

# Buchla

## Program Manager User Manual

For Software Version 1.0.5

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### **WARNING**

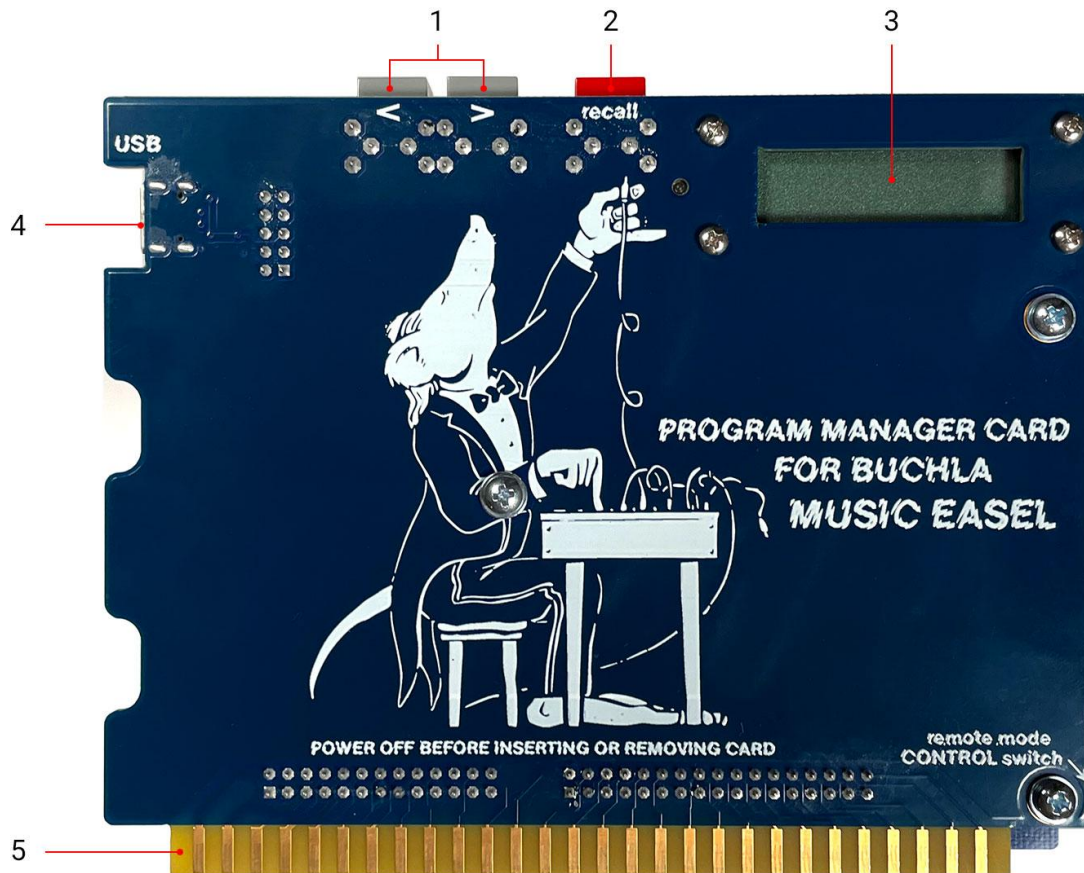
**Always insert and remove the card with the display facing the user and with the power off. Inserting the card reversed in the slot or while powered on may cause damage to the Program Manager Card.**

### **OVERVIEW**

The Buchla Program Manager provides an easy means to store and recall up to 48 user presets for your 208C or 208\* in the Easel Command or your Music Easel\*. In addition, you get inversion and depth control of voltage control that are not accessible via the physical 208 panel.

*\*For 208's please see the ADDENDUM and the end of this manual dedicated to issues related to older (pre-2018) Hardware.*

The Buchla Program Manager App allows you to create & edit virtually unlimited programs, share and store programs and banks to the Program Manager card via USB from a computer (OSX & Windows). The Program Manager card and app includes a number of factory programs that can be customized and also serve as the basis for new programs.



1. **NAVIGATION BUTTONS** - use to scroll through programs saved on the card (tip, to scroll quickly, after the initial button press, while holding, press and hold the other too)
2. **RECALL BUTTON** - press to load the selected program
3. **DISPLAY** - shows programs names & number
4. **USB-C** - connects to a Mac or PC for Program Management
5. **PROGRAM INTERFACE CONNECTOR** - attaches to instrument

### PERFORMANCE USE

The Buchla Program Manager (BPM) card is simple to use. Ensuring your instrument power is off first, insert the BPM card's PROGRAM INTERFACE CONNECTOR into the instrument PROGRAM INTERFACE slot with the DISPLAY facing towards the front of the instrument, so you can see it while performing. Power up your instrument and change the instrument CONTROL switch to 'remote'. If your instrument has 'both' mode, then you can use that too, but the controls will have an additive effect.

Use the NAVIGATION BUTTONS on the BPM card to scroll through the various presets, and press the RECALL BUTTON to load the selected preset shown on the DISPLAY.

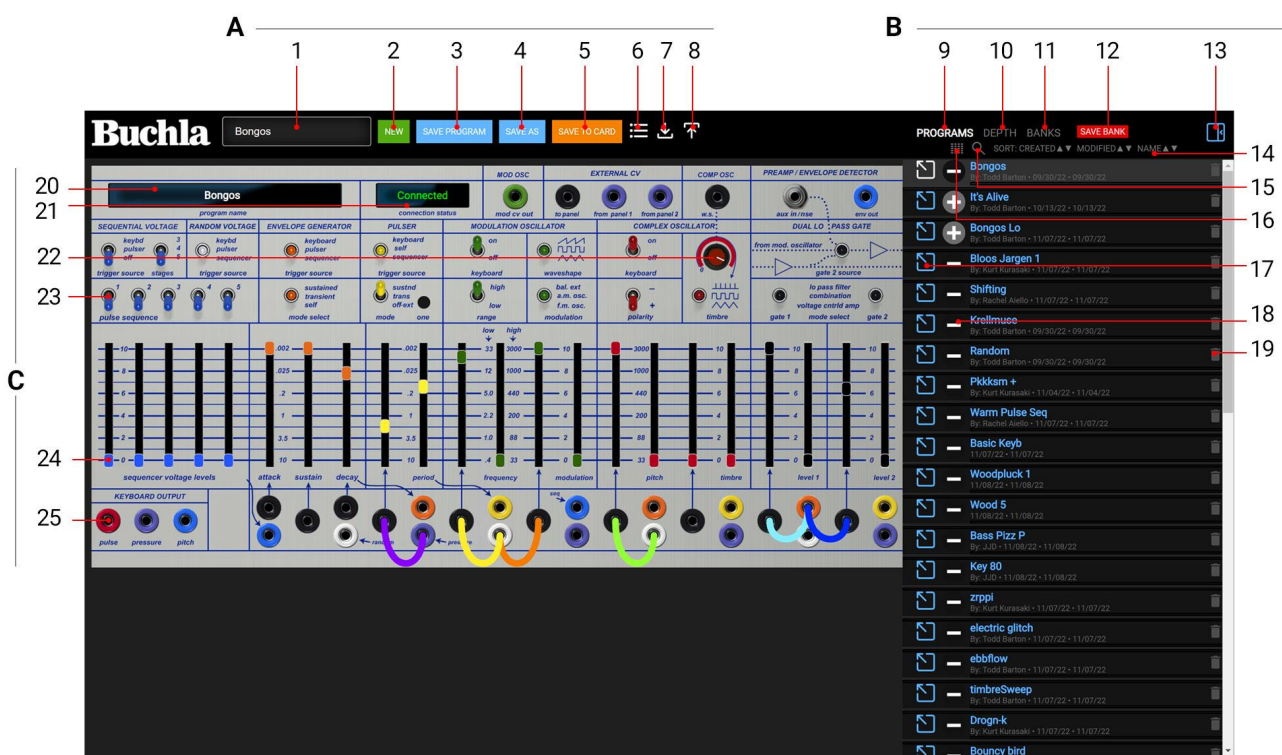
## PROGRAM MANAGEMENT

The Buchla Program Manager is available for both Mac (OSX 10.12+) & PC (WIN7 & WIN 10). Download the Buchla Program Manager application at <https://buchla.com/ProgramManager> and then install.

With your Program Manager Card properly inserted in the PROGRAM INTERFACE slot on your instrument, set to 'remote' or 'both' mode, and your computer connected to the Program Manager card via the USB-C connector (or use a USB to USB-C adapter cable), ensuring the instrument power is on - launch the Buchla Program Manager application. You may also connect the USB-C after the application is launched and the Program Card will automatically be detected.

There are two main views in the application: "Program View" and "Bank View". Utility Bar buttons are specific to active view. For instance, in Program View, clicking 'SAVE' will save the current program, whereas when in Bank View, clicking SAVE will save the current bank.

Upon launch, you will be presented with the "Program View".



Create, edit, save and share programs using the Buchla Program Manager App.

A) UTILITY BAR

1. NAME INPUT
2. NEW
3. SAVE
4. SAVE AS
5. SAVE TO CARD
6. NOTES, TAG & AUTHOR
7. IMPORT
8. EXPORT

B) SIDE PANEL

9. PROGRAMS TAB
10. DEPTH TAB
11. BANKS TAB
12. SAVE BANK
13. SIDE PANEL TOGGLE
14. SORT LIST
15. FILTER PROGRAMS BY ACTIVE BANK
16. SEARCH FILTERS
17. LOAD PROGRAM
18. ADD/REMOVE PROGRAM TO BANK
19. DELETE PROGRAM

C) INSTRUMENT INTERFACE

20. PROGRAM NAME DISPLAY
21. CONNECTION STATUS
22. KNOB
23. SWITCHES
24. SLIDERS
25. BANANA JACKS

**PROGRAM VIEW**

The application will show a green 'Connected' message in the CONNECTION STATUS area if connected. A red 'Not Connected' or a blank message means your instrument is not connected. If the connection is not made immediately, you may need to wait a few moments, or unplug and replug the cable.

When connected, changes made to the instrument interface in the application will control your actual instrument. Ensure that your instrument's "MASTER VOLUME", "channelA" and "channelB" knobs are turned up so you can hear the results.

Use the various buttons in the UTILITY BAR to create & edit new programs, name them, save, save as new, add notes, import and export programs.

Saved programs are listed in the program view on the right side panel. Click the desired LOAD PROGRAM button to show it in the interface and hear it on the instrument. Loading programs in this way will not overwrite, nor save, to the Program Manager card itself. Programs can be deleted by clicking the DELETE PROGRAM button.

**SWITCHES:** Selected the switch itself will cycle through the options. You can also select the label next to the switch to directly set the switch to that option.

**SLIDERS:** Click and drag or with the slider handle selected, use the keyboard up and down arrow keys to make fine adjustments.

**CV CONNECTIONS:** Click a banana jack to activate it - it will glow red, and then click another banana jack to connect it to the first. Disconnect the same way. You can only connect inputs (black jacks) to outputs (colored jacks). Connections made have an additional control called, "depth", which is accessed via the DEPTH tab in the SIDE PANEL. Depth allows you to scale the effect of the connection as well as invert it, on a connection by connection basis.



Connections are listed, color matched to their correlating banana cable, labeled with the output and input connections. Adjust the slider to the desired effect. Note: when inverting signals, you may need to adjust the correlating parameter's offset slider to put in the expected range.

SEND TO CARD: Once you have saved or loaded a program into the Program View, the “SAVE TO CARD” button will display in the Utility Bar. Upon clicking, you will be asked to choose the destination slot on the Program Manager Card. Confirm by clicking “SAVE TO PM CARD”, which will proceed to save the program, overwriting any contents in that slot.

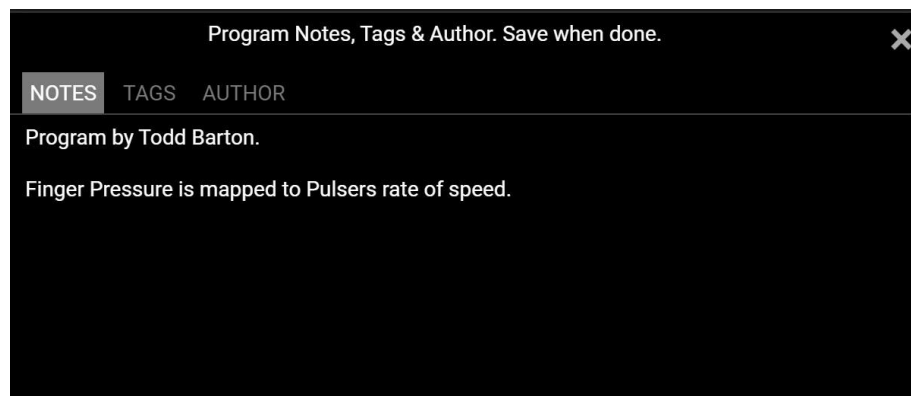
IMPORT AND EXPORT PROGRAMS: Share programs using the import and export buttons. Upon clicking either, you will be presented with a file menu dialog for the source or destination file.

Imported programs will automatically save into your programs list. If there are tags used in imported programs that are not in your current tag list, you will have the option to create and use the new tags or not, in which case only tags that currently exist in your tag list will be assigned if relevant.

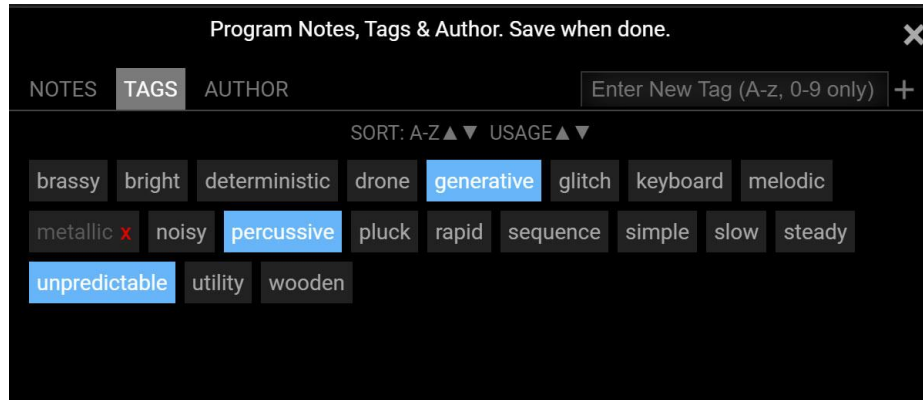
The export button will only display if there is a saved program loaded into the Program View.

NOTES, TAGS & AUTHOR: This button launches a window that has three subsections.

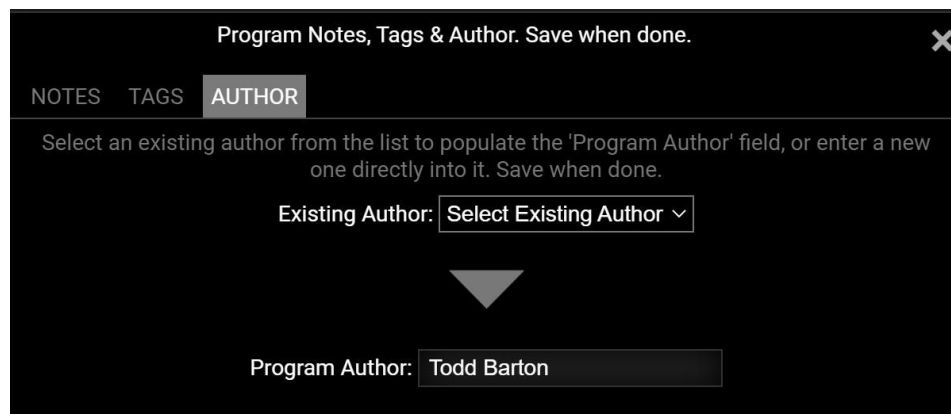
NOTES: Enter notes for your program.



TAGS: Select or create new tags for the program for organization and filtering. Tags can only be alphanumeric without spaces or punctuation. You can only delete a tag if it is unused, in which case, a red 'x' delete button will appear to the right of the tag.



**AUTHOR:** Associate an author with each Program. You can select an existing author in the dropdown list, or enter a new author.

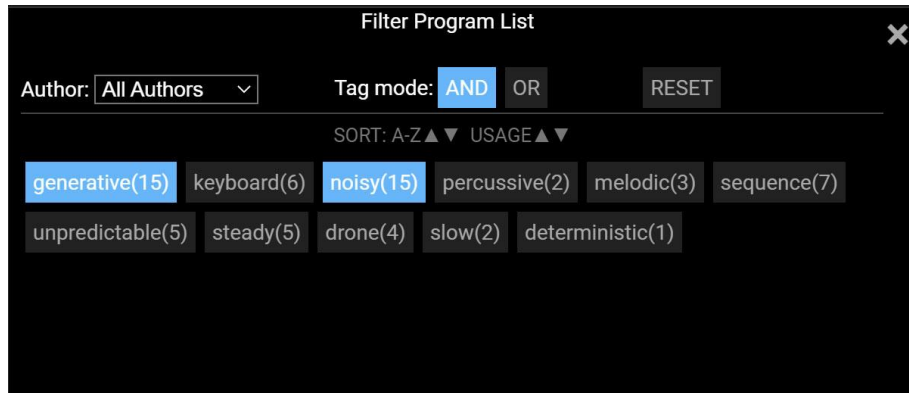


You will need to click the 'SAVE PROGRAM' in the utility bar to save any changes made in this window.

The SAVE PROGRAM button will turn red when there are unsaved changes to the Program.

### PROGRAM LIST SEARCH AND FILTERING:





You can easily filter the Program List to quickly show a subset of desired programs. There are two means to do this: The FILTER PROGRAMS BY ACTIVE BANK button and the FILTER PROGRAM LIST window. These methods are mutually exclusive and therefore cannot be used in combination. Selecting one will reset the other.

If there is an active bank loaded and in the Program View, the FILTER PROGRAMS BY ACTIVE BANK(14) icon will display. Click on it to only show the programs in the active bank. When active, the icon will be blue.

Click the SEARCH ICON(15) to toggle the FILTER PROGRAM LIST window. You can select an author (or all authors). Only the available author 'relevant tags will show below. There are two Tag Modes:

‘AND’ mode: an exclusive search, in which a program listed must contain all the selected tags. This mode makes the program list smaller as you select more tags. The numbers in parenthesis behind each tag show how many results you will get by selecting it. These numbers will change with each selection as the result set is further limited. Only relevant (non-zero count) tags are shown.

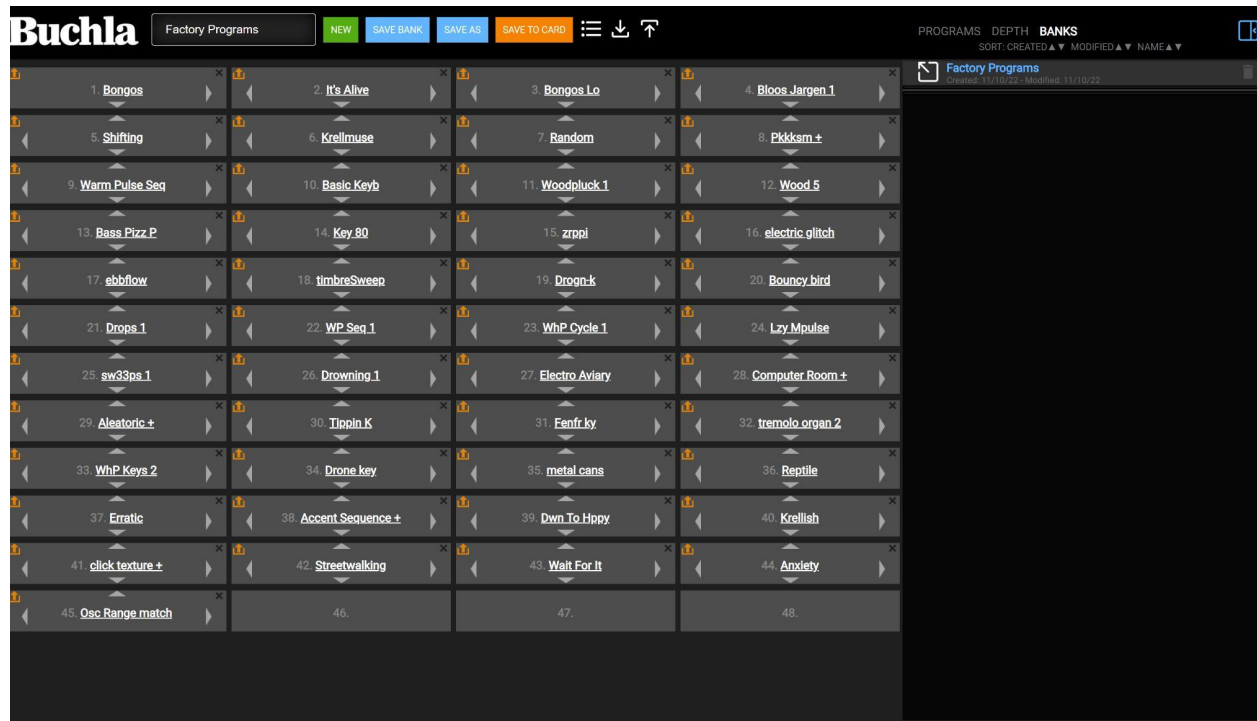
‘OR’ mode: an inclusive search, in which a program listed must contain one of the selected tags. This mode makes the list larger as you select more tags. The numbers in parenthesis behind each tag show how many additional results you may get by selecting it. However, the actual number of results may be less in the event that a program actually contains multiple tags selected. Only relevant (non-zero count) tags are shown.

If there is active filtering, the SEARCH ICON will be blue.

The RESET button will clear all filters and show the full Program List. The SEARCH ICON will turn gray indicating that no filters are active.



## **BANK VIEW**



Banks are groups of up to 48 Programs (24 if using the legacy iProgramCard) that can be sent to the Program Manger card at once or by slot.

Select “BANKS” in the side panel to display the Bank View.

The Utility Bar and Side Panel buttons and their functions are identical to those in the Program View, but are specific to banks.

Either load or create a new bank. You presented a grid of 48 slots representing destinations on the physical Program Manager card.

To place programs into the loaded bank, click on “PROGRAMS” in the side panel and now each entry in the list programs will show a plus or minus icon - plus to add, and minus to remove that program to the currently loaded bank. Programs will be added automatically to the next available slot in the bank.

Upon making changes, a “SAVE BANK” button will appear in the side panel menu, allowing you to save the active bank from the Program View for convenience. You can also do so by returning to the Bank View, and clicking SAVE there.

In the Bank View, move program locations by clicking the arrows in each slot. To remove a program from the bank, click the ‘X’ icon(this does not permanently delete your program - but

just from the bank). To individually save a program to its destination slot on the Program Manager Card, click the SEND icon in the upper left of the slot. You can also preview the program in the slot without it being saved to the card by clicking on the program name.

Once you have saved or loaded a bank into the Bank View, you will see the “SEND TO CARD” button, allowing you to save the entire bank of programs to the Program Manager Card. Upon clicking, you will see a screen confirming whether you wish to include any blank slots in the bank. If you click NO, blanks will be ignored and only filled slots will save to the card. If you click YES, this will overwrite the entire contents of the Program Manager Card.

Upon saving a bank to the card, you will see a progress screen, which will close when finished.

The SAVE BANK button will turn red when there are unsaved changes to the Bank.

**IMPORT AND EXPORT BANKS:** Share and backup entire banks of programs using the bank import and export buttons. All programs associated with the bank are included and imported or exported. The Export button only is when a bank has been loaded.

## **ABOUT & HELP**

The About & Help screen, accessible through the dropdown in the top application menu bar, screen will show your current application version, check for updates and link to the documentation.

## **SETTINGS**

The Settings screen, accessible through the dropdown in the top application menu bar, provides message and save time interval settings which should not be changed unless you are experiencing programs related to sending programs and banks to the Program Manager Card.

## **DATABASE**

The database where all the program data is stored is located at the following locations:

### **Mac:**

'/Users/{your username}/Library/Application Support/Buchla Program Manager/pm.db'

### **Windows:**

'C:\Users\{your username}\AppData\Roaming\Buchla Program Manager\pm.db'

You may want to periodically copy and backup this file to another location for safety. You may also use the built in program and bank export functions to backup your programs and banks to json files.

Deleting the 'pm.db' or its parent folder will recreate the default factory database upon the next application launch.

## **TROUBLESHOOTING**

### **USB connection issues?**

You may need to remove and reattach the USB cable to your computer for it to enumerate properly.

### **I am getting crazy results from the Envelope Generator!**

Make sure the physical switch on the front panel is NOT in “self” mode. “Self” mode on the EG is a closed local circuit loop trigger selection. Though the timing will be altered by the remote settings, it will only self trigger. To anthropomorphize it: Local “self” mode on EG is selfish, stubborn and unrepentant. No matter how much you push it, it will not give up control.

### **Sometimes my pulser starts and sometimes it doesn't. Why?**

Make sure the Program has the Pulser mode set at “sustain”--not “transient” --if you want it to self-start. It will not predictably self-start in “transient” mode. *A technical answer: The pulser uses the physical hardware and that hardware needs a capacitor to be primed/charged for it to self-start. In transient mode the application does not automatically do this. Partly this is a feature that allows you to start it yourself by pressing “one,” but also because that middle setting on the switch of an older 208 is “off.” Now if the pulser has already been active, the capacitor is therefore primed and will self-start even in that “transient” position.*

## **OLDER 208 RELATED TROUBLESHOOTING:**

### **I don't have a “both” mode on my old 208, but it's acting crazy in the middle switch setting!**

Yes indeed! Both mode electronically exists on all 208's regardless of whether the Program Manager Card knows it. That means that the control voltages will sum, but also the switches will sum and therefore be extra unpredictable. It can lead to some very fun results. It could be frightening to delicate ears, but it is not dangerous. Please make sure you made the necessary modifications to the card to ensure the card will always list two modes, “Local mode” and “Remote mode” or make the Both mode modification to your Easel to get all four modes.

### **The pulser runs at a different rate from my 208 or my friend's 208C!**

The setting of the period of the Pulser is not an exact science. Don Buchla's circuit will never exactly match the timings displayed on the front panel, but the most musical compromise was chosen for your 208C. Older 208's did not have a factory prescribed setting. The trims from BEMI or older 208Cs may be set less consistently and typically are slower. If you really want to dive in deeper and get technical, you can alter that timing.

*Getting technical: Pulser “period”/speed is set by a user accessible trim on the underside of the 208C called P-CAL. If you feel you need to adjust your unit(s) this can be done with minimal effort. On the 208C, this trim is placed so that it is still accessible even with the reverb and an embedded Program Manager installed. Older 208's also have this PERIOD CALIBRATION trim on board<sup>4</sup>.*

## FAQs:

### Does the PM Card work with the Card Doubler?

Yes. Local+ mode in particular is especially useful with additional cards like the Buchla AuxCard so you can turn on signals to extra cards without engaging the remote Program.

### How come some local panel signals are active in remote mode?

This is part of the design. Those output signals that are active include all banana and audio jacks on the top row.

## ADDENDUM:

### Changes you need to make to use the Buchla Program Manager Card in an older 208's card slot.

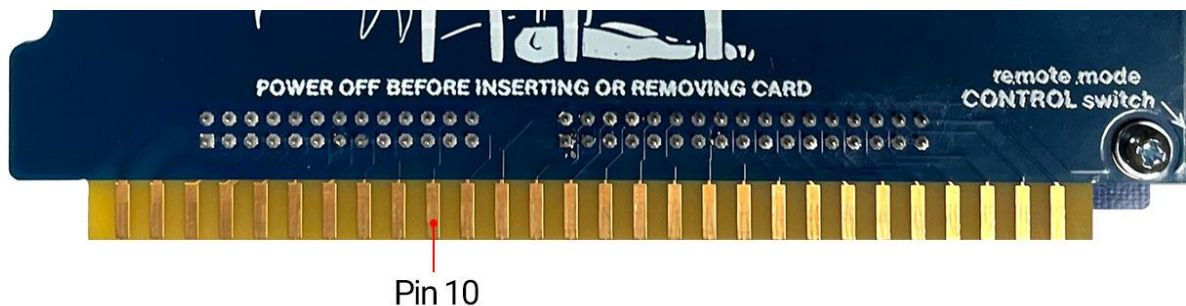
If you have a 208 made from Buchla Electronic Musical Instruments, you first need to determine if you have the "both mode modification" done on your 208.

Here's how:

Insert your card, power on the 208, and move the control switch. If you get 4 listed modes: 1. Remote 2. Both 3. Local 4. Local+, then you are ready to go and need not read any further. You either have done the modification or have a later revision of the 208.

If you have a 208 made from 2013-2017 (pre-Revision 5 without the modification, you have two choices:

1. The easiest option is to just tape over the pin that was reassigned to the Local enable signal in order to get Local and Remote mode. Then simply live with the unpredictable results of the middle setting of your control switch. To do so, put a piece of Kapton tape over pin 10, shown below. Kapton tape is ideal as it won't leave residue, but masking tape can be used temporarily.



2. The other option is to modify your 208 according to the following document:

<https://buchla.com/guides/iProgramCardBothModeUpdate.pdf>

If you have a 1973 208, you will not be able to use the BPM card because the card slot did not provide connections for 5 volts, nor Modulation Oscillator signal, nor the Modulation oscillator range control. A future edition may provide an optional 5 volts to allow for limited use in the future.

**Acknowledgements:**

Special thanks go to Adam Clark for software development of the new app, Darren Gibbs for the firmware, Joel Davel for the hardware design and production management of the Program Manager, and to the entire Buchla team for assembling the final touches that turn this from mere circuit boards into an actual product. Thanks to Eric Fox for providing the means and direction to produce the Program Manager, and of course we must acknowledge Don Buchla who initiated the iProgramCard design in 2013.