Instructions for modifying the Teensyduino code for a 2.0++ on a Rev A connector board.

The Rev A connector board fixed the problem that required removing the LED on the Teensy. It can stay on and be used for CAPS LOCK or whatever you want.

Marcel's Python program does not support the Teensy 2.0++ so you must use the manual method.

Use the Teensyduino code from one of the other example keyboards but make the following changes so it will compile. The Teensy 2.0++ compiler requires the word "unsigned" to be added in front of "int" before it will compile without errors or warnings. Here are the int variables that must have unsigned added:

- unsigned int normal[rows_max][cols_max] = {
- unsigned int modifier[rows_max][cols_max] = {
- unsigned int media[rows_max][cols_max] = {
- void load_slot(unsigned int key) {
- void clear_slot(unsigned int key) {
- void load_mod(unsigned int m_key) {
- void clear_mod(unsigned int m_key) {
- unsigned int slot1 = 0;
- unsigned int slot2 = 0;
- unsigned int slot3 = 0;
- unsigned int slot4 = 0;
- unsigned int slot5 = 0;
- unsigned int slot6 = 0;
- unsigned int mod_shift_l = 0;
- unsigned int mod_shift_r = 0;
- unsigned int mod_ctrl_l = 0;
- unsigned int mod_ctrl_r = 0;
- unsigned int mod_alt_l = 0;
- unsigned int mod_alt_r = 0;
- unsigned int mod_gui = 0;

The other items that need to be modified are listed below.

Const byte rows_max =

- Set this to the number of rows in your matrix

Const byte cols_max =

- Set this to the number of columns in your matrix

Int normal[rows_max][cols_max] = {

- This array should have cols_max items on each line and rows_max lines.
- Transfer every normal key from your matrix table to this array. Yes it's monotonous.
- This array is only for the normal keys, not for Control, Alt, Shift, GUI, or Fn.
- If your matrix table has no normal key in a cell then put a 0 in the array.
- Put a 0 in the cell if your matrix has Control, Alt, Shift, GUI, or Fn keys listed at this location.
- The names given for each key must be as shown in the "All Key Codes" table at: www.pjrc.com/teensy/td_keyboard.html the exception is KEY_MENU, which is not listed on the PJRC table but it does work.
- If your keyboard has a key name that does not exist in the PJRC table, it can't be used.
- The PJRC table uses Tilde for the back tick ` key (also known as grave accent key).

int modifier[rows_max][cols_max] = {

- This array should have cols_max items on each line and rows_max lines.
- Transfer every modifier key from your matrix table to this array.
- If your matrix table has a normal key or no key listed in the cell, put a 0 in this position.
- The names for the modifier keys are as listed in the PJRC table except the "lefts" listed below:
- MODIFIER_LEFT_CTRL, MODIFIER_LEFT_SHIFT, & MODIFIER_LEFT_ALT are missing from the PJRC table but they work fine.
- MODIFIER_FN has been defined by me at the top of this code so I can watch for it in case anyone wants to add multimedia or other Fn things. The Fn key by itself is not sent over USB.

Int media[rows_max][cols_max] = {

- This array should have cols_max items on each line and rows_max lines.
- This table is for the media keys and any other key that are accessed by holding down the Fn key
- You can only use items that are listed in the PJRC "All Key Codes" table for the Normal, Media Player, and System Control Keys.
- Put a 0 in the matrix if the key has no Fn function or if the function is not supported by PJRC.

You can see the key code definitions that Teensyduino loaded on your PC at:

C:\Program Files (x86)\Arduino\hardware\teensy\avr\cores\teensy3\keylayouts.h

boolean old_key[rows_max][cols_max] = {

- This array should have ones on each line (sized according to cols_max and rows_max).

int Row_IO[rows_max] = { };

- Use the 2.0++ translation table on the next page to convert each of the FPC pin numbers to Teensy 2.0++ I/O numbers starting from the first row in your matrix table down to the last row. Note that the Teensy 2.0++ pin numbers include letters such as B7,B6,D0,C3, etc.

int Col_IO[cols_max] = { };

- Use the 2.0++ translation table on the next page to convert each of the FPC pin numbers to Teensy 2.0++ I/O numbers starting from the first column in your matrix table to the last column. Note that the Teensy 2.0++ pin numbers include letters such as B7,B6,D0,C3, etc.

Teensy 2.0++ Translation Table

FPC Pin #	Teensy I/O #
1	B7
2	B6
3	D0
4	B5
5	D1
6	B4
7	D2
8	B3
9	D3
10	B2
11	D4
12	B1
13	D5
14	B0
15	A0
16	E7
17	D7
18	E6
19	E0
20	E1
21	F0
22	C0
23	F1
24	C1
25	F2
26	C2
27	F3
28	C3
29	F4
30	C4
31	F5
32	C5
33	F6
34	C6
35	F7
36	C7