

Sampling basics and navigation:

A digital recording is called a “sample” or a “wave”, initially it is placed on a single note, once you map this to a KEY, or range of KEYS on the XS keyboard it is referred to as a “KEYBANK”; multiple KEYBANKS are grouped together to create a “WAVEFORM”.

[SAMPLE] – SELECT screen:

When you press the [INTEGRATED SAMPLING] button you will arrive initially at the “Sample Select” screen. This will be true from whichever mode you enter Sampling: VOICE mode, PERFORMANCE mode or one of the two Sequencer modes, SONG or PATTERN.

The current screen, “Sample > Select”, is identified in the upper left corner. From this screen you can choose a Waveform to work with. You can view the attributes of that sample (size, frequency, stereo/mono status), you can audition [SF1] the current selection. If there are multiple samples in this waveform you can choose a Keybank [SF5] within the selected Waveform. And/or move on to actually recording your own samples REC [F6], move to [EDIT] or move to the sample [JOBS].

You can press [SF1] to AUDITION, or hear, your selection.

There are a couple of methods to select a different KEYBANK in the currently selected WAVEFORM:

- You can hold [SF6] KBD and touch a note on the keyboard. A Keybank can be a single note or a range of notes – touching any key in the range will recall the entire KEYBANK.
- You can press [SF5] KEYBANK to view a list your data – this is helpful when you have multiple samples stacked on a single note.
- From this “SAMPLE > SELECT” screen you can enter “SAMPLE > RECORD” by pressing [F6] REC
- From this “SAMPLE > SELECT” screen you can enter “SAMPLE > EDIT” by pressing the dedicated [EDIT] button
- From this “SAMPLE > SELECT” screen you can enter “SAMPLE > JOB” mode by pressing the dedicated [JOB] button.

If you are recording your own sample, editing a sample or applying a job to a sample, you return to the “Sample > Select” screen by pressing the [EXIT] button. Spend a little time getting used to navigation of these screens. The upper left corner will always indicate exactly where you are at anytime.

Sample to VOICE, Sample to PERFORMANCE, Sample in the SEQUENCER:

The Motif XS is “context sensitive”. What this means is that certain options are available to you depending on the mode you are currently in. For example, if you enter sampling from VOICE mode the selection of options will be tailored specifically for Voice mode. If you enter sampling from one of the Sequencer modes, a different set of selection options will be available. This is a very logical way to layout the operating system and will make a lot of sense as we go through the modes.

Sampling in VOICE mode will allow you to create your own playable Voices. There are two kinds of Voices you might want to create: Normal Voices and Drum Voices. In order to sample to a VOICE you would enter [INTEGRATED SAMPLING] from VOICE mode.

Sampling in PERFORMANCE mode will allow you to create a Voice within a Performance.

Sampling in SEQUENCER mode will allow you to create a sample that can be synchronized with playback of a Song or Pattern

- Press [INTEGRATED SAMPLING]
- Press [F6] REC – you’ll arrive at the “SAMPLE > RECORD” setup screen
- The screen is divided so that the SOURCE parameters are on your left and the DESTINATION parameters are on your right.

SOURCE: These will be context sensitive, according to the mode you enter from...

Recording type = "sample" – for VOICE mode/Performance mode sampling
"sample+note" – for sampling in the Sequencer. A note-on event is automatically generated to trigger playback of the sample audio
"slice+seq" – for sampling in the Sequencer. Once the sample is complete you are taken directly to the SLICE setup function. SLICE chops up the audio and creates a new waveform; SEQ creates a precisely timed sequence to playback the audio loop. Use this on audio clips up to 8 measures in length that you want to loop and tempo adjust.

Input Source = AD input, resample, mLAN

Stereo/Mono = stereo, monoL, monoR or monoL+R

Record Next = off/on ⇔ this is useful when recording multiple samples in a row, for example, drum and percussion samples

Frequency = 44.1kHz, 22.05kHz, 11.025kHz, 5.5125kHz

DESTINATION: These will be context sensitive, according to the mode you enter from...

WAVEFORM = location from 0001~1024

KEYBANK = a note from C-2~G8

TRACK = only available when sampling from a Sequencer mode (SONG/PATTERN)

PART = only available when sampling from PERFORMANCE mode or a Sequencer mode

VOICE = targets a specific location for your user sample USER or USER DRUM

DRUM KEY = only available when sampling a VOICE and specifically a Drum Voice.

PREPARE TO SAMPLE

Press [F6] STANDBY

You can review your SETUP parameters at the top of the screen. It is a good idea to always glance at the setup to ensure you are targeting the sample to the correct location. The bottom of the screen your actual sampling SETTINGS including:

RECORD MONITOR – the output level of the incoming the source

RECORD GAIN – available only when you are "resampling". If you are sampling from the AD input adjust the gain on the back panel of the Motif XS.

The bottom right of the screen deals with the TRIGGER MODE – basically this is how sampling will take place. It is important to choose the proper mode to best accomplish your goal.

TRIGGER MODE = LEVEL – sampling will begin, once armed, when the level exceeds the "Trigger Level" setting. This is ideal when you are sampling from an audio source like a CD player or other external audio source. You must stop sampling manually by pressing the [F6] STOP button

TRIGGER MODE = MANUAL – sampling will begin when you press the [F5] START button

TRIGGER MODE = MEASURE – sampling will begin, once armed, when the sequencer reaches the measure number set as the Punch In point. Sampling will stop automatically when the measure counter reaches the Punch Out point.

To arm the sampler press [F5] START, if LEVEL or MEASURE is selected "WAITING..." will appear and sampling will begin as prescribed by those trigger methods.

EXPERIMENT #1: SETUP an AUDIO SAMPLE (simple)

Plug a microphone into the AD input on the back panel

Set the Motif XS for mic input

Press [UTILITY]

Press [F2] I/O

Set the MIC/LINE parameter to MIC

Mic Gain is set with the small knob on the back panel next to the AD INPUT. In general, microphones are a low level (weak) signal so turn the gain all the way up.

Go to [INTEGRATED SAMPLING]

To get the basic idea of a sample down let's do a simple setup:

Sample Source

- Record Type = "Sample"
- Input Source = monoL+R
- Record Next = off
- Frequency = 44.1kHz

Sample Destination

- Select an empty Waveform number
- Select KEYBANK = C3
- TRACK and PART are not applicable in VOICE mode
- VOICE = USER 1:001 Everlasting Glory – the screen will show you what Voice you are writing over

Press [F6] STANDBY

Here you can setup the RECORD MONITOR and TRIGGER MODE

[If you are recording in the room with speakers now would be a good time to turn them down and work in headphones. Alternatively you can set the REC MONITOR to 000 this will prevent your Voice from going to your speakers and ruining your recording – you will still hear your sample on playback.]

For this recording we will use the LEVEL option and set the trigger level to a setting of '1' – sampling will begin after we arm the sample by pressing [F5] START and once we exceed that value. Sampling will stop when we press [F6] STOP

SETUP an AUDIO SAMPLE (USER DRUM KIT)

Sample direct to a UDR (User Drum Kit): Going over the parameters we just discussed setup to record a basic Human drum kit.

Sample Source

- Record Type = "Sample"
- Input Source = monoL+R
- Record Next = off
- Frequency = 44.1kHz

Sample Destination

- Select an empty Waveform number
- VOICE = UDR: 1 (User Drum Kit)
- DRUM KEY = C1 (The Drum Key parameter will ensure that the sample is assigned to the Key you select here... the actual sample will reside on the C3 key, the Drum Voice will assign the sample to the KEY you select with this DRUM KEY parameter.

Proceed with sampling a vocal hit "BOOM!" and show how it is mapped to the USER DRUM VOICE at C1 even though it is in the Waveform at C3.

Editing the Vocal Drum hit within the Kit:

Go to UDR 1 and show how the waveform is assigned to C1 in the kit

Press [EDIT]

Press Track Select [1] to see KEY parameters

Press note C1 to recall its information

Show how you can boost the output of an KEY using the EQ device at [F5]

Set the EQ = Boost 6dB, Boost 12dB or Boost 18dB

Sampling in the Sequencer

The Integrated Sampling Sequencer allows you to record audio into a SONG or PATTERN. **Sample with Note** is ideal if you simply want to add audio phrases to your song. In this mode, you can record vocal and guitar phrases directly into your sequence while listening to playback of any MIDI tracks you've already created. After recording the audio, the Integrated Sampling Sequencer will automatically create a sample voice, map it to the keyboard and put a MIDI note in the pattern/song at the appropriate time. If you would like to play the same audio phrase later in the song, you can

simply trigger it with a MIDI note instead of having to sample it again and use up valuable sample RAM. When you make your final arrangement, your phrases will play back in perfect time.

Setting up to sample Vocals through the VCM Compressor 376

Call up a PATTERN or SONG you have previously composed. Here we will learn to Sample with Note so that we can overdub audio to MIDI tracks. The Compressor is one of the powerful professional tools in the arsenal of recording studio engineers. It is basically a leveling amplifier and is used to control the DYNAMIC RANGE of audio. If you have ever sampled and found that your level okay but that your recording lacked **presence** – the compressor is the device that will give you presence. It will make your sample perceptibly louder without actually going over the 0dB line. One of the special new features in the Motif XS is the inclusion of the VCM processors. The Compressor 376 is a phenomenal recreation of the classic studio compressors of the 1970's and 80's:

It is an Insertion Effect so let's set this up on the vocals:

Press [MIXING]

Press [EDIT]

Press the [COMMON EDIT] button

Turn the main VOLUME down while we setup the processor – this is important as you do not want to scroll through various effects with an open microphone – it is just good standard practice. Once you have selected your Effects, you can bring the main Volume back up.

Press [F5] AUDIO IN

Here you can see the parameters that are controlling the OUTPUT assignment of your AD Input. Although you see sends to the REVERB and CHORUS these will not be recorded to the sampler. The INSERTION EFFECT however will be recorded to the sampler.

- Press [F6] EFFECT
- Press [SF2] INS SW – Insertion Switch

Here you can activate the Insertion Effects on any eight PARTS. You may need to temporarily turn the Insertion Switch OFF on one of the Parts so that you can turn it ON for the AD PART.

- Select the INSERT SWITCH for AD
- Press [F5] AUDIO IN
- Press [SF2] CONNECT

Here you will see the AD PART routing to the Dual Insertion Effects

- Press [SF6] LIST – to see a list of effects that you can assign
- Select "CMP" the "VCM Compressor 376" is the first one of the compressor types
- Press [SF3] INS A – to see the parameters of the "VCM Compressor 376"
- Move the cursor down from TYPE to "PRESET"
- Press [SF6] LIST – to view a list of Preset configurations
- Select "Vocal Comp 117x"

Tweak the INPUT until you see about -1dB of Gain Reduction. What this is doing is setting both the threshold and Gain Reduction. A compressor reduces the incoming signal when it 'sees' a loud peak, this has the end result of reducing the overall dynamic range – those giving the signal more weight or presence.

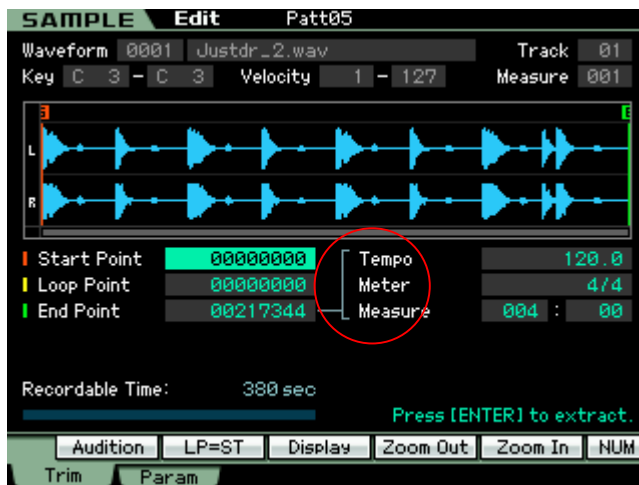
The amount you will need to change the INPUT to see one dB of Gain Reduction will, of course, depend on the input signal, i.e., this is based on how loud or strong the signal coming in registers. This can vary depending on the microphone and the person in front of it. One dB of reduction may not seem like a lot; but in fact it is a protection against the incoming signal going over into the red. You will be able to see your incoming signal meter when you go to the Sample Record screen.

HOW TO DETERMINE THE TEMPO of an AUDIO CLIP (works on audio clips up to a length of 32 measures). Once the length and time signature of an audio clip are known the ISS can calculate the exact number of BPM in any audio clip. You need to carefully set the START POINT and END POINT so

that you have a precise (known) number of measures and beats and the sampler will calculate the tempo.

In the SAMPLE EDIT area of the XS, you will find that the END POINT is connected to the TEMPO, METER and MEASURE parameters (shown below):

- Highlight the END POINT parameter



Once you have “trimmed” the Start Point and the End Point and pressed [ENTER] to extract... creating a perfectly looping audio clip – you can input the exact number of measures next to the MEASURE parameter. If, for example, you determine you have exactly a two measure audio clip set the MEASURE = 002:00 (that is 002 Measures and no extra Beats). The METER (or time signature is set to 4/4; adjust only if your clip is some other meter). You will notice that the END POINT parameter will have changed in the screen. Using the DATA WHEEL dial the END POINT until it returns to the exact value that indicates the full Length of your clip... the tempo will adjust to the exact number of beats per minute of your audio clip.

As you change the TEMPO you will see the END POINT value increase... when it stops increasing reverse direction until you see it change and then dial it back to it just reaches the precise maximum value (and not one click more). This is the exact tempo of that audio clip within a tenth of a beat