, 09:31 PM   #**20**

S*N*A*F*U*B*A*R ⚪   Join Date: Mar 2013
Junior Member   Posts: 1

📄 **Cc i/o**

Quote:

> Originally Posted by **John** ▶
> *With a future UMR2 firmware version, I'd like to add the possibility of CC I/O for the SK-1 control panel buttons. Anyone interested in something like that?*

Hi John.
I've followed the site for while and I've finally made up my mind to order a UMR2 or two. I just have a couple questions:

Has the proposed CC I/O support been implemented yet? Will it be in the near future (should I wait to order)?

If not, is there any reason I couldn't use the UMR2's extra data lines to control the SK-1's buttons with regular MIDI notes? The SK-1's keyboard and buttons use the same 10x8 matrix, so it seems like almost everything should be addressable with the UMR2's 9x8 matrix.

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