

Processor Keyboard Operating Instructions

1. INTRODUCTION.

Dear PPG customer. The PPG Processor Keyboard is the most flexible and exciting keyboard you can have as a supplement to the rest of your PPG equipment. The weighted wooden keyboard is velocity sensitive. It gives you full dynamic control over all your PPG sounds or the digitally recorded natural sounds. These natural sounds are available on memory boards for the PRK. Not only can you influence loudness and brilliance as you are accustomed to on a real piano, but you can simultaneously use six more velocity parameters such as pitch, bank selecting and attack. This will enable you to play your sounds in a way you never thought possible for a keyboard. So now that we have you excited let's get started.

Setting up the PRK is done differently depending on what PPG equipment you have. Refer to either:

I. The PROCESSOR KEYBOARD and the WAVE

or

II. The PROCESSOR KEYBOARD and the SYSTEM

I. The PROCESSOR KEYBOARD and the WAVE

I.1. SETTING UP.

Rear panels (WAVE and PRK)

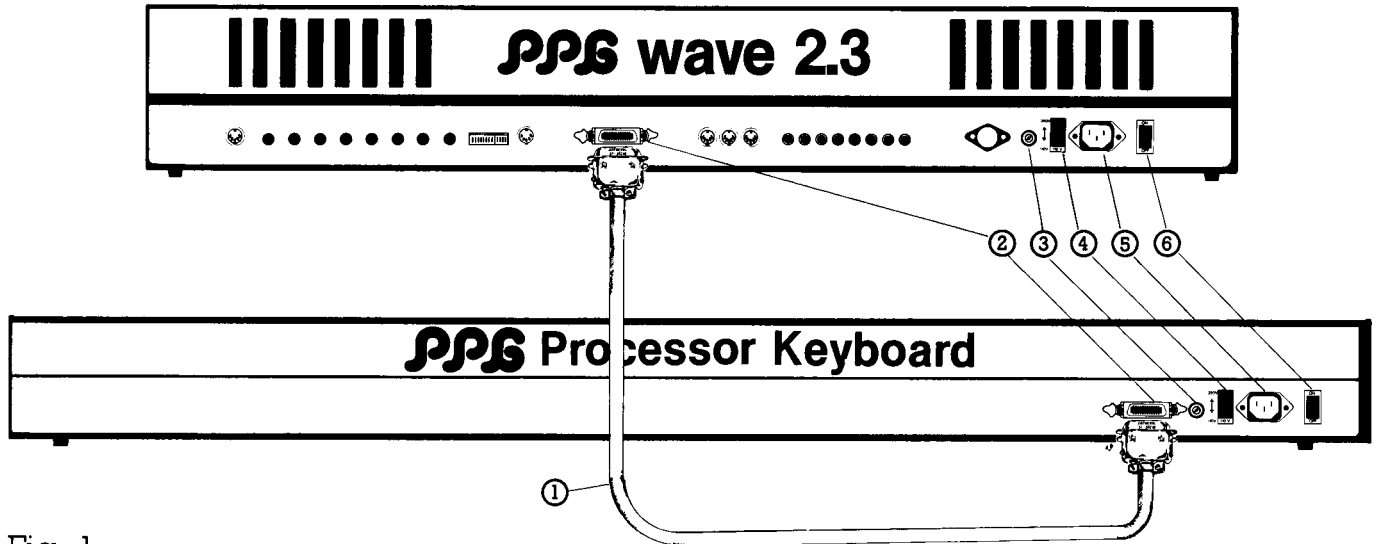


Fig. 1

- ① – PPG BUS CABLE; ② – PPG COMMUNICATION BUS SOCKET;
- ③ – FUSE; ④ – 110/220-VOLTAGE SWITCH; ⑤ – POWER CABLE SOCKETS;
- ⑥ – MASTER ON/OFF SWITCH;

IMPORTANT: Do not switch any PPG instrument on before they are linked together via the bus cables !

- a) We suggest you set up the PRK close to the WAVE so you can use the WAVE's front panel facilities while playing the PRK.
- b) Make sure that the voltage switch ④ on the rear panel is in the right position (110/220V). Check all other units as well.
- c) Connect the PRK to the WAVE as follows:
 - Plug one end of the PPG bus cable into the socket of the PRK.
 - Plug the other end into the socket of the WAVE. See Fig. 1.

I.1 SETTING UP (cntd.)

d) Set the Mini Switch Block on the front of the PRK to PRK-WAVE combination as follows:

1	2	3	4	5	6	7	8
up	up	up	up	up	down	up	down

See Fig. 2

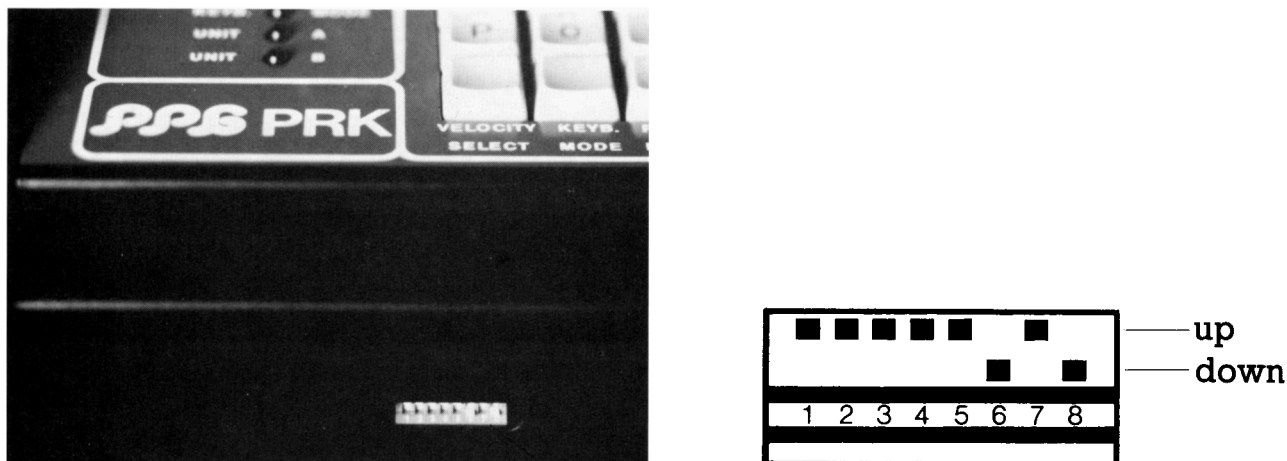


Fig. 2

Mini Switch Block

NOTE: The Mini Switch Block setting is only registered when the PRK's MASTER ON/OFF SWITCH (Fig.1 ⑤) is switched from off to on. If you change the Mini Switch Block after you have turned on the PRK you must turn the PRK off and on again.

WARNING: Whenever PPG equipment is connected via the PPG Communication Bus Cables make sure that all power is coming from one source using a multiple socket extension.

- e) Hook up your WAVE to you mixer or amplifier because all sounds will be generated by the WAVE's oscillator even when you are playing the PRK. (See: SETTING UP YOUR WAVE in the WAVE Manual).
- f) Plug the power cables into each unit's power cable socket (Fig.1 ⑤) and then each cable into one multiple socket extension.
- g) Switch on the WAVE only (MASTER ON/OFF SWITCH Fig,1 ⑥),and check that it is working correctly by playing the WAVE's keyboard.

IMPORTANT! Do not connect or disconnect bus cables while the instruments are switched on.

NOTE: If you have switched on the PRK as well you will not hear any sounds because the PRK has not been initialized yet.

I.2 PLAY YOUR WAVE SOUNDS DYNAMICALLY

We suggest you use an appropriate sound (e.g. sound 36) to learn about the PRK's dynamic parameters. Load factory program 36 (vibraphone) in Bank 7. See "LOADING THE BANKS." in your WAVE manual.

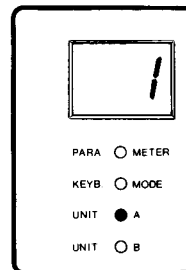
Play the WAVE's keyboard. If you don't get the vibraphone sound see "BUILDING UP YOUR VIBRAPHONE SOUND" at the end of this manual or in your WAVE 2.3 manual.

I.2.1 INITIALIZE YOUR PRK

— Switch on your PRK's MASTER ON/OFF SWITCH (Fig.1 (3))

The red Digital Readout (DRO) shows:

and the LED for "UNIT A" is illuminated.



— Press the "ON/OFF" push button once.

The DRO stays the same, but the PRK is now activated and can be played (Try it).

— Push the button again. The DRO displays a "0".

The PRK is in the "OFF MODE", the WAVE can still be played.

— Press the "ON/OFF" button one more time. The PRK is activated again.

The DRO shows a "1".

Play the PRK and the WAVE and compare the sounds. They should sound the same because no velocity parameters have been activated. If they do sound the same go directly to I.2.2 SET VELOCITY PARAMETERS.

If they don't sound the same one of the following two things might be the reason:

— You have hooked up the WAVE via the MONO output, but the BASIS control (MONO-STEREO) is not turned all the way to the left.

— The PRK might have "remembered" some earlier parameter settings and these are affecting the sounds. These settings are not displayed by the DRO but to eliminate this effect do the following:

Push the VELOCITY SELECT button and then press 0. Repeat this procedure 8 times. You have now made sure that all parameter settings are off and the WAVE and the PRK should sound exactly the same.

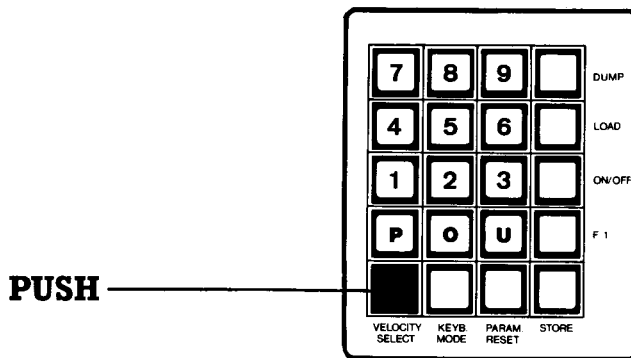
I.2.2 SET VELOCITY PARAMETERS

There are 8 different velocity parameters:

- Nr.1: Volume
- Nr.2: Bank select
- Nr.3: Waveform select
- Nr.4: Envelope-on-Filter-Value
- Nr.5: Attack Volume Envelope
- Nr.6: Attack Filter Envelope
- Nr.7: Decay Filter Envelope
- Nr.8: Pitch Bend (only if Pitch Envelope is activated)

Each velocity parameter can be set to eight different values (0-7), which means eight different sensitivity settings.

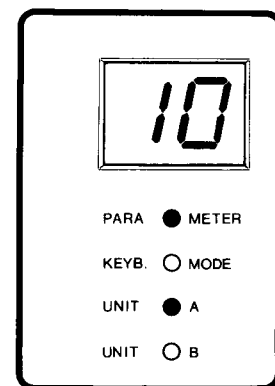
- Push the "VELOCITY SELECT" button at the bottom left hand corner of the PRK's numerical push button panel.



- The parameter LED is illuminated and the DRO shows a two-digit number: Example

Example:

- The left digit shows the parameter number (1-8; see above list).
- The right hand digit shows the value of the parameter.
- By pushing the VELOCITY SELECT button a few times you can step through the different parameters. The first digit changes from 1-8. The right hand digit stays 0 because no parameter value have been entered.



The following is an example of how to set dynamic control for volume and filter:

- Keep hitting the VELOCITY SELECT button until the first digit becomes a 1.
- The 1 is the parameter number (Volume). The 0 is the value set for this parameter. (In this case it is off).
- Push 6. (The DRO now shows 16; 1 for volume, 6 for high sensitivity) Now you will hear the difference in volume depending on whether you play softly or aggressively.

I.3 THE PRK'S NATURAL SOUNDS

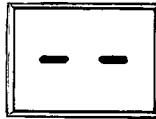
- Now push 0 to turn this parameter off and we will do the same for the filter envelope.
- Push the PARAMETER SELECT button until the first digit in the DRO becomes a 4.
- Push 6. (The display shows 46; 4 for filter envelope, 6 for high sensitivity.)
- Now you will hear a difference in the opening of the filter, depending on how you play. If you don't one of two things might be the reason:
 - You might either be playing a different sound that doesn't show this effect.
 - The ENVELOPE-VCF knob is not opened far enough. The PRK parameters cannot open the filter further than they are set on the WAVE. So if you adjust the knob to a setting between 5 and 6 you should be able to hear the effect quite clearly. Now enter 0 again and the PRK and WAVE should sound the same again.

NOTE: The WAVE's internal sequencer remembers the velocity parameters and the dynamic data whenever you play into the sequencer from the PRK.

You can store parameter setting programs you have put together in the PRK's memory. This is done as follows:

- Set the different parameters to the values you want stored.
- Push the "STORE" push button right hand corner of the PRK's numerical push button panel.

– The DRO shows:



– Push "8", the DRO shows:



- To load the parameter settings in Program 25 push the buttons "P" "2" and "5". Whenever you call up Program 25 you will get these parameter settings for the sounds you are playing.

I.3 THE PRK'S NATURAL SOUNDS

If you have a PRK without voice cards we suggest you go straight to: 1.3.3. SPREADING SOUNDS ACROSS THE TWO KEYBOARDS

In addition to playing the Wave dynamically the PRK also gives you the possibility to play digitally recorded natural sounds.

The data for these sounds are on 7 "Voice Cards" that are available in various combinations:

I.3 THE PRK'S NATURAL SOUNDS (cntd.)

Card	1	(S)	: Strings
Cards	2+3	(P)P1+2	: Piano (2cards)
Cards	4+5	(MS)MS1+2(●)	: Multiple Sounds (2 cards)
			Bass drum
			Snare drum
			HiHat
			Tom
			Acoustic guitar
			Fuzz guitar
			Funk bass
			Flat bass
			Choir
			Brass
Card	6	(M)	: Marimba
Card	7	(R)	: Rhodes

Each Voice Card has a definite position in the VOICE CARD RACK. (see Fig.3)

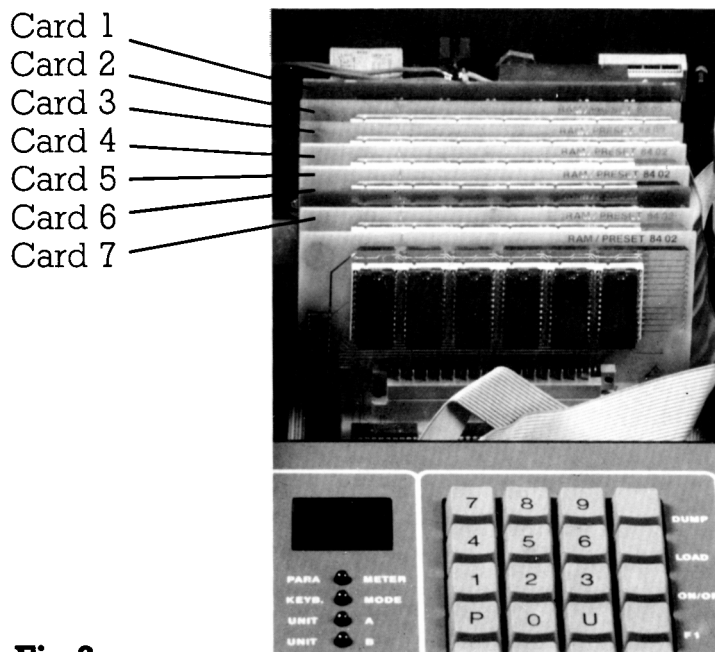


Fig.3

The data is loaded from these cards (that are inside the PRK) into the WAVE.

It is therefore possible to play the natural sounds on both keyboards.

There are 20 factory preset programs with different combinations of instruments.

Included in these programs are the sounds, split points, WAVE settings and parameter values.

The programs are put together as follows:

I.3 THE PRK'S NATURAL SOUNDS (cntd.)

The programs are put together as follows:

Program	Cards	Sound	Banks
Progr.00	S	Strings	0,1,2,3
Progr.01	S	Strings	0,1,2,3,4
Progr.02	P,S	Piano Strings	0,1,2,3 4,5,6,7
Progr.03	P	Piano	0,1,2,3,4,5,6,7
Progr.04	P,MS	Piano ● Choir	0,1,2,3,4,5,6 7
Progr.05	M	Marimba	0,1,2,3,4,5
Progr.06	M	Marimba	0,1,2,3,4,5
Progr.07	P	Piano	0,1,2,3,4,5,6,7
Progr.08	M,MS	● Funk Bass Marimba ● Choir ● Brass	0 1 2 3
Progr.09	R	Rhodes	0,1,2,3,4,5,6,7
Progr.10	MS	● Bass drum ● Snare drum ● Hi-Hat ● Acc. guitar ● Funk Bass ● Brass ● Fuzz guitar ● Choir	0 1 2 3 4 5 6 7
Progr.11	MS,P,R	● Bass drum ● Snare drum ● Hi-hat ● Acc. guitar Piano Rhodes ● Fuzz guitar ● Choir	0 1 2 3 4 5 6 7

I.3 THE PRK'S NATURAL SOUNDS (cntd.)

Program	Cards	Sound	Banks
Progr.12	MS,P,R	● Bass drum ● Snare ● Hi-Hat ● Funk bass Piano Rhodes ● Fuzz guitar ● Choir	0 1 2 3 4 5 6 7
Progr.13	MS,S,M,R	● Bass drum ● Snare drum ● Hi-Hat Strings ● Funk bass ● Brass Rhodes Marimba	0 1 2 3 4 5 6 7
Progr.14	MS	● Bass drum ● Snare drum ● Hi-Hat ● Tom-Tom ● Flat bass	0 1 2 3 4
Progr.15	P	Piano	0,1,2,3
Progr.16	MS	● Bass drum ● Snare drum ● Hi-Hat ● Tom-Tom	0 1 2 3
Progr.17	MS	● Bass drum ● Snare drum ● Hi-Hat ● Funk bass	0 1 2 3
Progr.18	MS,S	● Choir Strings	0 1,2,3
Progr.19	P	Piano	0,1,2,3,4,5,6,7

I.3.1. LOAD THE NATURAL SOUNDS

Depending on what Voice Cards you have, you can now play natural sounds on the PRK and the WAVE.

NOTE: The STRINGS Voice Card also contains all the sound organisation data and must therefore always be in the PRK whenever you want to play natural sounds from the PRK's Voice Cards.

IMPORTANT: If you have just switched on your PRK you must first load a factory program into the WAVE in which all 8 banks are used (see list). After that you can load any program. Let us suppose, for example, you want to load the strings as your first sound. Program 00 only uses 4 banks. You must therefore first load a different program, (e.g. 03 PIANO) and after this you can load Program 00 (Strings). The first four banks will be strings, the last four piano. Banks that are not used for a certain program keep the sounds they were last loaded with. You must always have the STRINGS Voice Card and at least one other Voice Card when playing the PRK sampled sounds.

NOTE: If you load a program that uses sounds for which you don't have the corresponding Voice Card, random detail is loaded into these banks. The sounds are very distorted.

(If, for example, you load Program 12, but you don't have the RHODES Voice Card, you can hear this effect on Bank 5).

I.3.1. LOAD THE NATURAL SOUNDS

There are generally two different kinds of factory programs:

- a) The first kind has different samples of **one** instrument on different parts of the keyboard (Piano, Rhodes, Strings, Marimba). This is done to ensure that the instrument sounds authentic on the entire keyboard and not just on a small range.
- b) The second kind loads entirely different instruments into each bank. Each instrument is spread over the entire keyboard. To play the various sounds you must either enter split points or step through the banks on the WAVE's digital control panel.

Load the Piano sound, Program 03:

—Press the "P" button on the PRK:

The PARAMETER LED is off and the DRO shows:



—Now push button "0" and "3" to load Program 03.

WARNING: Do not play the keyboards whenever programs are being loaded because this can disturb the data transfer. You can tell when a program is being loaded by the 4 LEDs flashing on and off:

I.3.2. PLAY AND CHANGE THE NATURAL SOUNDS

When the LEDs have stopped flashing and only the "UNIT A" LED is illuminated the PRK is ready to be played.(Try it)

NOTE: The program display in the WAVE still shows the old sound in the 8 Banks. These programs have been overridden by the sounds from the PRK. However you can manually load WAVE sounds into the single Banks next to the samples.

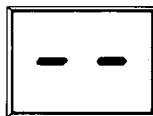
You can now play the piano sounds as they were stored by the factory or you can change them in two ways. You can either set new PRK parameter values, or you can change the sounds with the WAVE'S front panel facilities:

- You can see all the factory's PRK parameter settings, (and change them if you wish), by pushing the VELOCITY SELECT button as described earlier.
- You can create entirely new sounds by treating the samples with the WAVE'S analog controls.(e.g. ADSR, filter ect.)

Providing you have the V1 software for the PRK you can store these analog control settings in the PRK if you so wish. Here is an example of how this is done:

- Call up Program 09 (RHODES) on the PRK.
- Change this sound with the WAVE'S analog parameters. If you don't like what you've created just press "P" "0" and "9" and you have the old sound again. If you do like it you can replace the "Factory" Rhodes with it as follows:
- Push the STORE button on the PRK.

- The DRO reads:



- Press "8".

- The DRO reads:



- Press "P" "0" and "9".

Whenever you call up Program 09 you will get this new Rhodes sounds.

NOTE: You can always get back all the "Factory" settings that were originally in the PRK when you first got it. This data is on a chip in the PRK. This is done as follows:

- Press STORE.
- Press "7".
- Press "P" "0" and "0"
- Press "P" "6" and "0"

Now any factory program you call up sounds like it originally did. This is important to remember in case of a handling mistake that causes the PRK to lose data. Of course this erases all the WAVE analog settings you might have treated any natural sounds with.

I.3.3. SPREADING VARIOUS SOUNDS ACROSS THE TWO KEYBOARDS

Now load a program in which different instruments are loaded into the 8 banks:

- Press the "P" button on the PRK, and then the buttons "1" and "2" to load Program 12 (Multi Sounds)
- When the loading is finished turn you attention to the WAVE. Move the cursor to GR: a = BK :_ (You must be in the "Program" display.)
- Push the "0" button on the WAVE. You should now hear a bass drum on both keyboards.
- Now push the "1" button on the WAVE. You should now hear a snare.
Step through the Banks in this fashion until you get to Bank 4.

Now you have the PIANO sample spread out over the entire keyboard. In a certain range it sounds like the real piano from program 03, in other areas is an entirely new sound.

- Move the cursor on the WAVE to "KEY:_".
- Enter "30". The keyboards are now each split in half, a piano on the left half, a Rhodes on the right half.

NOTE: The split point is Key Nr. 30 on the WAVE. The corresponding key on the PRK is Key Nr. 37.

- Now push the GROUP button in the WAVE'S "DISPLAY SELECT" panel, the following things should change:
 - In the LCD the KEY: 30 has changed to KEY: 0.
 - GR:a=BK:4 has changed to GR:b=BK:3
 - The "PANEL FUNKTION" LED has changed from A to B.

The groups A and B are two entirely different independent keyboard arrangements. You can load sounds or change split points in the group A arrangements, Group B will stay the same.

NOTE: If both LED's are illuminated the Group B arrangement is valid.

- You now have the FUNK BASS sound on both keyboards.
- Move the cursor to KBM:0 and enter "9". You now have the FUNK BASS on top and the PIANO and RHODES on the bottom. Keyboard Mode 9 (KBM 9) puts the Group A arrangements on the PRK and the Group B arrangement on the WAVE.
- Move the cursor to GR:b=BK:3 and change this to a 2. You now have the Hi-Hat on the WAVE'S keyboard.
- Move the cursor to KEY:0 and change this to 30. Now the HI-HAT and the BASS are on the WAVE's keyboard.

You can spread a total of 8 different sounds (natural or synthesizer) across both keyboards. To put more than 2 sounds on a keyboard you must also change the Split Point numbers (SPL # 1)

I.4 OTHER PUSH BUTTONS ON THE PRK

- a) The PARAMETER RESET button simply moves you back to the first velocity parameter (Volume) to save you from always having to step through all 8 settings. With the PRK software V1 (June 84) it also enables you to store WAVE sounds in the PRK. If your PRK has this software, see chapter I.5 STORING WAVE SOUNDS at the end of this manual.
- b) The DUMP and LOAD buttons are used for storing PRK parameter settings on tape or for loading them from tape. This is done as follows:
- First you must save your WAVE data on cassette. (see your WAVE manual)
 - Then press DUMP and the data is loaded from the PRK into the WAVE. (If your WAVE has the V1 software, a safety has been built in and you must push "STORE" and then "3" before you push DUMP.
 - Then load the data from the WAVE onto cassette.
 - Now reload the WAVE's data.
- Loading parameter settings is done the other way around:
- Save your WAVE data on tape.
 - Load the parameter settings from the cassette into the WAVE.
 - Push the LOAD push button on the PRK.
(You must push STORE 3 first if you have the V1 PRK software.)
 - Reload the WAVE with the data from the cassette.
- c) The buttons KEYB.MODE and "U" are only used in combination with the EVU. (This is explained in the PRK AND THE SYSTEM manual)
- d) The F1 button is a free button for possible future software additions.

I.5 STORING WAVE SOUNDS IN THE PRK

If you have the V1 software (July '84) in your PRK you have the possibility to store WAVE sounds and parameter settings under Program 20-99. The following is an example of how to store Sound Program 47 from the WAVE under PRK Program 70:

- Move the cursor under one of the 8 Banks in the top row of the WAVE'S LED.
- Call up Sound 47 in the WAVE.
- Set the PRK velocity parameters you want to store.
- Push the PARAMETER RESET button on the PRK.
- Enter the number of the Sound Program in the PRK'S numerical push button panel by pushing "4" and "7". The DRO shows "47".
- Push STORE.
- Push "9".
- To store the sound under Program 70 in the PRK now push "P" "7" and "0".

I.5 STORING WAVE SOUNDS IN THE PRK (cntd.)

Whenever you want to call up this sound all you have to do is:

- Move the cursor under one of the 8 Banks in the top row of the WAVE'S LED.
- If you now push "P" "7" and "0" on the PRK the Bank that the cursor is under will change to 47 and the sound can be played from this bank.