



Shakmat Select Bus Addendum

1. Introduction

The Select Bus protocol enables digital communication between modules through the ribbon cable typically used for power at the back of the module. Communication occurs via pins 13 & 14 of the power connector, making it possible only for modules using large power cables (16 pins to 16 pins) and capable of handling the Select Bus protocol.

To enable Select Bus communication, one module needs to act as a transmitter, while one or several other modules act as receivers. All modules involved in the communication must also be connected to the same bus board.

Shakmat modules can use two different Select Bus message formats: **Global Select Bus** and **Exclusive Select Bus**.

2. Global Select Bus

Global Select Bus uses the standard Select Bus message format implemented by several Eurorack manufacturers.

It is primarily intended for storing and recalling presets and uses standard MIDI Control Change and Program Change messages.

Because this format is shared by several manufacturers, compatible Shakmat modules can communicate with Select Bus modules from other manufacturers using the standard implementation.

Global Select Bus allows the selection of up to **128 preset numbers**, from 0 to 127.

2.1 Store/Save message structure

Message	Binary value	Function	Channel
Control change #16	1011 0000	CC16	Channel 0
Value 127	0111 1111	Store	
Program change	1100 0000	PGM CNG	Channel 0
Preset number	0000 0000 - 0111 1111		See 4.Notes

2.2 Recall/Load message structure

Message	Binary value	Function	Channel
Control change #16	1011 0000	CC16	Channel 0
Value 64	0100 0000	Recall	
Program change	1100 0000	PGM CNG	Channel 0
Preset number	0000 0000 - 0111 1111		See 4.Notes

3. Exclusive Select Bus

Exclusive Select Bus is an extended Select Bus message format used by Shakmat modules. Instead of standard Control Change and Program Change messages, it uses short **System Exclusive messages**.

Exclusive Select Bus offers two main advantages over Global Select Bus:

- It can address up to **256 presets**, instead of the 128 preset numbers available with Global Select Bus.
- Each message contains a **channel number**, allowing several modules connected to the same Select Bus to be addressed independently. Different modules can therefore recall different presets from a single transmitter.

For example, a transmitter can recall preset 12 on a module assigned to one channel while simultaneously addressing another module with a different preset number.

At present, Exclusive Select Bus is implemented by the following Shakmat modules:

- **Bishop's Miscellany mk2** — transmitter
- **Ballista Blast** — receiver

4. Notes

1. The actual number of available presets depends on the receiving module.
2. Global Select Bus is intended to maintain compatibility with modules from other manufacturers implementing the same Select Bus message format.
3. Exclusive Select Bus provides additional addressing and preset capabilities for Shakmat modules supporting this format.
4. Some manufacturers use alternative Select Bus messages for functions other than storing and recalling presets.

