

Welcome to the world of the Fatar Studio Series Keyboard Controllers. Congratulations on purchasing the ST-610 Plus, one of the finest master keyboard controllers in the world today. The Studio-610 Plus is the perfect choice for a musician looking for a simple yet versatile keyboard controller to produce quality results for the live or studio environment.

▶ **TECHNICAL CHARACTERISTICS:**

- * 61 weighted keys
- * One zone
- * Velocity Sensitive and aftertouch
- * Pitch Bend Wheel and Programmable Wheel
- * Two Parallel MIDI Outputs
- * Sustain Input Jack
- "Volume Input Jack
- * Program change, MIDI Channel, Transpose, Programmable wheel (Volume, Pan, Aftertouch, Pitch, Modulation) etc.
- * External Adapter 9V DC 500mA included

▶ **CONNECTIONS:**

- 1) Connect the DC adapter cable to the power input jack, in the back of the controller, located next to the power switch. See Figure #1.



Figure #1.

Make sure that the DC adapter corresponds to the correct voltage output. The Studio 610 Plus will accept an adapter that has a rating of 9V DC with a positive polarity tip and has a minimum current of 200 mA.

2) Connect MIDI cable from the ST-610 Plus MIDI outputs, (each output can handle up to four synthesizers, modules, or effect devices) to the MIDI input on your sound sources. Set your sound sources to the desired MIDI channels by the ST-610 Plus. Each channel would normally be assigned to a different sound or effect. Since the ST-610 Plus has only one zone, you can only program one of the 16 channels at a time. Make sure that your sound source is properly assigned to the channel you are sending on.

To select a base channel hold the [CHANNEL] switch and enter the channel number (1 through 16) by depressing the appropriate black numbered key (0-9). The function switch must be released after the black number keys. At this point the ST-610 Plus is sending on that channel.

Program change:

A program change command allows you to change the sound on your sound source from the ST-610 Plus. The program change will be sent on whichever MIDI channel the ST-610 Plus is currently set. Program changes are numbered 1 through 128. You may notice, depending on the sound source, that a program change of 1 will show up on your sound source as 0. This is not a problem, since MIDI is not completely standard between manufacturers. Thank the heavens that there are only a few anomalies like this between the manufacturers.

To issue a program change, hold the [PROGRAM] switch and enter the desired number on the numbered black keys with the appropriate program number or use the [INC]/ [DEC] (increment/ decrement) keys. If a number greater than 128 is entered, it will wrap around to the beginning.

Bank change:

Some sound sources today, especially found on computer sound cards, have a feature called bank select. The MIDI specification calls for bank numbers 1 through 16384. Once you have selected your bank you are able to select a program change (1 through 128).

To select a bank of programs, hold the [PROGRAM] switch, press [BANK] key, and enter the appropriate bank number using the 0 through 9 keys. The bank command will be transmitted when the [PROGRAM] switch is released. The [INC]/[DEC] keys may be used instead of entering the bank number.

Control # Commands:

There are 127 controller functions that are made up of continuous and switch control commands. See Figure # 3. The most commonly used controllers are aftertouch, pitch, modulation, volume and pan. Many expensive keyboard controllers offer aftertouch, which allows expressive control of sound sources. The ST-610 Plus allows the same expression via [WHEEL A]. Aftertouch, pitch, (1 through 16). Refer to the sound source s owners manual for this procedure.

3) Connect a momentary footswitch, which circuit is normally open, to the sustain input jack clearly marked SUSTAIN located next to the MIDI jacks. We recommend a VFP-1/10 (piano-like sustain pedal) available from Music Industries Corp.

4) Connect a control voltage pedal for volume in the jack clearly marked VOLUME located next to the sustain jack. We recommend a VP-26 (expression pedal) available from Music Industries Corp.

Once all connections are in place, press the power switch to the ON position.

▶ TOP PANEL:



Figure #2.

See Figure #2. You will notice on the left a dedicated pitch and a programmable second wheel, marked [WHEEL A]. With [WHEEL A] you may assign aftertouch, pitch, modulation, volume and pan as well as any controller (0 -127).



To the right of the wheels there are four switches. These switches are used for program change, channel assignment, transposition and programmable wheel assignment. Eighteen black keys on the keyboard are used for special MIDI functions. The first five are used for [WHEEL A], Notice, [AFT], [PITCH], [MOD], [VOL] and [PAN]. These keys represent aftertouch, pitch, modulation, volume and panning. The next 10 black keys represent a numeric key pad for program changes and channel assignments. The following two black keys are used for increment and decrement of a program change. [INC]/[DEC] will also change the controller number. The last key is used for selecting a bank. More on this in the next section.

► **OPERATION:**

Getting around the ST-610 Plus is very simple. However, you must know certain basic MIDI theory before it can make sense.

Base Channel:

There are 16 different channels in the MIDI specification that can be accessed modulation, volume and pan can be accessed by the corresponding black keys, ,while all the remaining control functions can be accessed by the number or [INC]/[DEC]keys.

To assign the programmable wheel press and hold the Control # switch. Enter the desired controller number on the numbered black keys, or use the [INC] / [DEC] keys, then release the control # switch. Look at the list in figure #3, try them out. If you are having problems, chances are the sound source does not have that feature. Sometimes you might get undesirable results. At this point it might be best to reset your sound source (see sound sources owners manual) and shut off the ST-610 Plus, then turn it back on again. This will reset the ST-610 Plus to base channel #1, the control wheel to modulation and no transposition.

CONTROLLER NUMBER	CONTROLLER FUNCTION
0	Bank
1	Modulation
2	Breath controller
3	Undefined
4	Foot controller
5	Portamento rate
6	DataEntryMSB
7	Volume
8	Balance
9	Undefined
10	Pan
11	Expression
12-15	Undefined
16	Gen'l Purpose #1
17	Gen'l Purpose #2
18	Gen'l Purpose #3
19	Gen'l Purpose #4
20-31	Undefined
32	Bank
33-63	Least significant byte for values 0 to 31
64	Sustain (damper)
65	Portamento On/ Off
66	Sostenuto
67	Soft Pedal
68	Undefined
69	Hold 2
70-79	Undefined
80	Gen'l Purpose #1
81	Gen'l Purpose #2
82	Gen'l Purpose #3
83	Gen'l Purpose #4
84-91	Undefined
92	Tremolo Depth
93	Chorus Depth
94	Detune
95	Phaser Depth
96	Data increment
97	Data decrement
98-121	Undefined
122	Local control On/Off
123	All Notes Off
124	Omni Off
125	Omni On
126	Mono On - Poly Off
127	Poly On - Mono Off

Figure #3

Refer to a MIDI technical handbook for further information on these controller functions.

Transposition:

Sometimes a player may not be able to play in a certain key. At these times the [TRANSCOPE] switch will be invaluable. For example, if you need to change from the key of C major to the key of Eb major, you can still play the C major keys, but what you hear would be Eb major.

To transpose the keyboard, hold the [TRANSCOPE] switch and press the desired key on the keyboard above or below middle C. The result will be a new key change when the C major keys are played. Your range is limited to 24 half steps up and 24 half steps down.

If there are any technical problems that relate to the ST-900 only, please contact Music Industries Corp. 800-431-6699. Best of luck!!'

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antennas.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: Use of shielded power and interface cables with this equipment is required in order to ensure compliance with FCC specifications.

CAUTION: Changes or modifications to this equipment not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

It is recommended that only FCC class B certified devices be used with this equipment. Operation of Class A equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.