YAMAHA

A3000

PROFESSIONAL SAMPLER

Quick Guide

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Contents

Quick Entry for Professionals

You have already gained experience with other samplers and want to start working with the A3000 right away, without having to read through complex manuals or Quick Guides. You prefer to learn by experimenting, but you are willing to accept some general hints as to the operational concepts. If so, you may only want to read this first page – you can still read through the QUICK GUIDE later, e.g. while you are traveling to the next gig or relaxing from your latest tour.

Sample-orientated Sound Structure

Together with the wave data (stereo or mono), the Sample (the basic object in the sound structure of the A3000) also contains sound data (Filter, Envelope, LFO...), Mapping, Note Limits, Velocity Limits and MIDI parameters. Samples may be played directly via MIDI or assigned to a SAMPLE BANK. In a Sample Bank, all sample parameters (with the exception of the wave data) can be set globally. Ø Pages 4 - 6

Sample Duplicates

Sample duplicates can be created to allow individual settings for samples or sample banks. These duplicates have access to the original wave data and do not occupy additional wave memory. It is therefore necessary to save and load both the originals and the duplicates in one common VOLUME to avoid the creation of real copies taking the same amount of memory.
Ø Page 9

Programs

In general, each of the 128 Programs may be used as a Multi, as a Performance or as a Voice. All of the samples and sample banks selected in the Program (ToPgm = on) are usable as active Parts, or as a MULTI Part (by setting a different MIDI channel for each sample or sample bank), or as part of SINGLE-, LAYER-, or SPLIT sounds (by setting the same MIDI channel for all samples or sample banks).
You can set parameters for the active samples and sample banks in EASY EDIT within the Program. The EASY EDIT concept is comparable to the “Part Parameters” of the Multis and Performances of other samplers / synthesizers. These parameters are offsets to the sample parameters and only affect the current program. Ø Pages 5, 10, 30 - 32

Effects

Sample banks and samples can be routed to one of the 3 effect units (MAIN OUTPUT = Effect 1, 2 or 3). By choosing serial connection of the effect units, the signal can be routed through all 3 effects. There is no conventional “Effect Send Level” control. However, by assigning the Assignable Outputs (Stereo or 1 - 4) to the dry signal the Stereo Output can be used as an EFFECT RETURN. The parameter MAIN OUT LEVEL then functions as EFFECT SEND LEVEL for each sample or sample bank. Ø Pages 10, 33 - 34

Save

Saving the complete contents of memory as a VOLUME is done in PLAY Mode using COMMAND - SAVE ALL(wipe). To load a VOLUME, use DISK - VOLUME >LOAD.
The System Data is saved and recalled separately (UTILITY - SYSTEM). Ø Pages 8, 24

Control Change Numbers

The control change numbers #007 (Volume) and #010 (Pan) may always be applied. The function of each of the other controllers is specified by a matrix in PLAY - CONTROL (Effect parameters + Global parameters for each Program) and in EDIT - MIDI / CTRL (sound parameters for each sample or sample bank). Ø Pages 12, 19 - 20

The Sound Structure of the A3000

The sound structure of the A3000 introduces an **innovative concept of organizing Samples and Programs**. This departs from the more or less hierarchical sound organization of conventional synthesizers / samplers, as shown in the following three examples:

Fig. 1 = Hierarchical Sound Structures

Example 1	Example 2	Example 3
Multi	Performance	Program
Voice	Patch	Keygroups
Waveform	Partial	Zones
Sample	Sample	Samples

In all these examples there are four levels that are based upon each other.
In comparison, the sound structure of the A3000 looks (and is) very simple:

Fig.2 = Sound Structure of the A3000

Program

Sample - Sample Bank

Obviously there are only two levels, in which SAMPLES and SAMPLE BANKS are organized on the same level. Single samples can therefore be assigned to the Program directly, without having to be organized in a Sample Bank.
However, if one sound consists of several samples that are spread over the keyboard (i.e. a "Multisample"), these can be combined into a Sample Bank and managed as a whole.

Another feature of the sound structure of the A3000: In addition to the actual sample data, **the SAMPLE** itself can **contain all sound parameters**, which in other schemes of sound structure can only be applied at higher levels. Thus, we need to distinguish between the WAVEFORM DATA and the SAMPLE PARAMETERS.
On the other hand, not all sample parameters have to be set within the Sample. Parameters such as Level, Pan, Filter, Envelopes, LFO, MIDI-Ch. etc. may be set globally for all samples of a SAMPLE BANK. The individual parameters of the single samples then remain unchanged. The advantage here is that the Samples can be freely assigned to other Programs without affecting the sample's sound parameters.

The "**Performance Level" of the A3000 is the PROGRAM**, which can be compared to the *Multi Programs* or *Performances* of other synthesizers and samplers.

Programs allow the creation of complex **Multi Setups,** or alternatively, **Performances** with layered or split sounds – or simply "Voices" with one sound based on one Sample or Sample Bank.

Important: It is not possible to use more than one Program at once. The multitimbral functionality is already included within the Program. Each of the Programs can therefore be an independent MULTI.
Also, Programs are organized differently than on previous instruments: All Sample Banks residing in memory are available to each Program and can be combined in a very flexible way by using the **ToPgm Switch (on/off)**. There are no "Multi-Parts" in the traditional sense; all Samples and Sample Banks that are switched "on" are Multi-Parts by default which (in principle) require no further edits. This is because all necessary settings can be made in the Sample Parameters.
The EASY EDIT facility provides even greater Program-level flexibility. There you can set the most important sample parameters for each sample / sample bank. These settings apply only to the selected Program. The sample parameters of the samples and the sample banks are not actually changed, instead they are modified for the Program only.
The EASY EDIT page is perfectly suited for multi or performance programming, since the Easy Edit parameters are similar to the “Part Parameters” of other instruments as previously mentioned.

Additional components of the PROGRAM are the EFFECTS, the SETUP parameters (including the A / D input), and the CONTROLLER setup, which primarily deals with the effect parameters at the Program level. In contrast, the controllers for the sound parameters are set at the Sample level.

That concludes the first short look at the sound structure of the A3000, which is summarized in the diagram "A3000 Objects" on the next page.
Whether you are a beginner or have already worked with other samplers and synthesizers – you should spend some time understanding the A3000’s new type of sound organization. I am sure you will quickly appreciate the advantages of this system.
The following chapters will help you to take full advantage of the many possibilities of the A3000.

A3000 Objects

A3000 Program (001 – 128)

Sample/Sample Bank assignment

ToPgm switch: on/off

Easy Edit parameters

Changing Sample parameters at the Program level
Sample settings remain unchanged

Level, Pan, Tune Coarse / Fine, AEG Attack / Release, Filter Cutoff, Filter Q / Width, Key Limit Low / High, Key Range Shift, Key X-Fade, Vel Limit Low / High, Vel X-fade, Poly / Mono, Portamento, Alternate Grp, Main Output + Level, Assign Output + Level, MIDI Receive Ch., MIDI Control

Effects 1, 2, 3

Setup / A/D Input parameters

Controller setup

A3000 Sample

Waveform data (mono/stereo)

Sample-Parameter

Sample Start / End, Sample Loop, OrigKey, KeyRange, VelRange, Level, Pan, Output, Pitch, Expand, Level Scale, Filter, EQ, AEG, FEG, PEG, LFO, MIDIRcvCh, Sample Controller, Velocity, Pitch Bend

A3000 Sample Bank

Sample assignment

(Add + Remove)

Sample parameters – global

(Sample parameters of individual samples remain unchanged)

VelRange, Level, Pan, Output, Expand, Level Scale, Filter, EQ, AEG, FEG, PEG, LFO, MIDIRcvCh, Sample Controller, Velocity, Pitch Bend

Quick Start

This chapter should give you a good start working with the A3000 without your having to work through the extensive Owner's Manual. Who actually wants to read 300 pages before working with a new device?
All essential functions will be described quickly and systematically, but no operational steps will be given. If these are important to you, you can supplement the explanations here by referring to the corresponding chapters in the Owner's Manual. Cross references are given after each section.
Maybe you are already more or less familiar with the operational concepts of the A3000, or you are one of the painstaking users who don't mind reading through the whole manual. If so, you should direct your attention to the **special italicized hints**. These deal with special cases and recommendations that go beyond the basic knowledge conveyed by the Owner's Manual.
One last word about the terms "Sample" and "Sample Bank": as already mentioned in the first chapter, these exist on the same level. In the following chapters, everything that is said about Samples can also be applied to Sample Banks, even though this may not be mentioned explicitly in every case.

Controls

The first thing you will notice below the LCD screen are the 5 knobs. Their rotary function is used to set the parameters displayed in the LCD, or to call up other display pages. A red illuminated LED above the knob indicates that a push function is available during editing.
Here is the most important knob function: from most of the pages you can call up the "**Pgm-Sel**" **Page** by pressing knob 1. From there you can select **Programs, Samples and Sample Banks** using knobs 1 and 2. Another press on knob 1 calls up the last active page again.

On the right side of the panel you will find a parameter matrix, which can also be found on other devices (e.g. CS1x or AN1x). With the MODE keys (green LED), you can select one of the five operating modes of the A3000: PLAY, EDIT, REC, DISK, and UTILITY.
The FUNCTION KEYS above the parameter matrix (red LED) switch between six FUNCTIONS within the selected operation mode.
For example: if you want to select the function IMPORT, press the MODE KEY DISK and then FUNCTION KEY 6 (the rightmost function key). With knob 1 (rotate) you can then select one of the 3 pages of the function IMPORT: ImpSmp, ImpVce, and ImpOthr.
Finally, to the left of the disk drive you will find the keys COMMAND (command functions), ASSIGNABLE (four selectable functions), and AUDITION (which plays the selected sample).

Owner's Manual p. 8 - 11

On the following pages you will find descriptions of the 30 functions selectable with the MODE and FUNCTION keys, the pages available with these functions (= display pages), and the corresponding COMMAND functions.

PLAY Mode

F1 = PROGRAM

This is the **main page of the A-3000.** Here you can select Programs (by turning knobs 2 or 3), name them (by pushing knob 3) and save Programs (by pushing knob 4 or 5 respectively). SAVE saves one Program, ALL saves all Programs, in either case together with the assigned Samples.
By pushing knob 1 you can also call up the above-mentioned Pgm SELECT page for selecting Programs and Samples. Please also notice the parameters "SmpSolo" (auditioning single Samples in Programs) and "MIDI>Smp" (selecting single Samples of a multi sample via the MIDI keyboard).

After pressing **COMMAND**, the following commands are available from knob 1:

SAVE ALL (wipe) = Saves all Programs, Samples, Sample Banks, and Sequences as one VOLUME. The Target Volume will be overwritten. Unchanged Programs, as well as the SYSTEM PARAMETERS are not taken into account; these are saved separately (via UTILITY / SYSTEM / COMMAND).
Other SAVE Types can be selected with knob 2.

SAVE ALL Pgm(wp) = Saves all Programs together with the assigned Samples and overwrites the existing Volume

SAVE Edited = Saves only new or edited Programs and Samples

SAVE ALLSmp = Saves all Samples

SAVE Pgm = Saves the current Program together with the Samples

For all SAVE Types you can choose the target drive, the target volume and the target Program, if applicable.

INIT = Initialisation (default) for one or all Programs

COPY = Copying a Program

PGMDUMP = Program Dump with or without Samples in the A3000 format

SETINIT = The Program settings of the sections EFFECT and / or SETUP and / or CONTROL will be specified as the Init settings for editing new Programs. These settings are non-volatile, which means they are not lost after switching off.

Special Hint Ø Complete Save

*Despite the variety of saving options, it is normally recommended that you choose the save type **"SAVE ALL (wipe)"**. Important: You always have to press COMMAND first, since the save function SAVE > ALL available under PLAY – PROGRAM is not identical. Only with **"SAVE ALL (wipe)"** can you be sure that the complete VOLUME will be saved (= all Programs, all Samples and Sample Banks, all Sequences). Also included with this command are Samples that are not assigned to any Program. Furthermore, this command guarantees that Sample duplicates are not converted to real copies (see "Special Hint Ø Sample duplicates"). The counterpart to **"SAVE ALL (wipe)"** is **"DISK - Volume - LOAD"**, which loads the complete Volume.*

Owner's Manual p. 95 - 104, 110 - 111

F2 = SAMPLE

As with all other functions, four pages are available by rotating knob 1:

SmpSel = This is the most important parameter for Program settings. With "ToPgm" (on / off) selected Samples or Sample Banks will be assigned to the Program. In addition, Samples may be named (knob 2 or 3) and saved individually (knob 5).
A Sample Bank can be recognized by the letter "B" to the left of the name.

SmpBank = Sample Banks can be selected here (by rotating knob 2) and named (by pushing knob 2). In addition, single Samples of the Sample Bank can be selected for editing (by rotating knob 3) or removed from the Sample Bank (by pushing knob 5). You can also find out which Samples are assigned to a Sample Bank.
ToBank = Knob 2 is used here to select Sample Banks. Single Samples are selected with knob 3, and can be added to the Sample Bank using ADD (knob 5).
If the Sample is already used in another Sample Bank or by a Program, it will be duplicated after confirmation ("Duplicate & Add?" + GO).

Special Hint Ø Sample duplicates
Duplicating does not generate new waveform data. Both the original and its copy access the same waveform data and no additional waveform memory is occupied (see UTILITY – System/FreeMem – Wave...). However, this only applies if the Samples are saved to and loaded from the same VOLUME. If you are working with Sample duplicates you should proceed as follows: Always save with COMMAND "SAVE ALL (wipe)" and load with "DISK – VOLUME". If you load Programs or Samples one after each other, the A3000 converts the duplicates to real copies which use the same amount of memory as the original samples.

SmpSort = Logical sorting of the Samples helps you keep a better perspective and allows you to work more efficiently. Sorting by names (knob 2) can be switched on or off. By setting "PgmON = top" the Samples belonging to the Program will be shown first. If you set "InBank = hide" single Samples will not be displayed if they are assigned to a Sample Bank.

After pressing **COMMAND**, the following commands are available with knob 1:

SAVE, INIT, COPY, SETINIT = These commands have the same functions as described in the section "PROGRAM" above.

NEWBANK = creates a new, empty Sample Bank.

DELETE = Depending on the Type selection (Smp – All), single or all Samples and Sample Banks can be deleted. By setting "Type – FreeSmp" only unused Samples (Samples not assigned to Programs or Sample Banks) will be deleted. With this function you can, for example, delete the waveforms which reside in memory directly after switching on (or after Autoload!), which tend to be unwanted in most cases (Pulse, Saw, Square, ...).

DUPL = Creates a duplicate of a Sample or a Sample Bank in memory. To allow a distinction between the copy and the original, an asterisk is automatically added to the name of the copied Sample; however, the copy may also be manually renamed before copying.
Even in this case, the waveform data will not be duplicated.
When duplicating Sample Banks, all Samples of the bank will be duplicated as non-real copies. Since this creates a pretty long list of single Samples it is recommended that you activate the function "InBank - hide" mentioned above.

Special Hint Ø Sample Bank Templates

You can also copy "empty" Sample Banks. This can be useful when you want to use the parameter settings of a Sample Bank (e.g. Filter and Envelopes) for other Samples. To do this, remove all Samples of the Sample Bank with "SmpBank – REMOVE". This ensures that duplicating the Sample Bank creates no new Sample duplicates. You can assign any of the Samples to the duplicate of the Sample Bank, which are then played back with the preset parameters of the Sample Bank. In this way, you could program an assortment of "Template Sample Banks", which could be used as a basis for new Sample Banks. This way you do not have to go to the trouble of setting new sound parameters each time.

SMPDUMP = Sends a Bulk Dump of the selected Samples in the specified format. The "Sample Dump Standard" ("SDS") format might be of special interest, since it is accepted by most of the samplers and some synthesizers (e.g. SY99, SY85, TG500) on the market. Even the SDS sample number can be set, which can, under certain circumstances, let you avoid overwriting existing Samples on the receiving device.

Owner's Manual p. 105 - 109, 112 - 117

F3 = EASY EDIT

Using EASY EDIT you can adjust some of the most important Sample parameters at the Program level. You have already been given some basic information about the Easy Edit function in the first chapter "The Sound Structure of the A3000".
For a complete list of all "Edit Parameters" please refer to pages 119 / 120 of the Owner's Manual. There you will see that these are exactly the same parameters as you would find under "Part Parameters of Performances" or Multis in music workstations or other devicesÖ and that is exactly how they are used!
Please remember that these settings do not change the Samples themselves. They only modify the playback of the currently selected Program.
With EASY EDIT the selected Samples or Sample Banks can be edited, as long as they are assigned to the Program, i.e. "**SmpSel**" is set to **on**. For Sample Banks, the settings for all assigned Samples are valid.
Caution: Do not switch "SmpSel" to "off" in order to mute the Sample, as this will cause all EASY EDIT settings for this Sample to be irretrievably lost!
A + or - sign at the left to the value indicates that the parameters are offsets to the Sample parameters.

The command functions are the same as in the PLAY / PROGRAM page.

Owner's Manual p. 118 - 120

F4 EFFECT

EfType = This selects the Effect Type for each of the three separate effect units. In addition, you can set CONNECT to specify whether the effects will be connected in serial or parallel. Combinations of these connection types are also possible (see Owner's Manual, p. 122 / 123).

Efct 1, Efct 2, Efct 3 = If an Effect Type is set, you can select (knob 2) and set the parameters (knob 5) here.
A complete list of all Effect Types and Effect Parameters can be found in the Owner's Manual, p. 335 - 346.

In&Out = Here you can set the input and output levels as well as the Pan position separately for each of the three Effects.

EdType = Maybe you are overwhelmed by the multitude of effect parameters. If so, try setting the "EffectEditType" to "favorite". Now, on the pages Efct1, Efct 2, Efct 3 only the four most common parameters are displayed. In Favorite mode it is no longer necessary to step through the parameter list. If you ever need to set a parameter which is not included in this selection, simply push one of the knobs 2 to 5. In the subpage you can individually select which parameters are displayed.
The command functions are the same as on the page PLAY / PROGRAM.

Special Hint Ø Beat Change

The effect BEAT CHANGE should be of special interest. Unlike the other effects, this new type of effect requires a little clarification. BEAT CHANGE is comparable to the re-sampling function "Time Stretch", but works in realtime. The playback speed of the sample is changed by modifying the waveform length without affecting the pitch. This is used mainly to adjust drum loops to the song tempo. Load the Factory Disk "Drum Variations" to try out the BEAT CHANGE effect. Choose Program 002 "ModWheel" and play the drum loops assigned to the keys G2, A2, B2, and C3. Now slowly move the modulation wheel. You can hear very clearly that the loops are played back faster, even though the pitch remains unchanged. The same effect can be achieved by setting the effect parameter 1 "BeatChange(Ctrl)" manually. The range of the BEAT CHANGE effect is set with the effect parameter 2 "Beat Change" (e.g. Value 5 in Program "ModWheel"). Please don't be confused by the obvious error in the Owner's Manual (page 340): In the last sentence of the description of the BEAT CHANGE effect it says that "Beat Range" should be left at "0". This is not correct, as then BEAT CHANGE would not be effective. Instead of "BeatRange (Ctrl)" it should read "PitchChange (Ctrl)".
The question remains how to adjust the length of a drum loop to the song tempo using the BEAT CHANGE effect. As a starting point to this endeavor you can call up the Program "ModWheel". The effect parameters can in general be used without modification. Controlling the effect is done in PLAY – CONTROL (Matrix#1) and can be modified there individually. Instead of the modulation wheel (#001) any other Controller may be used, e.g. Controller #091 which is commonly used for controlling an effect. If you want to slow down the original tempo of the drum loop, you must set a negative range in the "PgmCtl2" page (e.g. Range = - 32). If you want to use your own drum loops within the Program, you would have to set the MAIN OUTPUT = EFFECT 1 the tempo adjustment can then be done within the sequencer program. In an empty sequencer track, insert a note of the length of the drum loop (e.g. 1 bar). Repeat this note several times (e.g. 32 bars). Now insert a Control Change of the same number set in the matrix (e.g. #91). Change the value of this Controller until the drum loop is synchronized to the song tempo; i.e. plays back in the intended rhythmical loop. This requires some practice. A metronome or an existing simple drum track may be helpful. To allow for more precise tempo adjustments it can be useful to set the parameter ***Range*** *in matrix #1 to a lower value, which produces finer gradations. If this still does not help, the song tempo must be changed slightly (e.g. from 120 to 120.1).*
Owner's Manual p. 121 - 127

F5 = SETUP

PgmMstr = Program Level, Transpose (globally), S / H speed (= cannot be changed on the program level)
Portmnt = Portamento Mode, Rate + Time (see *Owner's Manual* p. 130)
ADSetup / ADOut = Various parameters for programming the A / D inputs. (see *Owner's Manual* p. 130). Particularly interesting is the "MainOut" parameter: here the A / D signal can be routed to one of the effects. The A-3000 may therefore be used as an effect unit for external sources. By combining the effect and A / D parameters, the Programs can be used as effect programs. The command functions are the same as on the PLAY / PROGRAM page. Owner's Manual p. 128 - 133

F6 = CONTROL

PgmCtl1 and PgmCtl2 (knob 1), in combination with **Matrix# 1 to 4**, make up the **Controller Matrix** for the global Program parameters. It is very helpful at this point to take a look at the illustration in the Owner's Manual (page 136). The illustration shows that you can assign a parameter to each of four MIDI Controllers (or Pitchbend / Aftertouch). In addition, you can specify whether the Offset will be effective only in the positive direction or in both directions. Finally, a value range between 0 and 63 can be programmed.

On the page "**Reset**" you can specify for each MIDI channel whether the Control values are reset after a Program change (on) or not (off).

Besides Portamento, S/H Speed, AD Pan, AD Level, and Program Level, almost all effect parameters are controllable.
By controlling the A3000 from an external sequencer, you can use virtually all control change numbers. When playing the A3000 from a MIDI keyboard, all physical controllers of the keyboard (modulation wheel, pitchbend wheel, pedals, aftertouch …) and the knobs 2–5 of the A3000 are usable. For more on this topic, see the section UTILITY – PANEL PLAY.
You should be economical with the allocation of controllers though, since you will want to use these for realtime sound control, which is an equally interesting option (see section EDIT – MIDI/CTRL).

The command functions are the same as on the PLAY/PROGRAM page.

Owner's Manual p. 136 - 142

EDIT Mode

You will probably have noticed that all functions described in **PLAY Mode** refer to the currently selected Program. From that perspective you could understand Play Mode as **PROGRAM Mode**.
EDIT Mode, which we will now be discussing in greater depth, is where you edit Samples and Sample Banks. Here, the expression **SAMPLE EDIT Mode** would be even more precise.

When editing Samples, it is essential to keep track of which Sample is selected and currently being edited. This can be easily verified by pushing knob 1 (Pgm-Select page). If you also want to know whether the selected Sample is assigned to the Program, call up the function PLAY / SAMPLE (SmpSel). There you can also select Samples which are assigned to a Sample Bank, but are to be edited individually (SmpBank).
There are useful hints on this topic in the Owner's Manual, pages 145 / 146.

Special Hint Ø Selecting Sample zones via MIDI
While editing the single Samples of a Sample Bank (e.g. Multisamples or Drumkits) it would be a lot of work to have to select these again on another page. Here's a hint to help: Select the single Samples by playing the Sample zones set for the corresponding Sample on a MIDI keyboard. Proceed as follows:
On the Pgm Select page (push knob 1), set ***MIDI>Smp*** *to* ***on****. In the function* ***PLAY – SAMPLE****, call up the* ***SmpBank*** *page****.*** *Then use knob 1 to select the desired Sample Bank. Now play the keyboard and watch the display. The Sample assigned to the keyboard zone in which you play is displayed. Now select the* ***KeyRnge*** *page using the function PLAY – EDIT. This function allows you to visually confirm which Sample is selected via MIDI by watching the Orig., Low, and High keys. In this way you can select Samples for editing in any page of EDIT Mode. This is particularly useful when editing drum sets. Switch any drum track (e.g. the bass drum) to SOLO. The corresponding Sample will automatically be selected. You can now edit the bass drum while the sequencer is running. For the next drum instrument, continue in the same way.*

F1 = TRIM/LOOP

Config = With **LOCK ON** you can set the playback or loop length to a fixed length, so that changing the start address (of the waveform or the loop) also changes the end address (or vice versa). **ZERO ON** is an automatic function to select only loop addresses with zero crossings, whereas **SNAP ON** selects only loop addresses with the same level coding. Naturally, only one of these functions can be active at a time. Which of the options better eliminates the click noises at the junction point depends on the sample source material. It may be a good idea to try using both functions. **END TYPE** selects how end and loop address are displayed (see Owner's Manual, p. 163). Hint: The option "graph" gives a better overview over the Sample.

Wave = Here the **start** and **end address** for **playback** of the Samples are set. If START is set to 0 and END is set to the maximum value (by turning knob 3 to the far right) the playback addresses will be the same as the start and end point of the waveform data. With EXTRACT you can cut (i.e. delete) all waveform data before the start address and after the end address (also known as the trim function). **STEP** modifies the stepwidth of address changes. For greater changes, setting a greater stepwidth saves you from having to turn the knobs endlessly.
In the option "End Type = beat" knob 4 has a different function – it now serves as an automatic **Tempo calculation**!

Special Hint Ø Setting start and end points; Determining memory usage

For better visual control it is highly recommended that you set the start and end points of the Samples using the TINY WAVE EDITOR (see Additional Software in the appendix). If you do not have this option there are still other methods to achieve your goal.

First, to set the start address you should play notes way below the original key. The more you transpose the Sample down, the longer (and easier to hear) the delay at the beginning that you are trying to cut off.

Another method: Move the end point to the very beginning of the sample. Then, move it to the highest possible value (the latest position), where still nothing (even not a tiny click!) can be heard. Transfer this temporary value from the end address to the start address, so that both addresses are identical. Move the end point back to the maximum value. Now truncate the sample with EXTRACT. The start address is now 0. The Sample is "tight".

If you want to save memory, you should also set the end point so that no additional waveform memory is used. The correct end point depends mainly on the loop mode set for the Sample. In Loop Mode "--->0" the loop continues sounding in the Release phase. In this case the sample end point may safely be set slightly higher than the loop end point. In Loop Mode "->0->" the Release phase goes beyond the loop end. Therefore, the sample end point must not be set too early, in which case it would cut off the sound during the Release time suitable for the Sample.

For the end point of one shot Samples (e.g. drums), you can proceed as described above for the start point. This time though, bring the start point to the end of the Sample. Move the start point towards the beginning and find the lowest value (the earliest position) where still nothing can be heard. Transfer the found value to the end point and set the start point back to zero. With EXTRACT you can now truncate the Sample to cut off the very end of the waveform.

By the way, you can view the remaining memory amount in KB (UTILITY – SYSTEM). However, it is not possible to determine the memory consumption of single Samples in KB. Fortunately there is a formula to estimate: Divide the value of the end address by 50 to get the approximate value in KB.

Loop = Here the **start and end points for the playback loop** are set. Their effect depends on the set Loop Mode (see next paragraph). **STEP** and **Tempo calculation** function as described in the preceding paragraph (WAVE). **LpMonitor** is very helpful when editing loops, as pushing knob 5 plays only the loop of the Samples. Negative values (e.g. -100ms) cause the playback to begin just before the loop start point, even in the very first loop stage.

WvMode = This sets the Loop Mode (see Owner's Manual p. 169). Furthermore a velocity-dependent start address can be programmed. The sampling frequency is displayed at the right.

After **COMMAND** you can select the following command functions using knob 1:

SAVE... = The available options are the same as described in the section "PROGRAM".

REVERT = All changes to the selected Samples will be undone by loading the last saved version.

Special Hint Ø Revert function

REVERT is almost the same as the UNDO function familiar on other devices. It only works, though, if the corresponding Sample has already been saved. Because of this you should make it a habit to save your sample before executing any destructive function (loop, cut, extract, normalize, re-sampling, fade ...). "COMMAND – SAVE – Edited" is very suitable for this operation.

NORM = Optimizes the level of a Sample. Please be aware that this NORMALIZE function can also be done while recording, if the option "Auto Normalize" is selected (>REC – SAMPLE – Process). Normalizing cannot replace an optimal gain setting while recording – if the Sample was recorded at a too low level, the NORMALIZE function will "pull up" the noise level. On the other hand, NORMALIZE can in no way undo any clipping which occurred during the recording process.

RESAMPL = With **Time Stretch** the Sample will be lengthened or shortened without changing the pitch, while **Pitch Conversion** changes the pitch of the Sample without changing the playback length. Using knob 2 you can pre-audition the result.

FADE = Creates a **Fade in** or a **Fade out** for the Sample. Length and waveform can be set in advance. Please remember to save the Sample before executing in order to be able to REVERT to the original!

REVERSE = The Sample will be played back in reverse. Interesting and well-known special effect (e.g. reverse crash cymbal).

LOOPXFD = Loop Crossfade generates crossfade smoothing of the area around the loop points – this is one of the most important Sample edit functions! Slight clicks or level differences can be eliminated through this function. Since many attempts with different crossfade range lengths are usually required, you should save your Sample first to be able to use the REVERT function.

SETINIT = This stores the current SAMPLE parameters like Filter, LFO, and Envelope settings as default values for any new Samples into a special memory area. These settings are non-volatile and are not lost after switching off.

Special Hint Ø Setinit
SETINIT is very helpful if you want to record a series of Samples of one category, that have similar Sample parameters. Edit the first Sample in a way that those settings can be used as the basis for all following Samples. Then execute the command SETINIT. All following Samples will automatically receive the Sample settings of the first Sample.

This concludes the description of the COMMAND functions on the EDIT SAMPLE page. In the following additional pages of the EDIT Mode (MAP / OUT, FILTER, EG, LFO, MIDI / CTRL) only the commands SAVE, REVERT, and SETINIT are available (as described above). Therefore, the description of COMMANDS will be omitted.

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F2 = MAP/OUT

KeyRnge = Original key, The keyboard range and keyboard crossfade can be set for each Sample. While pressing and holding the knob you can input the value via MIDI IN. Keyboard crossfade is also possible for Sample Banks. In "UTILITY / SYSTEM – Display" you can specify that the corresponding MIDI note numbers be displayed (0 to 127) instead of the notes (C2 to C8).

VelRnge = Velocity Range, Velocity Crossfade and Velocity Sensitivity can be set for each Sample or Sample Bank.

Special Hint Ø Key Ranges + Velocity Ranges
*The functions **KeyRnge** and **VelRnge** can not only be used to map and edit multisamples. You can also program typical synthesizer performances such as split sounds and velocity crossfades. The Sample Banks can be used as layers.*

Lvl&Mode = Level, Pan, Poly/Mono, Porta on/off (for Samples or Sample Banks) are standard parameters that should not need further explanation. Portamento Mode and Time are set globally in PLAY / SETUP. LEVEL sets the output volume of the Samples and can be controlled via MIDI Controller #007. PAN is assigned to Controller #010.

Output = This page is very important, since here you set not only the LEVEL (volume) of each Sample or Sample Bank, but also the output assignment and at the same time the effect send. Please read the details in the chapter "The A3000 in Multi Mode".
The **Assign Outs** are always set per pair. Without an expansion board only the "AsgnOut L & R" are available. If this output is not to be used as stereo out, the selection of the MONO single outs is done by setting the pan "pots" (-63 and + 63). The same workaround is applicable when using the ASSIGN outputs 1&2, 3&4, and 5&6.

Pitch = Besides coarse and fine tuning you can choose **Fixed on** to play a Sample with fixed pitch across the whole keyboard. **Random** creates random changes of the pitch, e.g. to simulate the slight pitch changes of analog oscillators.

Expand = Here you will find some very effective stereo effects: **Detune** creates a detuning of the left against the right channel. **Dephase** selects different start addresses of the Sample for each channel. **Width** modifies the stereo spread using PAN: The lower the Width value, the narrower the spread.

Special Hint Ø Expand function
The Expand parameters offer some of the most impressive possibilities for modifying the sound of the A3000. This can be verified using a simple waveform like "Saw up" by setting DETUNE and DEPHASE to different values. This creates an effective pseudo stereo effect, in which both channels are played with different pitch and phase positions.
If you now lower the WIDTH parameter to 0 (Init setting = +63) the pseudo stereo effect changes to a typical monaural 2-oscillator sound.
The results are even more impressive if you duplicate "Saw up" and then assign the original (= first to OFF!) and the duplicate to a new Sample Bank. Then, stereo pan the original (+63) and duplicate (-63). Now experiment with the EXPAND parameters. You will be amazed at the fat sound resulting from this simple kind of sample material.

LvlScale = With **Level Scaling** you can compensate for level changes of Samples as the pitch increases.

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F3 = Filter

Filter = Here the **Filter Types** Bypass (Filter off), Low Pass 1, Low Pass 2, High Pass 1, High Pass 2, Band Pass, and Band Eliminate can be selected. For more information about the Filter types please read the Owner's Manual, p. 183.
Furthermore, the **Cutoff Frequency** and **Filter Gain** can be set. For the low pass and high pass filters **Q/Width** corresponds to the parameter RESONANCE on other synthesizers. For the filter types band pass and band eliminate, Q / Width sets the BANDWIDTH.

Special Hint Ø Filter Gain

If you like distorted or overdriven analog sounds, be sure to experiment with FILTER GAIN. The filter can be overdriven very effectively, especially in combination with Q/Width. Sensible programming is required though to avoid unpleasant side-effects.

FltSens = Sets the velocity sensitivity for CUTOFF and Q/WIDTH.

FltScale = Filter Scaling sets the relation between CUTOFF and keyboard position. A Sample which gets more and more jarring as the pitch increases can be tamed by combining Filter Scaling and Level Scaling.

EQ = This 1-band EQ does not really belong to the Filter section, since the EQ has an influence on the Sample independent of the Filter, even if the Filter is set to BYPASS.

Special Hint Ø EQ

The EQ is separately available for each Sample and each Sample Bank. In a drum set for example you can program a different EQ setting for each single drum instrument. In multitimbral use the EQ can be set for each Part (= Samples and Sample Banks), which can normally only be done with professional mixing desks.

Owner's Manual p. 182 – 187

F4 = EG

The A3000 uses the classic ADSR envelopes (Attack, Decay, Sustain, Release). For the Rate parameters, higher values produce a faster envelope transition. In the default setting all values are set to 127. This means that you must program lower values for the envelope first to get useful results. This applies mainly for the DECAY RATE: if in the AEG and with a low SUSTAIN LEVEL the decay rate is set to 127, only a short click can be heard, as the Decay Rate is extremely short.

AEG = The **Amplitude Envelope Generator** controls volume change over time by applying the ADSR envelope.

AEGMode = With **RateScl** the AEG Rates can be set to change corresponding to the keyboard position. **Vel>Rate** makes the AEG Rates depend on the velocity. **Attack Mode** changes the function of the ATTACK TIME parameter. The normal setting is "**rate**". When set to "**hold**", ATTACK TIME will no longer determine the rise time; instead, a HOLD TIME can be set during which the maximum level will be held.

Special Hint Ø Hold Time

Programming a HOLD TIME is recommended for types of Samples in which the sampled instrument has a characteristic attack phase; e.g. the initial sound of a saxophone. Without a HOLD TIME, the level would already decay during the initial sound if a DECAY TIME is set and the sustain level is lower than 127. HOLD TIME is also useful for Synthesizer sounds if no rise time is required for the sound. The important parameters FILTER ATTACK RATE and FILTER DECAY RATE can then sound at full level, while AEG DECAY allows the level to decay little or more later.

FEGRate and FEGLevel = In addition to the ADSR parameters, the Filter envelope incorporates the LEVEL parameters INIT, ATTACK, and RELEASE. The Filter envelope is only effective if **FILTER TYPE** is not set to BYPASS and **CUTOFF** is set to a value lower than 127. A setting of zero for an FEG level corresponds to the specified Cutoff frequency. The FEG Attack Level may be used in the same way as the FEG DEPTH parameter familiar on other synthesizers. With standard analog programming the other FEG levels can remain at 0.

Special Hint Ø Easy Envelope

A simple way to program a clear Filter envelope:
CUTOFF = 0, FEG Attack Level = approx. 100 (as FEG Depth), FEG Decay = 40.
Set these three parameters to the above values to create a good basic setting with a medium decay of the Filter frequency. Now start to experiment with the FEG Rate parameters ATTACK, DECAY, RELEASE and the FEG Level parameters ATTACK (= FEG Depth) and SUSTAIN, just as you would with an analog synthesizer.

FEGMode = With **RateScl** the FEG Rates can be set to change corresponding to the keyboard position. **Vel>Rate** has an influence on the FEG Rates depending on the velocity. With **AtkLvl** and **Level** you can set the velocity sensitivity for the FEG Level parameters, where **AtkLvl** is used separately for the FEG attack level.

PEGLevel, PEGRate and PEGMode = The parameters of the Pitch envelope are basically the same as the FEG and AEG parameters, but instead of filter or level they change the sound's pitch.

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F5 = LFO

Common = On this page the LFO parameters **Wave, Speed**, **Delay,** and **Sync** are set. Noteworthy here is that when you choose the Wave Type **S/H**, the speed will be set globally for the selected Program by **SETUP/PgmMstr**.

FltrMod, PtchMod, AmpMod = With **Depth** you can set the modulation depth of the Filter, Pitch and Amplitude, respectively. For Filter and Pitch, the LFO waveform can be inverted using **Phase Invert**.

Owner's Manual p. 203 – 207

F6 = MIDI/CTRL

RCh&Alt = For each of the Samples or Sample Banks, you can specify a **MIDI ReceiveCh**. However if the MIDI channels have already been set at the Program level using EASY EDIT, this parameter is not important. Using **Alternate Group** you can define up to 16 "alternate groups" for the Samples, of which only one Sample can sound at a time. This is useful with Hi Hat sounds, for example.

Special Hint Ø Setting the MIDI channel

If you are building up your own Sample library you should make a decision as to whether you want to set the MIDI channel within the Program (EASY EDIT) or within the Samples. Setting the channel within the Program is more flexible, but requires a new setting for the receive channel in each Program. Setting the channel within the Sample has the advantage that after loading from the library and assigning it to the Program (ToPgm = on) the sound can be played immediately. However, this only makes sense when the library is well organized; e.g. if all bass drums are always set to ch. 9, all HiHats to ch. 10, all bass sounds to ch. 12 etc. (see chapter "The A3000 in Multi Mode").

SmpCtl1 and SmpCtl2 (knob 1), in combination with **Matrix# 1 to 6** build up the **Controller Matrix** for the assignable Sample parameters. The principle is the same as for the Controller assignment at the Program level (described above). Please refer to the illustration in the Owner's Manual (page 210). The illustration shows that you can assign a Sample parameter to each of the six MIDI Controllers (or Pitchbend / Aftertouch) (Refer to the list in the Owner's Manual, p. 212).

Parameter changes via controller are always relative to the specified parameter value (offset). By setting the **Type** you can determine whether the change is allowed in both directions (-/+offset) or in only one direction (+offset). **Range** specifies the effective range of the parameter change via controller. Since negative values are also possible, "+offset" lets you decrease the parameter values.
It is recommended to set the Controller Matrix in such a way that the effect is compatible with XG synthesizers. To produce this behavior the -/+offset should be set using a range of +63. The controller value 64 in this case is equal to the specified parameter value. If CUTOFF is set to 64 for instance, the controller controls the full range of the parameter. Setting CUTOFF to 32 means that nothing happens below a controller value of 32. If CUTOFF is set to 0, only values from 64–127 are effective.

If you are controlling the A3000 from an external sequencer, you can use virtually all control change numbers. However, the Controllers #007 (Volume) and #010 (Pan) do not need to be set, since these are not dependent on the Controller Matrix and are therefore always available. Apart from that, all physical controllers of the controlling keyboard (Modulation wheel, Pitch Bend wheel, the pedals, Aftertouch…) and the knobs 2–5 of the A3000 are at your disposal. For details, please read the section UTILITY – PANEL PLAY.
Furthermore, the Controller Matrix is factory-set to the following values:

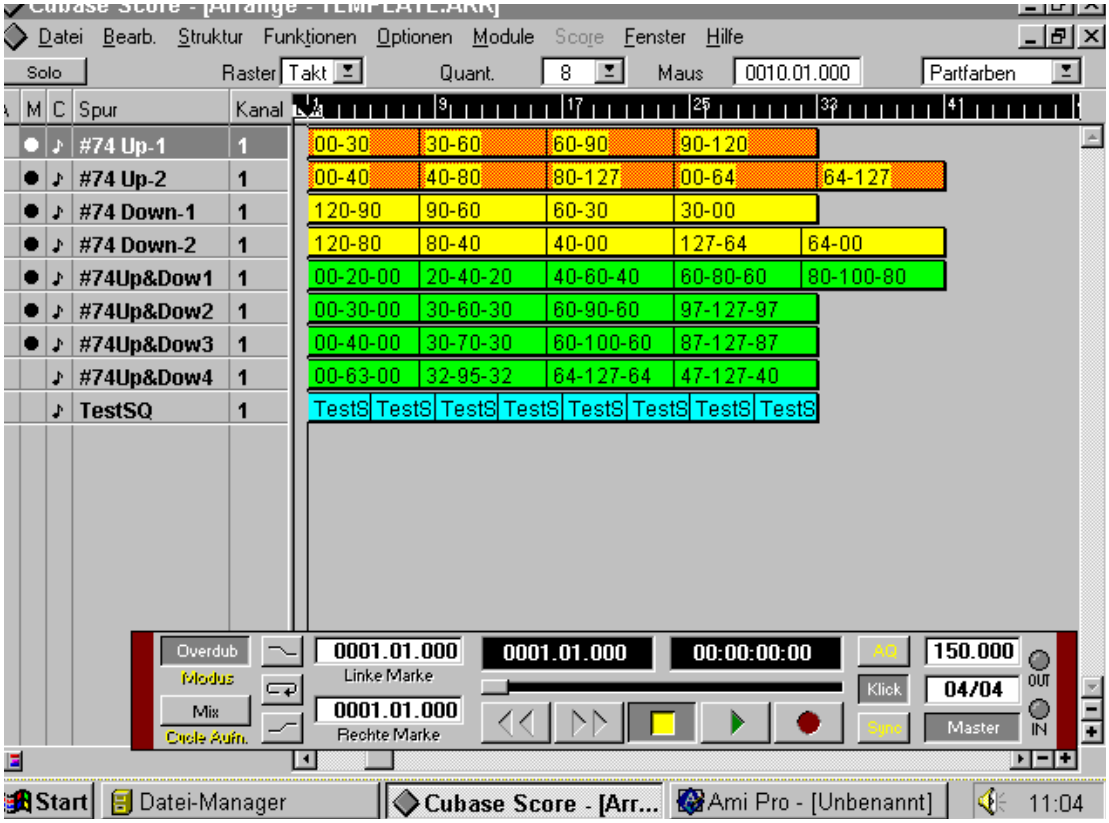
Matrix 1 = Control # 74 = Cutoff Bias	(knob 1)
Matrix 2 = Control # 71 = FilterQ / Width	(knob 2)
Matrix 3 = Control # 73 = AEG Attack	(knob 3)
Matrix 4 = Control # 72 = AEG Release	(knob 4)
Matrix 5 = not assigned	
Matrix 6 = not assigned	

In the above table, the standard assignments for "Knob Control" are added in parentheses, and are ready to be called by the ASSIGN key. This assignment is made by UTILITY – PANEL PLAY – Knob Set. Thus, for a new program the above parameters (following ASSIGN) can be instantly controlled with the knobs. Controllers #74 and #71 can however only be effective if FILTER TYPE is not set to BYPASS.
To be able to keep track of things, it is recommended that you leave the basic setting as is and assign only Matrix No. 5 and 6 individually.

Vel&PB = VelLow sets the minimum velocity for a Sample. Notes with lower velocity will be played with the set minimum value. With this parameter you can stop weak notes from disappearing. **VelOfst** adds an offset to all received velocity values. With **PB Type** and **PB Range** you can program different operational modes and the effectiveness of **Pitch Bend**, changing these from the standard setting.

Special Hint Ø Cutoff Control for Samples with Filter Envelope
Control of the cutoff frequency using Control Change can extend over several notes or bars when using sequences (e.g. bass lines or arpeggios). This can lead to problems if a Filter Envelope is programmed for the corresponding sound. If controller events (#74) are received while a note is being played, the envelope is interrupted, causing sudden changes in the middle of the sequence. In this case it is important that the controller events be placed in time between NOTE OFF and NOTE ON. However, to do this manually is nearly impossible (by using the knobs on the A3000 or the fader controls provided in sequencer programs). Therefore, for Samples using the FEG, continuous changes to the cutoff frequency should be programmed within the sequencer by inserting a controller event #74 shortly before each note. Depending on the functionality of the sequencer program this can be a very time-consuming task. An easier way to do this is to use the CONTROLLER TEMPLATES on the included QUICK DISK, where different controller movements are pre-programmed in steps of 1/16th note. The controller events have been inserted shortly before each 1/16th note.

Fig. Controller Events as CUBASE Arrangement



The Controller Templates can best be used if the Controller Matrix is set to an XG compatible -/+ offset range of +63. In some cases, you will need to increase or decrease the CUTOFF frequency of the Sample.

In the above illustration you can see the value ranges of the controller events (#074 = Cutoff) which are traversed during the 8 bar parts. For example, the part "00–30" contains a sequence of controller events (#074) of the value range 00 to 30 with all intermediate steps.

If you are not working with CUBASE or LOGIC, and load or important the Templates as MIDI files into your sequencer program, the illustration will be helpful only as an overview, since in this case the tracks will not divided into parts.

The "TestSQ" in the last track can be used to test the Controller Templates. For this test please load the "XMPMulti" (also included on the QUICK DISK) into the A3000.

The effectiveness of the Controller Templates will depend on the CUTOFF setting for the corresponding Sample Bank, which should be modified if necessary.

The controller parts overlap, since the first controller event must be placed slightly ahead of the actual bar range (see above). The first event of the Template "30–60" is already located in the last quarter of the 8th bar, even though this Template is intended to control notes in the area from bar 9 to 16.

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RECORD Mode

F1 = RECORD

Following Record >GO, a Record Standby display (Waiting trigger...) appears. Sample recording is triggered automatically by the input signal (Trigger) or manually by using >START. Sample recording can be stopped in the same way: either automatically when the input signal falls below the trigger level, or manually by using >FINISH. You can also use >ABORT to cancel the recording.

With >OPTIMIZE, the Samples residing in memory are re-arranged to eliminate the spaces between adjacent Samples. This will increase the available maximum recording time for new Samples.

Owner's Manual p. 223 – 226

F2 = SETUP

This function is used to set the default settings for newly recorded Samples. There are 5 pages:

RecData = Input selects the signal source for recording: **AD L** (Input L), **AD L/R** (Input L + R), **STOut** (re-sampling = the A3000 records its own Stereo Out signal), **DIGITAL** and **OPTICAL** (which are only available with the AIEB1 expansion board). For stereo Samples, in addition to selecting **AD L/R,** you must also set the **SmpType** parameter to **Stereo**. Otherwise both input signals will be mixed to one MONO Sample. In most cases, the **Sampling Frequency** setting can be left at **44.1k**.
When triggering automatically, it is strongly recommended that you specify a **Pre Trigger Period**. The recording will then have already begun before the trigger level is reached, which avoids cutting off the beginning of the attack of the recorded sound. However, this does require that you later specify an accurate startpoint, so that the Sample does not start delayed.

Target = Select one of three recording methods: **Replace** overwrites the currently selected Sample, but keeps the parameter settings. **New** records a new Sample. **New+** records a series of new Samples; i.e., after recording, the A3000 remains in Record Standby and will wait to record the next Sample.
If you push knob 3, the page for naming the current Sample will be opened. When recording a Sample series (New+) the A3000 automatically appends incrementing numbers to the name.
If you set **ToPgm = on**, all new Samples are automatically assigned to the current Program.

KeyRnge = Original key **(OrigKey)** and keyboard position **(Low – High)** can be set before recording the Samples and, in REPLACE mode, are maintained for the next recording. When the knob is pushed and held the values (keyboard notes) can be entered via MIDI.

Trigger = For starting and stopping the recording process, you can specify whether the triggering will be automatic (**SrcIn** or **SrcOut**) or manual (**ManOnly**).

Process = If **Auto Normalize** is set to **on**, each Sample will automatically be normalized directly after recording, i.e. processed to the highest possible volume below clipping.

Owner's Manual p. 227 – 235

F3 = Meter

Meter = This is the level meter for recording the Samples. **RecLevel** can be set here only when recording from the **Stereo Out** (re-sampling). Otherwise the recording level is set using the control **REC VOL**.

TrgLvl = SrcIn sets the trigger level required to start recording, **SrcOut** sets the trigger level to end recording. Both values are only effective when SETUP – Trigger is set to "ScrIn" or "SrcOut".

Owner's Manual p. 236 – 237

F4 = Effect

The A3000 allows you to route a sound through the effects processor before recording. The signal is then sampled together with the effect sound. The recording effects section differs only slightly from the effect functions described in PLAY mode.
The most important parameter is **RecEfSW**, which switches the recording effect function on or off. Naturally, only serial routing is available.
When recording from the A3000 Stereo Out (re-sampling), no recording effect can be applied, for an obvious reason: The recorded signal runs through the effect processor before the sampling input. Therefore, when re-sampling, you can set the effects in PLAY mode.

Special Hint Ø Re-sampling
It may be very tempting to add effects to the sound being recorded in order to make the effects section available for other tasks. In most cases however it is best to record without the effects, or at least to record an additional version without any effects. The reason for this is simple: You would never be able to revert to the original version. If you later intend to use the Sample without the effect, the basic sound may no longer be available. In addition, Samples with effects are more difficult to loop.
Another, more useful, method: Always record without effects. When needed, use the RESAMPLING function to re-record the Sample (via Stereo Out) together with the effect settings used (in PLAY mode), say, for your current production. If you record the Sample with approximately the length needed for the song, you will not have to loop again. Furthermore, creating a good loop for a stereo sound recorded together with an effect would be far more difficult than for the original sound. With this approach you can dramatically increase the effects available for a single production – within the bounds of the memory capacity of your Sampler.
Above all, drum sounds are perfect for this procedure, as well as sounds that are played in only a small keyboard range. Less suited are complete Sample Banks containing many single Samples.

Owner's Manual p. 238 – 240

F5 = EXT CTRL

This function enables **recording of audio CDs inserted into an external CD ROM drive (SCSI)**. To do this, the Analog Output (or Audio Out) of the CD ROM drive must be connected to the Stereo Input of the A3000. In addition the SCSI ID of the CD ROM drive must be set. From within the **CD-DA** page, specify the track and index numbers and use >PLAY to start the CD playback. The PLAY function serves only to monitor the sound and to set the recording level for the CD tracks. After setting the required defaults (Meter, Trigger Src in + out, Trigger Level, Pre Trigger, Auto Normalize, etc.), select RECORD > GO, which starts the CD track and the recording process at the same time (after the trigger level is exceeded).
If the track is not to be recorded from the very beginning, you must select manual triggering ("Start by = Man only"). After starting the CD track using RECORD > GO, use >START to begin recording at the desired time.

Special Hint Ø Recording a series of Samples from a Sample CD
*If you want to record several tracks or several sounds of a track you can also start a recording series. On the Target page, set the parameter "Sample" to "**New+**". However, the parameters Scr Level and Pre Trigger must be very well adjusted to allow serial recording to work perfectly. With some practice, this will save you much time and effort. After starting the recording, this "Auto Sequential Recording" automatically creates a series of single Samples. Naturally, this feature not only works with Sample CDs inserted into a CD ROM drive, but also with a consumer audio CD player. Try it!*
Another hint: If you want to record a Multisample, or several Samples of a sound category in series, it is very helpful to enter a name first (e.g. Bass) on the Target page. Then, for each Sample, incrementing numbers will automatically be appended to the name (e.g. Bass 1, Bass 2, Bass 3 etc.).

Owner's Manual p. 241 – 242

F6 = MONITOR

Monitor = When the Monitor function is switched on, the input signal will be routed to the selected **Output** (with adjustable **Level**) and can be monitored before and during the recording process.

Click = This activates a **Metronome** for recording to a click. Naturally, the metronome should not be used when recording via microphone.

Owner's Manual p. 243 – 246

Disk Mode

The concept of the A3000 includes the idea that all the **Save Functions** can be found where the corresponding objects (Programs, Samples, Sample Banks) are edited, namely in PLAY mode, in EDIT mode and in RECORD mode. The corresponding SAVE functions have already been discussed in the PLAY mode section (page 8). Therefore, you do not have to change to DISK mode to save your current working progress.
DISK mode contains all **Load Functions** and all other DISK-related operations such as **Deleting, Formatting, Copying, Importing** etc.
If you have connected additional internal or external drives (e.g. a SCSI drive), you must select the DISK and the VOLUME before attempting to load (see F4 and F5).

F1 = Program

This function is used exclusively for loading one or all Programs together with the assigned Samples.
Directly from within the **PgmLoad** page, you can use **>Load** to load single Programs which have the same Program number both in memory and on disk, i.e. Program 001 to 001, 002 to 002, etc. With **>All**, all Programs of the selected Volume are loaded, completely overwriting Programs residing in memory.
If you want to load Programs to any desired Program memory location, first go to the **PgmLoad** page and select the Program to be loaded. Then press **COMMAND** and set the destination memory position using knob 3. Confirm your selection using knob 1.

Owner's Manual p. 259 – 260

F2 = SAMPLE

Here you can load individual (<Load) or all Samples (>All).
When loading from **SCSI disk**, after selecting a Sample you can **audition** the sound using **AUDITION**. With **COMMAND >DELETE** you can delete single Samples.

Owner's Manual p. 261 – 263

F3 = SEQUENCE

SeqLoad loads single sequences.
COMMAND calls up a function to delete sequences.

Owner's Manual p. 264 – 265

F4 = VOLUME

From within this page you can **select** (by turning knob 2), **name** (by pushing knob 2), **load** (>LOAD) or **create VOLUMES** (>NEW). The last option applies only for SCSI media, since floppy disks can only contain a single Volume, which is automatically created by the A3000.
All functions refer to the drive selected with DISK.
COMMAND calls up a function to delete Volumes.

Owner's Manual p. 266 – 267

F5 = DISK

Disk = Here you can select a drive or a partition, which is a precondition for all load operations in DISK Mode. A SCSI drive can be subdivided into PARTITIONS which are then treated as autonomous drives.

Config = After connecting SCSI devices (hard disk drive, MO drive, CD ROM drive, …) and selecting the correct SCSI ID, **Config** is used to monitor the connection status of each device. With **Mount = on** the SCSI device will be mounted for use with the A3000.
For connecting SCSI devices please read the relevant section in the appendix of the Owner's Manual, page 328.

SelfID = This sets the SCSI ID of the A3000 itself as a SCSI device.

COMMAND functions:

FORMAT = Fast formatting of the drive of the selected ID and partitioning to up to 8 partitions of equal size (max. 512MB each). For example when formatting a 540 MB drive, you must specify at least 2 partitions.
The fast formatting works only if the disk drive has already been formatted for the A3000. For new disk drives or drives that were used with other systems, physical formatting (**PHYS-FMT)** is required.
With **PART-FMT** you can format single partitions.

FD-FMT = This command formats HD or DD disks **(Type)**. The A3000 uses a DOS-compatible disk format. However for save operations, even pre-formatted DOS disks must be formatted again using the A3000.

Owner's Manual p. 252 – 258 and 268 – 271

F6 = IMPORT

Using the IMPORT function you can load Samples that have not been saved in the A3000 format. Standard MIDI Files (SMF) can also be imported.

ImpSmp loads **single Samples** of Akai or EMU formats, either from disk or from CD ROM. Please be sure to set the DISK (and PARTITION, if applicable) and the VOLUME correctly when loading from CD ROM.

With **ImpVce** you can load **complete Programs** in Akai or EMU formats. The Program appears in the A3000 as a new **Sample Bank.** The mapping will be taken over; only the sound parameters such as envelopes and filter must be set anew. Stereo Samples are recognized and managed as such by the A3000.
Import Othr = With this function, Samples in **TX16W, AIFF, and WAV formats** can be loaded from MS-DOS disks (HD or DD). The disks must not be formatted in the A3000. If any problems occur you should check whether the file name extension is correct (see Owner's Manual p. 276). Naturally, the imported Samples are available as A3000 Samples and not as sequences (comp. Owner's Manual p. 272).
In the A3000, **imported Samples** are managed like new Samples. Therefore you must at least set the following parameters if you do not want to hear the raw sound only: ToPgm switch, key ranges, output assignment (Stereo or Effect 1, 2, 3), MIDI Channel.
You can also load **Standard MIDI Files (SMF)** from MS-DOS disks with this function. After loading, these files are available as **SEQUENCE**s. More about this topic in the section UTILITY – SEQUENCE (page 27).
Owner's Manual p. 272 – 277

UTILITY Mode

F1 = TOTAL EQ

This 4 band EQ globally tailors the stereo output signal.

Owner's Manual p. 287 – 290

F2 = PANEL PLAY

In this function, you can use knobs 2 to 5 as MIDI Controllers and the function keys as a MIDI keyboard for six notes. The settings are global and remain in memory even after switching off, and are not saved with the current VOLUME.

KnobCtl = When selecting this function, the LEDs above the knobs 2–5 will blink indicating that the knobs can be used to send Controller data. Incidentally, this can be done from within any function using the ASSIGNABLE key if the default setting for the ASSIGNABLE key has been left at its factory setting. However, unlike when using this page, using the ASSIGNABLE key does not allow you to view the current settings of the MIDI channel and the Controllers.

KnobSet = For each knob, three parameters can be set: **Ctrl on/off** or **Step-1**, **Step-2**, and **Step-3** allow different resolutions, which also means faster changes of controller values. **T-ch** specifies the MIDI channel on which the controller values are sent. **Device** assigns a controller number to the knob.

FKeySet = A note (including MIDI channel + velocity) can be assigned to each of the function keys. In a sense, this creates a sixfold AUDITION function which, however, is only active if the ASSIGNABLE function in UTILITY – SYSTEM is set to "FKey Play on/off" and the ASSIGNABLE key is pressed. This function comes in handy when a MIDI keyboard is not within reach of the A3000 and you need to audition Sounds.

Special Hint Ø Realtime control

The result of adjusting the controllers with the knobs depends on the actual settings in the PROGRAM. With the factory defaults, the Controller Matrix settings for each Sample (EDIT – MIDI/CTRL) correspond to the KNOB SET in UTILITY – PANEL PLAY, as can be seen in this chart:

Knob 2 = Device 074	*MIDI-Ch. 1*	*Matrix #1 = Device 074*	*function = Cutoff Bias*
Knob 3 = Device 071	*MIDI-Ch. 1*	*Matrix #2 = Device 071*	*function = FilterQ/Width*
Knob 4 = Device 073	*MIDI-Ch. 1*	*Matrix #3 = Device 073*	*function = AEG Attack*
Knob 5 = Device 072	*MIDI-Ch. 1*	*Matrix #2 = Device 072*	*function = AEG Release*

By using these basic default settings, you can control the parameters Cutoff Bias, FilterQ/Width, AEG Attack, and AEG Release using knobs 2–5. If you want to control other MIDI channels, change ***T-ch*** *in the* ***KnobSet****. If you want to control other parameters you can simply change the* ***function*** *in the Controller Matrix. This will let you control another parameter using the same controller. For greater clarity, it may also be appropriate to select another controller number, which must then be corrected in the Knob Set.*

You may also want to control an effect parameter using a knob. In this case you must bring the ***Knob Set*** *in line with the Matrix in PLAY – CONTROL. There the controller numbers 91, 93, and 94 are offered as basic settings for the effects 1, 2, and 3. For example to control parameter #1 of effect #1 using knob 2 using the above method, the settings must be as follows:*

Knob 2 = Device 091 MIDI-Ch. 1 (PLAY-) Matrix #1 = Device 091function = EF1- 1:....

BasicCh *is used as the MIDI channel for controlling the effect parameters (normally Ch. 1). The controller data generated by the knobs will of course be sent via MIDI OUT and can therefore control other synthesizers, or it can be used to record controller movements in a sequencer program.*
Routing the controllers through an external sequencer has an obvious advantage: You can set the MIDI channel within the corresponding sequencer track instead of having to change the Knob Set over and over again.

Owner's Manual p. 291 – 295

F3 = SEQUENCE

SeqSel = Here the sequences recorded in the A3000 can be selected, loaded as a sequence or imported as SMF, and renamed. To record a new sequence you must create a new sequence using NEW.

Play&Rec = The sequence set in the last page can be played (PLAY) or recorded (RECORD). The RECORD function is not intended to record Songs; however, it can serve as a musical notebook or for testing Samples without an external sequencer.

COMMAND-functions:

SAVE = the Commands here are the same as discussed in the section "PROGRAM". Additionally, the Type "Seq" can be chosen to save the currently selected sequence.

Delete = This deletes either the currently selected sequence, or all sequences.

Special Hint Ø The A3000 as a MIDI File Player
Hiding behind the inconspicuous function SEQUENCE PLAY is a full-featured MIDI File Player with many possible applications. If for example you are working with conventional GM or XG songs after importing these as SMF files (see above), you can play them back as sequences and control any GM or XG sound module.
In the same way you can create your own songs (or edit existing ones) using an external sequencer and control the A3000 multitimbrally (see chapter "The A3000 in Multi Mode"). After finishing the song, save it as "SMF – Format 0" on an MS-DOS formatted floppy disk and import the song into the A3000. Now you can play back the song using SEQUENCE PLAY from within the A3000, without depending on an external sequencer.
IMPORT of the Standard MIDI Files needs only be done once. After that, the imported songs can be managed as sequences within the A3000, which does however consume parameter memory (see display of the remaining memory in "UTILITY – FreeMem"). The maximum is 376 KB, which should be sufficient for several songs. However, please bear in mind that an A3000 sequence imported as SMF uses much more memory then it would in its original state.
Sequences can be saved and loaded ***individually*** *or as part of a* ***VOLUME****. Furthermore, the load option "All Sequences" is available, which (for example) allows you to load another set of 3–4 sequences after deleting the sequences residing in memory using the command "Delete All Sequences".*
If you want to use the A3000 as a MIDI file player to control XG/GM sound modules, you can create a separate hard disk partition with several Volumes containing sequences only. After selecting the Volume using ***DISK – SeqLoad >All,*** *the sequences can be loaded very quickly. The sequences can be saved using the command* ***SAVE ALL (wipe)****. However, no Samples should be in memory at that time.*

Owner's Manual p. 281 – 283, 296 – 297

F4 = MASTER

Tuning = This sets the overall tuning in semitone steps (Coarse) or in cents (Fine).

StOut = The stereo output signal can additionally be routed to the Assignable Outputs or to the DIG&OPT outputs. Furthermore, the total level of the stereo output can be raised by up to 24dB.

Owner's Manual p. 298 – 299

F5 = SYSTEM

Keys = This defines the operation of both the ASSIGNABLE key and the AUDITION key. The ASSIGNABLE key can be set to either DAMP (completely mute the sound output), CONTROLLER RESET (reset all Controllers), KNOB CONTROL ON / OFF (see above) or FKEY PLAY ON / OFF (see above).
The AUDITION key can be set to **normal** (a note is played only while the key is held) or **toggle** (playback starts on first press & stops on second press).

Display = Determines whether note values are shown as names (name) or as MIDI note numbers (number).

Page = With **atModeChange** you can choose whether the A3000 will always select the first function (1st Function) or the last selected function (Last Function) when the mode is changed. With **atFuncChange** you can choose whether the A3000 will always display the first page (1stPage) or the last selected page (Last Page) after the function is changed. Factory-set defaults are "Last Function" and "Last Page".

FreeMem = These are the amounts of free memory space for both the waveform memory (Wave) and the parameter memory (Param).

COMMAND functions:

SAVESYS and LOADSYS let you save and load the system parameters for each floppy disk or hard disk partition. The system parameters include all parameters of the UTILITY functions TOTAL EQ, MASTER, SYSTEM, and MIDI.
The system parameters are retained even when the unit is switched off.

Special Hint Ø Restoring the system settings using Factory Reset
The most simple way to reset the system settings to the factory-set default values is FACTORY RESET. This is done by pressing and holding the FUNCTION KEY 1 (PLAY – PROGRAM) and the COMMAND key while switching on the unit (the number of the software version will be displayed). Using knob 1, select the display "18: FACTORY SET", press knob 5 (MANUAL) and confirm with YES. Then, select the EXIT page using knob 1, and press knob 5 (MANUAL) + YES to put the A3000 in normal operating condition.

Owner's Manual p. 284 – 285, 300 – 304

F6 = MIDI

Receive = The BasicCh (normally MIDI channel 1) is used mainly for the controllers specified in the Program (PLAY – CONTROL) and for program changes. In addition, Samples can also be played on the Basic Channel.
Omni, aside from rare situations, should **always be set to off**.
The reception of program changes can be disabled by setting **PgmChange = off**.

Adjust = With TRANSPOSE, the received MIDI notes can be transposed in halftone steps. In contrast to the function MASTER TUNING – COARSE, this does not change the pitch of the tone generator itself.
With **VelocityCurve**, different velocity curves or a Fixed Velocity can be set for incoming MIDI note data.

RcvFlt = This is a MIDI Receive Filter for Controller, Aftertouch, and Pitch Bend data.

Bulk = Protect on disables the reception of Bulk data. If, for example, a **MIDI Sample Dump** is to be received from a computer or another sampler, **Protect** must be set to **off**.
The **Device#** sets the device number of the A3000. Setting a value other than **all** is useful only if you are working with several A3000s.

COMMAND functions:

With **ALLDUMP** either the complete memory contents (all) or only the system data (system) can be sent as a MIDI Bulk Dump. In view of the enormous amount of data used by Samples, dumping the complete memory contents is not recommended.

Owner's Manual p. 286, 305 – 310

The A3000 in Multi Mode

Introduction

This chapter discusses the multitimbral use of the A3000, particularly regarding complete Song productions.
The first thing to note is that there is one essential difference between the A3000 and other synthesizers or workstations: There are no Multi Parts, to which Voices or Programs can be assigned. Instead, all Samples and Sample Banks residing in memory are available as "Parts" which have their own MIDI channel; they can be played immediately after being assigned to a Program (ToPgm = on).
This structure is similar to that of the Akai S1000, where any number of Programs of the same Program number can be used multitimbrally when set to different MIDI channels.

What are the **peculiarities of the A3000 regarding multitimbral usage**?
On the A3000, the relocation of Multi settings to the external sequencer (as seen on newer YAMAHA synthesizers) is fairly limited.
The difficult and complex procedure of selecting sound programs for each MIDI channel via Bank/Program Change commands does not apply here, since the assignment of the sounds (Samples and Sample Banks) to MIDI channels is done by the settings within the Program or the Sample.
In addition, the number of usable MIDI controllers is small enough to keep track of things. Besides the standard controllers #007 (Volume) and #010 (Pan), six freely selectable controllers for controlling assignable sound parameters are available for each Sample. Furthermore, up to four effect parameters for each Program can be controlled via MIDI controllers. On the A3000, in contrast to say XG synthesizers, the controllers are not likely to be used as Setup data for sound settings rather than for mixing functions (Volume/Pan) or for realtime control (parameters of the Controller Matrix).
On the A3000, it is not recommended that you use System Exclusive messages to control sound parameters. Since the object to be changed must first be selected for each parameter change, programming SysEx data is much more complicated than with XG synthesizers.
It is true that dumping all Program, Sample, and System data to the sequencer is possible on the A3000, but considering the large amount of data to be transmitted for the Samples, this approach does not seem useful.
Conclusion: On the A3000 it makes little sense to try to transfer as much sound control data as possible into the sequencer to be able to play back songs independently of the current memory contents. Instead you should save a Program (including the Samples) for each of your songs. Assuming the internal wave memory is large enough, you could create common Volumes, each of which contains the data for several songs. One Program should be created for each song, which can then be switched via Program Changes on the Basic Channel (UTILITY – MIDI) from within the sequencer.
If you find it important to manage songs and sound data as a whole, there is yet another solution: In your external sequencer, save your finished song as a STANDARD MIDI FILE (SMF – Format 0) on a floppy disk which you have pre-formatted on the A3000. Load this SMF into the A3000 sequencer (DISK – Imp Other) and save the corresponding A3000 Program together with the Song (which now resides in memory as a SEQUENCE) into a common VOLUME (COMMAND – SAVE ALL – wipe). This can be done for several songs and Programs residing in memory at the same time. Using this method, you even can play back your songs independently of the external sequencer.

Organizing Multis

If you intend to use the A3000 for complete song production, you should clearly organize the Samples and Sample Banks within the Program. It is easy to lose track when many Samples are loaded. Please do use the **Sample Sort function** to create the same clear order within your A3000 Program that can be achieved in a Multi of a workstation with a Part type structure. Following below is a description of how to accomplish this.
Please begin by loading the Volume "**XMPMULTI**" on the supplied disk into the A3000. In this "Example Multi" (Program 1), MIDI channels 1 to 16 already contain one sound each. Crucial for the clarity of this Program is the fact that the names of the Sample Banks correspond to MIDI channels (e.g., 01 Arpeggio = MIDI-Ch. 1). In the "SmpSort" page, settings have been made so that the Samples and Sample Banks assigned to the Program are shown first (Pgm = top) and that the names are sorted in a forward direction (Name = forward). The Samples contained within Sample Banks are not displayed (InBank = hide).
The 16 sounds contained within the Program are organized as **Sample Banks** without exception. This principle has also been obeyed for sounds comprising of one single Sample, e.g. for drum instruments with their own MIDI channel. This has a definite advantage: The parameter values of the Sample Bank (e.g. MIDI channel, Level, Pan, Output, EQ…) are maintained even if another Sample is assigned to the Sample Bank. You can, for example, exchange the Sample assigned to the Sample Bank "11Snare" at any time without having to set the playback parameters again.
The **Drums** have not been combined into a complete set and set to MIDI channel 10. This would be possible though, since single drum instruments in a drum set programmed as a Sample Bank can still be individually edited as Samples. However, editing is less comfortable than direct editing of Sample Banks which have their own MIDI channel. Another advantage is that drum sounds which have their own MIDI channel can better be configured for Controller response. Volume, pan, and other parameters of (say) a bass drum, hi-hat, snare etc. can be controlled individually on a MIDI mixer, depending however on the programming of the Controller Matrix.
It does seem sensible however to combine some of the drum instruments, especially considering the maximum number of 16 MIDI channels: hihats, toms, cymbals, percussion can easily be combined into one Sample Bank each.
For bass drums, which are usually exchanged frequently, it can be useful to map several “kicks” in different transpositions (e.g. C1, C2, C3, C4...) within the corresponding Sample Bank. This allows the selection of several bass drums, which in addition can be played at differing pitches.

These considerations may seem somehow complex and confusing. Bear in mind though, that a well-designed organization saves much work and “grey matter” in the long run, particularly in multitimbral situations. You may use the supplied **XMP Multi as a working basis for your own work** – as an "**Initial Multi**" so to speak. Due to the limited capacity of the floppy disk (1.4 MB) the synthesizer and drum sounds have been kept rather small. The demo song "Satellite" however is a good example of what is indeed possible with this Multi (UTILITY – SEQUENCE – PLAY).
Try working with this Multi simply by playing the 16 sounds in turn. The sounds can be selected by selecting MIDI channels on your keyboard (Transmit Ch.) or on your sequencer (MIDI Ch. of the selected track).

Below you will find an overview of all sounds combined in the XMP Multi. The sound-to-channel assignments follow the track assignments of the diverse Style Packs for YAMAHA synthesizers, in which MIDI channels 9–16 are reserved for the "backing tracks".
Fig. 3 = XMP Multi

Sample Bank	MIDI channel	Sound
01 Arpeggio	1	Analog Synth for arpeggios
02 Leadsyn	2	Solo synthesizer
03 Melody	3	Piano-like melody sound
04 VC-SAT	4	Sound effect
05 Mezzo	5	Sequencer Synth
06 Sweep	6	Synthsweep
07 Percusyn	7	Percussive Synth
08 Percussion	8	Drum Percussion
09 Bassdrums	9	4 Bassdrums
10 HiHat	10	Closed + Open Hi Hat
11 Snare	11	Snare drum
12 Bass 1	12	Synth bass 1
13 Bass 2	13	Synth bass 2
14 SQ	14	Sequencer Synth
15 Softsyn	15	Soft synthesizer sound
16 Synstrings	16	Synth String ensemble

Next you can modify some parameters of these sounds to your own preferences. This can most easily be done using the EASY EDIT function. Here the Sample Banks of the current Program are modified.
Using knob 1, switch between the **EASY EDIT** parameter display and the **Program/Sample Select page**, in which you can use knob 2 to select Sample Banks 1 to 16 for editing. You will use these two pages very often during the production of sequencer songs.
Selecting single Sample Banks for editing can also be done automatically via MIDI during sequencer playback. However, this only works if the corresponding sequencer tracks are played back SOLO. To do this, simply set the parameter **MIDI>Smp** to **on** (Pgm-Select page = push on knob 1). If for example MIDI events are received on channel 9, the Sample Bank set to MIDI channel 9 will automatically be selected. However you must be careful: as soon as the sequencer track is no longer set to SOLO, the selection is canceled. If you want to make certain settings while hearing other tracks at the same time, you must switch **MIDI>Smp** back to **off** and select the Sample Bank manually, as described above. Experience shows that it can be worthwhile to change frequently between manual and automatic selection, depending on the situation. This is because it is a professional working method to switch back and forth between SOLO and MIX as you edit tracks.

Another hint for **LOGIC** and **CUBASE** Users **(PC/MAC)**: On the QUICK DISK you will find an **Environment** or **Mixer-Map**, with which you can control the following parameters for each MIDI channel: Volume, Pan, Cutoff, Q/Width, AEG Attack, AEG Release. The faders work if the factory-set values of the Controller Matrix have been kept and FILTER Type is not set to BYPASS. Furthermore, some faders for Controllers 91–94 have been created to change the effect parameters assigned in PLAY – CONTROL. In LOGIC the CABLES from MODEM OUT must be re-routed to the SEQUENCER INPUT if fader movements are to be recorded.

Effects and their Effect

Part of the Multi are the global effect settings and the effect routing. But first, let's highlight some "effective" features found at the Sample level (EDIT), which practically double the number of available effects to six, compared to other units:

Sample / Sample Bank	Effects processor
Expand (Pitch Change)	**Effect 1** (e.g. Sympho, Phaser, Flanger)
EQ	**Effect 2** (e.g. Reverb)
Filter Gain (Distortion)	**Effect 3** (e.g. Delay)

You can see that in addition to the 3 effects (to the right) the "pseudo effects" EXPAND, EQ, and FILTER GAIN are available for each Sample. These will be discussed briefly.

Expand

You can find EXPAND in EDIT – MAP / OUT. The function has been described in detail in the EDIT Mode (page 13). The possibilities of the parameters DETUNE, DEPHASE, and WIDTH are the same as for the PITCH CHANGE EFFECT and can be used to replace a CHORUS effect.

EQ

This 1-band EQ can increase the transparency of any sound by raising (or lowering) the level of a selectable frequency. On most other synthesizers or workstations one of the effects must be sacrificed in order to equalize a sound.

Filter Gain

Overdriving the filter with high GAIN values can produce a Distortion effect approaching (or even surpassing; e.g. for TB303 bass sounds) the possibilities of an effects processor.

We are pleased to say that using Expand, EQ, and Filter Gain, the sound of a Sample can already be manipulated in many ways before passing to the actual effects section. This is done at the Sample level on the page "EDIT – MAP / OUT – Output" or at the Program level in EASY EDIT.
In MAIN OUT you can specify whether a Sample is played back dry (STEREO OUT) or through the EFFECTS 1, 2, or 3. This does not implicitly mean that only one of the three effects can be used per Sample at a time, since in the "EfType" page the 3 effects can be connected either in serial or in parallel. You can even combine the two (see Owner's Manual, p. 122 / 123).
It follows therefore that with a serial connection, the MAIN OUT setting does not define the effect which is specified for the Sample, but rather the point at which the sound is routed through the effects processor.

The lack of an **Effect Send Level** is the cause of many headaches in multitimbral applications, since this is something which is obviously needed for a professional sound mix. The MAIN OUT LEVEL determines the level at which the Sample signal is sent to the effects processor, but also determines the total volume of the Sample. A possible solution: Use the **stereo output (Main out)** solely **as an EFFECT RETURN**. In other words, the effect parameter "Dry / Wet Balance" would have to be set to D>W63 for all Effect Types, so that no dry signal is fed to the stereo output. The

Main out Level can now be used **as an Effect Send Level**. The **AsgnOut L&R** (or additional single outs) is used for the mixdown of all dry signals of the Samples. The volume of the dry signal is adjusted with **Assign Out Level**. This even works if you do not have four mixer channels for the A3000 and want to connect the unit directly to a stereo amplifier. In this case, you could go to **UTILITY – MASTER – StOut** and set "To AsgnOut" to "ASL&R". The whole stereo signal, that is the EFFECT RETURN, will then be routed to the ASSIGNABLE stereo output and there mixed with the dry signal. Naturally, instead of the STEREO OUT you would have to use the ASSIGNABLE OUT L/R. If you want to monitor the sound with headphones, you can still connect these to the stereo amp.
By the way: the **Level**, that is the output volume of the Sample, can be set independently of both the above-mentioned **Main out Level** (as Effect Send Level) and the **Assign Out Level** (dry signal). This **Level** is also the one which is controlled by **MIDI controller #007**.

Loops and Phrases

The A3000, with extended memory, offers possibilities for song production which would have been inconceivable with first generation samplers. Loops, song phrases or even complete tracks can be recorded as samples into the A3000 and later triggered via MIDI. The Resampling function (Recording from the Stereo Out) offers fantastic possibilities which we will briefly look at below:

Drum loops
If you want to use ready-made drum loops, you can edit these using the effects and resample them back into the A3000. After that, the effects are free again to be used with other sounds.
You can proceed in the same way if you are creating your own drum loops by playing several drum instruments at a time via the sequencer. In this case you can even conserve voices, since a drum loop needs only one voice (or 2 for stereo samples).
Resampling can be done without any effort, and the drum loops themselves do not have to be looped. Triggering the loop again exactly at the end of the drum phrase (e.g. after 1 bar) guarantees better timing.

Sound effects
Extraordinary sound effects can be heard to their best advantage when using complex effects. For each sound effect, try to use individual effects (3 effects at the same time with the serial connection!) and resample the sounds together with these effects. As sound effects, just like drum loops, are normally played on only a single key, costly multisampling is not necessary. Also, loops are generally not required, as most effects end after a relatively short time.

Arpeggios, sequences, bass lines…
Periodically repeated phrases of synthesizer sounds are best for experimenting with effects and resampling. For example, use the Compressor, Distortion or Auto Wah effects together with a delay.
However, resampling is useful only if the sequences of the Song are not played in different keys.

Vocal phrases, guitar riffs…
Here too, the A3000 offers wonderful opportunities. You can edit, set the effects and resample the recorded audio signals in your own time.

Regarding these examples, you will notice what kind of advantages ensue from working with sample elements in a song production. If the effects processors are relieved of special tasks as far as possible, you can use them for standard global effects such as Chorus and Reverb.

QUICK DISK – File Overview

File Name	***Load***	***Description***
XMPMULTI	Disk Volume	Example Multi with Sample Banks for MIDI Ch. 1–16 (A3000) or Disk Program usable as standard multi setup + Demo song by Frank Schneider + Peter Krischker (see chapter “The A3000 in Multi Mode")
Directory "Mixer"		
A3000MIX.LSO	as LOGIC Song (PC/MAC)	Environment with A3000 Mixer (see chapter “The A3000 in Multi Mode")
A3000MIX.ALL	as CUBASE Song (PC/MAC)	Mixer map for A3000 Multi Mode (see chapter “The A3000 in Multi Mode")
A3000MIX.MIX (A3000MAC.MIX)	as CUBASE Mixer map (PC/MAC)	Mixer map for A3000 Multi Mode (as above) (see chapter “The A3000 in Multi Mode")
Directory "Template"		
TEMPLATE.LSO	as LOGIC Song (PC/MAC)	All Controller Templates in a Song
TEMPLATE.ARR	as CUBASE Arr. (PC/MAC)	All Controller Templates in an Arrangement
TEMPLATE.MID	as Standard MIDI File	All Controller Templates in a MIDI File (Format 1)
#74DOW1.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0)(8 bars each – descending)
#74DOW2.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0)(8 bars each – descending)
#74U&D1.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074)(Format 0)(8 bars each – ascending/descending)
#74U&D2.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0)(8 bars each – ascending/descending)
#74U&D3.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0) (8 bars each – ascending/descending)
#74U&D4.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0) (8 bars each – ascending/descending)
#74UP1.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0) (8 bars each – ascending)
#74UP2.MID	as Standard MIDI File	Controller Templates for CUTOFF control (#074) (Format 0) (8 bars each – ascending)
TESTSQ.MID	as Standard MIDI File	Sequence for testing the Controller Templates (Format 0)(select "XMP-Multi" on the A3000)

Directory "Demo"

SATLITE.MID as Standard MIDI File Demo song (also contained in the A3000 Volume)

Note for MAC-Users: Due to the great number of files on the disk it is recommended that you copy the above-mentioned directories to the hard disk and load them from there. Otherwise, all operations cause all files to be read over and over again which is very time-consuming.

Additional Software for the A3000

Sample Packs

SP-A3001 "Trance Machine", Price = 59,- DM

2 Disks / 2 MB Samples / 64 Programs / 10 Patterns / Demo
Latest sounds and patterns for Techno, Trance, Electronic, Ambient…
Techno bass drums (909!) and other Techno drums, Synths, pads, hooks, chords, basses.
"Trance Machine" is a great basic set for modern music styles, which offers many high quality sounds using a minimum of memory.
The Demo song can be played back from the A3000 (Sequence Play). The patterns delivered as Standard MIDI Files – format 0 (SMF) and an additional Demo (Extended Version) serve for inspiration and can be used as basic material for Songs.

SP-A3002 "Mega Synth", Price = 59,- DM

2 Disks / 2 MB Samples / 37 Waves / 64 Programs
This set proves that the A3000 not only is a professional sampler but can also be used as high quality synthesizer. On the basis of 37 synth waveforms (partly sampled as Multi) the synthesizing resources of the A3000 such as filter, envelopes, the expand function and effects etc. are used to the fullest. The waveforms constitute the basis for all popular synthesizer sounds: analog oscillators, complex sound textures, wave sequences, synth pads, digital waves, spectral waves etc.
The first disk solely contains analogue synthesizer sounds from Vintage to Techno. Especially impressive are the sounds based on an outstanding 2 oscillator sawtooth sample generated through the Oberheim Matrix 12. The second disk comprises of highly imaginative and moving digital synths, warm sound pads and vocal-type pads, breathy LA sounds, stacks and special effect sounds.
All waveforms also exist as Init waves for enabling individual sound creation by the user.
"Mega Synth" transforms your A3000 to a high-end synthesizer!

SP-A3002 "Best of SY99", Price = 59,- DM

2 Disks / 2 MB Samples / 64 Programs
The best Samples of the optional SY library have been combined in a set and complemented with some FM samples. This is a first-class instrument library using only little memory. In addition, the multiple features of the A3000 for sound creation have been used to full advantage.
A selection of the available sounds: Fender Rhodes E-Piano, DX7 E-Piano, E-Pianos a' la Whitney Houston, Hammond Organ, Jazz Organ, DX7 Jazz Guitar, Slapbass, Solina Strings…
This set demonstrates that a sound does not always require 4, 8, or even 16 MB to fulfill professional demands!

In preparation: **A comprehensive CD ROM with a huge Sample Library:**
Brass, strings, synths, woodwinds, organ etc. Price = 99,- DM, available from August 1997

YAMAHA PD Software

PDD-A3001 "Tiny Wave Editor" for PC / Win95, Price = 10,- DM

The software is available in music stores or per mail order at:

YAMAHA PD-Service – Peter Krischker
Am Langberg 97 A, 21033 Hamburg
Germany
Phone: +49 40 738 62 23, Fax: +49 40 739 84 12

Further sound material on CD ROM (specially prepared for the A3000) will be available soon at:

Best Service, Siegesstra?e 23, 80802 Munich, Germany
Phone +49 89 34 50 26, Fax +49 89 38 38 84 84