Manual:
How to connect YAMAHA keyboards (Tyros, PSR) with SongBook+

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1 What are the benefits of connecting SongBook+ with the keyboard?

1.1 SongBook+ controls the keyboard

When a song in SongBook+ is opened, SongBook+ can send MIDI commands to select the corresponding registration in the connected keyboard. So **you don't have to manually switch anything on keyboard during your performance to start playing the next song**.

This method of remote control works with Tyros 2 and later keyboards, but not with the Tyros 1 or any PSR keyboard.

Attention:
This method of remote control only works with Tyros 2 or newer, but not with Tyros 1 or keyboards of PSR series.

1.2 Keyboard controls SongBook+

If you prefer to select your song from a registration on the keyboard, then the other direction of remote control is available. SongBook+ **can automatically open the matching song and display the corresponding PDF file as soon as you select a registration on the keyboard**.

This type of remote control works with all keyboards.

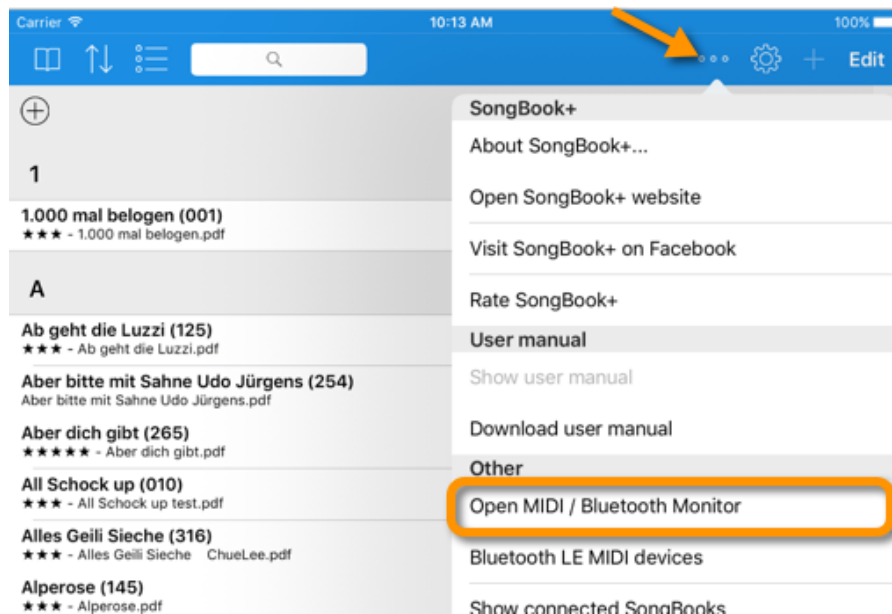# 2 Compatible Yamaha keyboards

Attention:
For the new Yamaha Genos keyboard, you can find a separate manual named "*How to connect YAMAHA Genos keyboards with SongBook+*".

This manual shows how the settings are made on a Tyros 5. The configuration of other Tyros models or PRS keyboards is similar. Note that older PSR models support only 250 files per folder, as opposed to 500 on a Tyros.

With Tyros 2-5, PSR-S775 and PSR-S975 keyboards, both directions of remote control are possible. With the Tyros 1 and older PSR keyboards, only the direction from keyboard to SongBook+ is available.

3 How do I connect SongBook+ with my keyboard?

SongBook+ has a MIDI monitor which can display received MIDI events. Using this, you can check the communication with the keyboard. Just open this window and have the keyboard send some MIDI signals to SongBook+, e.g. by pressing keys, by selecting a registration or playing a midi (song) file. The received MIDI events will then be displayed.
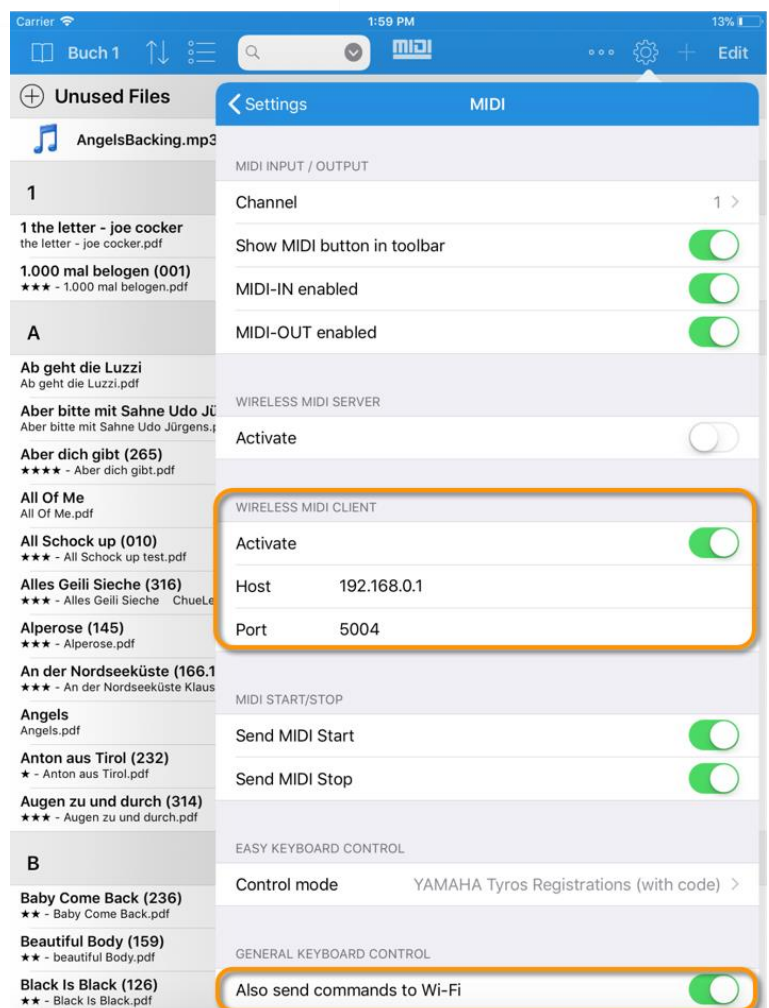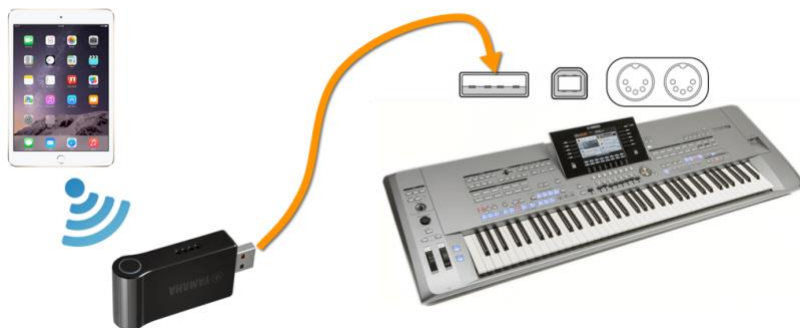

If the connection is not established automatically (ie, no events are displayed in the Monitor), you may need to press the "Restart MIDI" button and/or reconnect your cable to the iPad.

3.1 Using the WiFi stick of Tyros 5

The UD-WL01 WiFi stick shipped with the Tyros 5 can be used to connect the iPad with the Tyros 5. The Tyros 5 can then act as a Wireless MIDI Server and SongBook+ is the Wireless MIDI Client. In the MIDI Settings of SongBook+ you activate the Wireless MIDI Client and add the IP address of the Tyros 5 as host. Additionally, you must enable the option "Also send commands to Wi-Fi".

The easiest way to connect the WiFi stick is in "Access Point Mode". In this mode the keyboard creates its own WiFi network and you need to select in the WiFi settings of the iPad this WiFi network of the keyboard. The IP address of the Tyros is then 192.168.0.1.

Alternatively, you can integrate the WiFi stick into an existing WiFi network, but the IP address of the Tyros will then be different.

3.2 Using a Bluetooth LE MIDI Adapter

You can also find wireless MIDI Adapters that are recognized by the operating system of the iPad as Bluetooth MIDI LE devices and these can be used by compatible apps.

Pairing of the adapter in the Bluetooth settings of the iPad is not needed. SongBook+ has a "Bluetooth LE MIDI devices" function to establish the connection to the adapter.
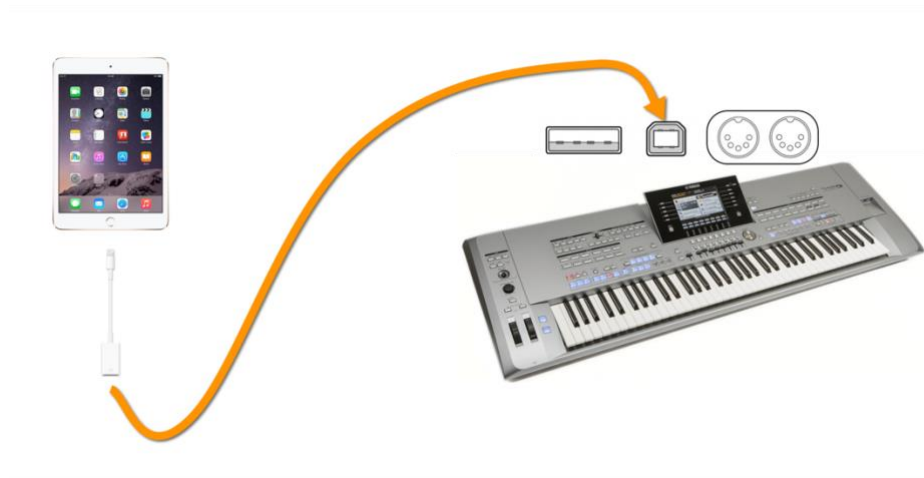(e.g. Yamaha MD-BT01, Yamaha UT-BT01, QuiccoSound mi.1, Zivix PUC+)

Note that the Bluetooth LE MIDI is supported only by iPad 3 or later.

3.3   Using USB-MIDI directly to the keyboard

Keyboards with a USB to Host port can be connected using a USB printer cable. As the iPad doesn't have a USB connection, you need an adapter (commonly called a camera connector) to connect the iPad with the USB cable.

3.4   Using a USB MIDI adapter

Many USB to MIDI cables can be also used with the iPad. The cable is connected to the 5-pin MIDI port (either midi A or midi B). Since the iPad doesn't have a USB connection, you need a camera connector to connect the USB end of the cable to the iPad.

To avoid the adapter draining the iPad's battery, you can use an active USB Hub (with power supply) between the iPad and USB MIDI adapter.

3.5 Using a MIDI adapter that can be connected directly to iPad

You can also find MIDI cables that are designed for use with Apple iOS devices (iPad, iPhone, etc). For these cables, the camera connector is not needed.

Note that only a few of these adapters can charge the iPad while it's being used. Consider that feature when buying such an adapter.

(e.g. adapters like iConnectMIDI2+/4+, Alesis ioDock, Behringer iStudio IS202 or the iRig MIDI only in the old version 1 can charge the iPad.)

4 MIDI settings in SongBook+

The MIDI settings in SongBook+ are the same regardless of the control method used. In SongBook+ you select the correct MIDI channel and the correct "Control mode".

The default channel is MIDI channel 1. If you want to use another MIDI channel, you need to specify this in the settings.

1. Open the settings in SongBook+.

2. Select MIDI settings

3. Select channel 1.

4. Select the control mode "YAMAHA Tyros Registrations (with code)".

5. When using the WiFi-Stick with Tyros 5, activate this setting.

5 "SongBook+ controls keyboard" Method

Using this feature, SongBook+ can activate a registration bank from the current folder.
If needed, it can also activate a specific registration from the 8 registrations contained in the bank.

Attention:
This method of remote control only works with Tyros 2 or newer, but not with Tyros 1 or keyboards of PSR series.
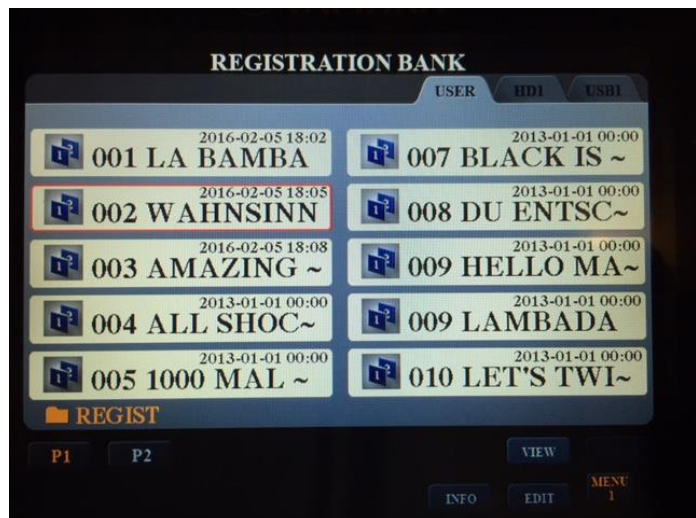
Note that a folder in the Tyros keyboard can not contain more than 500 files. This means a maximum of 500 banks are available to SongBook+ (when the folder contains only registration bank files).

5.1 Naming the registration banks

It's important to note that, when using this control method, the registration bank can be selected only by its numerical position in the folder, e.g. the 1st, 2nd, 3rd, …, 499th, 500th. Because of this, we recommend you name the registration banks starting with a 3-digit number so they always keep their numerical position in the folder.

For example:

- 001 La Bamba
- 002 Wahnsinn
- 003 Amazing Grace
- ...
- ...
- ...
- ...
- 497 Reserve
- 498 Reserve
- 499 Beautiful Dream
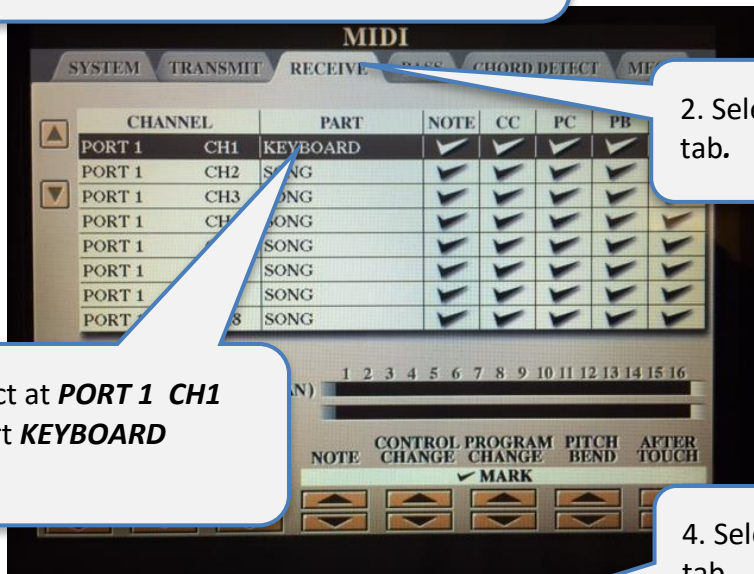- 500 Achy Breaky Heart

If you want to reserve spots for later use, you will have to fill them with empty registration banks in order that the numerical position of the following registrations is maintained.

5.2 MIDI settings on keyboard

In order to select the registration by MIDI commands from SongBook+, the keyboard needs some corresponding MIDI settings.

We assume here that the MIDI channel 1 is used to control the keyboard and that the iPad is connected to PORT 1 (MIDI A/USB 1/WLAN). If you want to use another MIDI channel or another PORT, you need to specify it as needed.
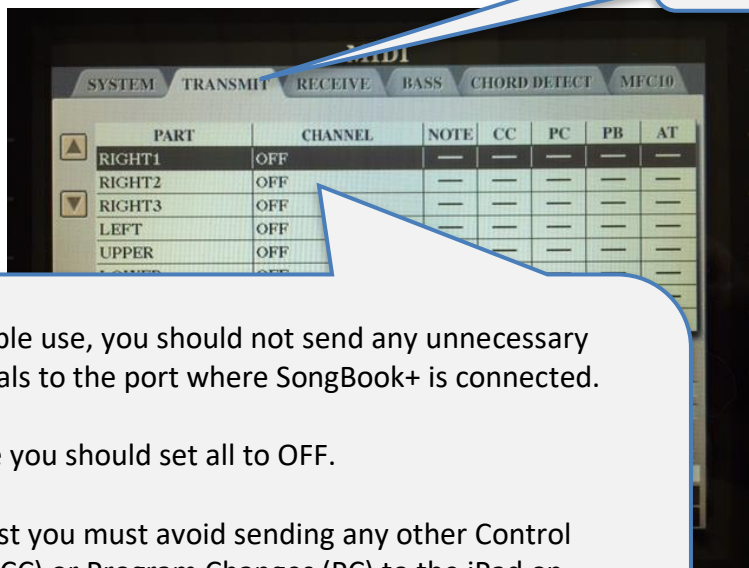
1. Press the **FUNCTION** button on the keyboard, then select the **MIDI** tab, then press **EDIT** to enter into the MIDI Setup.

2. Select the **RECEIVE** tab**.**

3. Select at **PORT 1 CH1** the part **KEYBOARD**

4. Select the **TRANSMIT** tab

5. For stable use, you should not send any unnecessary MIDI signals to the port where SongBook+ is connected.

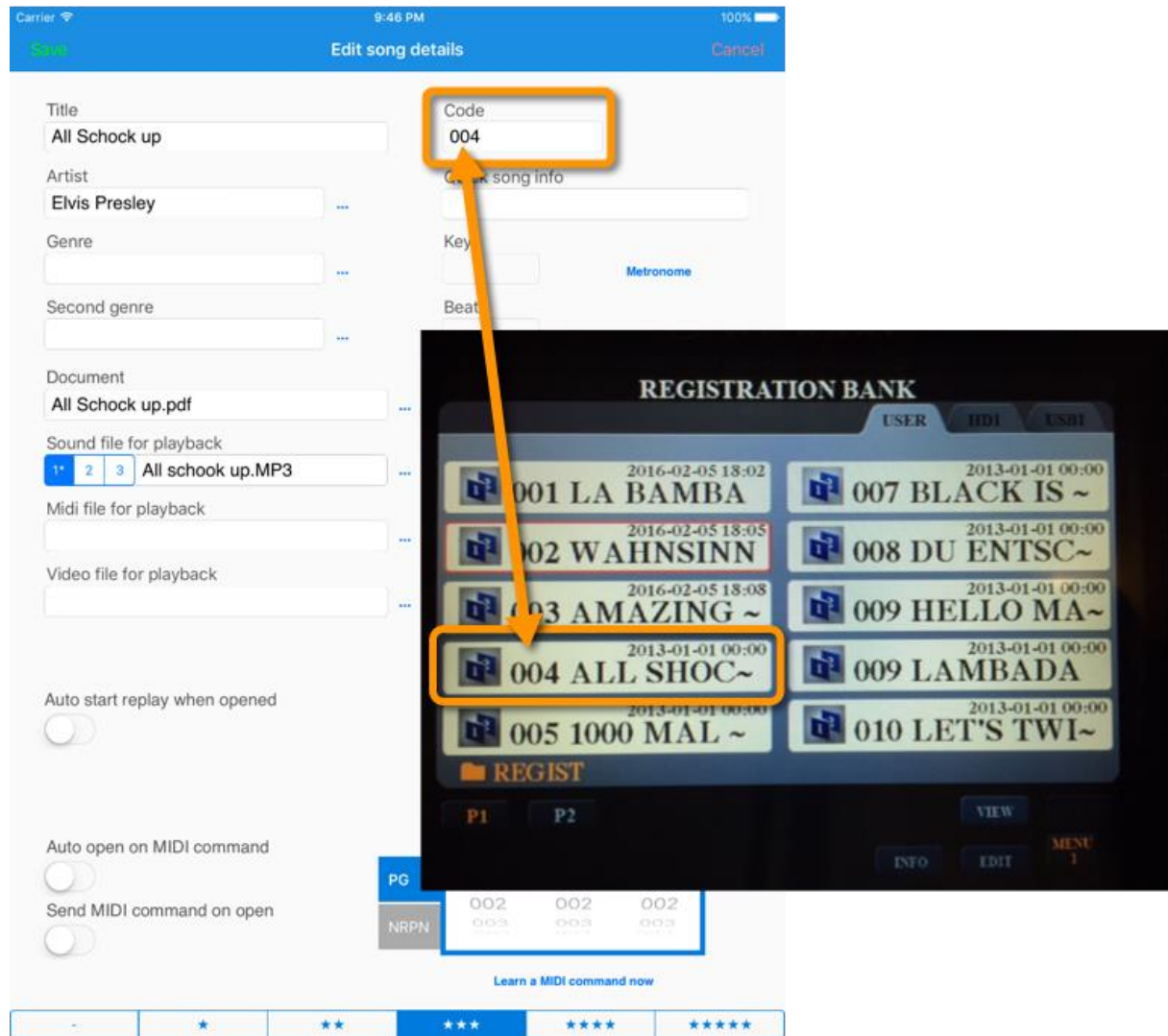Therefore you should set all to OFF.

But at least you must avoid sending any other Control Changes (CC) or Program Changes (PC) to the iPad on channel 1 that is used to remote control SongBook+.

Tip:
Save the MIDI settings in the USER section e.g. with the name SONGBOOK+.

5.3   Link the Song in SongBook+ to the keyboard registration

Enter in the "Code" field the number of the corresponding registration bank as a 3-digit number. This will activate the first registration of that bank when you open a song in SongBook+.

If you prefer to activate a different registration in the bank, just add a point and a number between 1 and 8 to the code, e.g. 004.3 for the 3rd registration in bank number 4.

6 "Keyboard controls SongBook+" Method

Using this feature, selecting a registration on the keyboard triggers SongBook+ to open the corresponding PDF file (to display the notes, chords, lyrics, etc.). This is done by including a midi (song) file in the registration to identify the desired file.

The required MIDI files can be downloaded from the SongBook+ website using the link in chapter 6.2.

As the MIDI control file doesn't contain any music notes, the content is automatically played when selecting the registration (as long as the "QuickStart" feature of the keyboard is not disabled). This means the PDF file in SongBook+ is automatically displayed when the registration button is pressed.

If you also want to play a normal MIDI (song) file, you must embed the required midi commands at the beginning of the file, using, for example, SongCreator directly on the keyboard.
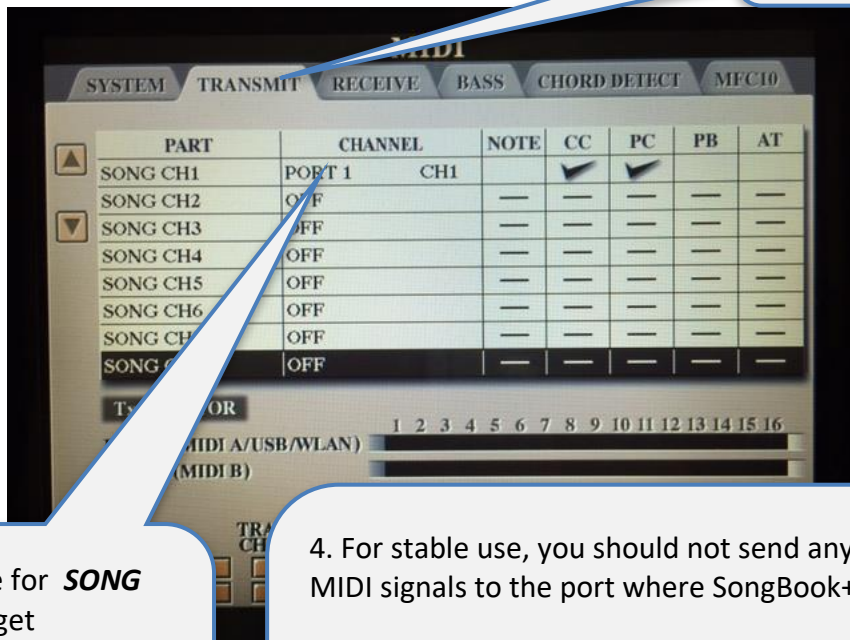
6.1 MIDI Settings on keyboard

In order to control SongBook+ using these small MIDI files, the keyboard must be configured accordingly.

We assume here that the MIDI channel 1 is used to control SongBook+ and that the iPad is connected to PORT 1 (MIDI A/USB 1/WLAN). If you want to use another MIDI channel or another port, you need to specify it where needed.

1. Press the **FUNCTION** button on the keyboard, then select the **MIDI** tab, then press **EDIT** to enter into the MIDI Setup.

2. Select the **TRANSMIT** tab.

3. Configure for **SONG CH1** the target **PORT 1 CH1** and set a checkmark at **CC** and **PC**.

4. For stable use, you should not send any unnecessary MIDI signals to the port where SongBook+ is connected.

Therefore you should set all others to OFF.

But at least you must avoid sending any other Control Changes (CC) or Program Changes (PC) to the iPad on the channel that is used to control SongBook+.

Tip:
Save the MIDI settings in the USER section e.g. with the name SONGBOOK+.

6.2   Link the Song in SongBook+ to the keyboard registration

Download the prepared small MIDI files from the SongBook+ website:

→ www.baum-software.ch/downloads/DummyFiles/YamahaDummyMidis.zip

Extract the files from the zip file, and copy the necessary files to the same drive your registrations are on. We recommend you put these files in a subfolder called "SongBook".

First, add a 3-digit number to the "Code" field of SongBook+. Then assign the MIDI file with the same number to the first registration of the bank. You do this by loading your registration, selecting the midi file using the Song (A) button, memorizing the registration (ensuring the Song group is checked), then saving the bank.

Now on selecting the registration, the corresponding song is opened in SongBook+ and the PDF file is displayed.

If you want to use a single registration per song, you will also find the required MIDI files in the download. For example, "SongBook_004.3" will load the file with Code field "004.3".

7 Combine both methods

It is technically possible to combine both methods described above. But because to select songs in SongBook+ the registrations must be sorted by code, and to select songs in the keyboard you probably want the songs to be sorted by name, it doesn't make much sense to combine both methods.
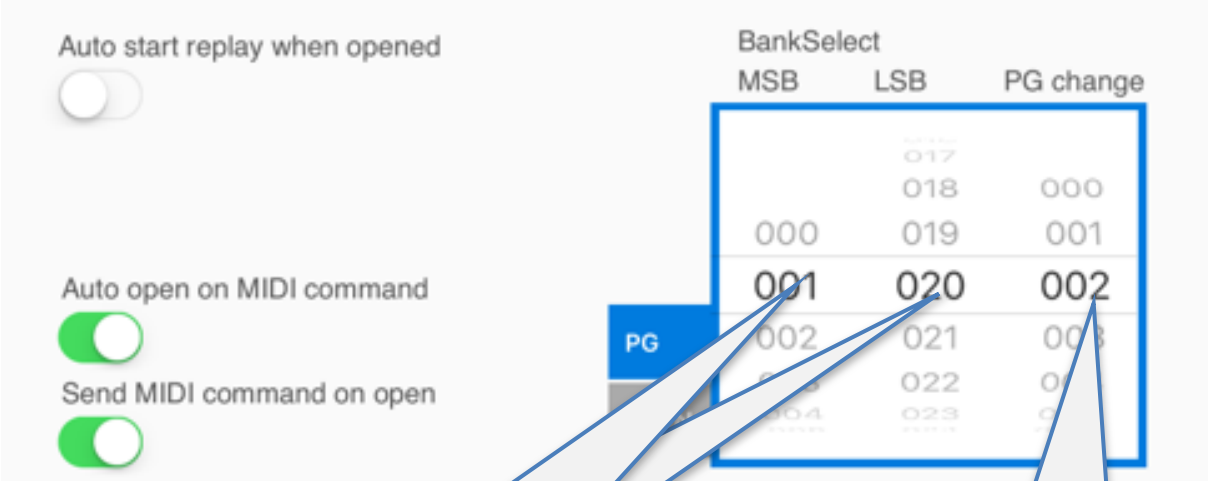
8 Alternative control using the "MIDI wheels" of SongBook+

Instead of mapping with a song number in the Code field, you can also specify the required BankSelect MSB, BankSelect LSB and Program Change code using the "MIDI wheels" in the song details of SongBook+, then activate the switch "Auto open on MIDI command" or "Send MIDI command on open".

Older user manuals describe this method of using SongBook+ with the Tyros.

Using the Code field does exactly the same thing but is simpler to configure and requires less MIDI knowledge. You would need to use the MIDI wheel method only if you have more than 500 songs in your repertoire.

To be complete here is a short description here how to find the correct values for the MIDI wheels.

With BankSelect MSB + LSB you select the registration bank.

Bank number = 128 x (MSB + 1) + LSB + 1

With ProgramChange you select the registration inside of the bank.