AKAI professional

S5000/S6000

STEREO DIGITAL SAMPLER

Softwaer Version V2.0 Addendum

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

Operator's Manual

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8/07/2000

INTRODUCTION

Version 2.0 of the S5/6000 Operating System offers many new features and functions as well as attending some operational inconveniences with the previous software versions.

NEW FEATURES/FUNCTIONS

- New MULTI page layout
- New playback indicator to show which parts/programs are playing in a multi
- New SOLO/MUTE indicator for parts
- New KEYGROUP ZONES page layout
- New playback indicator for keygroup zones
- New KEYSPAN layout
- MIDI song file player
- Setlist
- Portamento
- Mono Legato play mode
- Emu EIV SCSI disk support
- Roland CD-ROM support
- User settings may be saved to FlashROM and/or disk.
- Floppy disk format
- FAT32 disk format
- “OFF Threshold” parameter in RECORD
- Swap Left/Right function in SAMPLE/MASTER
- New SOLO/MUTE function for keygroup zones
- Copy/Paste Keygroup allows copying and pasting of keygroups between programs
- Keygroup Crossfade parameter added in EDIT PROGRAM
- Multi Mute via Program/Bank change
- CPU Memory Free (MPKS) displayed on MULTI/PROGRAM/UTILS PAGES
- Support for the new USB card (IB-S56USB) and ak.Sys. software

IMPROVEMENTS

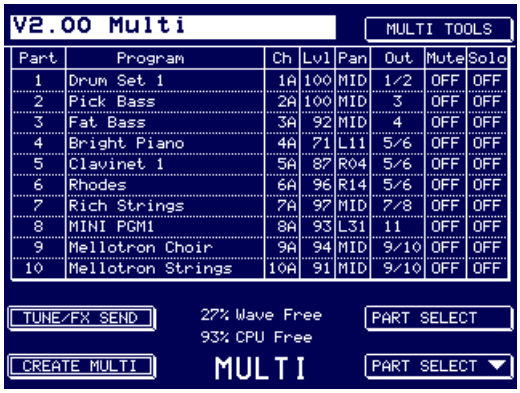
- More SysEx (see separate SysEx documentation for more details)
- Faster screen redrawing
- Improved Voice Stealing
- Improved display of long sample names in keygroup zones and keyspan pages
- Improvements to saving multis
- It is now possible to see the record meters during recording.

TRADEMARKS
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NEW SCREEN LAYOUTS

MULTI PAGE LAYOUT

Following overwhelming requests from users, the MULTI pages have been changed to show a "tabular' style of layout. The new layout replaces that found in previous versions of software.
The MULTI page now looks like this:



With this new layout, you can see the parameters for up to 10 parts simultaneously thus overcoming the complaints that it was only possible to see the parameters for one part at a time in previous versions and you can see the respective levels, pan settings, output assignments, etc., at a glance.

When the cursor is on the MULTI name (as above), you may select other multis in the usual way using the DATA wheel and/or the DATA +/- keys. The same MULTI TOOLS function found in previous version is still available on F9.

New Multis are created using F8 - CREATE MULTI. This puts up the usual prompt where you may name the new multi and also select how many parts (32, 64 or 128) are required.

> ***NOTE:*** *You will note the addition of the CPU memory indication in this and other. This shows the percentage free for loading 'items' - i.e. multis, programs, keygroups and samples.*

The new page is navigated using the PART SELECT keys on F15/F16 to move up and down the multi and the CURSOR </> keys to move across the columns. Data is entered in the usual way using the DATA wheel and/or numeric keypad.
When the cursor is on the Multi name (as above), to select a part, press any function key F2-F6/ F10-14:



> ***NOTE:*** *When the cursor is on the Multi name field, you may also use F16 [PART SELECT] to move down to the parts. However, please note that when a part is selected, F15 will not select the Multi field - you should press F1 to select the Multi name field.*

When a part is selected, the screen changes slightly. F9 becomes PART TOOLS and F8 becomes EDIT PART and you may edit a program within the context of the selected multi as before.

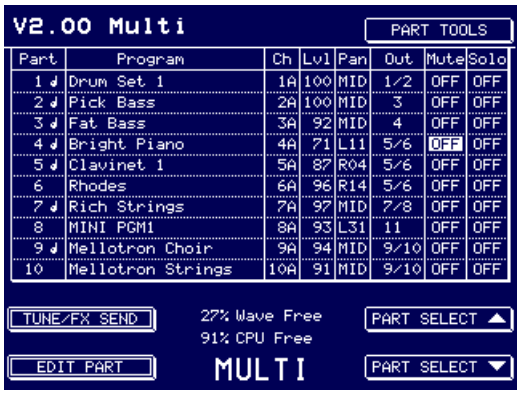
F7 allows you to switch between the PART MIXER page and the TUNE/FX SEND page:



Here, you may set fine tune and transpose, low and high note ranges for the part and also the FX channel and FX send level. You can return to the main PART MIXER page using F7 again.

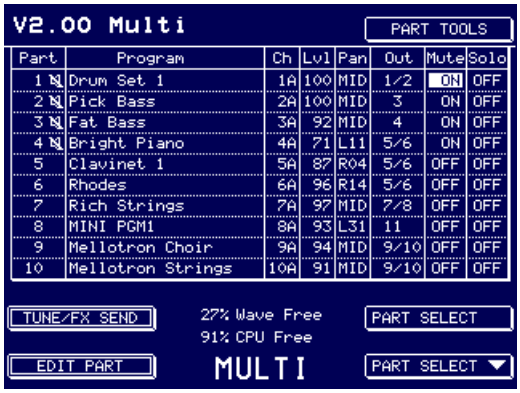
PART PLAYBACK

When a multi is being played, a ‘crotchet’ icon is shown to indicate which parts are currently sounding:



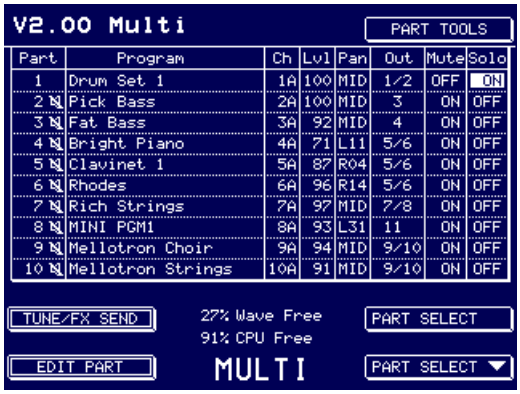
MUTE/SOLO PART

When using MUTE in the new MULTI layout, the status is shown more graphically:



A 'crossed' speaker icon is shown next to the part number. The MUTE status is saved to disk with the multi.

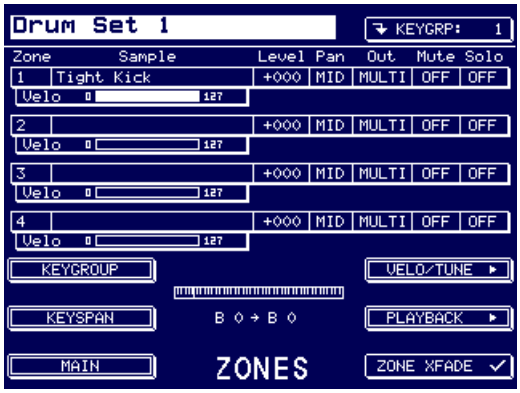
When SOLO is ON, you see this:



All the other parts are muted (this is indicated by the 'crossed' speaker icon). Several parts may be solo'd.

KEYGROUP ZONES PAGE LAYOUT

The KEYGROUP ZONES page has also been changed to a more 'tabular' approach:



With this new layout, you can see the parameters for all four zones simultaneously thus overcoming the inconvenience that you could only see the parameters for one zone in previous versions. Also, because of the extended sample name field, it is now possible to see all 20 characters of the sample name.

F14 takes you to the VELO/TUNE page where you may set velocity and tuning parameters:



F15 takes you to the PLAYBACK page where you can set various parameters concerned with sample playback:



In all pages, the velocity range is shown below each keygroup zone.

The pages are navigated by selecting the zone you wish to edit using F2, F3, F4 or F5 (you may also use F10, F11, F12 or F13) and using the CURSOR </> keys to move across the parameter fields.

A new feature of the Keygroup Zones page is that you can access the SAMPLE LIST directly by 'double clicking' F2, F3, F4 and F5. For example, imagine you want to assign a sample to Zone 1, instead of selecting the zone and then scrolling through a long list of samples, press F2 twice - the first press will select the zone, the second press will take you directly to the sample list where you will see the samples in memory:



You may select a sample in the usual way by moving up and down the list using F15/F16 (plus you can audition them prior to assigning them using the ENT/PLAY key). Once you have found the sample you want, it can be assigned to the zone by pressing F12 [ASSIGN TO ZONE] - this will assign the sample to the selected zone and will also return you to the ZONES page. If the sample is not the correct one (or you change your mind), pressing F2 again will return you to the SAMPLE LIST page where you can repeat the above procedure.

> ***NOTE:*** *Once a zone is selected using F2 - F5, you do not need to 'double click' to get to the SAMPLE LIST page - simply pressing the selected zone's function key again will take you there.*

ZONE PLAYBACK

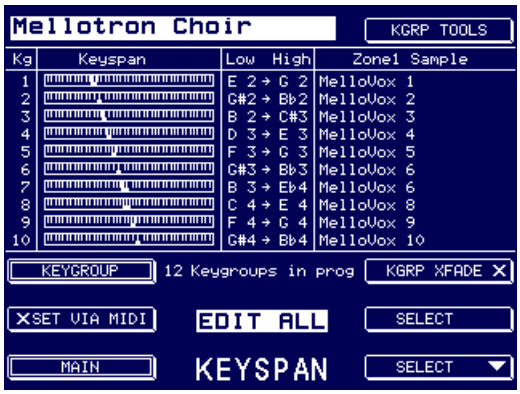
When a keygroup zone is active (i.e. actually playing/sounding), a 'crotchet' icon is shown next to the zone number:



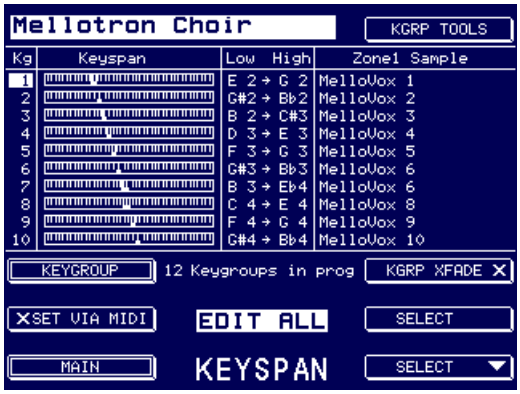
The icon is shown for as long as the voice sounds. If the sound sustains, it will be shown for as long as the note is held and during its release phase. For one-shot samples (drums, etc.), the icon will be shown throughout the natural duration of the sound/sample.

KEYSPAN PAGE LAYOUT

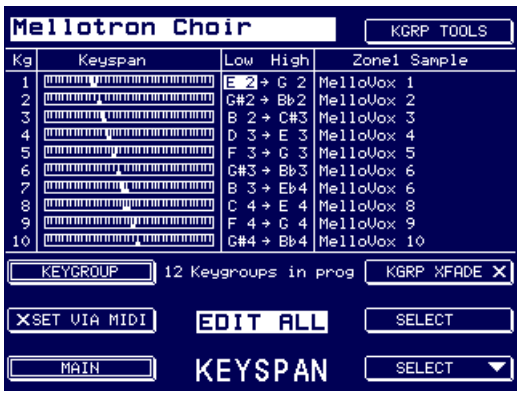
To overcome some inconveniences when using the KEYSPAN page, it has been re-designed. It now looks like this:



Keygroups are selected using F15/16 and/or the DATA wheel and the parameters are selected using CURSOR </>. For example, with the cursor on the name field as shown above, pressing F16 (or any function key F2-F5) would place you on KG1:



To set the low note, simply press CURSOR > :



Similarly, you can select (and set) the high note and you may also assign samples to Zone 1 of the selected keygroup. Use the SELECT keys (F15/16) to select other keygroups or, alternatively, press any function key F2-F5 to move the cursor to the KG field and use the DATA wheel to scroll up and down long lists of keygroups.

Other changes include:

- A larger Zone 1 Sample field which enables the full 20 characters of a name to be displayed.
- When keygroup editing is set to EDIT ALL, this is shown boldly in the centre of the screen (as shown above).

> ***NOTE:*** *Even though editing may be set to EDIT ALL, this is ignored in the KEYSPAN page to avoid accidentally destroying a program.*

MIDI SONG FILE PLAYER

The MIDI SONG FILE PLAYER is accessed via the UTILITIES page on F13:



This shows something like this screen:



The parameters are:

F1 - NAME	This shows the name of the currently selected MIDI Song File. Other song files may be selected using the DATA wheel or the DATA +/-keys.
FROM BAR	Allows you to specify which bar the song will start from.
TO BAR	Allows you to select which bar the song will play to.
TEMPO MODE	Allows you to specify whether the song's tempo will be derived from the one stored in the MIDI Song File or one that is set manually in the MANUAL TEMPO field below.
MANUAL TEMPO	When TEMPO MODE is set to MANUAL, this field allows you to set the tempo. The range is 50.0 BPM to 250.0 BPM.
MIDI OUTPUT	Allows you to select whether the sequence data of the MIDI Song File player is also sent via the MIDI outputs. This is useful if you want to drive external sound modules as well (or instead of) the S5/6000. The options are OFF, MIDI A or MIDI B.
SETLIST	Takes you to the SETLIST page (see later).
MAIN	Returns you to the UTILITIES page.

PLAYING A MIDI SONG FILE

Once you have some song files loaded, they are selected using F1 in conjunction with the DATA wheel and/or DATA +/- keys and are played using F10 [PLAY], F12 [PAUSE] and F14 [STOP]. The MIDI Song File Player will always play the currently selected multi.

The playback functions should be fairly self-explanatory....

- PLAY will cause the MIDI Song File to play. You may set which bar it will play from using the FROM BAR parameter on F2. You may also set the bar at which the song will automatically stop using the TO BAR parameter on F3.
- PAUSE will stop playback. Pressing PLAY again will resume playback from that point.
- STOP will also stop playback but pressing PLAY again will cause playback to resume from the start or from the bar specified in the FROM BAR field.

As the song is playing, the play icon highlights....



Likewise, whilst playback is ‘paused’, the pause icon highlights:



As the song is playing, so the bar/beat counter elapses:







The song’s tempo is shown beneath this display:



This updates as the song is playing should there be any tempo changes within the song.

The song’s time signature is also shown beneath:



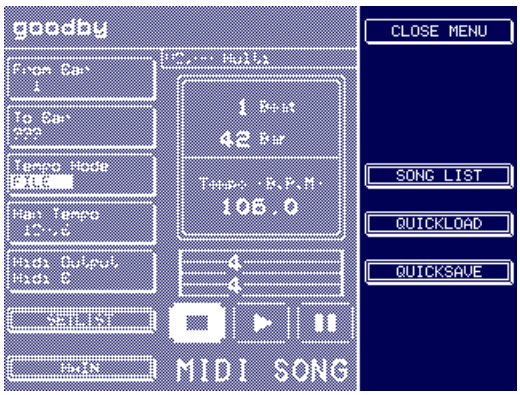
This also updates according to any pre-programmed changes in time signature in the song.

The multi being played is shown towards the top of the screen in the centre:



The multi cannot be changed here and if the wrong multi is playing, you should visit the MULTI mode and select the correct multi there.

SONG TOOLS Pops up the SONG TOOLS menu:



The menu items are:

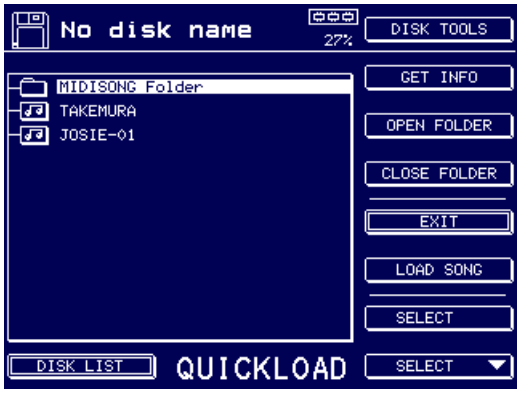
SONG LIST This takes you to the SONG LIST page:



MIDI Song Files may be renamed and/or deleted. Song Files are selected using F15/F16.

QUICKLOAD

Available in both the SONG TOOLS menu and the SONG LIST page, this takes you to a 'quickload' disk page:



Here you may load MIDI Song Files into memory. Being a 'quickload' function, other items that may be on the disk (such as multis, programs, samples, etc.) aren't shown.

> ***NOTE:*** *SMFs are loaded into wave memory. As such, it is possible to have many songs loaded at any one time plus there is no real restriction on the length of an SMF (other than the 256MB limits of the sampler's memory). More importantly, SMFs do not use up valuable CPU memory (see Page 40 for more information on CPU Memory).*

QUICKSAVE

Again, available in both the SONG TOOLS menu and the SONG LIST page, this takes you to a 'quicksave' page:



You may choose to save the selected MIDI Song File or all of them.
The file(s) will be saved to their original source disk (if you want to save MIDI Song Files to another destination, you should use the normal SAVE function).

SET LIST

The MIDI Song File Player is designed as a convenience for live work where you can have pre-programmed backing track sequences played from the S5/6000 without having to lug a separate sequencer around with you.

However, some means of associating multis with MIDI Song Files is required for convenient live operation otherwise it would be necessary to select a song file and then select the appropriate multi [1] .

The SET LIST function has been created for that purpose - you may load MIDI SONG FILES and associate any multi loaded into memory with them. In this way, you may select a MIDI Song File and the correct Multi (and hence sounds) are automatically recalled. The SET LIST function is found in the MIDI SONG FILE page on F7:



Pressing SET LIST will take you to the SET LIST page. However, if a SET LIST hasn't been loaded, you will receive this prompt:



[1] Of course, another way to associate the correct sounds with the song file is to use program change commands within the one multi as on many GM modules. As you select a different song, so program change commands select the appropriate sounds on each channel in each part.
However, this method is not without its drawbacks not least of which is the task of re-numbering programs so that they are recalled correctly by the each song file

Press CREATE NEW (F16) to create a new SET LIST. You will receive this prompt:



Enter/type in a name as appropriate and press YES.

You will see this screen:



To program the SET LIST, press F16 to move you to the MIDI SONG number field and CURSOR > to move you to the MIDI SONG field:



You may now use the DATA wheel or DATA +/- keys to select a MIDI SONG.

You should see something like this:



A MIDI Song File is displayed. Scroll through the songs in memory until you find the one you want. Now move the cursor to the MULTI field and select the multi you want the song file to play:



Repeat the process to add more songs and multis to the list using SELECT (F15/F16 to move up and down the SET LIST and CURSOR </> to move between the fields).

Eventually, you will have a set list that may look something like this:



The set list can be organised sequentially with each song/multi listed in the order you will play them at the gig and you may use the NEXT/PREV keys (F11/F13) to select each one in turn - in this way, you may select and play songs using just the right hand function keys. This requires AUTO SELECT to be ON (i.e. 'ticked'). As you move through the list using NEXT/PREV, so the 'active' MIDI Song is shown above the SET LIST.

You may, however, organise your set list in any order you like and use SELECT (F15/F16) to select any song in any order. This, of course, is potentially more awkward in a live situation and care should be taken to ensure that the correct song is selected to avoid embarrassment! To select songs (and their associated multis) in this way, AUTO SELECT should be OFF (i.e. 'crossed').

A SET LIST can have up to 30 'steps' (i.e. songs/multis).

Only one SET LIST can reside in memory at any one time but any number of SET LISTS can be saved to disk for recall later on. To save a SET LIST, press SAVE and follow the usual procedures for saving a file.

USING THE SETLIST

In preparing for the gig, you can create your backing track sequences on your favoured sequencer (assuming it can save as .MID files [1]) and build up your multis as you go.
Alternatively, if you're in a band doing 'covers', simply buy the required MIDI Song Files and build the multis as appropriate. Each multi may be saved as you like - to separate folders or to one 'gig' folder.

If you are creating your own sequences, save them as .MID files on your sequencer. Copy these to a floppy disk and place it in the S5/6000's floppy disk drive. If you have bought pre-prepared MIDI Song Files, they will probably be on floppy disk so take this/these to the S5/6000. If you have downloaded MIDI Song Files from the Internet, copy these to a floppy and insert this into the S5/6000 floppy disk drive.

Whatever the source of the MIDI Song File, in the LOAD page, MIDI Song Files appear like this:



Use F14 [LOAD SONG] to load each song in turn [2] .

Now load all the multis (and their associated programs and samples of course!) into memory and build up a set list as described above, associating the appropriate MIDI Song File with the appropriate multi and in the appropriate order for your set.

1 The S5/6000 MIDI Song File Player will only play Type 0 MIDI Song Files - ensure you save them in this format.

2 If a number of MIDI Song Files reside in one folder, you can, at the folder level, use LOAD FOLDER to load all the songs contained within it.

Once you have checked everything is ok, you have several options....

- You can save everything to one 'gig' folder (recommended!). This can then be loaded at the gig. This, of course, assumes you have enough memory installed to accommodate all the material required for your set.

- You can save the whole lot (i.e. multis, programs, samples, MIDI song files) to a folder named AUTOLOAD so that all you need to do at the gig is turn up, plug everything in, turn the sampler on and have everything load automatically into the sampler without you having to do anything else! This, of course, assumes you have enough memory installed to accommodate all the material required for your set.

- All your SET LISTS can be saved in one folder and each song and its associated multi/programs/samples to separate folders. When you come to load your set list, you can select the SET LIST you want and press load - all the song files, multis, programs and samples will be loaded from their individual folders.

IMPORTANT NOTE: *The individual song folders MUST have the same name as the songs stored within it as the SET LIST load function is looking for those names when it loads.*

  The advantage of this option is that song maintenance is easy due to everything being in separate folders.

- You can save each MIDI Song File and its associated multi in their own folders but this will require you to load each folder in turn.

Ideally, assuming you have enough memory installed to accommodate all the sounds for an entire gig, it is best to save everything to one folder so that the whole lot can be loaded in one hit (or you use the AUTOLOAD function).

Once everything is loaded, go to the SET LIST page and run your gig from that using PLAY and NEXT to play and select songs/multis.

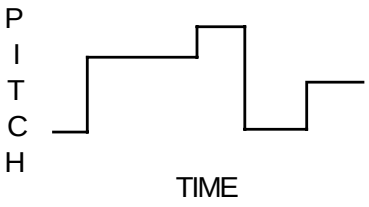
However, these are merely guidelines - no doubt you will have your own way of using the SET LIST function that suits you.

PORTAMENTO

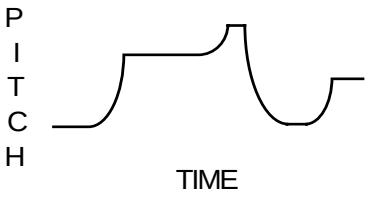
A Portamento function is introduced in Version 2.0 and can be found in the PITCH BEND page in EDIT PROGRAM/PART:



Portamento is a function that allows you to 'glide' from one note to another instead of moving in steps as is normally the case.



NORMAL PLAYBACK (NO PORTAMENTO)



WITH PORTAMENTO SWITCHED ON

As you can see, when portamento is on, each note 'slides' to the next and the speed with which it slides is set by the PORT. TIME parameter.

The portamento effect is useful when playing acoustic sounds such as stringed instruments that have no frets (violins, violas, fretless bass, etc.) and instruments such as trombone, penny whistle, etc. It is also effective on vocal sounds as few, if any, singers hit the note dead on - most slide into it.

Of course, portamento was also a standard feature on older analogue synths, particularly monophonic ones (where it was often called GLIDE) and was responsible for the creation of some highly distinctive (although often over-used!) synth effects.

The PORTAMENTO parameters are:

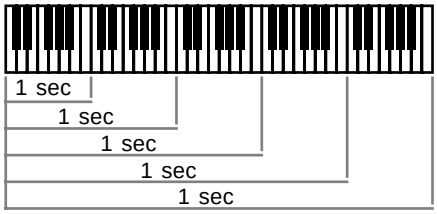
PORTAMENTO — This can be switched ON or OFF. When it is switched ON you will hear the portamento effect all the time as you play.

You will note that this parameter responds to the MIDI PORTAMENTO pedal (controller #65). This pedal is like the sustain pedal - when depressed, portamento will be switched on; when released, the effect will be switched off.

When the PORTAMENTO parameter is ON, pressing the portamento pedal will have no effect as portamento is on permanently. When this parameter is set to OFF, the portamento pedal will allow you to switch it on or off as you please. This may be useful when you wish to play a sound normally but only apply portamento to a few notes. For example, when playing a trombone sample, you may play normally and then switch portamento on to create the slide effect. Similarly, with fretless bass, the portamento pedal may be used to slide notes whenever you please.

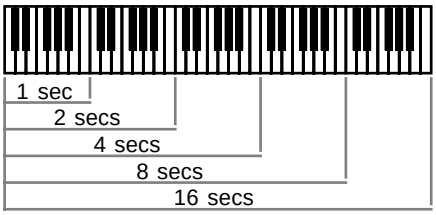
TIP: *This may also be used to good effect to simulate the popular TB303 bassline synth. One of this bass synth's most distinctive features was (is) the programmable glide effect.*
To create this sound, take a simple, single sawtooth or square wave sample (no detune as the TB303 has only one oscillator), add simple lowpass filtering (preferably highly resonant) and a simple envelope and use the footswitch control of portamento to switch glide on and off at suitable moments.

PORT. MODE — Here you may select two different portamento types, TIME and RATE.
TIME sets the portamento effect so that the speed of the effect is constant regardless of the interval played. For example, if the rate is set to give a glide of 1 second, it will take one second to glide up a semi-tone or seven octaves. For example:



When TIME is selected

When set to RATE, the speed the effect takes depends on the interval. For example, if it takes one second to cover an octave, it will take two seconds to cover two octaves, four seconds to cover three octaves, eight seconds to cover four octaves, etc. For example:



When RATE is selected

You may use these two portamento modes to create a range of different musical effects.

PORT. TIME

This sets the speed of the portamento. It is difficult to specify its range as this depends on the setting of the PORT. MODE parameter described above. You will note that if this parameter is set high but you play notes quickly, the portamento effect may be so slow that your notes never hit the right pitches! If you anticipate playing a particular sound quickly, set lower portamento rates.

You may also use the MIDI PORTAMENTO TIME (Control #5) to set the portamento time. The value of Controller #5 is added to the value set in the PORT. TIME thus, with a PORT. TIME of 50, sending a Control #5 value of 10 will effectively give the portamento time a value of 60 (although this will not be displayed). This also means that with PORT. TIME set to 0, Control #5 can be used to completely control portamento speed.

NOTES ON USING PORTAMENTO

The portamento effect can be used when playing polyphonically or monophonically.

When playing polyphonically, notes in a chord will slide up or down to the next chord accordingly at a speed set by the PORT. TIME and PORT. MODE parameters. If one note in a chord is held when a new chord is played, it will not be affected.

When playing monophonically (i.e. with MONO LEGATO switched ON), the effect is just like that found on an old analogue monosynth and many exciting synth sounds can be created using the portamento function that fit in perfectly with the current fashion for using analogue synths.

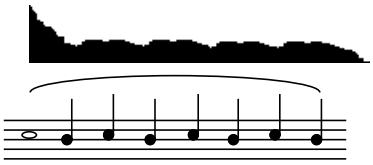
Of course, when playing monophonically, the effect can be applied equally as effectively to samples of acoustic instruments and the effect can be switched in and out using the MIDI PORTAMENTO pedal for expressive phrasing.

The portamento effect is a PROGRAM parameter - that is, it will affect all keygroups equally. When layering sounds in a multi, to apply portamento to some sounds and not to others, create a program with portamento and another program without portamento and place the programs into separate parts of a multi, assigning the same MIDI channel to those parts. When you play, one program will hit new notes immediately whilst the other lags behind. Of course, you may stack more than two programs on top of each other in the multi.

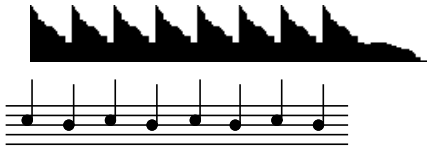
Alternatively, you may layer programs in this way and set different portamento rates for each one so that they all slide around at different speeds!

MONO LEGATO

Version 2.0 also introduces a MONO LEGATO playback function on F13 of the PITCH BEND page in EDIT PROGRAM/PART. This special function turns the program into a monophonic program with single triggering. The effect of single triggering is that if you hold one note and play another, the pitch changes to the new note but the attack of the new note is not re-triggered.
For example:



Even when MONO LEGATO is ON, articulating each note separately will cause the attack of each note to be re-triggered:



This function is extremely useful for emulating the playing styles and phrasing of solo instruments such as flutes, oboe, clarinet, saxophone, etc. It is almost essential when playing synth bass sounds as it emulates the classic monophonic synth keyboard. You will find it useful too, when playing leadlines of any kind. Owners of the Akai EWI wind synthesiser will find this function invaluable in obtaining better expression and phrasing.

IMPORTANT NOTE REGARDING MONO LEGATO ON/OFF

Because this function is playing a single sample (or group of samples when playing layered sounds) through the sustain or loop, if you were, for example, to do a long legato run from the top of the keyboard to the bottom, you would be transposing the original sample you started with several octaves down. For example, in a 7 keygroup flute program, if you were to start your run on C5 and finish at C2, the sound played on the last note would, in fact, be the C5 sample transposed 3 octaves down - the samples in the other keygroups would not be re-triggered as you cross the keygroup boundaries. As a result, if you sustained that last note, it may sound very strange indeed! Similarly, if you 'trilled' between C2 and C5, it may also sound quite odd. This is brought to your attention so that you may make allowances when playing legato across keygroups.

SOUND LIBRARY SUPPORT

EMU EIV SOUND LIBRARY COMPATIBILITY

The S5/6000 can now load Emu™ EIV sound library from Emu CD-ROMs.
No special operation is required - simply pop in the CD-ROM, select it in the DISK LIST page, go to LOAD and load the sounds in the usual way [1] .

Emu 'banks' are represented as folders and these contain the programs ('presets' in Emu-speak) and samples. The normal load operations can be applied and you can load the entire folder or just selected programs with or without their samples or just the samples. Samples may be auditioned in the usual way.

Naturally you may save the programs back to your hard disk (or floppy) if you want but of course, the programs will be saved as Akai format .AKP programs and the samples will be saved as .WAV files.

NOTE 1: *Whilst every effort has been made so that Emu sounds play correctly when used in an S5/6000, because of intrinsic differences between the machines, absolute accuracy cannot be guaranteed in all cases and so some tweaking may be necessary. Most sounds should translate fairly well, however.*

NOTE 2: *Depending on your CD-ROM drive, you may find that loading Emu data is slower than loading other data. This is due to the translation 'fix-ups' that are being performed during the load process.*

[1] The only exception to normal load procedures are EMu's 'SoundSprint'™ folders. These do not contain a proper directory as such and so even though the folders are shown, they appear to contain nothing. As a result, SoundSprint™ folders cannot be loaded into the S5/6000.

ROLAND S-7xx SERIES SOUND LIBRARY COMPATIBILITY

It is now also possible to load sounds from Roland™ CD-ROMs made for the S7xx series samplers. Comparing the structures of a Roland sampler with the S5/6000 shows many similarities:

Roland	Akai
PERFORMANCE	MULTI
PATCH	PROGRAM
PARTIAL	KEYGROUP
SAMPLE	SAMPLE

However, when a Roland CD-ROM is viewed in the LOAD page, because of differences in the Roland disk format, it is not possible for the S5/6000 to show the programs and samples in the directory. Therefore, only MULTIS (i.e. 'Performances' in Roland-speak) are shown. When a MULTI is loaded it will load all the correct programs and samples. These may be re-saved back in Akai format to an Akai formatted disk in the usual way where they will appear as normal.
Apart from that, no special consideration need be given to Roland sound library and it may be loaded in the normal way.

NOTE 1: *Whilst every effort has been made so that Roland sounds play correctly when used in an S5/6000, because of intrinsic differences between the machines, absolute accuracy cannot be guaranteed in all cases and so some tweaking may be necessary. Most sounds should translate fairly well, however.*

NOTE 2: *It is not possible to load sounds from a Roland formatted hard disk - you can only load sounds from Roland CD-ROMs.*

Emu EIV and SoundSprint are trademarks of E-mu Systems Inc.
Roland is a trademark of the Roland Corporation.

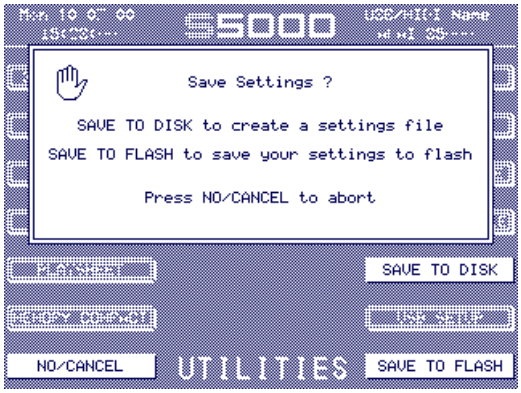
USER SETTINGS

SAVING USER SETTINGS TO FLASHROM/FLOPPY DISK

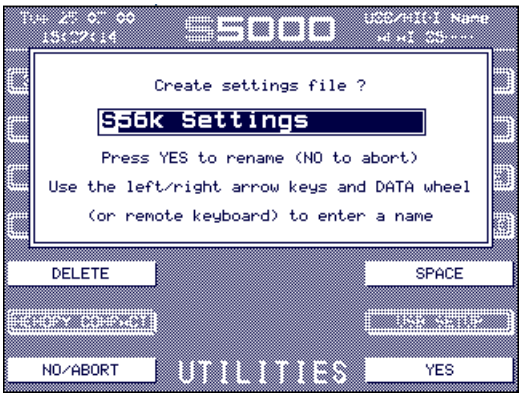
It is now possible to save system settings, preferences, MIDI settings and more to Flash ROM and/or disk. The parameters that are saved are:

Aftertouch Type
Digital I/O
Ext APM Controller
Fan Speed
Fine Tune
FX Ext Input Left
FX Ext Input Right
FX Input Level
FX Input Level Mode
FX Left Direct Level
FX Output
FX Right Direct Level
Jump
Key Repeat Dly
Loop Display
Master Attenuation
MIDI Channel
MIDI Filters
MIDI Trigger Chan
Multi Select
Multi Select Ch
Note Display
Play Key Mode
Play Key Note1
Play Key Note2
Play Key Note3
Play Key Note4
Play Key Vel
Program Change Enable
Record Gain Switch
Record Length
Record Level
Record Mode
Record Original Note
Record Source
Record Threshold ON
Record Threshold OFF
Record Trigger
Screen Display Invert
Screen Saver
SCSI ID
SCSI Monitor
Semitone Tune
SMF MIDI Output
Sync Source
SysEx Device ID
SysEx Name
Transpose
USB Fast Mode
User Key1
User Key2
User Key3

To save the setting file, press SAVE SETTINGS (F16) in main UTILITIES page. The function is also available in SYSTEM SETUP, PREFERENCES, MIDI SETUP and FX IN/OUTS. You will receive this prompt:



You have the option to save to disk and/or FlashROM. If you choose to save to FlashROM, the process is pretty much instant and you are returned to the original screen. If you choose to save to disk, you will see this prompt:



You may name the settings file if you wish.

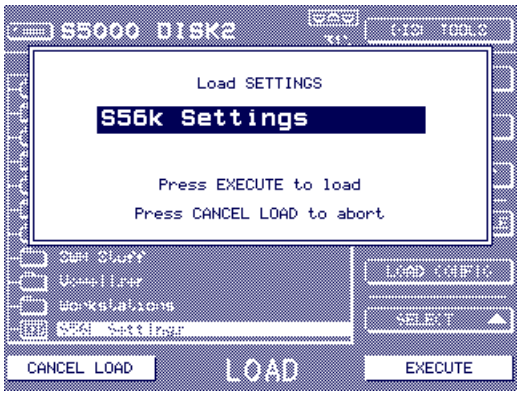
> ***NOTE:*** *When saving your settings to disk, they will be saved to the disk you last saved other items to. For example, if you recently saved some data to your hard disk, the settings will be saved there too.*
>
> *To change the disk you want to save your setting to, visit the SAVE page, get to the VIEW DISK page and press DISK LIST. Select the disk you want to save the settings to there. Now return to UTILITIES and save the settings to the selected disk.*

LOADING SETTINGS FILES FROM DISK

If your settings are saved to disk, they can be loaded at any time in the LOAD page and is seen as a CFG (config) file:



F14 becomes LOAD CONFIG. Pressing it shows this prompt:



Loading the settings will overwrite those in FlashROM. However, they are not permanently written to FlashROM unless you specifically save them using SAVE TO FLASH in the UTILITIES page(s). This allows you to temporarily use a particular collection of settings - for example, you can take your personalised settings to another place that has an S5/6000 and load them into that without permanently disrupting the original settings - to restore the original settings, simply re-boot the sampler.

FORMATTING

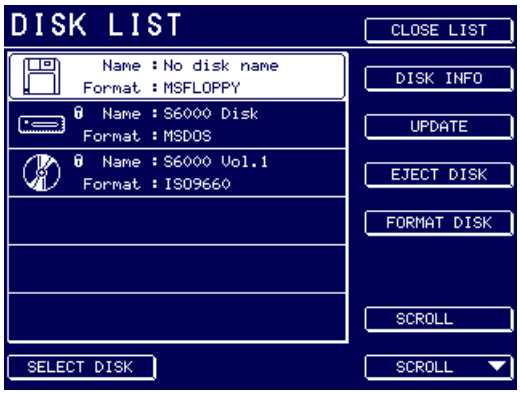
FLOPPY DISK FORMAT

In Version 2.0, it is now possible to format a floppy disk (at last!).

To format a floppy disk, insert it into the S5/6000's floppy disk drive and press UTILITIES followed by DISK UTILS (F10). You will see something like this screen:



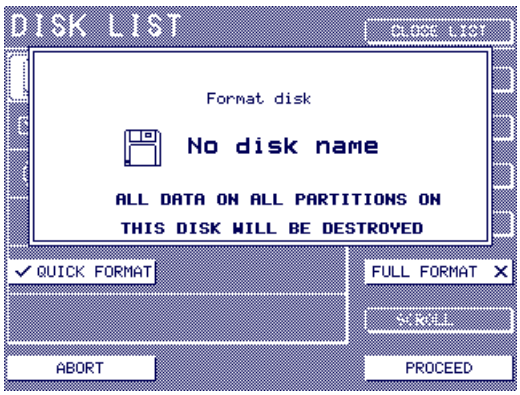
Press DISK LIST (F8) to get this screen:



> ***NOTE:*** *Depending on the circumstances, you may see different screens when entering UTILITIES - DISK UTILS. For example, if the CD-ROM was the last disk selected in a LOAD operation, you may be taken to the CD-ROM's root directory. Conversely, if you have just swapped a floppy disk over, you may be taken straight to the DISK SELECT screen. Whichever screen is shown, you need to get to the DISK LIST screen.*

ENSURING THE FLOPPY DISK IS SELECTED IN THE DISK LIST SCREEN.....

Press FORMAT DISK (F13). You will receive this prompt:



QUICK FORMAT will perform a 'superficial' format and will simply set up the disk's directory; FULL FORMAT will not only set up the disk but will also mark bad blocks so that they cannot be used. QUICK FORMAT is faster but FULL FORMAT is more thorough, though slower.
Whichever you choose.....

***** ALL DATA ON THE DISK WILL BE ERASED IRREVOCABLY *****

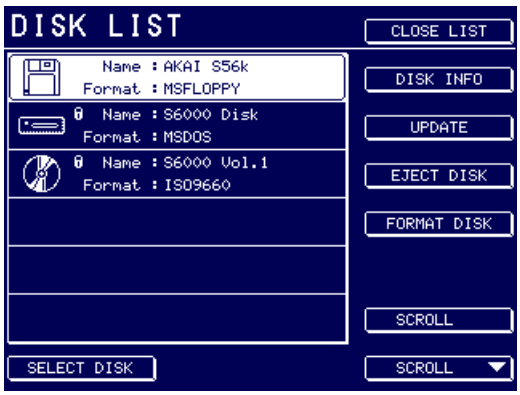
If you are unsure, you should press ABORT. Should you PROCEED, however, you will receive this prompt:



You may give the disk a name if you wish. At this point, you still have time to opt out by pressing NO (F16). If you press YES (F8), however, you will see this display:



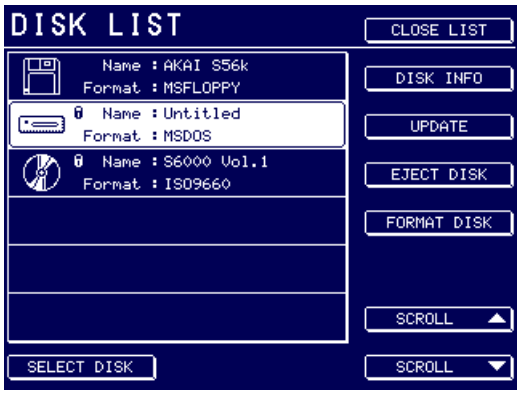
At the end of the process, you will be returned to the DISK LIST page:



The floppy disk is now ready for use with the S5/6000.

FAT32 FORMATTING OF HARD DISKS

In V2.0, disks that are over 2GB are now automatically formatted to FAT32 thus creating only one partition. The process is pretty much the same as before. In UTILITIES, press DISK UTILS and select DISK LIST to get this screen:



Press FORMAT DISK (F13). You will receive this prompt:



As before, you may select QUICK or FULL FORMAT. However, in V2.0, pressing PROCEED puts up this prompt:

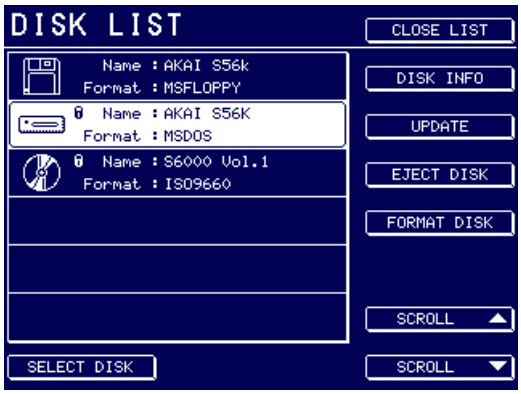


You may now name the disk you are formatting with a name of up to 11 characters. The name may be entered in the usual way using the CURSOR </> in conjunction with the DATA wheel or more directly using an external ASCII keyboard.

As the disk is being formatted, you will see the following animated display:



At the end of the process, you will be returned to the DISK LIST screen and will see something like this:



The disk is now ready for use on the S5/6000.

OTHER NEW FEATURES

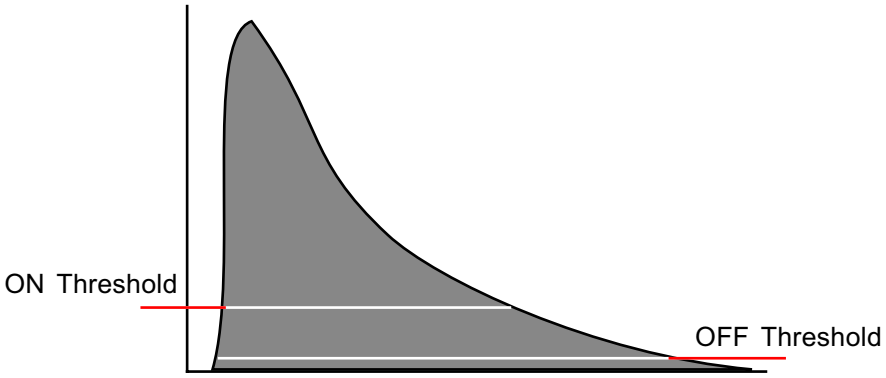
'OFF THRESHOLD' PARAMETER IN RECORD MODE

When any of the AUTO Record Trigger options are selected, a second 'OFF' Threshold parameter is available:



The THRESHOLD parameter now has two parameters. The one shown to the left of the field is the usual threshold parameter that sets the level at which recording will begin. The parameter shown to the right is the one that sets the level at which the 'auto-record' will stop. They may be set independently of each other. To access the OFF Threshold, press F4 twice - once to select the ON Threshold, a second time to select the OFF Threshold.

This new function is useful when recording sounds that have a natural decay and it allows you to capture more of the decay:

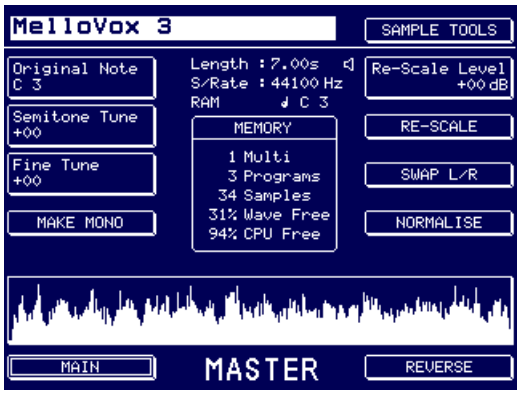


If the OFF Threshold was the same as the ON Threshold in this example, you can see that a fair chunk of the sample's natural decay would be lost. By setting it lower, more of the decay is captured.

> ***NOTE:*** *The OFF Threshold has no function for any of the other Record Trigger types - only the AUTO record function.*

SWAP LEFT/RIGHT FUNCTION IN EDIT SAMPLE

A new function is introduced in V2.0 that allows you to swap the sides of a stereo sample. It is found on F12 in the MASTER page in EDIT SAMPLE:

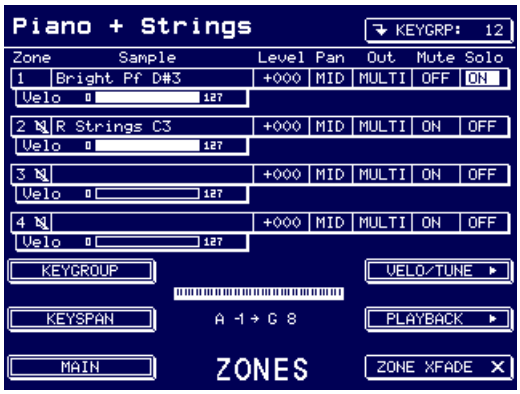


Simply press F12 to initiate the function. You will receive the usual prompts for naming the new sample and whether you want to replace the original or not. The function only works on stereo samples, of course, and should you try to process a mono sample, you will receive the following prompt:



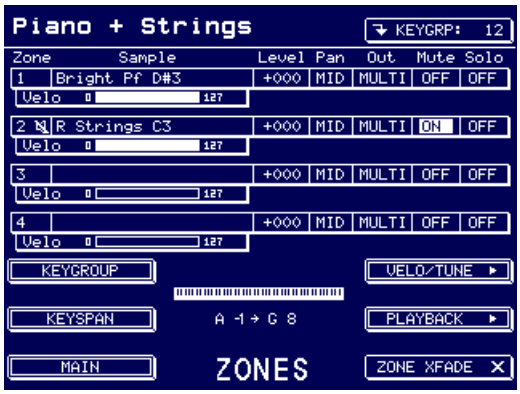
MUTE/SOLO ZONES IN EDIT PROGRAM

ZONE MUTE and ZONE SOLO functions are introduced in this version of the OS. SOLO causes all other keygroups/zones to be muted allowing you to hear the selected keygroup/zone in isolation. When a zone is solo'd, you see this screen:



The other zones are muted (as indicated by the 'crossed' speaker icon next to the zone number).

When a zone is muted, you will see something like this screen:



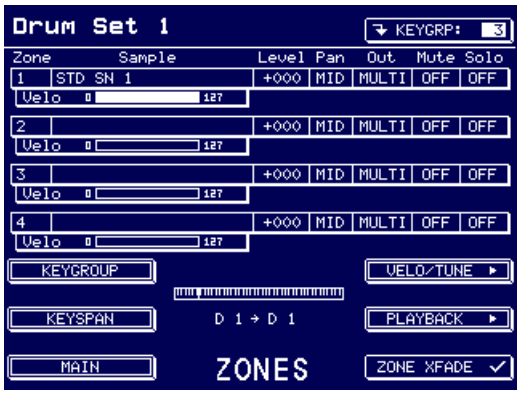
A 'crossed' speaker icon is shown next to the zone number. The MUTE status of a zone is saved to disk when the program is saved.

COPY/PASTE KEYGROUP IN EDIT PROGRAM

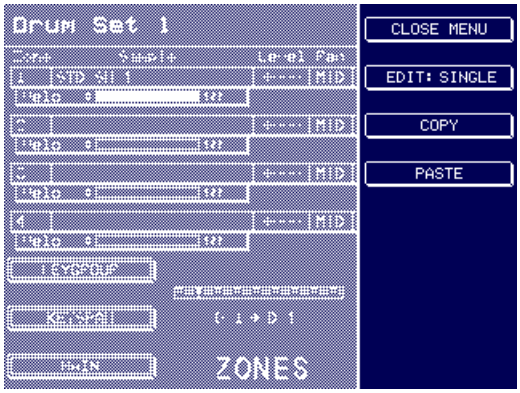
It is now possible to copy and paste keygroups between programs. This is useful when, for example, you may have a killer snare drum in one program which you want to use in another drums program.

To utilise this function, go to EDIT PROGRAM and press any keygroup page (KEYGROUP, KEYGROUP ZONES, KG PITCH/AMP, FILTER, etc.).

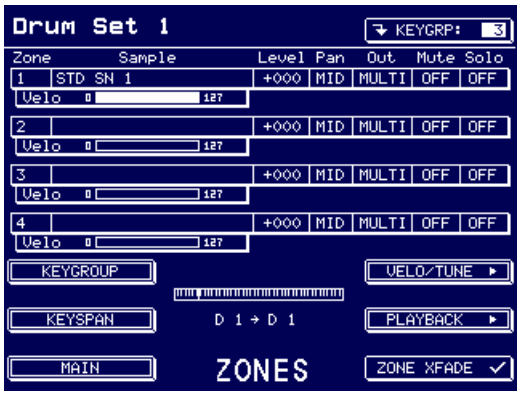
For example, using KEYGROUP ZONES, select the keygroup you wish to copy using F9:



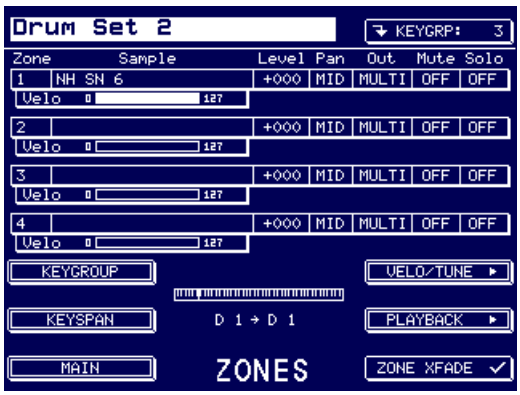
Now press KEYGRP (F9) to pop up this menu:



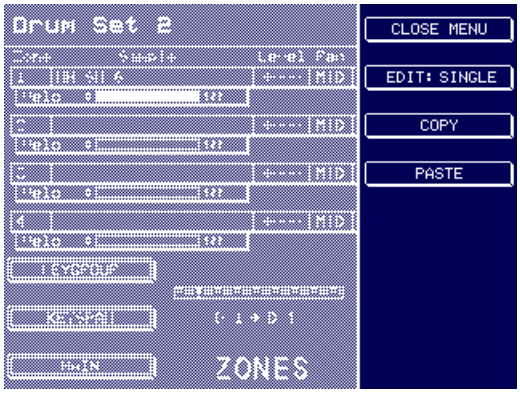
Press COPY (F11). The menu will close and you will be returned to the 'source' page:



Now press F1 and select the ‘destination’ program:



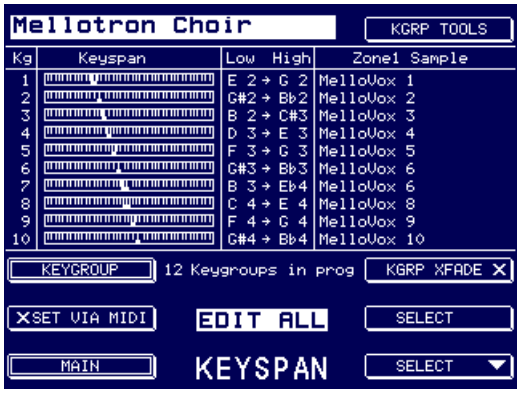
Press F9 again:



Now press PASTE (F12). The copied keygroup will be appended to the keygroups in the selected ‘destination’ program.

KEYGROUP CROSSFADE FUNCTION IN EDIT PROGRAM

The S5/6000 has always had a keygroup crossfade function except that in previous versions it was done automatically - when keygroups overlapped, a crossfade was automatically applied. However, this has been responsible for some incompatibilities with older sound library that had overlapping keygroups but no crossfade. To overcome this, the function has been made available as a switchable option. It is found in the new KEYSPAN page:



The function can be turned on or off simply by pressing F14.

> ***NOTE:*** *The KEYGROUP XFADE function affects the whole program, not the selected keygroup.*

MUTE FUNCTION VIA PROGRAM/BANK CHANGE

In previous versions of software, if an invalid MIDI program/bank change was sent to the sampler, it would be ignored and the current multi would continue playing.

In Version 2.0, the program change and bank select commands, when used to select the current multi (in MULTI mode) or program (in PROGRAM mode) have been modified so that if an unrecognised multi or program is selected, the sampler will enter a “MUTED” condition where all voices are muted. This state is indicated by a small ‘muted speaker’ icon at the top right of the appropriate pages.

To unmute the sampler, a valid multi/program must be selected via MIDI. Alternatively, just selecting another mode will override the current setting and unmute the sampler.

This feature was requested by people using two or more samplers in a live situation where they would set the samplers up as follows:

Sampler 1	Program #		Sampler 2	Program #
Multi 1	1		Multi 1	2
Multi 2	3		Multi 2	4
Multi 3	5		Multi 3	6
Multi 4	7		Multi 4	8
Multi 5	9		Multi 5	10

In this situation, sending MIDI Program #2 to both samplers will mute Sampler 1 (because it is an invalid program number in that sampler) whilst selecting the appropriate multi in Sampler 2. Similarly, sending MIDI Program #3 to both samplers will cause Sampler 2 to mute whilst selecting the appropriate multi on Sampler 1. And so on with each sampler effectively being selected alternately.

Another scenario is as follows:

Sampler 1	Program #		Sampler 2	Program #		Sampler 3	Program #
Multi 1	1		Multi 1	6		Multi 1	11
Multi 2	2		Multi 2	7		Multi 2	12
Multi 3	3		Multi 3	8		Multi 3	13
Multi 4	4		Multi 4	9		Multi 4	14
Multi 5	5		Multi 5	10		Multi 5	15

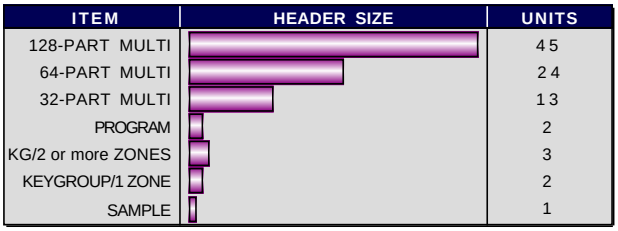
Here, each sampler is selected sequentially - first, Sampler 1 on MIDI Program #1-5, then Sampler 2 on MIDI Program #6-10, etc..

This function also has uses where you may have an S5/6000 and other sound modules and in one song, you are not using the sampler. In previous versions, sending the MIDI program change to the system would select the correct sound(s) on the other module(s) but the sampler would just ignore it and continue to play the last selected multi.

> ***NOTE:*** *This only has an effect if the program change function or bank select functions are enabled in UTILITIES/MIDI (Program Change and Multi Select).*

CPU MEMORY USAGE

There are two types of memory in the S5/6000 - wave memory and CPU memory. The wave memory is the expandable memory (RAM) that holds the audio data (samples) you load or record into the sampler. The CPU memory, on the other hand, is an area of memory that holds not only the Operating System that is loaded from FlashROM at boot up but also the 'headers' for the multis, programs, keygroups and samples (MPKS).
The capacity of the wave memory is easy to define - you can install up to 256Mb of RAM into which you can load 256Mbytes of data. The CPU memory capacity, however, is harder to define because the headers are of variable size according to circumstances. However, if we define CPU memory in the number of 'units' it can hold, we can begin to get a clearer picture. In previous versions of the S5/6000 Operating System, each 'item' (MPKS) used the following number of 'units':



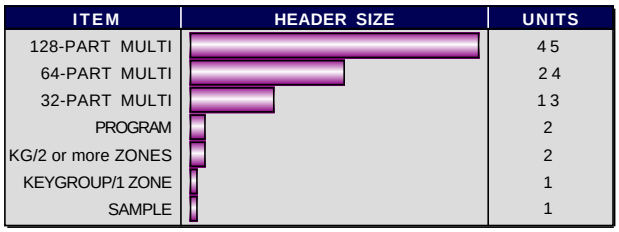
As you can see, the headers for each item vary in size enormously, the largest being a 128-part multi, the smallest being a sample. The S5/6000 can store around 3,200 'units' at any one time but the number of actual items (i.e. multis, programs, keygroups, and samples) varies according to the nature of the data that is in memory.

For example, a program with just one keygroup and one sample in it would amount to 5 'units' and so you could load many hundreds of these. However, a complex multi-sampled program or drums program with, say, 50 keygroups (and hence 50 samples) would amount to 152 'units' (2 + 100 + 50) and so you could not load as many of this type of program. A program that uses several zones in any of the keygroups would amount to more units than a program that just uses one keygroup zone thus if the 50 keygroup program given as an example above were to use more than one zone, the CPU memory requirements would increase (for example, 2+150+50).

There are other factors to consider when assessing how much CPU memory will be used by any given 'item'. For example, the length of the sample names used in a program's keygroups will affect size and a program consisting of samples with long names (e.g. "Stereo Grand Piano C3") will use up slightly more space than a program consisting of samples with short names (e.g. "Kick1"). The same would be true of a multi - if the programs assigned to its parts have long names, they would use up marginally more CPU memory.

In practice, however, things generally balance out because typically, you only have a handful of multis and a mixture of simple programs with maybe 5 or 6 keygroups/samples (some with maybe just one KG/sample!) whilst others may be larger with detailed multi-samples (acoustic piano, for example) rounded off with some drum/percussion programs and all these will be balanced out with a combination of long and short filenames. Of course, you will encounter problems if you attempt to load lots and lots of very detailed multi-sampled programs and/or heavy drum/percussion programs (and ironically, drum programs will typically have lots of short samples and so it is possible you could exhaust CPU Memory before the RAM is used up).

In Version 2.0, some improvements have been made and it has been possible to condense some header sizes as shown below:



As you can see, the header size for keygroups has been decreased so it should be possible to load more items into memory now. The difference may not seem great but accumulatively, you should notice the improvement.
The various main mode pages on the S5/6000 now display the amount of CPU memory that is free.

> ***NOTE 1:*** *The headers for Playsheets, Scenelists, Song Files and Setlists are also loaded into CPU memory but these are so small they have little impact on overall CPU memory usage (plus the fact that you can only have one Scenelist/Setlist in memory at any one time).*
>
> ***NOTE 2:*** *The actual MIDI Song File sequence data is loaded into wave RAM and so does not affect CPU Memory usage.*

HOW TO REGAIN SOME CPU SPACE

There may be times when CPU memory is running low but you need to load (or record) more sounds. What follows are some tips to make more efficient use of CPU memory.

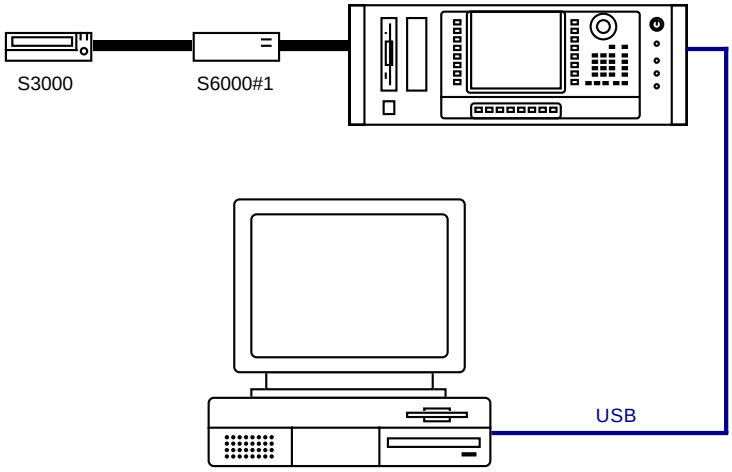
- Delete any unused keygroups from programs. For example, you may have loaded some monstrous “Ultimate XYZ” program - a highly detailed multi-sampled instrument with a sample every minor third - but you are only actually playing a riff between C3 and C5. Delete all those keygroups above C5 and below C3 that are not being used. This could save a lot of CPU Memory.

- Similarly, in a hefty drums/percussion program in which you may only be using a handful of sounds, delete all those not being played.

- Old stereo S1/3000 programs use two zones for stereo sample assignment - one for the left side and the other for the right. Stereo drums/percussion programs such as this can be very demanding on CPU Memory because they use two zones in each keygroup to accommodate the separate left and right samples. In this case (apart from deleting those keygroups that are not being played as suggested above), use the CONVERT -L/-R function in EDIT PROGRAM/ PROGRAM LIST to convert those separate samples into one interleaved stereo sample. Not only are interleaved stereo samples registered as 1 ‘unit’ in the S5/6000 but they only requires one keygroup zone.
- Use the PURGE function to delete any unused samples.
- Delete any programs that are not being used.
- Try to keep the size of multis to the minimum.
- Try to keep names short. This won’t claw back much CPU space but it may help.
- Delete any unused playsheets, scenelists, setlists and/or SMFs. Although the headers for these items are miniscule, every little helps!

SUPPORT FOR THE IB-S56USB AND AK.SYS.

New networking and editing software has been developed by AKAI professional to allow you to control your S5/6000 from a Mac or PC via USB. This, of course, requires your computer to have USB and also requires the installation of the IB-S56USB card in your sampler. With such connections installed in both the sampler and the computer, all control of the sampler is done via USB without the need for dangerous SCSI connections and conflicts:



Here, you see a system with an S6000 attached to a Mac/PC via USB. It is also connected to two hard disk drives via SCSI. All file transfer between the sampler and the drives is initiated via USB.

Software has been developed for networking two or more samplers (with drag and drop of items between the samplers and/or the Mac/PC) plus a suite of software components that allow complete remote control from a 'virtual' front panel, a Multi editor and a Program editor. A sample editor has not been developed as there are so many excellent third party sample editors available already - ak.Sys. does allow integration with these, however. Sample editing requires that the samples be transferred to the computer of course but this is done via USB and not via a SCSI connection.

An Effects Editor and Recording component will be added in subsequent releases - in the meantime, these functions are available by way of the 'virtual' front panel.

Some screen shots of ak.Sys. are shown in the document available from our website. Alternatively, please contact your local AKAI professional distributor for more details about ak.Sys.

OTHER IMPROVEMENTS

- More SysEx (see SysEx documentation for more details)
- Faster screen redrawing when the sampler is busy
- Improved Voice Stealing

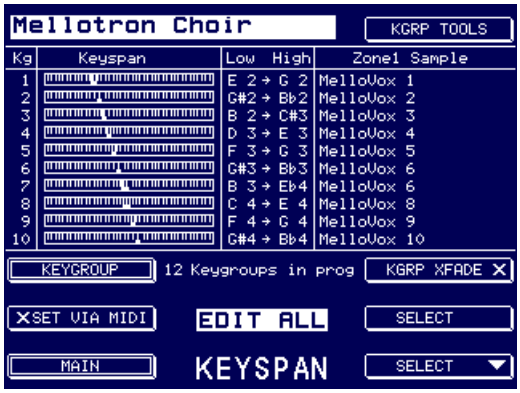
  When voices must be stolen, preference is now given to those voices which are in their release phase. (The previous implementation always stole the oldest note, regardless of its playing state.)

  If there are no notes in the release phase, then the oldest note will be stolen (as in previous implementation).

  This means that long sustaining notes should not be stolen during a busy sequence.

- Improved display of long sample names in keygroup zone and keyspan pages:

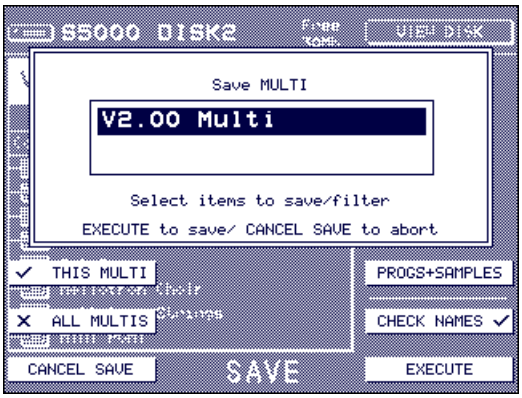




  It is now possible to see an entire 20 character name in these pages (previously, it was limited to 14 characters).

- Improvements to saving multis.

  It is now possible to specify what items are saved when saving a multi. The SAVE prompt now looks like this:



  By repeatedly pressing F14, you may choose to select:

  PROGS+SAMPLES Saves the multi and its associated programs and samples.

  PROGRAMS Saves the multi and programs but not the samples.

  MULTI ONLY Saves only the multi.

  These options are added becuase sometimes you may only have changed the multi but not its programs and samples. Alternatively, you may have tweaked a few programs to sit better in the multi but you haven't touched any samples. Using the PROGRAMS and MULTI ONLY options, save times are extremely fast.

- It is now possible to see the record meters during recording.



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