Basic Sequencing for the XP-80

The XP-80 incorporates a new sequencer based on Roland's Advanced MRC-Pro. This new sequencer includes extensive editing features such as Shuffle and Groove Quantize, Linear and Loop recording, Microscope event editing, and the ability to synchronize beat loops from several of the SR-JV80 series expansion boards to the sequencers' internal clock. With a basic understanding of the Sequencer functions and architecture, the XP-80 sequencer is very simple to operate. The purpose of this document is to assist you with the basic concepts needed to successfully record and playback a multi-instrument composition. We will start by defining some terms that you will need to be familiar with. Then, we will give you a step by step example of the recording process and show you how to ensure that your song will play back correctly. To complete the applications in this document you will need a standard 3.5 inch floppy disk.

I. Overview

Before we start sequencing, it is a good idea to become familiar with the basic structure of the XP-80. If you are unfamiliar with recent Roland synthesizers, you might be confused by some of the terminology such as Performance, Patch, Tones, Tracks, etc. The following explanation will help you understand how the sounds in the XP-80 are organized.

Patch: Generally, the individual sounds that you play like piano or strings. A Patch is made of one to four smaller elements called Tones with associated settings such as TVA, TVF, LFO, etc.

Performance: Think of a Performance as a band with 16 members. It is a combination of 15 Patches and a Rhythm Set, with their associated settings such as level, panning, tuning, MIDI channel, etc. A Performance is divided into 16 **Parts**.

There are two types of Performances: **Layer** and **Single**.

Layer: Allows you to play two or more Parts simultaneously, such as a piano and string layer, or a bass and piano split. A Layer Performance is indicated by Key Mode: LAYER in the middle of the display. All of the USER Performances in the XP-80 are LAYERs.

Single: Allows you to play one sound (Part) at a time from the XP-80's keyboard. A Single Performance is indicated by Key Mode: SINGLE in the middle of the display. This type of Performance is commonly used for sequencing. Most PRESET Performances in the XP-80 use SINGLE mode.

Part: One of the 16 slots within a Performance. Each Part contains a Patch or a Rhythm Kit (Part 10) and all the Performance related settings like MIDI channel, key range, level, tuning, etc.

Track: One of the 16 sequencer locations for recording. Each Track may contain information on any or all of the 16 Parts. It is possible to record an entire song using just one Track. For our purposes (which will be discussed further in Section III. Recording), we will record each Part and MIDI channel on its corresponding Track.

II. Setup for Sequencing

Selecting a Performance

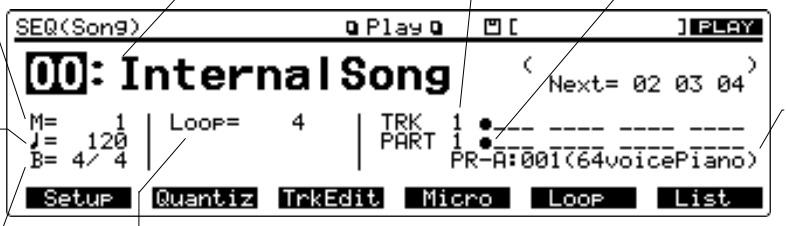
The XP-80 contains 96 different Performances. When you are getting ready to sequence, one of the first decisions to make is which Performance to use. The ideal setup for sequencing is a Performance that uses separate MIDI channels for each of the 16 Parts or a Single Mode Performance. This is to ensure that all Parts do not play-back when you are trying to record just one. Layer Performances may have multiple Parts assigned to the same MIDI channel and can be difficult to use for sequencing. An ideal Single Mode Performance is Preset A-12, POP SET 1. Use the following procedure to select this Performance.

1) Press PERFORM.
2) From the numeric keypad on the right-hand side hold SHIFT and press #1 to select the Preset A Bank.
3) Turn the VALUE DIAL to PR-A: 12 POP SET 1.

III. Recording

Sequencer Play Screen Layout

The main sequencer display contains several menus which will greatly assist you when sequencing a song. Access to these helpful menus can be achieved by pressing the Function buttons F1-F6. Listed below are the functions of each. Press SEQUENCER to access the following display:



Song # : Name - Select 0:Internal Song to record or edit a song

Tracks - o indicates that there is data on a track.
_ indicates no data on a track.

Current Part - Indicates which of the 16 Parts you will record.

Measure (M=) determines the current playback or record measure.

Tempo (♩=120) the speed of the recording. The XP-80 defaults to 120 BPM (beats per minute).

Time Signature (B = 4/4) determines how many beats in a measure and what type of note equals each beat.

Group: Patch - Current Group and Patch for this Part

Loop determines the loop to use for recording and playback. Loop can be set to the following modes:

OFF:	Recording will take place in a linear fashion, from beginning to end.
POINT:	The loop positions specified for playback (Playback Loop) will also be used for recording.
1-2-4-8-16:	The number of measures to be looped starting from the current measure.
ALL:	The entire Track is looped. This operation cannot be applied to the first recording.

In addition, the following information is available by using the F buttons under the display:

F1 Setup - Metronome settings, Internal/External Sync, MTC, and MMC settings
F2 Quantize - Grid, Shuffle or Groove Quantize, Load/Save User Grooves
F3 Track Edit - Track Edit Functions including Erase, Delete, Copy, Transpose, Change Velocity etc...
F4 Microscope - Individual Event Editing, Step Recording and Inserting Patterns into songs
F5 Loop - Set the Loop points
F6 List - Listing of the songs on the disk

Real-time Record Stand-by Parameters

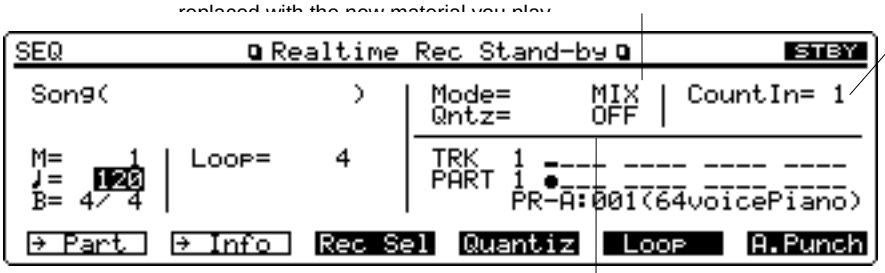
In addition to the above mentioned parameters, there are several that appear in the Real-time Record Stand-by screen. From the sequencer display, press REC to display the following screen:

Mode determines how the XP-80 records what you play. The XP-80 contains the following modes:

REPLACE: What you play is recorded over any existing data.
MIX: What you play is added to any existing data.
A.PUNCH: Data between the punch in and out points is automatically replaced with the new material you play.

Count In determines when the recording will start. The XP-80 has the following Count In options:

0: Recording begins immediately when you press play.
1 or 2: Recording will begin after the selected number of Count In measure(s).
WAIT NOTE: Recording begins when you press a key on the keyboard.



Input Quantize determines how the information is adjusted when it is recorded *(See Section IV. Editing; Quantize for further explanation).* The XP-80 has three modes of input quantize:

OFF: The input notes will be recorded as played.
GRID: The input notes will be placed to the nearest selected division of the beat. Ex. 1/16th or 1/8th note.
SHUFFLE: A triplet feel will be applied to notes recorded with the emphasis on the selected division of the beat.

***Note:** If you are interested in creating Tempo or Time Signature changes within your song, see Section IV Editing .*

In addition, the following information is available by using the F buttons under the display:

F1 Part - Sound, pan, level and effects settings for your Performance.
F2 Info - A monitor that displays MIDI messages such as polyphony, volume, modulation, etc.
F3 Rec Sel - Allows you to choose specific MIDI messages to filter out while recording.
F4 Quantiz - This display allows you to adjust the type and resolution of quantize to be applied to your recording.
F5 A. Punch - This display allows you to make changes to the punch-in and punch-out settings.
F6 List - Listing of the songs on the disk

Press EXIT to leave the Record Standby Display.

Recording Parts

Using the previously selected Performance PR-A: POP SET 1, we will construct a piano, bass and drums ensemble sequence. Use the following steps from the sequencer display:

1) Cursor to TRK and press the TRACK 1 button (located under the display) to select TRACK and PART 1.
2) Cursor to the current Bank and Patch and turn the VALUE DIAL to select PR-A:004 Nice Piano.
3) Press REC to access the Record Standby Display.
4) Cursor to ❑=120 and use the Value-Dial to select the desired tempo.
5) Press F4 to view the QUANTIZE parameters. Use the CURSOR buttons and VALUE DIAL to choose GRID or SHUFFLE Type of Quantize. Use the same method to choose the desired Quantize Resolution and Strength. Press EXIT to leave this screen.
6) Cursor to LOOP and choose the desired amount of bars. For the purposes of this example, set LOOP to 4.
7) Cursor right and set MODE to MIX.
8) Cursor to COUNT IN and use the VALUE DIAL to select the desired number of measure(s).
9) Press PLAY and after the COUNT IN, begin loop recording the 4 measure piano part.

As the piano part is looping, we will assign a bass to Part 2 and record it on TRK 2.

1) Press F6 to enter Rehearsal Mode. This allows you to play or change sounds with out recording in the sequence.
2) Cursor to TRK and press the TRACK/PART 2 button.
3) Cursor to the bottom right corner and use the VALUE DIAL to select PR-B: 017 Frtls Dry and practice your part.
4) Press F6 again to leave the Rehearsal Mode.
5) Record the bass part.

As the piano and bass part are looping, we can record a drum part:

1) Press F6 to enter Rehearsal Mode.
2) Cursor to TRK and press the TRACK/PART button 10.
3) Cursor to the bottom right corner.
4) Use the VALUE DIAL to select USER:002 Jazz Drum Set1.
5) Press F6 again to leave the Rehearsal Mode.
6) Play the drum part.
7) Press STOP when finished.

Note: *To quickly rewind to the beginning of the sequence, hold SHIFT and press BWD.*

If you are satisfied with your recording, proceed to the next section. If you would like to erase this song, press UTILITY and cursor to SONG INIT. Press Enter. Press F6 EXECUTE to clear the internal song. Try the recording process again and then proceed to the next section.

IV. Editing

Quantize

Quantize is a procedure that rhythmically adjusts notes after they have been played into a sequencer. Quantizing is an effective way to "correct" notes that may have been played off time. The XP-80 has three types of quantize:

GRID: The timing of the notes will be adjusted to the closest sub-division of a beat or by a selected percentage (i.e. move all selected notes 87% to the closest eighth note).

SHUFFLE: A triplet "feel" will be applied to the timing of the notes. The amount of shuffle is also determined by a percentage.

GROOVE: Dynamic and timing changes will be applied to the individual notes by using the selected GROOVE TEMPLATE. There are 71 PRESET Templates covering various styles of music and 16 USER Templates for original applications.

Use the following procedure to quantize something that has already been recorded:

1) From the sequencer display, press F2 QUANTIZE.
2) Select the desired method of Quantizing (Grid, Shuffle or Groove) by pressing the appropriate function button.
3) Use the CURSOR buttons and VALUE DIAL to set the parameters as desired.
4) Cursor to Measure and set the starting measure to quantize. For this example choose 1.
5) Cursor to for and select the number of measures to quantize. For this example choose ALL.
6) Cursor to Channel and select which channel(s) to quantize. For this example choose ALL.
7) Cursor to Note Range to set a range of keys on the keyboard to quantize.
8) Cursor to TRACK and use the DEC/INC buttons to enable (0) or disable (_) the desired tracks to be quantized.
9) Hold SHIFT and press BWD to return to the beginning of your song.
10) Before executing the quantize, press PLAY to preview the adjustments.
11) Press F6 EXECUTE to complete the quantize operation. Press EXIT to leave this display.

Copying Measures

We now have four measures recorded. Now, let's use the Copy function to extend the length of this song to 16 bars. Use the following procedure to copy these four measures to create sixteen:

1) Press F3 TRACK EDIT.
2) Cursor to 03:COPY and then press ENTER.
3) Cursor to <SOURCE> and use the VALUE DIAL to select TRK ALL. This indicates the source track to copy.
4) Cursor to <DEST.> and use the VALUE DIAL to select TRK ALL. This indicates the track the information will be copied to.
5) Cursor down to MEASURE and use the VALUE DIAL to select 1 For 4. This indicates that the measures to be copied will start on measure 1. This also indicates that we will be copying 4 measures.
6) Cursor right to MEASURE (directly beneath <DEST.>) and use the VALUE DIAL to select 5 or END. This indicates were we want to place our copies.
7) Cursor to MODE and use the VALUE DIAL to select REPLACE. This mode will write over any existing data on the destination track.
8) Cursor to TIMES and use the VALUE DIAL to select 3. This indicates that we will copy these 4 measures 3 times for a total of 16 measures.
9) Press F6 EXECUTE to complete the copy.
10) Press EXIT twice to return to the Sequencer Play screen.

Hold SHIFT and press BWD followed by PLAY. Make sure to turn off the LOOP button on the XP-80 to play the complete 16 measures.

Creating a Tempo change

If you do not want the same tempo for your entire song, you may insert Tempo Changes at the desired measure. Use the following procedure to change the tempo within a song:

1) From the sequencer display, press F4 MICRO.
2) Press the TEMPO/BEAT TRACK button (second row of buttons under the display) until Tempo Change appears in the display. The TEMPO /BEAT TRACK is specifically designed for storage of tempo and meter changes.
3) Cursor to 1-01-000 to enter the desired Measure, Beat and Clock for your change.
4) Press F1 CREATE to insert a tempo change event.
5) Cursor to Tempo Change Value=120 and use the VALUE DIAL to select the desired tempo.
6) Press EXIT to return to the sequencer display.

Note: *It is also possible to record tempo changes in real-time, which is useful for creating effects such as accelerandos and ritards. From the Sequencer display, press REC followed by TEMPO/BEAT to select the Tempo Track for recording. When you start recording, use the VALUE DIAL to speed up or slow down the tempo. The changes you make will be recorded on the Tempo Track.*

Creating a Meter change

You can create a Time Signature at any measure in the song. Use the following procedure to change the meter within a song:

1) From the sequencer display, press F4 MICRO.
2) Press the TEMPO/BEAT TRACK button (second row of buttons under the display) until Beat Change appears in the display.
3) Cursor to 1-01-000 and use the FWD and BWD buttons to select the desired Measure.
4) Press F1 CREATE to insert a Beat Change event.
5) Cursor to Beat=4/4 and use the VALUE DIAL to select the appropriate meter.
6) Press EXIT to return to the sequencer display.

V. Sequencing Specials

Real-time Erase

If you have played an incorrect note and would like to erase it without erasing the rest of your recording, you can use the XP-80's Real-time Erase function. This is especially useful when recording drum parts.

Use the following procedure to Real-time Erase:

1) While loop recording, press F5 ERASE.
2) Hold down the key that you would like to erase. The note will be erased for as long as you hold down the key.
3) If you hold down two keys, all the notes in between the keys will be erased. If you hold F6, all data on the selected track will be erased for as long as you hold that button down.
4) Press EXIT to return to recording.

Syncing Beatloops

The XP-80 has the unique ability to sync beatloops from several of the SR-JV80 series expansion boards to the sequencers' clock. These drum loops can be synced in either Patch or Performance Mode. You must have a SR-JV80 series expansion board with beatloops installed in one of the 4 expansion slots of the XP-80. For example, we will assume that the SR-JV80-12 Hip Hop expansion board is installed in expansion slot A.

Selecting a Beatloop Patch to Sync

1) From the sequencer display, CURSOR to select the desired Expansion Board Drum Loop.
2) While holding PERFORM, press PATCH to enter PART mode.
3) Press F2 WG.
4) Press F1 WG PRM.
5) Use the TONE SELECT 1-4 buttons under the display to choose the Tone(s) that contains the beatloop. Cursor to TONE DELAY MODE and use the VALUE DIAL to select TEMPO-SYNC.

Note: *Save this Patch to a User location to keep for future use.*

Setting the Performance to Sync

1) Press PERFORM.
2) Press F1 COMMON.
3) Cursor to CLOCK SOURCE and use the VALUE DIAL to select SEQUENCER.
4) Press SEQUENCER and play the beatloop on the keyboard.
5) While holding the key down, cursor to Tempo and turn the VALUE DIAL. The beatloop is now synced to the internal clock of the XP-80.

VI. Saving and Playing Back from a Disk

Saving your Song to a Disk

Use the following procedure to save your song to disk:

1) Insert a disk into the drive and press DISK. If you have already used this disk with the XP-80, skip to step #5.

   Note: *Formatting the disk will erase any information that is currently on that disk.*

2) Cursor to FORMAT and press ENTER. A Disk Format display will appear that allows you to set the Volume name for the disk. Press F6 EXECUTE followed by F5 to format the disk.
3) When formatting is complete, press EXIT.
4) Press F2 SAVE.
5) Cursor to FILE TYPE and select SONG, then cursor to SAVE MODE and select SONG+SOUND. *****
6) Use your CURSOR buttons and VALUE DIAL to select the Song name and press F6 EXECUTE.
7) Press SEQ to return to the SEQUENCER SONG PLAY Screen.

   Note: *It is very important to save the sound settings with the songs. This procedure saves the correct sounds with the selected song.*

Playing your Song direct from Disk

Once all of the settings have been saved to the disk, the sequencer can play the songs directly from the floppy.

1) Press SEQUENCER.
2) Cursor to the top left corner and use the VALUE DIAL to select the song. Ex. 1: MY SONG. Press ENTER.
3) Press PLAY.

VII. Effects

Performance Effects Routing

The XP-80 has three extremely powerful effects processors. These three effects processors are as follows:

EFX: This is also known as the 'insert effects' processor. This processor includes forty different effects including Rotary Speaker, Distortion, Compressor, Reverb, Triple Tap Delay and others. In addition to single effects, this processor includes multiple effects configured in series or parallel. Parallel effects allow you to get a different effect depending on the pan position of your patch.
Reverb: This processor contains primarily reverb and delay effects.
Chorus: This processor contains primarily chorus effects. It can also be used to create a short delay effect.

The effects parameters for each of these three processors can be chosen per Performance. Each of the 16 Parts in a Performance can be routed through these three processors if desired. There are four options for the routing of each part to the EFX (Insert) effects processor:

MIX: Routes the sound to the MIX L&R Outputs without the EFX (Insert) Effects processor.
EFX: Routes the sound to the MIX L&R Outputs with the EFX (Insert) Effects processor.
DIR: Routes the sound to the DIRECT L&R Outputs without the EFX (Insert) Effects processor.
PAT: Uses the Patch's Output determine the above mentioned routing. This allows for individual routing per tone.

Use the following procedure to set the routing for the Insert Effects processor in Performance mode.

1) Press PERFORM to display the Performance Play Page.
2) Press F5 to select the Effects page.
3) Press F1 to select the Effects routing page.
4) Use the TRACK/PART buttons (under the display) to select the desired Part.
5) Cursor to Output and turn the VALUE DIAL to select MIX, EFX, DIR or PAT.
6) Press the RIGHT CURSOR button and turn the VALUE DIAL to select the desired send level for this part.

To route the sound through the Reverb and Chorus processors, you can simply adjust the Reverb and Chorus Send Levels on this same page. Use the following procedure to set the effect send levels for Parts in a Performance.

1) From the previous display, press the CURSOR UP button twice and turn the VALUE DIAL to adjust the Reverb Send Level.
2) Press the CURSOR DOWN button and turn the VALUE DIAL to adjust the Chorus Send Level.

Note: *While in this screen, you may cursor to set the parameters as desired. The name of the selected parameter will appear in the lower right corner of the display. Use the Function buttons F2-F5 to view and change specific settings for each processor.*

Copying Effects from a Patch

It is possible to copy all Reverb, Chorus and EFX settings of a Patch and use them in a Performance. This will allow you to route your Parts through the processors and obtain a similar sound to Patch mode. Use the following procedure to copy the effects settings to the current Performance:

1) Press UTILITY
2) Press F2 COPY.
3) Press F2 EFFECTS.

4) Cursor left to Source and select Patch.
5) Press the CURSOR RIGHT button and use the VALUE DIAL to choose the Patch to copy the effects from.
6) Press F6 EXECUTE.
7) Set the effects routing to the three processors as previously described

**** Note:** This method can not be used on an expansion board patch. Copy the Expansion Board patch to a USER location and then execute this function.*

VIII. Other Features

Arpeggiator

The arpeggiator is a very useful feature for creating rhythmic textures. There are 33 rhythmic styles ranging from Rhythm Guitar to Harp Rolls. Each of these cyclic styles can be varied by adjusting parameters such as Accent Rate, Shuffle Rate, Octave Range, Key Velocity, and Tempo. For the purposes of this example, we will select two separate Patches and listen to some arpeggiator styles.

Rhythm Guitar

1) Press PATCH
2) Press the SOUND LIST button and use F2 and F3 to select the USER Bank.
3) Use the VALUE DIAL to select USER 007 CLEAR GUITAR.
4) Press ARPEGGIO.
5) Press F6 (Arpeg).
6) Use the VALUE DIAL to select the Arpeggio Style RHYTHM GTR. B.
7) Press F5 (Detail) and set the arpeggio details as desired.
8) Play the keyboard to hear the effect of the Arpeggiator.

Synth Bass

1) Press PATCH.
2) Press the SOUND LIST button and use F2 and F3 to select the USER Bank.
3) Use the VALUE DIAL to select USER 011 RESOSAW BASS.
4) Press ARPEGGIO and use the VALUE DIAL to select the Arpeggio Style SLAP BASS A.
5) Press F5 DETAIL and set the arpeggio details as desired.

Using the Sound Palette

The XP-80 also allows you to change the characteristics of a sound in real-time. We will use the above Synth Bass arpeggio pattern for this example.

1) Play the Synth Bass arpeggio pattern.
2) Press FILTER ENV in the SOUND PALETTE so the button is lit.
3) Move the Sliders marked CUTOFF and RESONANCE and listen to the changes.

**** Useful Tip**: Since all of the patterns (and their variations) in the Arpeggio and the slider movements from the Sound Palette can be recorded to the sequencer, the arpeggiator can be a main source for musical ideas in your song. Try recording separate Parts using different Arpeggio styles.*

As you can see, the XP-80 is a very powerful instrument. You can create music in a number of different ways to suit your style and preferences. In this document, we have just started looking at the ways to use the sequencer. For more information, you should check out “Advanced Sequencing on the XP-60 and XP-80” as well as the “XP-60/80 Frequently Asked Questions” supplemental notes.