

Chapter 12

Song Mode

Getting Started with the Sequencer

The K2vx's sequencer is a powerful and versatile tool for songwriters, composers, and anyone else who needs to record and play back songs. As with any tool, however, it's best to start with the basics. This section begins with a tutorial where you will record a song, then shows some of the mixing capabilities of the sequencer. If you are familiar with other sequencers, you will have no problem using Song mode in the K2vx. Read through this section, however, to learn about the features that make the K2vx's sequencer unique.

What is a Sequencer?

A sequencer is similar in some ways to a multi-track tape recorder: you can record and play back all sorts of music and sounds, layer sounds on top of other sounds, and change or manipulate things that you've previously recorded. Unlike a tape recorder, however, you do not actually record sounds with a sequencer. Rather, you are recording commands that cause sounds to be played. Nonetheless, we will sometimes explain sequencer features by drawing analogies to familiar tape recording techniques such as splicing and overdubbing.

There are several advantages to recording a song by sequencing. For one thing, sequencer commands take up much less disk space than digitally recorded music would, so you can get a lot of information (i.e., music) on a single floppy disk. Furthermore, you can easily make changes to your sequences. For example, you can change individual notes, transpose parts, or change instrumentation. Lastly, you can share the sequences you create with other musicians.

A Word about the Local Keyboard Channel

Before you begin sequencing, we'd like to remind you about the Local Keyboard Channel parameter on the MIDI Receive page (described on page 10-6). Local Keyboard Channel is especially important for sequencing with the rack mountable K2vxR, since it enables you to record on different tracks without constantly switching transmit channels on your controller. Therefore, you should do the following before you begin sequencing with the K2vxR (or any K2vx model, when using an external controller):

- Set the Local Keyboard Channel on the MIDI Receive page to a specific channel (1-16).
- Set your controller (e.g., keyboard) to transmit on the same channel.

Performing the above two steps means that you'll be able to hear the individual channels (each of which is assigned by default to a separate record track) as you scroll through the different record tracks in the K2vx's Song mode. Local Keyboard Channel performs a "re-channelizing" function that makes this happen.

Patch Through

There's one more use for Local Keyboard Channel. With any model of the K2vx, the Local Keyboard Channel parameter lets you "patch through" (also known as "soft through") to external sound modules. When Local Keyboard Channel is enabled, the K2vx takes the rechannelized information and sends it out the MIDI port. This lets you hear an external module while you are recording a track assigned to that module.

Tutorial: Recording a song

In this tutorial, we'll record a song by using the steps described below. Bear in mind, though, that this is just one approach to sequencing a song. This example includes:

- Assigning programs to channels
- Recording a drum loop
- "Unlooping" the drum track and adding the remaining instruments
- Mixing the song

Assign Programs to Channels

Start by deciding what instruments you want to use in the song. Suppose you want to record a bass / drums / organ rhythm track with a lead instrument on top. You've decided to use:

- Jazz Kit (Program No. 52)
- Mix Bass (Program No. 80)
- Gospel Organ (Program No. 97)
- Brt Saxy Lead (Program No. 46)

Set up your K2vx so that each of these instruments is on a separate MIDI channel. Since Song mode automatically assigns each channel to a separate sequencer track (1-16, consecutively), you'll then be all set when you start laying down tracks, and won't have to go scrolling through the program list. Don't worry about changing your mind later, though, since you can always make changes after you've recorded your initial tracks.

It will be most logical to assign Jazz Kit to one of the drum channels, such as channel 1. If you want to put the drums on a channel that isn't a drum channel, though, you'll have to change the drum channel on the Master page (see page 11-1). For the sake of simplicity, however, we'll put the drums on channel 1 and assign Mix Bass, Gospel Organ, and Brt Saxy Lead to channels 2, 3, and 4.

Follow these steps to assign the programs to separate channels:

1. **Press the Song mode button to enter Song mode. The screen will look something like this:**

Record track is set to track 1

```

SongMode:MAIN  Events:186K  STOPPED
CurSong:1 NewSong  Tempo:120
RecTrk :1  Vol:127 Pan:64  Mode :Merge
Program:1 Acoustic Piano  Locat: 1:1

Track :R - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record Play Stop Erase MISC MIXER

```

Notice that the sequencer is ready for you to record a new song, and the record track (RecTrk) is set to track 1. If "1 NewSong" doesn't appear in the CurSong field, press the MISC soft button, then press the New soft button on the MISC page. You will be returned to the MAIN page, and CurSong will say "1 NewSong."

2. Use the down arrow button to move the cursor to the Program field.

When this field is highlighted, type "52" then press the ENTER button. You've now assigned "Jazz Kit" to channel 1.

```

SongMode:MAIN  Events:188K  STOPPED
CurSong:1  NewSong          Tempo:120
RecTrk :1      Vol:127 Pan:64  Mode :Merge
Program:52 Jazz Kit          Locat: 1:1

Track  :R - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record  Play  Stop  Erase  MISC  MIXER

```



NOTE: If "52 Jazz Kit" appears in parentheses, it means that the current channel is not a drum channel. You can either go to the Master page to change the drum channel, or assign the drums to a current drum channel in Song mode.

3. Now use the up arrow button to highlight the RecTrk field.

Change RecTrk to "2". You can use either the alpha wheel or the keypad.

4. Return to the Program field, and set it to "80 Mix Bass".

```

SongMode:MAIN  Events:188K  STOPPED
CurSong:1  NewSong          Tempo:120
RecTrk :2      Vol:127 Pan:64  Mode :Merge
Program:80 Mix Bass          Locat: 1:1

Track  :- R - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record  Play  Stop  Erase  MISC  MIXER

```

Notice that the "R" on the Track line, which stands for "Record", has moved to track 2. Also notice how each of the sixteen tracks has a default channel associated with it. You could change this if you wanted to, but most people find it easiest to associate track 1 with channel 1, track 2 with channel 2, etc.

5. Repeat the above two steps to assign "97 Gospel Organ" to channel 3 and "46 Brt Saxy Lead" to channel 4.

You've now chosen the programs for your first sequence. It's important to realize, though, that you have not recorded them yet. They will be there when you need them, but they have not yet been included in a song. Also, don't forget that you can change the program assignments any time before or after you record the song.

Record a Drum Loop

Our song will be based around a four measure drum loop that we'll record now. Then, a little later on, we'll "unloop" the drum track and really start jamming.

The length of the drum loop is determined by the current *endpoint*, so we'll start by recording 4 measures of silence to set the endpoint.

1. Set RecTrk to "1" then press the Record soft button. The Song Status indicator (top right hand corner of the display) flashes "REC READY".

song status indicator

```

SongMode:MAIN Events:188K REC READY
CurSong:1 NewSong          Tempo:120
RecTrk :1   Vol:127 Pan:64   Mode :Merge
Program:52 Jazz Kit         Locat: 1:1

Track  :R - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record  Play  Stop  Erase  MISC  MIXER
  
```

Locat parameter
shows current measure
and beat number

2. Press the Play soft button. The Song Status indicator now reads "RECORDING".

The K2vx's built-in metronome will begin clicking, and the Song mode LED will also flash at the current tempo.

Notice the "Locat" parameter on the right side of the display, which shows the current measure and beat number. When you begin recording, the K2vx will provide you with a four beat count-off, during which time Locat's measure and beat number will be preceded by a minus sign.

Since we are recording four measures of silence, press the Stop soft button as soon as Locat reads "4:4".



NOTE: The sequencer will truncate to the nearest downbeat, so as long as you press Stop before Locat reads "5:2" (but after it reads 4:4) you'll be alright. Don't worry about this too much, though, since in the next step we'll show you how to check (and change, if necessary) the endpoint.

When you press Stop, you'll be asked to confirm and name this song. Even though we've just recorded four measures of silence, when you save it and give it a name it's officially a song.

For the purposes of this example, we'll assume that you pressed Stop a few beats too late. You'll see how easy it is to correct this sort of thing in the Event Editor.

3. On the Song mode MAIN page, make sure that the cursor is highlighting any field other than the Program field, then press the EDIT button.

If the Program field is highlighted when you press EDIT, you'll enter the Program Editor, which is not what you want to do right now. The EditSong: COMMON page appears:

```

editSong:COMMON <> track:1
Tempo      :120      StartStep  :1
TimeSig    :4/4      TempoControl:Song
EffectChan:1        TriggerChan :1
ChainTo    :0 None   TriggerCtl  :ON
TrackDest  :-----
DrumTrack  :-----
<more> EVENT TRACK STEP ARRANG <more>
  
```

- Now press the EVENT soft button to bring up the Event Editor, which will look something like this:

```

EditSong:EVENT (Ch 1) <>track:1

1:1 1:1.000 CTRL BANK 0
1:1 1:1.000 PCHG 52
1:1 1:1.000 CTRL VOL 127
1:1 1:1.000 CTRL PAN 64
Cut Copy Paste View AllOn Done

```

As you can probably decipher, the Event Editor gives you access to an editable list of all note, controller, and other MIDI events that Song mode uses to describe your sequence. While you're looking at the Event Editor, notice the data that the sequencer keeps track of, even when no notes are played.

- Use the Alpha wheel to scroll to the bottom of the event display.

The last event listed is your endpoint, which should be the first beat of the measure following the last measure you want to record. For our four measures of silence, then, the endpoint should be 5:1. The display below, however, shows that five measures have been recorded:

```

EditSong:EVENT (Ch 1) <>track:1
1:1 1:1.000 CTRL VOL 127
1:1 1:1.000 CTRL PAN 64
6:1 6:1.000 END

Cut Copy Paste View AllOn Done

```

Fortunately, it's quite easy to change the endpoint from "6:1" to "5:1" to remove the extra measure that's been accidentally recorded. (If your endpoint is at 5:1, you won't need to change it now. If, however, your endpoint is less than or greater than 5:1, you should proceed with the next step.)

- Check the endpoint, and change it if necessary.

To change the endpoint from 6:1 (or any other incorrect value) to 5:1, press the right arrow button to position the cursor in the Bar:Beat:Tick column ("6:1.000" in the above example). Type "51000" then press the ENTER button. The endpoint is changed, and the song is now four measures long.

- Press EXIT to return to the SongMode:MAIN page.

If you've made changes in the Event Editor, confirm them now.

- Make sure that record mode and play mode are set to "Loop."

From the SongMode:MAIN page, press the MISC button. Set the RecMode parameter on the SongMode:MISC page to "Loop".

The PlayMode parameter should already be set to "Loop". If it isn't, turn the alpha wheel until "Loop" is highlighted.

RecMode & PlayMode parameters

Quantize parameters

SongMode:MISC		Events:188K	STOPPED
RecMode : Loop	Quant:Off	CountOff:1	
PlayMode:Loop	Grid :1/8	Click :Rec	
KeyWait :Off	Swing:0%	ClickCh :16	
Locate : 1:1	Sync :Both	ClickPrg:198	
AutoIn : 1:1	Clock:Int	ClickKey:C 4	
AutoOut : 1:1	Tempo:Auto	ClickVel:90	
Record	Play	Stop	New
		In/Out	MAIN

9. Turn on Input Quantization.

While you're on the MISC page, take a look at the quantize parameters (Quant, Grid, and Swing) in the middle column of the page. Quantization is a very useful feature, especially for the rhythmically challenged. When you quantize a track, the sequencer moves the elements of that track closer to a grid based on the time signature of the tune. You can use quantization to subtly tighten up a rhythm track or to create a precise, unwavering mechanical rhythm.

For our drum loop, we'll try the total quantize experience, so position the cursor over the Quant parameter, then turn the alpha wheel until the value is set to "100%". Move the cursor down to the Grid parameter. The default value "1/8" indicates that quantization will move the notes you play to the closest eighth note. Try double-pressing the increment/decrement buttons below the alpha wheel to move through a range of useful grid values. Note that some of the values have "tr" or "t" appended to them. These are grid settings that allow you to maintain a triplet feel. We'll use a setting of "1/16", however, so set this value, then press EXIT to return to the SongMode:MAIN page.



NOTE: The K2vx's sequencer also provides a full range of advanced quantization features that you can apply to previously recorded tracks. To learn about these, check out the *Quantize and Reference Quantize* functions on the EditSong:TRACK page.

10. Make sure you are in Merge Mode.

On the SongMode:MAIN page, check the Mode parameter, and make sure it is set to "Merge" rather than "Erase". Being in Merge Mode means that while you are recording this track you will be able to overdub more sounds with each successive loop.

11. Begin recording drums.

Press the Record soft button, observe the "REC READY" indicator on the top line, then press the Play soft button when you're ready to begin. Remember to wait for the four beat count off before you start to play.

Since you are in Merge Mode, you don't need to do everything at once. A common approach to making drum loops is to record a different instrument each time the loop comes around. For example, on the first loop you could record snare hits on the back beats (1:2, 1:4, 2:2, 2:4, etc.). Then you could add kick drum to the snare when the loop comes around again; you'll be able to hear the previously recorded part, as well as the new part. On the third pass you might record ride cymbal, followed by hi-hat or other percussive accents. Keep it simple at first, because you can always save the part while it's

basic (but correct), then make additions later. To keep track of where you are, watch the flashing Song mode LED or the Locat parameter on the SongMode:MAIN page.

12. Press the Stop soft button when you've finished recording the drums.

Confirm that you want to keep the changes to your song by pressing the Yes soft button followed by the Replace soft button.

Record a Bass Line

When you are satisfied with your drum loop, you can begin using it as the foundation for a song. What we'll do here is set Record Mode to "unloop" while leaving Play mode set to loop. This means that the drum loop will keep playing while we record new material of any length. The endpoint of the song will change to reflect the length of the newly recorded material.

1. Press the MISC soft button to bring up the SongMode:MISC page.
2. Set the RecMode parameter to "Unloop". Leave the PlayMode parameter set to "Loop".

Depending on the type of song you are recording, you may also want to turn quantization off before you record your bass part.

```

SongMode:MISC  Events:186K  STOPPED
RecMode :UnLoop Quant:100%  CountOff:1
PlayMode:Loop  Grid :1/16   Click  :Rec
KeyWait  :Off    Swing:0%   ClickCh :16
Locate   : 1:1   Sync :Both  ClickPrg:198
AutoIn   : 1:1   Clock:Int  ClickKey:C 4
AutoOut  : 1:1   Tempo:Auto ClickVel:90
Record   Play   Stop   New   In/Out MAIN

```

3. Press the MAIN soft button to return to the SongMode:MAIN page.
4. Set the record track (RecTrk) to track 2.

This track already has material recorded on it.

```

SongMode:MAIN  Events:186K  STOPPED
CurSong:200*NewSong  Tempo:120
RecTrk :2    Vol:127 Pan:64  Mode :Merge
Program:80 Mix Bass   Locat: 1:1
□
Track  :P R - - - - - - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record Play Stop Erase MISC MIXER

```

Track status indicators: track 1 is set to "Play", track 2 is set to "Record". Tracks 3 through 16 are empty.

Since you previously assigned "Mix Bass" to channel 2, it should appear in the Program field when you set track 2 as the record track. Note, too, that the track status indicator for

track 1 changes to "P" (for "Play") when you select track 2 for recording. The small square above the track status indicator tells us that material is contained on that track.

5. **Press the Record soft button to enter "REC READY" mode.**
6. **Press the Play soft button, then begin laying down a bass track.**

Remember that by default there is a four beat count off, during which time the Locat value will be preceded by a minus sign (-). No material is recorded during the count off, though anything you play during the countoff will be quantized to the first note of the song. As you are recording the bass track, your drum loop will keep playing. Play for as long as you want; the sequencer will lengthen the song as needed.

7. **Press the Stop soft button when you are done recording the bass.**

You will be given the usual save options. To keep what you've just recorded, press the Yes soft button followed by the Replace soft button.

Since you unlooped the drum track when you recorded the bass, you've changed the endpoint of the song to be wherever you stopped the bass track. You can check the endpoint (and change it, too, if you want) using the Event Editor, as described earlier.

Record the Remaining Instruments in Your Song

Now that you've defined your song with the bass and drum tracks, you can put the organ and Brt Saxy Lead (or whatever instruments you've chosen) into your song.

1. **Set the record track (RecTrk) on the SongMode:MAIN page to track 3.**

Notice the small squares above the track status indicators for tracks 1 and 2, reminding you that you've now got material on two tracks.

```

SongMode:MAIN  Events:186K  STOPPED
CurSong:200*NewSong  Tempo:120
RecTrk :3  Vol:127 Pan:64  Mode :Merge
Program:97 Gospel Organ  Locat: 1:1
  □ □
Track  :P P R - - - - - - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record  Play  Stop  Erase  MISC  MIXER

```

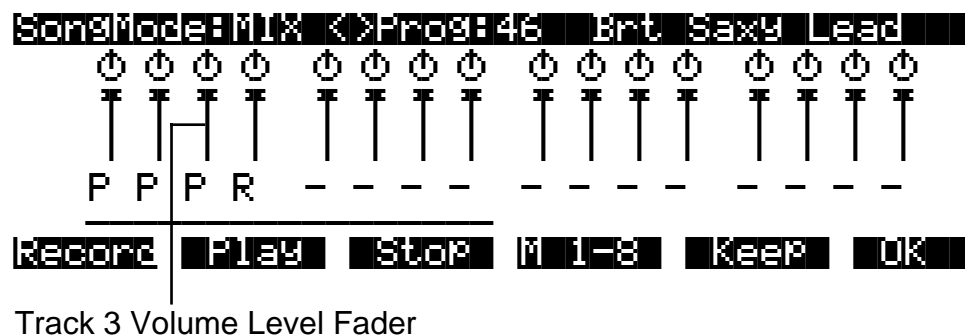
2. **Press the MISC soft button to bring up the SongMode:MISC page.**
3. **Set RecMode to "FixLen".**
 Since you've defined the length of your song with the bass track, setting RecMode to "FixLen" means that the song will just play through once each time you record a new part.
4. **Record the organ in the same way that you recorded the bass track in the previous section.**
 Notice that you can do this from the MISC page, without returning to the MAIN page.
5. **Continue recording instruments until you have played all the parts of your song.**

Mix Your Song

The SongMode:MIX page lets you change the panning and volume levels for the tracks in your song. Needless to say, this is one of the most important steps in the completion of your song production, and potentially one of the most creative. This example will keep things simple by showing you how to change the volume level of one of your instruments. We'll also take a quick look at the track mute feature.

1. **Press the MIXER soft button to bring up the SongMode:MIX page.**

The icons that represent pan position knobs and volume level faders resemble the controls on a traditional mixing board. Manipulating them should be quite intuitive. Simply position the cursor over a pan position knob or volume level fader, then turn the alpha wheel to set the level you want.



For example, suppose you want to turn down the organ on track 3:

2. **Use the arrow keys to position the cursor over track 3's volume level fader on the SongMode:MIX page.**

Although the tracks aren't numbered on the SongMode:MIX page, they are laid out logically: left-to-right, from 1 through 16 consecutively. Track 3, then, is the third track from the left.

3. **Use the alpha wheel to turn down the volume of the track by changing the position of the volume slider.**
4. **Press the Keep soft button and confirm the change.**

Now when you play back the song, track 3's volume will start playing at the newly set level.

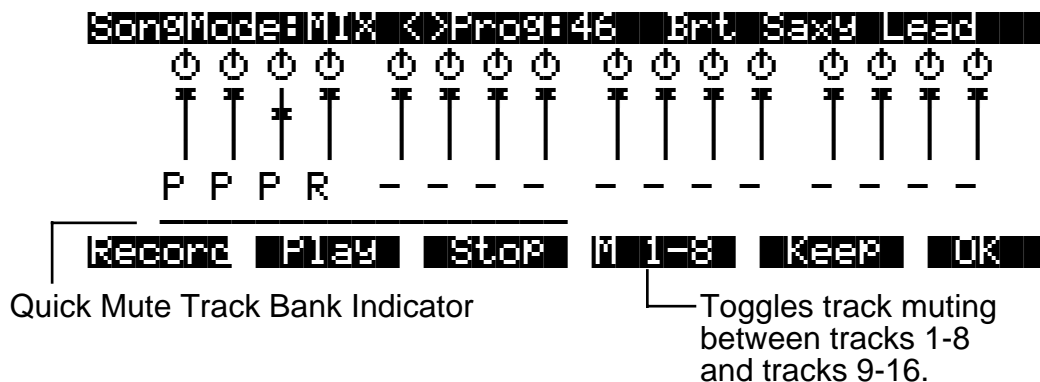
You can also record real-time volume and pan changes from the MIX page or enter numeric values for these parameters on the MAIN page.

Using the Mode Buttons to Mute a Track

Finally, we'll take a quick look at the track mute feature, which lets you use the K2vx's mode buttons to mute individual tracks. This can be invaluable during mixdown.

You may have noticed a horizontal line underneath the sliders for tracks 1 through 8 on the SongMode:MIX page. As the illustration below shows, this is the "Quick Mute Track Bank Indicator", showing which bank of eight tracks will respond to the eight track mute buttons on the front panel of the K2vx. If you're looking for the track mute buttons on the front panel of your K2vx, they're the eight mode buttons (Program, Setup, etc.); press one of these buttons

while you are on the SongMode:MIX page and playing a song, and the associated track will be muted.



Use the M 1-8 / M 9-16 soft button to toggle between banks of eight tracks, either 1 through 8 or 9 through 16. When you press this soft button, the horizontal bar will reposition itself below the affected tracks. The table below shows the K2vx's mode buttons, and which tracks they will mute when you are playing a song:

Mode Button	M 1-8	M 9-16
Program	1	9
Setup	2	10
Quick Access	3	11
Effects	4	12
MIDI	5	13
Master	6	14
Song	7	15
Disk	8	16

Let's listen to our song with and without drums:

1. **From the SongMode:MIX page, press the Play soft button.**

The song, with all of its instruments, begins to play.

2. **Press the Program mode button on the front panel of the K2vx.**

The Program mode LED will light, and track 1 (the drum track) will be muted.

3. **Press the Program mode button again to unmute the drum track.**

Using your K2vx's front panel buttons, you can mute one or more tracks at once, or even mute eight tracks at a time.

With any luck, you've now completed your first song. You should now be ready to take on the more advanced features of K2vx Song Mode that are described in the remainder of this chapter.

MAIN Page

The Song Mode MAIN Page allows real time recording and playback, song and track selection. From this page you can view and edit the tracks' channel, program, volume and pan settings, as well as other useful items.

```

SongMode:MAIN Events:317K STOPPED
CurSong:1 NewSong Tempo:120
RecTrk :1 Vol:127 Pan:64 Mode :Merge
Program:2 Stereo Grand Locat: 1:1

Track :R - - - - - - - - - - - - - - -
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record Play Stop Erase MISC MIXER

```

PARAMETER	RANGE OF VALUES	DEFAULT
CURRENT SONG	SONG ID & NAME	1 NEWSONG
RECORD TRACK	1 – 16, NONE, MULT	1
PROGRAM	PROGRAM ID & NAME	CURRENT PROGRAM
SETUP	SETUP ID & NAME	CURRENT SETUP
TRACK STATUS	-(EMPTY), R, M, P	-(EMPTY)
CHANNEL	1 – 16	1 – 16
VOLUME	0 – 127	127
PAN	0 – 127	64
TEMPO	1 – 255 BPM	120 BPM
MODE	MERGE, ERASE	MERGE
LOCATION	1:1 – 9999:9	1:1

The **Events** field on the top line displays the amount of free RAM space. 317 K in the above example represents maximum available memory with P/RAM installed. The maximum is 60 K without P/RAM. This field is replaced by the **Used** field, as shown below, when the Song Status is REC READY or RECORDING, to display the percentage of the record buffer (not the RAM memory) being used.

```

SongMode:MAIN Used: 0% REC READY

```

Song Status, also on the top line of the display, will be one of the following:

- **STOPPED** is displayed whenever the sequencer is not in another status, or when the **Stop** or **Pause** button is pressed.
- **PLAYING** is displayed when the **Play** button is pressed (assuming **Record** has not been previously pressed; and Key Wait is Off and the Clock set to Internal)
- **REC READY** is displayed when the **Record** button is pressed while the sequencer is STOPPED. It flashes, indicating that it is waiting to start recording.
- **RECORDING** is displayed when the **Play** button is pressed while REC READY is flashing (unless Key Wait is On or the Clock is set to Ext). RECORDING will also be displayed if the **Record** button is pressed while the status is PLAYING.
- **KEY WAIT** is displayed when the **Play** button is pressed, if the KeyWait parameter on the MISC page is set to On. It will go this status from both the STOPPED and REC READY status. It flashes, indicating it is waiting for a key to be struck to start recording or playing.

- **EXT. CLOCK** is displayed when the **Play** button is pressed, if the Clock parameter on the MISC page is set to Ext. It will go this status from both the STOPPED and REC READY status. It flashes, indicating it is waiting for an external MIDI clock message to start recording or playing.

Current Song (CurSong)

Current Song ID# and 16 character name selected for recording, playback or editing. When a Song is selected, Program Change, Volume, and Pan information is sent to all MIDI channels assigned to tracks that have data on them, and the internal clock is set to the Tempo.

Tempo

Controls tempo for the selected song. You can make temporary changes, record real time tempo changes, or set an initial tempo for the current Song.

Whatever the tempo is set to when you record your first track will be the Song's initial tempo. Temporary changes may be made during playback, but the tempo will reset to the initial tempo when the sequencer is STOPPED.

To change a Song's initial tempo, press **Record** (the Song Status will change to REC READY), set the tempo desired, then press **Stop**. The initial tempo can also be changed with the Tempo parameter in the EditSong : COMMON page. The Song will always start playback at the initial tempo, even though this tempo marker does not get recorded as a tempo event on any track.

If the sequencer is RECORDING, any tempo value changes will be recorded in real time. Unlike the special case of setting the initial tempo, any tempo changes recorded in real time are recorded as tempo events.

Fractional Tempos

You can use fractional tempos (120.5, etc.) in your sequence. However, the initial tempo can not be fractional, and you cannot enter a fractional number in the tempo parameter on the MAIN or COMMON pages. You must first record a real time tempo event, then go to the EVENT editor and change it to a fractional amount.

To do this, press **Record**, then **Play**. The sequencer starts recording. Use any data entry method to choose a tempo. The value is unimportant since you will be changing it in the EVENT editor. Next press **Stop** and save the Song. Now when you go to the EVENT editor (see page 12-28), you will see a tempo event. You can now edit the value to a fractional amount. To have the song start immediately with the fractional tempo, edit its location to 1:1:000.

Record Track (RecTrk)

Determines which track is record enabled. Set the record enabled track to Multi to record more than one channel simultaneously or to use a Setup in your Song.

When RecTrk is set to a single track (1 - 16), Record (R) is displayed for that track in the Track Status Indicator field (above the Track Channels). Conversely, with one exception, when any Track's Status Indicator is changed to Record (R), that Track is shown as the value for the RecTrk parameter.

The exception is when RecTrk is already set to Multi, you can select the record enabled tracks by toggling the Track Status Indicator to Record (R), and the RecTrk will remain set to Multi.

When Multi is initially selected, all of the empty tracks will be record enabled. Tracks containing data will remain set to play (P), but you can manually set them to record (R).

The parameter(s) below RecTrk will change according to the value of RecTrk and whether or not you select a setup. If RecTrk is set to a single track (1-16), Program is displayed and you can select the program to be assigned to that track. If you change RecTrk to Mult or None, the display changes to show the Channel parameter followed by the Program parameter (although the the word "Program" no longer appears). An example of this is shown in the screen below. If you switch through the channels, the program will also change, showing the program currently on that channel. Finally, if RecTrk is set to Mult, then if you go directly to Setup Mode and then back to Song mode, the parameter changes to Setup, allowing you to choose a setup with which to record.

Program

Scroll through the Program objects in memory to select the Program before initially recording each track of your Song. Any MIDI program changes on the current RecTrk or Chan will cause the ID# and name of the track's program to change during playback.

This parameter's name, Program, is not present on the display when the RecTrk is set to None or Multi (to make room for the Chan parameter), but the value is still displayed.

The parameter is replaced with Setup when you select a Setup for playback or recording. The Setup parameter functions similarly to Program.

Programs selected in Program Mode or from a Quick Access bank will be selected as the program on the current RecTrk when you return to Song Mode.

```

SongMode:MAIN  Events:188K  STOPPED
CurSong:1 NewSong          Tempo:120
RecTrk :MULT Vol:127 Pan:64  Mode :Merge
Chan:4   2 Stereo Grand     Locat: 1:1

Track  :R R R R R R R R R R R R R R R R
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record Play Stop Erase MISC MIXER

```

Channel (Chan)

This parameter determines the control channel and is only available when the RecTrk is set to None or Mult. The Program parameter value remains on the display and can be edited, even though the parameter's name, "Program", no longer appears.

Setup

Displays the ID# and name of Setup to be recorded. This parameter is available by setting RecTrk to Mult, then entering Setup mode momentarily by pressing the SETUP button followed by the SONG button to return to Song mode. The screen below shows an example of the Song mode page with the Setup parameter displayed.

```

SongMode:MAIN  Events:188K  STOPPED
CurSong:1 NewSong          Tempo:120
RecTrk :Mult Vol:127 Pan:64  Mode :Merge
Setup  :4 Total Orchestra   Locat: 1:1

Track  :R R R R R R R R R R R R R R R R
Channel:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Record Play Stop Erase MISC MIXER

```

The Chan parameter will be replaced with Setup. It is important to know how many channels, and consequently how many tracks, are needed for recording a particular Setup. Each Setup can have up to three Zones that can respond to your playing differently, depending on what range of the keyboard is being played, or if certain velocity and/or controller values determines when a particular Zone will respond. Be aware of the behavior of each Setup you intend to record so that you can allocate the proper tracks and channels needed in your Song.

Volume (Vol)

You can set an initial volume level for the playback and recording of each track as a value between 0 and 127. If the channel of the RecTrk (or the control channel, if RecTrk is set to Multi or None) contains any recorded volume change (controller code 7), the change will be reflected as the Vol parameter's value in real time.

Pan

You can set an initial pan position (the balance between the Left and Right audio channels) for the playback and recording of each track as a value between 0 and 127. A value of 64 is center. If the channel of the RecTrk or the control channel contains any panning data (controller code 10), the Pan parameter's value is modified in real time.

Mode

If Mode is set to Merge you will be able to overdub when recording on a track containing previously recorded data. You'll usually want to set Mode to Merge when RecMode (on the MISC page) is set to Loop. Otherwise, each time through the loop, the previously recorded information will be erased.

If you set Mode to Erase, the previously recorded data on the record enabled track will be replaced with the new data only during the Bars and Beats you are actually recording, and the previously recorded data before and after the newly recorded Bars and Beats will be preserved.

Location (Locat)

The Bar and Beat displayed as the Locate value changes relative to current location of the Song during playback and recording. You can set this to a negative Bar and Beat location to start playback a set length of time before the beginning of the Song.

Whenever you set the Locate point, that location will be used as the return point when **Stop** is pressed. Simply press **Stop** again to reset the Song to the top (1 : 1).

```

      □ □ □ ×
Track  : P P M R - - - - - - - - - -
Channel: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

```

Mode Indicators (+ and x):

Mode Indicators only appear when there is pre-existing data on a track(s).

A plus sign (+) appears above the Track Status Indicator of a track set to record (R) when the Mode parameter is set to Merge.

An (x) appears above the Track Status Indicator of a track set to Record (R) when the Mode parameter is set to Erase.

Activity Indicators (□)

A small square (□) above the Track Status Indicator of a track set to Play (P) or Mute (M) means there is data contained on that track.

During playback and recording, the indicators above tracks containing any MIDI data will flash a small, filled-in square when any MIDI activity is detected. The filled-in square also flashes over a track any time that there is incoming MIDI data on that track's channel, even while the sequencer is STOPPED.

Track Status Indicators

Using the Up, Down, Left, and Right cursor arrows to position the cursor onto a Track Status Indicator, you can toggle an empty track (-) into Record (R) with the Alpha Wheel or Increment/Decrement buttons.

Once a track contains data, it will have a (P) as a Track Status Indicator, and it will be played during playback. You now will be able to toggle between Play (P), Mute (M), and Record (R).

The track selected as the RecTrk will have an (R) in this field, designating it as the record enabled track. If the RecTrk is set to Mult, initially all empty tracks will have Record (R) as a Track Status Indicator, any of which can be switched back to empty (-) if at any time recording on specific tracks is not desired.

If there isn't a track with an (R) in this field, the RecTrk parameter's value will be None. (The exception is when the RecTrk is set to Mult and you have switched all of the tracks out of record enable.)

Track Channels

Each track has a MIDI Channel that it uses to receive and transmit data. By default, tracks 1 through 16 of a new Song are assigned to channels 1 through 16 respectively, although a track can play or record on any channel and the same channel can be assigned to more than one track. However, keep in mind that only one program can be assigned to a channel at a time, so if you have more than one track assigned to the same channel, they will be playing the same program.

Soft Buttons on the MAIN Page

Although these soft buttons may look similar to the transport controls on a tape deck that might require that you hold down play and record simultaneously to begin recording, they do not operate in the same fashion. It is important that you only press one of these transport style soft buttons at a time to insure proper record start points, and to always be sure of the current sequencer status.

Record **Pause** **Stop** **Erase** **MISC** **MIXER**

Record changes the Song Status to REC READY if the current Song Status is STOPPED. If the current Song Status is PLAYING, it will be switched to RECORDING when you press **Record**.

If the RecTrk is set to None, pressing **Record** will select the first available empty track for recording, thus setting the RecTrk to the newly record-enabled track number and placing an (R) in that track's status display. Song Status will change to REC READY or RECORDING, depending on the previous Song Status as described above.

Play plays back any recorded data when pressed while the song status is STOPPED. Playback will begin from the bar and beat specified in the Locate parameter.

When the Song Status is REC READY, pressing the **Play** soft button will begin recording.

Pause and **Play** share the same soft button. **Pause** appears only when the Song Status is PLAYING or RECORDING. Pressing **Pause** while the song is playing will stop the playback (soft button switches to

Play), and the location remains at the current bar and beat, allowing you to continue from that location by pressing *Play* again.

Pressing **Pause** while recording will stop the recording process as if you had pressed **Stop**.

Stop halts the playback or recording, and resets the Song's location to either the default "bar 1, beat 1" value, or to whatever location you defined with the Locate parameter. If the location is defined as something other than "bar 1, beat 1", press **Stop** twice to return to 1:1.

Pressing **Stop** when the Song Status is RECORDING will always prompt the "Save this song?" dialog (shown on page 12-16), and provides you with the opportunity to listen to the "New" Song and compare it with the "Old", previously saved, Song before answering Yes or No.

Here are two useful alternatives to using these button presses:

- Footswitches can be assigned to **Play/Stop** and **Record/Stop**. On the MIDIMode : TRANSMIT page, assign either footswitch to controller number 102 or 103. Using controller 103, you can even record from within the Song editor.
- Double button presses allow Song **Play**, **Pause** and **Stop** soft button functions from almost anywhere where these buttons are not available. Use the cursor **Left+Right** double-press for **Play/Stop**, and use the cursor **Up+Down** double-press for **Play/Pause**.

Erase removes all channelized data from the track on which the cursor is currently positioned (on either the Track or Channel fields) or from the record enabled track if the cursor is positioned elsewhere. As shown on page 12-17, a dialog appears that allows you to verify your intentions before permanently erasing any data. The Erase function will not prompt the dialog or erase any data if an empty track is selected.

MISC accesses more sequencer control parameters found on the SongMode : MISC page. These miscellaneous controls include record and play mode settings, auto punch-in points, quantization on input settings, tempo, and click attributes, as documented later in this chapter, starting on page 12-18.

MIXER lets you view a graphic representation of panpots and level faders for each track in the EditSong : MIX mode. You can modify program changes, volume and pan position in this Mode. Record status can also be selected here. The section on the Mixer begins on page 12-23.

Save this song? Dialog

The following dialog page appears after you have recorded a track and pressed **Stop**, or if you have entered the Song editor and made changes, then pressed Exit, or if you press **Save** in the Song editor.

Save this song?

PlayOld PlayNew Stop Yes No

PlayOld appears along with the **PlayNew** soft button in the "Save this song?" dialog after the recording process has been stopped. Pressing **PlayOld** will play the current song, minus the last, but not yet saved, recorded data. The exception is when there is no previously recorded data (i.e., recording the first track of a NewSong), then you will only have a **Play** soft button to audition the recorded data just entered.

PlayNew / Play soft buttons allow you to play all of the recorded data, including data on the track(s) you have just recorded.

Stop halts the playback of either the Old or the New version of the Song you are currently auditioning. Press the **Stop** soft button to stop the playback or recording, and reset the Song's location to either the default "bar 1, beat 1" value, or to whatever location you defined in the Locat parameter

Yes saves the data on the track(s) you just recorded. Whatever was played back when you pressed **PlayNew** will be the version of the Song to be saved when you press Yes. The "Save New Song?" Dialog (shown below) will be displayed.

No returns you to the Song mode page in which you were last recording, without saving any unsaved changes to the current Song.

Save New song? Dialog

Save NewSong as: ID#200

Object

Rename

Save

Cancel

Saving a Song requires that you assign it an ID# and this is where you do so. If you select an ID# of an existing Song Object in RAM, the **Save** soft button will become **Replace** and "Replace existing Song" will appear on the display as a warning and a chance to change your mind.

There are only 20 ID#s available for Song Objects per bank in banks 100 - 900. In the zeros bank, there are 75, ID#s 1 - 75. In the 200's bank there are ID#s 200 - 219, in the 300's bank, ID#s 300 - 319, and so on.

Object accesses some useful database functions while still in Song mode, before you actually save the current Song. Pressing **Object** jumps you directly to the Object Utility, described on page 11-6. When you press **Done** on the Utility page, you will be returned to the "Save New Song" dialog.

The **Rename**, **Save**, and **Cancel** soft buttons function the same as they do in all other editors.

Erase Track Dialog

This dialog asks you if you are sure you want to erase a specific track. The track number will correspond to the track currently selected by the cursor position. When RecTrk is set to Multi or None, the Erase track function looks to the cursor position to determine the track to erase. If the cursor is positioned somewhere other than the Track or Channel fields, Erase will have no effect. Erasing a track will not alter the Song's End point, nor will it remove any tempo events, since these elements are common to all tracks in the Song.

Yes erases all data on the selected track and returns to the MAIN Song Mode. The Song will keep the erased track record enabled, but it will be an empty track.

No aborts the erasing of the selected track and returns to the MAIN Song Mode with all previously recorded tracks intact.

MISC Page

This page contains parameters that determine how the sequencer behaves during playback and recording, and when the K2vx is connected to another MIDI sequencer. Most of these settings are stored in the Master Object, (all except the Auto punch-in points) and none of these are saved with the Song.

```

SongMode:MISC  Events:188K  STOPPED
RecMode :Linear  Quant:Off   CountOff:1
PlayMode:Loop   Grid :1/8   Click :Rec
KeyWait :Off     Swing:0%   ClickCh :16
Locate : 1:1     Sync :Both  ClickPrg:198
AutoIn : 1:1     Clock:Int  ClickKey:C 4
AutoOut : 1:1    Tempo:Auto  ClickVel:90
Record  Play  Stop  New  In/Out  MAIN

```

PARAMETER	RANGE OF VALUES	DEFAULT
RECORD MODE	LINEAR, FIXLEN, LOOP, UNLOOP, AUTO	LINEAR
PLAY MODE	LINEAR, LOOP, LIST, CHAIN	LOOP
KEY WAIT	ON, OFF	OFF
LOCATE	-25:2 – 999:4	1:1
AUTO IN	1:1 – 999:4	1:1
AUTO OUT	1:1 – 2500:	1:1
INPUT QUANTIZE	OFF, 1% – 100%	OFF
GRID	1/1 – 1/384	1/8
SWING	-99% – 125%	0%
SYNC	BOTH, XMIT, RECV, OFF	OFF
CLOCK	INT, EXT	INT
TEMPO	AUTO, FIXED	AUTO
COUNTOFF	OFF, 1, 2, 3	1
CLICK	OFF, REC, ON, CNT	REC
CLICK CHANNEL	1 – 16	16
CLICK PROGRAM	1 – 999	198
CLICK KEY	C-1 – G9	C4
CLICK VELOCITY	1 – 127	90

The top line displays the amount of free RAM space and the current sequencer state, which is one of the following: STOPPED, PLAYING, REC READY, RECORDING, KEY WAIT, or EXT. CLOCK.

RecMode

When recording the first track of a new Song, you will be able to record as if you had an endless length of “tape” no matter what the Record Mode is set to.

When you record the first track, all Record Modes operate the same way. This is because until you define the length of a new Song, its End point is the default setting of Bar 8001, the maximum amount of Bars in a Song. The End point is referenced and modified in different ways depending on the RecMode.

The End point of a song is defined when:

- 1) The **Stop** button is pressed to end the recording of the first track. The new End point is aligned to the nearest downbeat of the (empty) Bar immediately following the last Bar you were recording when **Stop** was pressed.

- 2) **Stop** is pressed while recording any track past the previously set End point in Linear or UnLoop Record Mode. Again, the new End point is aligned to the downbeat of the (empty) Bar immediately following the last Bar you were recording when **Stop** was pressed.
- 3) The AutoOut Bar and Beat is set past current End point, after recording in Auto RecMode, and when the first track is recorded in Auto RecMode, the AutoOut Bar and Beat becomes the End point.
- 4) A new End point is entered in the EVENTS edit mode.
- 5) Using the Track edit functions Copy, Insert, and Delete to alter the Song's length.

The End point of a song is used as a loop point in Loop and UnLoop modes, and it defines the Fixed Length of a Song when you record in FixLen mode.

Linear - Record as if you had a nearly endless length of "tape".

FixLen - The song will not continue recording past the End point of the song when the RecMode is set to Fixed Length. Recording will automatically stop at the End point.

Loop - While RECORDING, the song will play the data between 1 : 1 and the End point over and over, allowing you to overdub in each pass if the Mode parameter on the MAIN SongMode page is set to Merge. Make sure the Mode parameter is set to Merge if you intend to overdub in Loop Record, or else each consecutive pass in Loop RecMode will erase the data recorded on the previous pass. While you are still recording in Loop mode, you may selectively erase individual note events by pressing and holding the **Enter** button and depressing the desired notes on the keyboard during the times you would like them erased. Once the Song is saved, you can not use this feature to erase individual notes.

UnLoop - When recording in UnLoop Mode, any existing tracks will be played back as if they were looping from Bar 1 : Beat 1 to the End point, but they are actually being re-recorded linearly over absolute Bars and Beats until you press **Stop**. UnLoop allows you to record a linear track over a short looping section without first having to copy the section over and over again to achieve a new desired Song length. The End point of the Song is extended to the downbeat of the (empty) Bar immediately following the last Bar you were recording when **Stop** was pressed.

For example, let's say you have a recorded a four bar drum loop and now want to record an eight bar bass line. This would be a situation where UnLoop would come in handy. While the drum track keeps looping, the bass track will record in linear fashion, and the end point will be moved to the point at which you press **Stop**. Actually, the drum track will also change. It will play through its loop twice, but while the information is repeating in the loop, it will be recorded to the track. So now if you look at the drum track, you will see information in bars 5-8 (a duplicate of the information in bars 1-4).

Auto - Set RecMode to Auto to punch-in record, (either in merge or erase mode), on a track between the Bars and Beats Defined in AutoIn and AutoOut. To punch in and continue recording until you press **Stop**, set the AutoOut point before the AutoIn point.

PlayMode

The PlayMode setting, along with the End point, determine how the Song or Songs are played back.

Linear - Set the PlayMode to Linear to hear the current Song played only once, from the song position set in the Locate parameter to the End point. The Song will be returned to the Locate Bar and Beat when it reaches the End point.

Loop - The Loop PlayMode will loop the current Song from the End point back to Bar 1, Beat 1 continually during playback until **Stop** is pressed.

List - Song Objects in memory can be played back to back in numerical ID# order starting from the current Song followed by the Song with the next highest ID#. Once the current Song reaches its End point, immediately the CurSong parameter is updated to the next highest Song Object ID# and it will play from Bar 1, Beat 1 to its End point. When the Song with the highest ID# in memory has played through to its End point, the sequencer will stop and that Song will be the new "CurSong".

Chain - For every Song, there is a parameter called ChainTo found on the COMMON page that determines what other Song, if any, will immediately follow this Song's playback when PlayMode is set to Chain. When the current song ends, the ChainTo Song will replace the previous CurSong, and if its ChainTo parameter is set to any value other than "0 None", then the Chain PlayMode will continue playback with the next Song being chained. When the last Song in the chain has played through to its End point, the sequencer will stop and that Song will be the new CurSong.

The most common use for the Chain PlayMode is to construct a Set List of different Songs. Since the Songs chained together are played immediately after one another, it is recommended that you include a few measures of silence either at the end or the beginning of each Song in the Chain.

KeyWait

KeyWait specifies whether the sequencer will wait for a Note event before going into PLAYING or RECORDING status. With the KeyWait On, press the **Play** soft button while the sequencer is STOPPED or REC READY and the new status, KEY WAIT, will flash in the Song Status Field until a key is played. You can override the KEY WAIT status by pressing the **Play** soft button twice.

Locate

The Locate Bar and Beat will change in real time during play back and recording to reflect the Song's current position. It can be set to a Bar and Beat before (negative values) or during a Song. Once a Song's length is defined, the End point is the maximum value for the Locate parameter. If Locate is not set to 1 : 1, the count off, if any, is disabled during play back or recording.

This parameter is identical to the Locate parameter on the MAIN page.

AutoIn

When you are in Auto record mode, AutoIn is the Bar and Beat when the recording will begin. If AutoIn is not set to 1 : 1, the count off, if any, is disabled. The AutoIn setting will not have an effect on recording unless the RecMode is set to Auto.

AutoOut

When you are in Auto record mode, AutoOut is the Bar and Beat when the recording will stop. Set the AutoOut location earlier than the Bar and Beat defined as the AutoIn point in order to record to the very end of a Song. The AutoOut setting will not have an effect on recording unless the RecMode is set to Auto.

Input Quantize (Quant)

This parameter determines how much Note events are moved towards grid locations upon the initial input of the events. If set to Off, no Quantizing will occur while you record, and the exact timing of your performance will be preserved during play back. If set to 100%, every recorded Note event will be aligned to the closest grid location, defined by the Grid setting. Input

Quantize is used to quantize your performance as you record it in. However, you may wish to record without quantization and go back and quantize at a later point. To do this, use the Quantize function in the Track editor, as described on page 12-36.

Grid

This setting determines the size of the Input Quantize grid expressed as a fraction of a Bar with a 4/4 meter. Set Grid to 1/1 for whole note grid, 1/16 for sixteenth notes. All of the standard note durations and every fractional Bar divisions in-between (including triplets, e.g., 1/12=1/8tr, 1/24=1/16tr, etc.) are available as the size of the Input Quantize grid. You can select commonly used Grid values by double-pressing the Increment/Decrement (+/-) buttons.

Swing

The Swing percentage is applied to the quantize grid. Zero percent swing is straight time, 100% produces a swing (triplet) feel. A positive Swing value determines how close every other grid location is moved to a point 1/3 of the way towards the next grid point. Negative Swing moves every other grid location closer to a point 1/3 of the way towards the previous grid point.

Sync

The Sync parameter is used in conjunction with Clock. It controls transmission and reception of MIDI sync messages except actual clock. These are the messages it controls: Song Start, Song Stop, Song Continue, Song Select, and Song Position Pointer.

Clock

Specifies the source clock as being internal or external. When the Clock is set to external, the K2vx will wait to receive MIDI clock data, via its MIDI In Port, from another device capable of generating MIDI clock data before playback and real time recording can begin.

Tempo

The Tempo parameter, when set to Fixed, provides a tempo lock feature to override any real time tempo changes recorded into a sequence. If set to Auto, tempo changes will be respected.

CountOff

Selects the number of bars of countdown, if any, before playback or recording starts. This works in conjunction with the click, so if the click is Off, the CountOff setting will have no effect. If the click is set to record only, then the CountOff will only happen when RECORDING.

Click

The Click parameter controls the click behavior. Set to Off, there is no click, and consequently no CountOff. When it is set to On, a click is present during playback and recording. To have a click only while RECORDING, set the Click to Rec. The Cnt value means that there will only be a click during CountOff, if any.

ClickCh

Specifies which MIDI channel will be used for the metronome click.

ClickPrg

If click is in use, ClickPrg specifies which Program will be used as the metronome click's sound. The Click Channel will be locked on to this Program internally, and this program number will be transmitted via MIDI on the Click Channel to external any device(s) when playback or record is started.

ClickKey

The ClickKey is the note to be used for the metronome click.

ClickVel

ClickVel determines the attack velocity to be used by the metronome click. The first beat of each measure will be the click played at exactly this velocity level while the other clicks will be scaled to about 90% of this value as a way to provide an accent.

Soft Buttons on the MISC Page

Record, **Play(Pause)**, and **Stop** work the same as they do on the MAIN Page, described above.

New selects “1 NewSong” as the current Song and jumps back to the SongMode : MAIN page. The tracks in the new Song will be empty, but all initial program, volume and pan settings, and all parameters in the MISC page remain set the same way they were in the previous Song.

In/Out provides a quick way to enter the Auto punch-in points in real time. This button has no effect when the sequencer is stopped, but pressing it once during playback (or while recording) will set the AutoIn point to the Bar, Beat, and Tick nearest to the time you pressed this soft button. Press InOut a second time to set the AutoOut point.

The AutoIn and AutoOut parameters only display bars and beats. However, the actual In and Out points will be precise to the Tick occurring at the time the In/Out button was pressed.

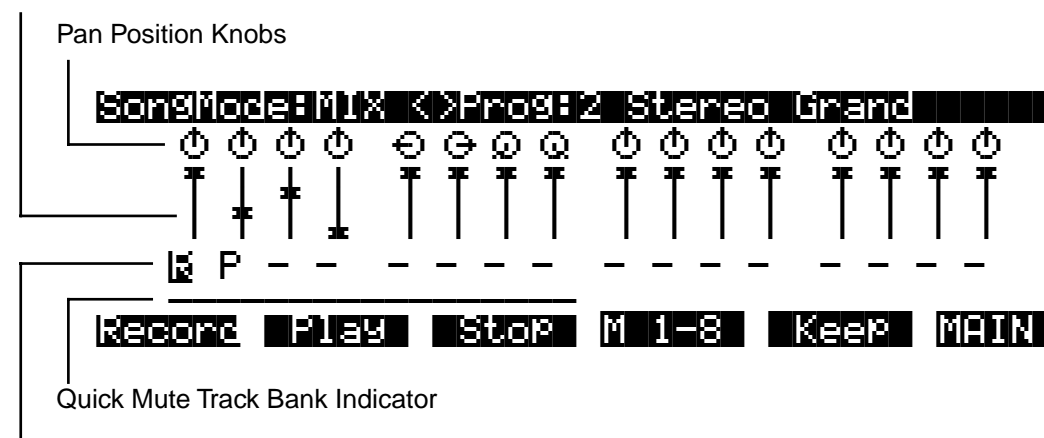
MAIN returns you to the MAIN Page.

MIX Page

The MIX page allows you to set and keep new initial settings for all sixteen tracks' program changes, volumes, and pan positions. You can set these three parameters for each track and then press the **Keep** button, prompting a dialog that asks if you really want to update these settings. Press **Yes** to make the changes. Another way to set these initial settings is to press **Record** to put the sequencer into REC READY status, make any desired changes, then press the **Stop** soft button.

You can also record real-time changes by changing the value of the highlighted fader or knob while recording on that track. If you do make recording changes in real-time, though, make sure that the Record Mode is set to Merge, or else the data previously recorded on the track will be erased.

Volume Level Faders



Track Status Indicators

Changing Programs on the MIX page

The top line of this page displays the Program number and name for the currently highlighted track. The different tracks are selected by moving the cursor with the Left and Right arrows (< / >). The Program for each track can be changed in the MIX page with the CHAN/BANK buttons. Pressing the CHAN/BANK buttons at the same time will jump to the next Bank of 100 Programs.

Pan Position

Position the cursor over any one of the sixteen Pan Position "Knobs" on the display and turn the Alpha Wheel to change the panning for the selected track. The graphic display will move smoothly between the left and right settings and these changes can be recorded in real time. Use the numeric keypad to enter in a value between 0 (hard left) and 127 (hard right) if you want to have a track jump immediately to a new pan position. The default pan position is 64 (straight up).

Volume Level

Position the cursor over any one of the sixteen Volume Level "Faders" on the display and turn the Alpha Wheel to change the MIDI Volume for the selected track. The graphic display will move smoothly, setting volume changes that can be recorded in real time. Use the numeric keypad to enter in a value between 0 (no volume) and 127 (maximum volume) if you want to have a track jump immediately to a new volume level. The default value is 127 (maximum volume).

Track Status Indicators:

Using the Up, Down, Left, and Right cursor arrows to position the cursor onto a Track Status Indicator, you can toggle an empty track (-) into Record (R) with the Alpha Wheel or Increment/Decrement buttons.

Once a track contains data, it will have a (P) as a Track Status Indicator, and it will be played during playback. You now will be able to toggle between Play (P), Mute (M), and Record (R).

The track selected as the RecTrk will have an (R) in this field, designating it as the record enabled track. If the RecTrk is set to Mult, then all of the empty tracks will have Record (R) as their Track Status Indicator. If RecMode is not set to Mult and there isn't a track with an (R) in this field, the RecTrk parameter's value will be None. If you are in Multi record mode, and have turned all record enabled tracks (R) back to empty (-) so that there isn't a track with an (R) in this field, the RecTrk will remain set to Mult.

Quick Mute Track Bank Indicator

This parameter appears as an underscore directly below the graphics for either the bank of tracks 1 -8 or tracks 9 - 16. It indicates which bank of eight tracks will respond to the Quick Mute feature, described with the **M 1-8/9-16** soft buttons, below.

Soft Buttons on the MIX Page

Record, **Play(Pause)**, and **Stop** work the same as they do on the MAIN page, described earlier.

M 1-8 / (M 9-16): The eight mode select buttons to the left of the screen on the front panel of the K2vx (PROGRAM - DISK) are used as Track Mutes when on the MIX page. For example, press the SETUP button to mute track 2; notice that its track status indicator changes to "M." Each of these buttons has a LED to indicate that the corresponding track is being muted, but since there are sixteen tracks and only eight buttons, this soft button will select, and display, the bank of eight tracks that can be muted in this fashion.

Press the **M 1-8** soft button to toggle the Quick Mute Track Bank Indicator under tracks 1 -8 or tracks 9 - 16, selecting which bank of eight tracks will respond to the Quick Mute feature.

Keep: If you have made any changes to the initial program, volume or panning of a track on the MIX page, press **Keep** to prompt this dialog:

Update initial Prog/vol/Pan?

Yes

No

Press **Yes** if you are sure you want to update the initial program change, MIDI volume, and pan settings for tracks already containing data in the current Song, to the new values you just made on the MIX page. The settings will be modified and you are returned to the MIX page. Press **No** to abort the updating of the initial program change, MIDI volume and pan settings for the current Song.

MAIN returns you to the MAIN page.

The Edit Song Pages

There are a few conventions shared by all of the EditSong pages (except the Arrange page). Displayed at the top of each EditSong page is the name of the page and the currently selected track(s). All of the values for the parameters found in any of the EditSong pages are saved in the Song Object.

Soloing the Current Track

In all of these Edit pages you can **solo** the current track by pressing either the **Setup** or **Quick Access** mode buttons. This in effect mutes all other tracks in the current Song. Using the CHAN/BANK buttons allows you to select the current track for editing and/or soloing. You can select the track to solo even if you are already in the solo mode.

Edit Song: COMMON Page

Press the Edit button on the front panel of the K2vx to display the Edit Song: COMMON page and begin editing a Song. This is where you will find parameters common to all tracks, such as tempo and time signature, control parameters for effects and arrangements, and soft buttons for switching to other Song edit modes.

```

EditSong:COMMON <>Track:1
Tempo      :120      StartStep :1
TimeSig    :4/4      TempoControl:Song
EffectChan:1         TriggerChan :1
ChainTo    :0 None   TriggerCtl  :ON
TrackDest  :-----
DrumTrack  :-----
<more>  EVENT  TRACK  STEP  ARRANG  more>

```

PARAMETER	RANGE OF VALUES	DEFAULT
TEMPO	1 – 255 BPM	120
TIME SIGNATURE	1 – 99 / 1, 2, 4, 8, 16	4/4
EFFECTS CHANNEL	1 – 16, NONE	1
CHAIN TO	0 NONE, SONG ID	0 NONE
TRACK DESTINATION	-, L, M, X	-
DRUM TRACK	-, D	-
START STEP	NONE, 1 – 255	1
TEMPO CONTROL	SONG, ARRANGEMENT	SONG
TRIGGER CHANNEL	1 – 16, NONE	1
TRIGGER CONTROL	CONTROL SOURCE LIST	ON

The top line of this page displays the selected track or tracks. Select the available current track(s) for editing by using the CHAN/BANK buttons. Press both of the CHAN/BANK buttons together to select All tracks.

Although the current track information is displayed on the top line, the COMMON page's parameters are global settings for the song and do not directly affect individual tracks.

Tempo

This is another place where the Song's initial tempo can be set or modified.

TimeSig

Affects the click, playback looping, and locate function as well as some editing operations. Does not change the recorded data.

EffectChan

If the FX Mode and FX Chan parameters in Effects mode are set to Auto and Current respectively, this parameter specifies which channel will control effects while in SongMode and during playback of a Song. In this situation, the effect assigned to the program (in the Program Editor) currently on the channel designated as the EffectChan will be heard.

The EffectsChan is selectable per Song. See "Understanding FX Mode and FX Channel" on page 9-2 for more information.

ChainTo

The ChainTo setting is only used when the PlayMode parameter on the MISC page is set to Chain. Another Song object is selected as the ChainTo value and will playback immediately after the current Song has played for its entire length.

Parameters used with the Arrangement Feature

The next four parameters, as well as the Drum Track parameter, are used in conjunction with the Arrangement feature, which you access by pressing the ARRANG soft button. This feature allows you to create a song by arranging it in a series of sections, called Steps. You can save the various sections of your sequence as separate Songs, then assemble them using the Arrangement editor. This method allows you to save memory, since you can repeat steps without having to duplicate the actual song data.

Another great feature within the arrangement editor gives you the ability to trigger Steps by striking a specific note or group of notes on your controller. See page 12-46 for more information on arrangement features.

StartStep

The value for this parameter determines which Step in this Song's Arrangement is played first. If set to None, the playback of the Arrangement data, using the transport soft buttons, will be disabled, but Steps can still be triggered from Note events.

TempoControl

When the current Song is comprised of other Songs entered as Steps in the Arrangement editor, the TempoControl parameter determines whether the current Song's tempo setting or the arranged Songs' tempo settings will be the tempo(s) used for the playback and recording of the Arrangement.

Set TempoControl to Song if you want to use the current Song's tempo as the master tempo. All of the Steps' Songs will playback at the same tempo, ignoring the tempos originally set for each Song when you recorded or edited them.

Use the Arrangement setting for TempoControl if you would like the current Song (containing arrangement data) to playback and record at the tempos originally defined in each Arrangement Step's Song, ignoring its own tempo setting. The master tempo will change to the tempo of the current Step's Song

TriggerChan:

This parameter controls the MIDI channel used to trigger arrangement Steps via key presses as defined in the Arrangement editor.

TriggerCtl

This parameter specifies the global control source used to enable the triggering of Arrangement Steps via key presses as defined in the Arrangement editor.

TrackDest

```
TrackDest :LLL- M--- -M-- ---x
DrumTrack :D--- ---- -D-- ----
```

The MIDI data on each track has a destination assignment selectable in the TrackDest field. There are four possible indicators:

- (-) This is the default setting for all tracks in a new Song. A hyphen (-) means that MIDI data on the track is transmitted both locally to the K2vx, and out the MIDI Out Port (on the track's channel) to any external devices.
- (L) An (L) means that the track's MIDI data will only be transmitted locally to the K2vx's internal sound generator. None of the data on that track will be sent to the MIDI Out Port.
- (M) An (M) means that the track's MIDI data will only be transmitted out to external devices via the MIDI Out Port on the back of the K2vx.
- (x) Select the (x) to disable the transmission of the track's MIDI data to either of the destination assignments, (L)ocal or (M)IDI.

DrumTrack

Any of the Song's tracks can be defined as "Drum Tracks" so that their Note events do not get transposed when a transposition is applied in the Arrangement editor.

This feature is particularly useful when a drum kit Program (or any other non-pitched Program) is used in a Song, assigned to a Step of an Arrangement, which is being triggered over a range of keys, and you want the sounds produced by each note number in that Program to be preserved in each transposition. If in the Song being used as a Step in an Arrangement (NOT the Arrangement Song itself), there is a (D) designating the track playing the drum Program as a "Drum Track", the originally recorded Note events on that track will remain unchanged.

The Drum Tracks settings do not have any effect on edits made in the EditSong : TRACK mode. Any tracks defined as "Drum Tracks" will be transposed when a transposition is applied to these tracks from the EditSong : TRACK mode.

Soft Buttons on the Edit Song: COMMON Page

EVENT accesses an Event List style editor. From the EditSong : EVENT page, you can scroll through, modify, add, or delete any or all of the tracks' MIDI events.

TRACK brings you to the EditSong : TRACK page. This page accesses useful track based edit functions. There is a selectable edit function that can be applied to the selected track or all tracks in your Song.

STEP brings up the EditSong : STEP page, from which non-real time note/rest entry is performed. The term STEP is used here to refer to Step recording, and does not refer to the Steps on the Edit Song:ARRANGE page.

ARRANG enters the EditSong : ARRANG page, gaining access to a group of arrangement specific parameters.

Edit Song: EVENT Page

Every type of recorded MIDI event is visible from this page. You can view and change these events if necessary.

Location	Bar:Beat:Tick	Event Type and Value			
EDITSONG:EVENT (Ch 1)		<>Track:1			
1:1	1:1.000	CTRL	BANK	0	
1:1	1:1.000	PCHG	64		
1:1	1:1.000	CTRL	VOL	127	
1:1	1:1.000	CTRL	PAN	64	
1:1	1:1.000	C 3	v 98	^ 93	0.356
2:1	2:1.000	END			
Cut	Copy	Paste	View	AllOn	Done

To scroll through the events, make sure the first column bar and beat is highlighted. Use the wheel, the up and down cursor buttons, or the + and - buttons. As you scroll through the events, each event is executed by the sequencer. In the case of note events, you will hear the note played, although the duration will be short. If you have scrolled through a Sustain (controller 64) message with an On value then you will hear the note sustain as if the sustain pedal was depressed. The note will continue to sustain until you scroll through a Sustain message with a value of Off.

You can also jump directly to a specific bar and beat by typing the bar number and beat number, then pressing ENTER. Keep in mind if you have controller or program data previous to the point that you jump to, those events may not have been executed and you may hear unexpected results. For instance, if you have program changes at bar 1 and bar 8, then if you jump from bar 1 to bar 9 any notes you scroll through will be played with the program change from bar 1.

The channel of the selected Event is displayed on the top line of the page. When all of the Tracks are being viewed in the Event List, the Track of the selected Event is displayed along with its channel. Use the CHAN/BANK buttons to select an active track to view and edit the MIDI events recorded on it. You can view the data on all tracks by pressing both CHAN/BANK buttons at the same time. As you scroll through each Event, the track, in addition to the channel, for the selected Event will also be displayed.

Location

The first column represents the Bar and Beat Locations of the different events in a Song. Scroll through the events on the selected track(s) with the Alpha Wheel or enter in a specific Bar and Beat on the numeric keypad to jump to events occurring on that Beat. A quick way to jump to the End point in a track is to press 9999 and then Enter on the numeric keypad.

Bar, Beat, and Tick

Bar, Beat, and Tick are editable parameters for each Event. They determine when an Event happens relative to the other Events within the Song. To enter values with the numeric keypad, first position the cursor in this column and then simply enter up to three digits if you only want

to adjust the Tick value, four or five digits in order to change the location to a new Beat and Tick within the current Bar, or enter in the complete Bar, Beat, and Tick value to relocate the event to another Bar. No punctuation is necessary when entering any of these values.

Event Type and Value

The Event Type field displays the MIDI event type at each Event List location in the Song. With the exception of a Note event, which is displayed as the actual note name (e.g., C#4), an event type cannot be changed to another event type. You can also change controller numbers and values on the EVENT page.

The PCHG, BEND, MPRS, SYSX, TMPO, and END events will show their values in the display field directly to the right of the Event Type field. All of their values can be edited. Here are the ranges of values for each event type:

Program Change (PCHG)	0 - 127
Pitch Bend (BEND)	(-8192) - 8191
Mono Pressure (MPRS)	0 - 127
System Exclusive (SYSX)	The message in hexadecimal form
Tempo (TMPO)	1.00 - 255.00 bpm
End Point (END)	Any Bar : Beat : Tick setting

Note events have four editable values: Note Number, Attack Velocity (indicated by a "v"), Release Velocity (indicated by a "^"), and Note Duration.

Note Number	C-1 – G9
Attack Velocity	v1 - v127
Release Velocity	^1 - ^127
Note Duration	Beats : Ticks

Controller events have two editable values: Controller Type and Controller Value. Defined controllers are referred to by their names.

Controller Type	0 - 127
Controller Value	0 - 127

Soft Buttons on the Edit Song: EVENT Page

Cut removes the currently selected event from the Event List and temporarily stores it in a memory buffer so that you can immediately Paste it into a new location.

Copy makes a duplicate of the currently selected event and temporarily stores it in a memory buffer so that you can immediately Paste it into a new location.

Paste inserts the most recent cut or copied event into the Event List at the currently selected Bar : Beat : Tick location. The pasted event will share the same location with the event that already existed at that location in the Event List, but it will appear before the pre-existing event.

View brings you to the EVENT : View page where you can set the view filter parameters for the Event List.

```

EVENT:View
Notes      :On      Volume      :On
PitchBend  :On      Pan          :On
ModWheel   :On      Bank/Prog   :On
Data       :On      Tempo        :On
Sustain    :On      SysEx        :On
Pressure   :On      Other         :On
Toggle AllOff AllOn Done

```

The EVENT edit page can be set for you to view all, some, or just one type of MIDI event on a track by adjusting which events are on or off in the EVENT : View page. If you turn an event Off for viewing, then when you return to the Edit Song: EVENT page, the events will not be seen and they will not be executed as you scroll through the list. For example, if you turn sustain Off, then as you scroll through the list none of the notes normally affected by sustain will be sustained. However, if you exit the editor and play the Song, all events will be executed regardless of the View filter settings.

When all of the parameters in the EVENT : View page are set to On, the Event list in the EditSong : EVENT page will display all of the recorded MIDI data on the selected track(s). If any of these view parameters are set to Off, the **View** soft button in the EditSong : EVENT page will be in brackets (as shown below) indicating that you might not be seeing all of the recorded MIDI data on the selected track(s).

```

Cut Copy Paste [View] AllOn Done

```

Press the **Toggle** soft button to switch all View filter parameters to the opposite of each one's currently set value. **AllOff** sets all View filter parameters to Off. The only item viewable in the EditSong : EVENT page will be an END point. **AllOn** sets all View filter parameters to On. This enables you to view all of the MIDI events that are on any or all tracks. The **Done** soft button in the EVENT : View page will return you to the EditSong : EVENT page. The view filter settings will be applied to the Event List.

AllOn on the EditSong : EVENT page sets all View filter parameters to On. This enables you to view all of the MIDI events that are on any or all tracks. The **View** soft button will no longer be in brackets, indicating that all recorded event types are being listed.

Done on the EditSong : EVENT page returns to the EditSong : COMMON page.

Edit Song: TRACK Page

This page allows you access to useful track-based edit functions. These functions are:

- Erase
- Copy
- Bounce
- Insert
- Delete
- Quantize
- RefQuant
- Shift
- Transpose
- Change
- Thin
- Remap
- Grab

For each function, there is a set of parameters to control how the function operates, and on what region of the selected track(s). As usual, the top line of this page displays the selected track or tracks. Select the available current track(s) for editing by using the CHAN/BANK buttons. Press both of the CHAN/BANK buttons together to select All tracks.

Below is an example of the Edit Song: Track page for the Bounce function.



You will notice that the screen is divided into two halves, with the right half being its own "window". This is called the Region/Criteria window. The parameters in this window are used to select the range of bars as well as which types of events will be edited with using the chosen function. The parameters in this window will generally be the same for most functions. However, for certain functions, certain parameters may not apply. For example, Quantize and Transpose apply only to notes, while Remap applies only to Controllers. In addition to the Region/Criteria window parameters, the Locate parameter is also found on each function. Since these parameters are common to the various functions, we will define them first. Then we'll describe the individual functions along with the parameters specific to each, which are normally found on the left side of the screen. Two functions, (Quantize and Reference Quantize) have a unique parameters in their Region/Criteria windows. We'll describe those parameters along with the functions.

Once you've chosen a function and set the parameters to your liking, press **Go**. This executes the editing function. You can then play the sequence to hear the results of your edit. If you don't like your edit, simply exit the editor and press **No** when you are asked if you want to Save. If you do like your edit, you can press **Done** and use the more buttons to get to **Save**, or just exit the editor and save the changes. Or, you can go to another edit function. Keep in mind though, that if you choose to perform more than one edit without saving, and you are not satisfied with one of the changes you make, you will have to exit the editor without saving and then redo each of the changes you made. That's why it's usually best to save after each successful edit.

Common Parameters for Edit Song: Track Functions

Locate

This parameter is available in every TRACK edit function.

The Locate Bar and Beat will change in real time during play back and recording to reflect the Song's current position. It can be set to any Bar and Beat, including negative values. Play back begins at, and Stop resets the Song to the Locate Bar and Beat.

Region / Criteria Window Parameters

From and To

From and To are available in most TRACK edit functions to define a range of time on the selected track(s).

The From value defines the first Bar and Beat in a range of time selected for editing. Although From is always expressed in Bars and Beats, and will be aligned exactly on the Beat when adjust manually, it is possible for From to represent a value with finer resolution when a range of time is defined in real time using the **FromTo** soft button.

The To value defines the Final Bar and Beat in a range of time selected for editing. Although To is always express in Bars and Beats, and will be aligned exactly on the Beat when adjust manually, it is possible for the To value to represent a value with finer resolution when a range of time is defined in real time using the **FromTo** soft button.

Events

Any and all types of MIDI events are available for editing, selectable in this parameter. Some events will provide you with settings for a range of values, or other MIDI event specific criteria. Available Values are: All, Notes, Controllers, MonoPress, PitchBend, ProgChange, PolyPress, SysEx, and Tempo

When Events is set to: All

All MIDI events on the track(s) you are editing, that occur in the region of time between the From and To settings, will be affected by the edit function.

When Events is set to: Notes

Note Number and Key Velocity ranges can be set for Note events.

LoKey

Determines the lowest note in a range of notes to be affected. This can be set to any MIDI note value; the default is C-1.

Hi(Key)

Determines the highest note in a range of notes to be affected. This can be set to any MIDI note value; the default is G9.

LoVel

An attack velocity range can be specified as criteria for selecting Note events for editing. The LoVel parameter sets the lowest velocity a Note needs to have in order to be edited. Notes on the selected track(s) with a attack velocities lower than the LoVel will not be affected by the edit. The available values are 1 – 127; the default is 1.

Hi(Vel)

The Hi(Vel) parameter sets the highest attack velocity a Note needs to have in order to be edited. Notes on the selected track(s) with attack velocities higher than the Hi(Vel) will not be affected by the edit. The available values are 1 – 127; the default is 127.

When Events is set to: Controller

If your Song contains any MIDI Controller data, the Ctl parameter is used to select particular controller data to be edited. Refer to the Control Source list in Chapter 6 of the *Reference Guide*.

LoVal

You may further specify a particular range of values to edit by setting a high and low value. LoVal will define the lowest modifiable value in the selected controller's recorded data. Value ranges are not definable when Ctl is set to All. Available Values are 0 - 127.

Hi(Val)

Hi(Val) will define the highest modifiable value in the selected controller's recorded data. Value ranges are not definable when Ctl is set to All. Available Values are 0 - 127.

Soft Buttons on the Edit Song: Track Page

FromTo is a quick way to define the region of time you intend to edit. There are a couple of ways to use this feature when the sequence is playing back in real time, and both ways will set the temporal boundaries of the region to a finer resolution than Bars and Beats.

One way is to first position the cursor over the From field in the *Region / Criteria Window* and then press the **Play** soft button. At this point, every time you press **FromTo**, the From Bar and Beat will reflect a location in the Song at each time the button press was made. Position the cursor over the To field and set the To location in a similar fashion.

When the cursor is positioned somewhere other than over the From or To fields, the function of the **FromTo** soft button is slightly different. Now, once you start the sequence playing back, and you press **FromTo** before the current To Bar and Beat location, you will set a new From location. Without stopping the sequence and starting it again, press **FromTo** a second time, and if it was pressed at a point after the From location, that point in time will represent a new To location. If the second **FromTo** press happens before the current From Bar and Beat, that point in time becomes the new From location, and the old From location becomes the new To.

To sum up this functionality, when this button is pressed while the Song is playing, the K2vx will know which field, (the From or the To), to update based on the relative position, (before or after the current settings), when the button was pressed.

Play will start the playback of the Song from the Bar and Beat set in the Locate parameter. When the Song is playing, this soft button becomes **Pause**.

Stop stops the playback of the Song and return to the Bar and Beat set as the Locate value.

Go performs any of the Track-based edit functions described above.

Done will return you to the EditSong : COMMON page.

Edit Song: Track Functions – Erase

This function erases specified events from a region of time, but it doesn't delete the region of time. The result is like erasing a section of recording tape. If you want to completely remove a segment and shorten the length of the track, you can do it with the Delete function.

```

EditSong: TRACK          <> track:1
Function:Erase           From : 1:1 To: 2:1
                          Events: SysEx

Locate : 1:1
FromTo Play Stop        Go Done

```

Edit Song: Track Functions – Copy

Use the Copy function to duplicate the selected events from the current track and place them in the same track or on another track, either merging with or overwriting existing data.

```

EditSong: TRACK          <> track:1
Function:Copy            From : 1:1 To: 2:1
DstTrack:1              Events: Controllers
Location: 1:1           Ctl : MWheel
Mode : Merge            LoVal : 0 Hi: 127
Times : 1
Locate : 1:1
FromTo Play Stop        Go Done

```

If you do not want to copy all of the MIDI events in the defined range of time on the current track, use the Events parameter in the Region/Criteria window to select a specific MIDI event type you would like the edit function to affect. Some event types provide you more criteria selection parameters. It is often a good idea to set Events to Notes when copying, and then add any necessary controller or other data to the track at a later time.

DstTrack: 1 - 16 / All

Select a destination track for the copied events with the DstTrack parameter. All selected events described in the Region / Criteria Window will be placed in the destination track(s) at any Bar and Beat you specify.

If the currently selected track is All tracks then the destination track will be All tracks as well.

No matter what channel the current track (source track) is set to when you use the copy function, the Events will be played on the destination track's channel.

Location: 1 : 1

Specify a Bar and Beat location in the destination track where the copied data will be placed with the Location parameter. If the length of the copied region extends from the Location point beyond the Song's existing End point, a new End point is defined.

Mode: Merge / Erase

The Mode setting determines whether the copied events merge with, or erase existing events on the destination track from the location point to the end of the copied region.

Times: 1 - 127

The value selected for the Times parameter determines how many copies of the selected region are placed, one after another, in the destination track.

Edit Song: Track Functions – Bounce

Use the Bounce function to move the selected events from the current track to another track, either merging with or overwriting existing data on the destination track. The Bounce function differs from the Copy function in that the original data is not preserved in the original track. As on a multi-track tape recorder, Bounce will always put the data in the same timeline on the new track that it was on the old track.

```

EditSong: TRACK          <> track:1
Function: Bounce
DstTrack: 1
Mode      : Erase
From      : 1:1 To: 2:1
Events: Notes
LoKey    : C -1 Hi: G 9
LoVel    : 1 Hi: 127

Locate    : 1:1
FromTo    Play Stop Go Done
  
```

DstTrack: 1 - 16

Select a destination track for the events to be moved to with the DstTrack parameter. All selected events described in the Region / Criteria Window will be placed in the destination track at the data's original location.

No matter what channel the current track (source track) is set to when you use the bounce function, the events will be played on the destination track's channel.

Mode: Merge / Erase

The Mode setting determines whether the bounced events merge with, or erase existing events on the destination track from the location point to the end of the copied region.

Edit Song: Track Functions – Insert

The Insert function is used to add blank time to the current Song, modifying the Song's End point appropriately. The Insert function will affect all tracks. This is similar to splicing a piece of blank tape to an existing segment of recording tape.

```

EditSong: TRACK          (Affects all tracks)
Function: Insert
Location: 1:1
Amount  : 1:0

Locate    : 1:1
FromTo    Play Stop Go Done
  
```

Location: 1 : 1

The insertion point for the blank time being added is selected as a Bar and Beat Location value. Events that occurred at or after this Bar and Beat, before you insert time, are not erased when you perform this function, rather they are offset by the length of the blank time being added to a Bar and Beat later in the Song.

Amount: 1 : 0

The length of the blank time being added is defined as a number of Bars and Beats in the Amount parameter.

There are no Region / Criteria Parameters available for the Insert function.

Edit Song: Track Functions – Delete

The Delete function is used to remove a region of time from the current Song. This function is different from the erase function because not only does it remove the events from the selected time, it will delete the entire selected range of time from the Song, modifying the Song's End point appropriately (on all tracks). This is similar to cutting a section out of a tape and splicing the ends.

```

EditSong: [RHCK] (Effects all tracks)
Function: Delete From : 1:1 To: 2:1

Locate : 1:1
FromTo Play Stop Go Done

```

Edit Song: Track Functions – Quantize

Use the Quantize function to adjust the timing of Note events. Keep in mind that only Note events are quantized; other types of events, such as controllers, are not quantized.

```

EditSong: [RHCK] (<> track: 1)
Function: Quantize From : 1:1 To: 2:1
Quant : 100%
Grid : 1/8 LoKey : C -1 Hi: G 9
Swing : 0% LoVel : 1 Hi: 127
Shift : 0.000 Release: No
Locate : 1:1
FromTo Play Stop Go Done

```

Quant: Off / 1% – 100%

The Quantize parameter determines how much the selected Note events are moved towards grid locations. If set to Off, no aligning of previously recorded Notes to grid locations will occur. If set to 100%, every recorded Note event will be aligned to the closest grid location, defined by the Grid setting. Notes will be moved to a position half way between the grid location and the original Note event location if Quant is set to 50%.

Grid: 1/1 – 1/384

This setting determines the size of the Quantize grid, expressed as a fraction of a Bar with a 4/4 meter. Set Grid to 1/1 for whole note grid, 1/16 for sixteenth notes. All of the standard note durations and every fractional Bar divisions in-between are available as the size of the Input Quantize grid. The double button press for quickly selecting Grid values is pressing the Increment/Decrement at the same time.

Swing: -99% – 125%(defaults as 0%)

The Swing percentage is applied to the quantize grid. Zero percent swing is straight time, 100% produces a swing feel (triplet feel). A positive Swing value determines how close every other grid location is moved to a point 1/3 of the way towards the next grid point. Negative Swing moves every other grid location closer to a point 1/3 of the way towards the previous grid point.

Shift: -26.020 – 26.020 (Beats and Ticks, 480 Ticks = 1 Beat)

In addition to quantizing the selected note events to specified grid locations in varying amounts, the Quantizing function allows you to offset the original note locations forward and backward in time any number of ticks (1/480th of a Beat) up to @ 26 Beats, before aligning them to Grid locations. Shift is used to compensate for any notes played too early or late.

Region / Criteria Window

Release: Yes / No

Set the Release parameter to Yes if you would like each quantized note event's Note Off message to be aligned to the Grid location nearest to the time the key was originally released.

Edit Song: Track Functions – Reference Quantize

The Reference Quantize function is similar to the Quantize function in that it aligns Note events to a grid. The difference is that the grid locations are not mathematically perfect divisions of a Bar. Instead, Reference Quantize defines the grid based on the timing of note events from a previously recorded reference track.

```

EditSong: [RHCK] <> track:1
Function:RefQuant From : 1:1 To: 2:1
RefSong :1 NewSong
RefTrack:1 LoKey :C -1 Hi:G 9
Timing :100% LoVel :0 Hi:127
Velocity:Off Width :1/8
Locate : 1:1
FromTo Play Stop Go Done
  
```

RefSong: 1 NewSong

The previously recorded reference track can be selected from any Song object currently residing in the RAM memory. Select the Song containing the desired reference track as the RefSong value.

RefTrack: 1 – 16

The RefTrack value is set to the track number of the desired Reference Track in the Reference Song. The timing of this track's note events is used as the Grid that other tracks will reference when being Referenced Quantized.

Timing: Off / 1% – 100%

The Timing parameter determines how much the selected note events are moved towards grid locations. If set to Off, no aligning of previously recorded Notes to grid locations will occur. If set to 100%, every recorded note event will be aligned to the closest grid location, defined by the timing of note events from the reference track. Notes will be moved to a position half way between the grid location and the original Note event location if Quant is set to 50%.

Velocity: Off / 1% – 100%

In addition to referencing the timing of note events on the reference track, you may also scale the attack velocities of the note events being quantized to velocity values closer or identical to the velocities played on the reference track.

Leave the Velocity parameter set to Off if you just want to reference the note event timing when reference quantizing. Set Velocity to 100% in order to have the note events being quantized to have velocity values matching those of the note events on the reference track. A setting of 50% will change the velocities to values half way between the values originally played and the values of the velocities on the reference track.

Region / Criteria Window

Width: 1/1 – 1/384

The Width setting determines the duration of a window of time centered around each of the referenced grid locations. If a note event on the track being quantized happens during this window of time, it will be moved closer to the referenced grid location according to the Timing percentage. Note events occurring outside this window of time remain unquantized.

Edit Song: Track Functions – Shift

The Shift function allows you to offset the existing MIDI events forward or backward in time any number of ticks (1/480th of a Beat) up to approximately 26 Beats. This function does not affect the End point.

Events can not be shifted beyond the End point or before Bar 1 : Beat 1. The events can be shifted only as far as these temporal boundaries. All events that can't be shifted the full Ticks amount will be placed at the boundary location.



Ticks: -26.020 – 26.020 (Beats and Ticks, 480 Ticks = 1 Beat)

The Ticks parameter specifies the number of Beats and Ticks that the MIDI events, from within the selected region, are moved forward or backward in time relative to their original locations.

Edit Song: Track Functions – Transpose

Use the Transpose function to change the MIDI Note numbers of the selected Note events.

EditSong: TRACK		<> track: 1	
Function: Transpose		From : 1:1	To: 2:1
Semitone: 12ST		LoKey : C -1	Hi: G 9
		LoVel : 1	Hi: 127
Locate : 1:1			
FromTo	Play	Stop	Go Done

Semitone: -128ST – 127ST

An increment of one semitone represents a change of one MIDI Note number. Note events are only transposable within the range of MIDI Note numbers from zero to 127.

Edit Song: Track Functions – Change

The Change function is used to modify attack velocities, release velocities, or the values of any existing controller data on the current track. A static change of values can be made as well as having the change take place over a region of time.

Change can not modify or add data that doesn't exist on the current track. If you hear note events played back on a track, then you know there is an attack and release velocity value for each one, and the effect of the Change function can usually be easily detected. Controller values are sometimes more difficult to change since there can be inconsistent gaps of time in-between each controller event.

EditSong: TRACK		<> track: 1	
Function: Change		From : 1:1	To: 2:1
Scale : 100%	Events: Velocity	LoKey : C -1	Hi: G 9
Offset : 0		LoVel : 1	Hi: 127
Mode : Constant			
Locate : 1:1			
FromTo	Play	Stop	Go Done

Scale: 0% – 20000%

The selected velocity or controller events' values can be changed to a percentage of the original values determined by the Scale parameter. A setting of 100% has no affect. Values are scaled lower with a Scale percentage set from 0% to 99%. Low values can be set higher using a Scale percentage above 100% on up to 20,000%, although the maximum value of 127 can not be exceeded for any velocity or controller type.

Offset: -128 – 127

Offset can be used alone or in conjunction with Scale to add or subtract a set amount to or from the original (or scaled) values. Values for velocities can not be less than 1 or greater than 127. Values for controllers can not be less than 0 or greater than 127.

As an example, to set all Velocities to a value of 55, you would set Scale to 0% (multiplies all original values by zero) and set Offset to 55 (adds 55 to the product of the Scale parameter).

Mode: Constant / PosRamp / NegRamp

Set Mode to Constant to have values modified in a uniform fashion, as determined by the Scale and Offset settings, for the entire selected region of time and range of values.

When the Change function is applied with Mode set to Positive Ramp, the selected velocity or controller values will gradually change over the region of time, defined by the locations set for the From and To parameters, from the original value to the new value determined by the Scale and Offset settings. The first events being modified within the region will have little or no change from their original values. The amount of Scale and Offset applied will increase as the Song approaches the Bar and Beat defined in the To parameter, where the full amount of described change will occur.

You can set Mode to Negative Ramp to achieve the opposite dynamic effect of Positive Ramp. Negative Ramp works in the same way, but the amount of Scale and Offset applied will decrease from the full amount of change described by Scale and Offset to little or no change as the Song approaches the Bar and Beat defined in the To parameter.

Edit Song: Track Functions – Thin

Use the Thin function to reduce the number of actual controller events used for any controller type on the current track. Sometimes a controller can produce the same noticeable effect by using fewer events to describe its change, which in turn will save memory and possibly prevent timing delays caused by an over abundance of MIDI data.

Edit Song: Track Functions		<> track: 1	
Function: Thin	From : 1:1	To: 2:1	
Percent : 50%	Ctl : MPress	LoVal : 0	Hi: 127
Locate : 1:1			
From To	Play	Stop	Go Done

Percent: 0% – 100% (defaults as 50%)

The Percent value determines how much effect the Thin function will have on a stream of controller data. With this value set to 0%, there will not be any reduction of data when Thin is applied. Set Percent to 100% to eliminate most of the specified controller's events from the current track. Even at 100%, certain controller messages will not be eliminated; these include all pitch bend messages with a value of 0 and the initial settings of some controllers, such as volume, pan, etc.

Edit Song: Track Functions – Remap

Use the Remap function to apply the values of any one type of controller data, already recorded on a track, to another controller type. The effect the real time changes of the “Old” controller had will be replaced by the effect the “New” controller has by using the exact same controller values.

```

EditSong: TRACK          <>Track:1
Function: Remap          From : 1:1 To: 2:1
Old      : MWheel
New      : Volume

Locate   : 1:1
FromTo   Play Stop      Go Done

```

Old: Controller Codes (0 – 120)

Defined controllers are referred to by their names.

The “Old” controller is set to the controller type that you wish to remap. This controller data must already exist on the current track in order to apply it to the “New” controller type.

New: Controller Codes (0 – 120)

Defined controllers are referred to by their names.

The “New” parameter is set to the controller code you wish to have use the existing values, once used by the “Old” controller, to produce a different effect.

Edit Song: Track Functions – Grab

Grab is similar to the Copy function, except that the Grab function allows you to copy selected data from tracks that exist in other Songs in memory.

```

EditSong: TRACK          <>Track:1
Function: Grab           From : 1:1 To: 2:1
SrcSong : 1 NewSong      Events: Controllers
DstTrack: 1              Ctl : MWheel
Location: 1:1            LoVal : 0      Hi: 127
Times   : 1
Locate   : 1:1
FromTo   Play Stop      Go Done

```

SrcSong: 1 NewSong

The Source Song parameter is set to the ID# and name of the Song in RAM memory that contains the desired track data you wish to grab in order to use it in the current Song. The source track is determined by the <>Track parameter displayed on upper right hand side of the page, selectable with the CHAN/BANK buttons.

DstTrack: 1 – 16 / All

Select a destination track for the grabbed events with the DstTrack parameter. All selected events from the source Song and track described in the Region / Criteria Window will be placed in the destination track(s) at any Bar and Beat you specify.

If the currently selected track is All tracks then the destination track will be All tracks as well.

No matter what channel the current track (source track in the source Song) is set to when you use the grab function, the Events will be played on the destination track's channel.

Location: 1 : 1

Specify a Bar and Beat location in the destination track where the grabbed data will be placed with the Location parameter. If the length of the grabbed region extends from the Location point beyond the Song's existing End point, a new End point is defined.

Times: 1 – 127

The value selected for the Times parameter determines how many copies of the selected region are placed, one after another, in the destination track.

Edit Song: STEP Page

```

EditSong:STEP                                     <>Track:1
DubMode :Erase
Duration:1/16
Modifier:None
GateTime:75%
Velocity:Played
Locate : 1:1.000
  Play  Stop  <Back  Step>  Done

```

PARAMETER	RANGE OF VALUES	DEFAULT
DUBMODE	MERGE, ERASE	MERGE
DURATION	1/1 – 1/64	1/8
MODIFIER	NONE, TRIPLET, DOTTED, DOTDOT	NONE
GATETIME	0 – 250%	75%
VELOCITY	PLAYED, 1 – 127	PLAYED
LOCATE	BAR:BEAT.TICK	1:1.000

The Step Editor allows for non-real time entry of note events and rests of varying durations and attack velocities at any location within a Song. The Step Editor can be used to enter the first note events into a new Song, but it will not set the Song's End point. Initial program changes, volume and pan settings are remembered as if you recorded the first track using one of the real time recording modes. The End point will be modified if tracks already containing data are Step edited beyond the current End point.

The top line displays the currently selected RecTrk and can then be switched to any other track. When All tracks are selected, the Step edits are performed on the currently selected RecTrk.

Recording with the STEP editor

Recording using the step editor is easy. Set the parameters to your desired settings and make sure the Locate parameter is set to the bar and beat at which you wish to start recording. Then just strike a key. The note you play will be displayed in the window on the right along with its velocity or duration. If the Velocity parameter is set to Played, then it will reflect the actual velocity you played. Otherwise, it will be specific amount determined by that parameter. The duration of the note is determined by a combination of the Duration and Gate Time parameters.

Once you release the key, the Locate parameter will advance in time, by an amount determined by the Duration parameter. If you want to enter a rest, press the **Step>** soft button without striking a key, and once again the Locate parameter will advance the selected amount.

You can enter note events longer than the selected duration by holding a key and pressing the **Step>** button. You will see the duration of the current note change in the window on the right. This can be a quicker method of entry than changing the duration parameter if you need a note that is twice or three times as long as the duration. For instance, if the duration is set to 1/8, you can quickly enter 1/4 note by holding the note and pressing **Step>** once, or enter a whole note by pressing the **Step>** button three times. Note that if you are using this method and the Gate Time parameter is set to less than 100%, it will only be applied to one of the steps. For example, if you have a Duration of 1/8 and a Gate Time of 75%, then striking a note will produce a duration of 180 (75% of 240). But if you hold the note and press **Step>**, then the duration will be 420 (180 + 240), instead of 360 (75% of 480).

You can strike more than one note at a time to enter chords. You can also strike several notes one at a time (holding on to the previous notes) to create a chord. As long as you do not release all of the notes, the Locate parameter will stay at the same point and the notes will be entered as a chord. If you want to create a chord where certain notes have longer durations than others, strike the notes of the chord, then release the notes you wish to be shorter and press the **Step>** button. The window on the right will change to show only the notes you are still holding with their longer durations.

If you make a mistake while you are entering notes, you have two ways to fix it. With Dub Mode set to Merge, if you are still holding the note, you can press the **<Back** soft button. If you set the Dub Mode to Erase, you can just press the **<Back** button to erase the previous event and then strike the correct note. Or you can set the Locate parameter to the proper spot and strike the correct note.

DubMode

DubMode determines if the note events entered in the EditSong : STEP page will merge with, or erase all other existing MIDI events located on the selected track, and in the Bars and Beats being Step edited.

You would set DubMode to Erase to replace all existing track data just in the Bars and Beats you edit. Data before and after the edited locations will be preserved. Set to Merge to add note events to existing track data.

The DubMode value will reflect the last value given to the Mode parameter on the SongMode : MAIN page, and if the DubMode in the Step editor is changed, the MAIN page Mode will be changed to the same value.

Duration

The actual duration of a note event entered in Step time is determined by the values given for the Duration, Modifier, and GateTime parameter.

The Duration parameter sets the base note duration where 1/1 is a whole note, 1/2 is a half note, 1/32 is a thirtysecond note, and so on. The setting for this parameter, along with its Modifier, determine the size of the jump from the current Song location to the next Step entry location. The double button press of the Increment/Decrement buttons is one method of selecting a Step's duration.

Use the numeric keypad to quickly select a note duration and modifier whenever the cursor is positioned over the Duration field. These are the keypad duration settings:

- 1 whole note
- 2 half note
- 3 thirtysecond note
- 4 quarter note
- 5 sixtyfourth note
- 6 sixteenth note
- 7 applies a dotted modifier to current duration
- 8 eighth note
- 9 applies a triplet modifier to current duration
- 0 removes any modifier

Modifier

The Modifier parameter allows you to change the Duration value with three standard modifiers. Set to None if you do not chose to use a modifier.

Use the triplet modifier for a resulting duration 2/3 of the value set in the Duration parameter. (e.g., an eighth note = 240 ticks, an eighth note triplet = 160 ticks).

A Dotted modifier adds half of the current Duration value to that duration, and a DotDot modifier will add 3/4 of the current Duration value to itself. (e.g., an eighth note = 240 ticks, a dotted eighth note = 360 ticks, and a double dotted eighth note = 420 ticks).

GateTime

GateTime determines the percentage of the note duration, (set with the Duration and Modifier), that is actually played. The value given for the GateTime parameter does not affect the size of the jump from one Step to another, but only the length of time that the note(s) entered for each Step are sustained. You can use a value greater than 100 for a legato feel, but keep in mind that when two identical notes overlap you may get unexpected results. This is because the Note Off command from the first (overlapping) note will also cut off the second note (when it is identical).

Double-press the - and + buttons to increment this value in 20% intervals.

Velocity

Each note event entered in the Step edit mode is assigned an attack velocity either by setting the Velocity parameter to a value between 1 and 127, or by setting the value to Played, where the velocity at which you actually enter notes is used for each Step.

Locate

The Bar, Beat and Tick displayed as the Locate value is the location where the next Step entry will be placed in the Song, and once the Step is entered, Locate will advance an amount of time determined by the Duration and Modifier settings. The Bar and Beat, but not the Tick, will update during playback. It can be set to any Bar and Beat, including negative values, so that playback begins at, and Stop resets the Song to the Locate Bar and Beat. If the Bar and Beat value is set beyond the current End point, and no notes are entered before you press Play, then that location will be ignored when you begin playback and the Song will start from Bar 1 : Beat 1. If set to a negative Bar and Beat, no Step entry is possible.

Soft Buttons on the Edit Song: STEP Page

Play starts the playback of the Song from the Bar and Beat set in the Locate parameter. When the Song is playing, this soft button becomes **Pause**.

Stop halts the playback of the Song and return to the Bar and Beat set as the Locate value.

<Back / Step> move the current location of the Song backward and forward in time, as reflected in the Locate Bar, Beat, and Tick. How far the location is changed from its current setting is determined by the Duration and Modifier settings.

Done returns to the EditSong : COMMON page when you are finished Step editing.

Edit Song: ARRANGE Page

This page allows you to create a song by arranging other songs together in the order you specify. The other songs become sections (called Steps) of the current song, which can be repeated, transposed, etc. You can even trigger Steps by striking specific keys on the controller.

You can also create an arrangement of other songs to play back simultaneously with the current song. This gives you up to 32 tracks: 16 tracks in the current song plus 16 in the song or songs called by the arrangement (which are specified by the ARRANGE page's Song parameter). The arrangement you create can be as simple as including another song to add more tracks to your composition, or as complex as you can imagine.

More often than not, you would want to start using the Arrange feature from a "New Song" that doesn't have any track data recorded yet. Press the **ARRANG** soft button on the COMMON page to enter the EditSong : ARRANG page, gaining access to a group of arrangement specific parameters. All Songs have these parameters for creating complex arrangements of existing Song Objects, using ranges of the keyboard and realtime performance controls for triggering steps, but not every Song will utilize them.

When a Song containing an Arrangement is selected as the "CurSong" from the MAIN page, three dashes (---) appear above the Track parameter name to indicate that the current Song has been saved with programmed arrangement data.

When an Arrangement is PLAYING, the three dashes on the MAIN page are replaced with the ID# of the Song currently being played (or triggered) in the Arrangement, and the number of the current Step.

The square Track Mode Indicators will flash when MIDI data is present on the tracks during play back of an arrangement. The actual track data playing back is supplied by the Songs entered into the steps of an arrangement.

```
editSong:ARRANGE      <>Step:1/1
Step :1
Song :0 None
Mutes:----  ----  ----  ----
XPose:0st Times:1x  Mode :Next

LoKey:Off HiKey:Off Latch:Off VelTrk:On
Add  Delete SetRng Play  Stop  Done
```

PARAMETER	RANGE OF VALUES	DEFAULT
STEP	1 – 99	1
SONG	ANY SONG IN MEMORY	0 NONE
MUTES	- , M	- (NOT MUTED)
XPOSE	-128ST – 127ST	0ST
TIMES	1X – 120X, INFINITE	1X
MODE	NEXT, STOP	NEXT
LOKEY	C-1 – G9, OFF	OFF
HIKEY	C-1 – G9, OFF	OFF
LATCH	ON, OFF	OFF
VELTRK	ON, OFF	ON

The first number displayed in the **Step** field on the top line is the current step. The second number is the total amount of steps in the arrangement. Use the CHAN/BANK buttons to select the current step for editing.

Step

The number of steps in an arrangement defaults to 1. All other steps are then added when needed. The step of the Arrangement selected for editing is displayed as the Step. Use the CHAN/BANK arrows to select the different steps in your Arrangement. StartStep on the EditSong: COMMON page, as well as the key ranges of the steps, control what steps are played.

The behavior and control of each step is defined with the parameters described below.

Song

The Song is the ID# and name of a Song Object in memory that will play back in proper numerical order with the other steps in an arrangement or will respond to any triggering from a defined keyboard range in that step. This song's (up to) 16 tracks will play in addition to any tracks in the current song.

Mutes

The possible sixteen tracks of the current step's Song can be individually muted. When the selected step's display has tracks with an (M) in this field, those tracks will be muted during play back of the Song in the Arrangement.

Xpose

Each Step in an Arrangement can impose a transposition on the Song selected in its Song parameter during playback. Xpose determines how many semitones a Step's Song is transposed above or below the Song's original key during playback of that step in an Arrangement.

All tracks of a Song being transposed as a Step will be transposed, except for those tracks defined as a Drum Track in the EditSong : COMMON page of the Song called up by the Arrangement, NOT the Arrangement Song itself.

Times

The number of times that a Song is looped before an Arrangement moves on to its next Step can be determined with Times. You can set this value to repeat the Song up to 120 times before the next Step is played. An infinite loop can be set for any Step, but the Arrangement will play that Step until **Stop** is pressed.

Mode

The Mode setting found in the Arrangement editor determines whether an Arrangement plays the next Step or if the sequencer will stop after playing the current Step.

Triggering Steps from a Key

There are four parameters along the bottom of the Arrangement edit page that are settings for real time control of the Steps in an Arrangement. Triggering and transposing Steps from a MIDI keyboard, transmitting on the TriggerChan (see page 12-26), is possible when the TriggerCtl parameter, found on the COMMON page, is set to ON, or when the selected controller input activates arrangement control.

LowKey

The first parameter, LowKey, is the setting for the lowest note in a keyboard range, that when played by the TriggerChan, will trigger the start of the current Step. Triggering a Step from the LowKey will play back its Song in its original key transposed the number of semitones set in the Xpose setting. As you play up the keyboard chromatically, the Step will transpose its Song

in semitone increments. All tracks of a Song being transposed by keyboard triggering will be transposed accordingly, except for tracks defined as a Drum Track on the COMMON page.

HiKey

The highest note of the keyboard range designed to trigger the current Step is set in the HiKey parameter. HiKey defines the largest transposition of a Step from the key of the Song triggered by the LowKey. The HiKey must be a higher note value than the LowKey in order to trigger any Step from the keyboard.

Latch

If Latch is set to Off, the playback of the Step, triggering it from the defined keyboard range, will be gated for as long as the triggering Key is depressed. Set Latch to On if you want the use the keyboard to start the Step, and have it continue playing after you stop holding the key down. The Step will play for its entire length unless you press **Stop** or until it is retriggered.

VelTrk

Turn the VelTrk parameter On to make your real time Arrangements more dynamically controllable. The original attack velocity of every Note event in the triggered Step's Song will be scaled to values determined by the attack velocity of the note you play when triggering.

Soft Buttons on the Edit Song: ARRANGE Page

Add adds another Step to the Arrangement. The new Step will be inserted as the Step number directly after the current Step. You would add a Step to place a new section into a Song Arrangement or to define another keyboard range for triggering.

Delete removes the current Step.

SetRng lets you quickly define the keyboard range for triggering the current Step from the MIDI keyboard. This dialog will appear:

Strike low key...

Cancel

"Strike low key..."

Play the lowest note of the range you wish to define, then:

"Strike high key..."

Play the highest note of the range you wish to define.

At any time you may abort the range setting procedure by pressing the **Cancel** soft button. The display will verify that no range has been set by replying to this button push with Canceled., and then returns to the ARRANGE page.

Play lets you audition your Arrangement from the ARRANGE page, starting playback from the currently selected Step.

Stop halts the playback of an Arrangement from the ARRANGE page.

Done exits the ARRANGE page and returns to the COMMON page.

Selecting a Song for Playback

Select the Song parameter with the cursor buttons, then use any data entry method to scroll through the list of songs. Press the **Play** soft button, and the song will begin playing. Press the **Stop** soft button, and the song will stop and “rewind” to the beginning. If you press **Play** while the song is playing, the song will stop and the play pointer will revert to the Locate parameter, and will show your current location in the song. At this point you have two options. If you press the **Play** button again, the song will continue from its current location. If you press the **Stop** soft button, the song will return to 0:0.

The K2vx automatically selects programs for playback based on the MIDI channel(s) and the programs assigned to them at the time the song was recorded. When you start playback, the K2vx sends program changes, on all relevant channels, to its sound engine and to the MIDI Out port if the PChng parameter on the MIDI mode XMIT page is turned on.

If you want to use a different program for playback than the one originally recorded, you’ll need to defeat this automatic program selection. To do so, set the ProgLock parameter to a value of On. The ProgLock parameter is found on the MIDI mode CHANLS page; you can set it independently for each of the 16 MIDI channels. When a channel’s ProgLock parameter is set to a value of On, the K2vx’s sound engine will ignore all program changes it receives on that channel, either via MIDI or from the K2vx’s front panel.

When you’ve set the ProgLock for each of the channels used in the song, you can go to Program mode, select the MIDI channels used by the song, and assign the programs you want to use. When you return to Song mode and play the song, the automatic program changes are defeated, and the song plays the programs you assigned.

Effect Selection During Recording and Playback

When you’re recording or playing back a song, the preset effect applied to the song is determined by the program assigned to the FX Channel. Only one effect can be applied at a time, even for multi-part songs using more than one program. Depending on the combination of values for the FX Mode and FX Channel parameters in Effects mode, the FX channel may automatically track the current MIDI channel. In this case, if you change the current MIDI channel during playback, or during a MIDI recording, the current FX Channel, and consequently the current effect, will change also, which might not suit your needs. Consequently, there’s a way to force the FX channel to remain constant during playback or MIDI recording, even if you move to another mode during the playback or MIDI recording and change the current MIDI channel.

This is done by setting the FX Mode parameter to a value of Auto, and the FX Channel parameter to a value of Current—which is the most generally useful combination of settings for these parameters. In this case, when you’re in Song mode—or when you move to another mode during playback or MIDI recording—the FX Channel parameter is temporarily forced to a value of 1. Therefore the effect is determined by the program assigned to MIDI channel 1, and will not change, even if you change the current MIDI channel during playback or MIDI recording.

Of course, changing MIDI channels during playback or MIDI recording will not change the FX channel if the FX Channel parameter is set to a value from 1 to 16, or if the FX Mode parameter is set to a value of Master.

Synchronizing Songs

The K2vx has an internal MIDI clock, which is always running at a speed set by the Tempo parameter. When you’re in Song mode and the Clock parameter is set to a value of Internal, songs will sync to the K2vx’s internal clock. At this setting, the clock signal is sent to the K2vx’s

MIDI Out port. This is standard MIDI Sync, and any device that accepts MIDI Sync will play in sync with the K2vx.

If you set the Clock parameter to External, the K2vx expects to receive MIDI Sync at its MIDI In port. When you play back a song, pressing the **Play** soft button will cue the K2vx to wait for the sync signal. It will begin playing when it receives the signal, or when you press the **Record** button again. If no sync signal is received, the K2vx uses its internal clock at the tempo of the current song.

If you're using Song mode to capture a sequence that you've recorded on an external sequencer, you'll want to consider the Clock parameter's setting before you record via MIDI. If you have the Clock parameter set to External, the K2vx will follow the clock of your external sequencer. As a result, the notes in the song you create will fall regularly on the beats (unless your externally recorded sequence uses a time signature other than 4/4). This will make it easier for you to find the notes in the Song Editor. If you set the Clock parameter to Internal, the notes in the song will not necessarily align with the beats of the measures in the song, but the song will play back exactly as you recorded it on the external sequencer—including tempo changes you may have incorporated into the externally recorded sequence. If the Clock parameter is set to External, tempo changes will not carry over to the K2vx, and will not be heard when you play back the song.

Finally, keep in mind that when the Clock parameter is set to External, programs that use one or more of the Clock control sources (see *Reference Guide*) will sync to the external MIDI signals. If no external sync signal is received, the Clock control sources are disabled.

Memory Limits

While there's no actual time limit to the length of the songs you record, their size is limited to 64K (or to the maximum amount of available free RAM space you have, if it's less than 64K). However, you can create longer songs by recording each section as a separate song, then putting it together with the Arrange feature. If you run out of RAM space while recording a song, the recorder stops and prompts you to save the song. It's a good idea to check your free RAM space before you begin recording a song, and to check the "Used" readout as you record. If you've used all the available RAM for recording, you may find that when you go to the Song Editor to delete a song or edit its tempo, the K2vx tells you that there's not enough memory to edit. In this case you won't be able to edit any object greater than 4K in size. Objects smaller than 4K can still be edited, because the K2vx always reserves a minimum of 4K of RAM.

If you want to delete a song and the K2vx won't let you enter the Song Editor, select one of the Metronome songs. Since the metronome songs are smaller than 4K, you'll be able to enter the Song Editor. Press the **Delete** soft button, then use the Alpha Wheel to select the program you want to delete. Press the **Delete** button again, and the song will be erased, freeing up enough RAM to edit other songs.

Loading Songs From Disk

If you have a Type 0 (single-track, single- or multi-channel) MIDI sequence file stored on an MS-DOS disk (720K or 1.4 M), you can load it into one of the RAM banks, and the K2vx will be able to play it from Song mode.

Recording Multi-timbral Sequences via MIDI

You can record sequences from an external MIDI device using Song mode. Program numbers and MIDI channel assignments of multi-timbral sequences are recorded with the notes. To record via MIDI, connect the MIDI Out port of your sequencer to the K2vx's MIDI In port.

Select Song mode, and set the Clock parameter to External. This will sync the K2vx with the MIDI clock of the external sequencer.

You will probably want to set the Local Keyboard Channel parameter to None when recording from an external sequencer, since the rechannelizing effect of that parameter could have unintended results.

To record all your tracks in one pass, set the RecTrk parameter to Mult and make sure that for each channel of information on your source sequence, you have a track enabled to record and a Channel a unique channel assigned to that track. (The default setting of all tracks enabled to record on channels 1-16 will always work.)

You can also record individual tracks from your source sequence by setting the RecTrk parameter to a specific track. The K2vx will record only information coming in on the channel that the RecTrk parameter is set to.

Press the **Record** button, and the K2vx will wait for the first clock start from the sequencer. Make sure that your sequencer is set to send MIDI clock signals, and start the sequence. The K2vx will begin recording when it receives the first MIDI clock start from the sequencer. When the sequencer has finished its playback, press the **Stop** soft button, and the K2vx will stop recording and ask if you want to save the song.

Song Mode

Recording Multi-timbral Sequences via MIDI