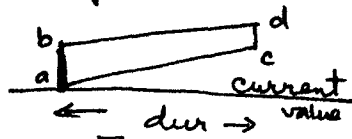


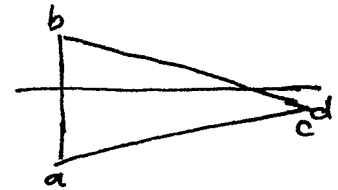
# PODNEWS

Vol. 1, no. 1

Oct. 11/83 PDFILX edit mode allows score listing during edit  
New systematic edit operator! MASK OPERATOR (14)



a, b, c, d in %  
to indicate range  
of the % change  
- includes negative %



over all events  
OR  
over some number of events  
after which the mask repeats

this facility has been added to option 13 (mask selection)

Nov. 8 - Conditional edits in PDFILX have been extended to allow multiple conditions (up to 5!). Keep in mind that the conditions are linked by a logical "AND". For instance  
IF OBJ. NO. less than or equal 3 .AND. obj. no. is greater than  
will not produce a result (because no value satisfies both  
conditions) whereas  
IF OBJ. NO. greater than or equal to 3 .AND. obj. no. is less than  
or equal to 7  
is quite plausible.

- in dummy merge site creation, you can take events from an existing merge file, in addition to creating default events. you can take all of the events in a file, or any subset (by indicating start event #, and no. of events (default = all))  
If you have indicated more events to be stored than are transferred from the merge file, the rest are given default values as usual

# PODNEWS

vol. 1, no. 2

- Nov. 15 :- new systematic edit option in PDFILX  
edit entry delay or duration in the following ways:  
1) make entry delay = duration  
2) make duration = obj. duration (ie attack +  
Steady state + decay times).  
- can be combined with conditional edit.
- :- multiple file mix in MERGE (opt. 5)  
up to 10 files may be scheduled for mass mixes!  
each has its own offset time with respect to the 1<sup>st</sup> file.  
- for the object sets, they must all be declared different  
or identical.  
- the intermediate mixes are stored in temporary files  
e.g. MIXX1, MIXX2, etc.  
- for best results, delete these files before using the option  
(& afterwards too as a courtesy to the next user)  
• R NEWPID  
\* MIXX\* .POD/D
- :- POD7X provides graphic print-out of objects & mixen's.  
Option 6 = Print file obj.

Nov. 29: WAVEX includes waveshaping

DEC. 4: The FUNC program for 8-voice additive synthesis is  
on all USER disks

Feb. 3/84 FUNC includes "erase" and "show", the latter for  
amplitude functions only (see below!)  
POD7F on USER disks for non-realtime FUNC  
Calculations

- Feb. 13 TESTM is equipped with tape playback and a "sample increment check" as used in PLAYMX  
 PLAYMX includes a second timer + transient threshold limit (as determined with option 5 in TESTM). This limit is lower for low freq. sounds (and hence more effective) than for high freq. sounds. When successful it removes small transient clicks. When the limit is set too low, the sound will be distorted.
- Feb. 24 POD7X includes a facility to play an object on the CRT keyboard during sound tests (change codes 10 and 11)  
 The numbers 1 → 10 indicate octave (5 = middle C) + the letters A → Z (for the time being) give pitches within the octave. (turn those typing skills to musical advantage!)  
 - single voice + multiple voice (max. = 6) modes are available
- Feb. 29 FUNC : the 8 voices no longer have to be the same length for correct synthesis; they'll shut off when done  
 keep appropriately quiet
- Mar. 6 POD6X is equipped with keyboard performance in P5/M4 as described above.
- Mar. 13 PLOTX can now perform trajectory files with 6 waveforms (stereo mode)  
 It also avoids the score printout to speed things up.
- Mar. 16 FUNC includes a scaling suboption in the COPY routine which allows either the time values or vertical function values (or both) to be changed by adding/subtracting a % value (similar to operator #8 in PDFILX). Note that editing a given function can be done by copying it back to itself with scaled values.

# PODNEWS

Vol. 1 No. 4

- May 16 MERGE is now equipped to handle "Func" files
- May 18 POD6X now (at last!) incorporates waveforms into the sound object. As with merge files, either 3 or 6 waveforms may be used in real-time synthesis. Note that waveforms may be assigned to objects in sound tests (PS, M4) or in systematic edits (O4, O5) you can probably edit previously calc'd files as well as long as you use HI to terminate & update the file when finished. Note: once a waveform is loaded, it doesn't have to be reloaded (by the program) the next time it's called.
- \*\* Because of the complex nature of this change, please keep me posted of any problems. Thank you.
- May 25 FUNC includes an option for printing a matrix table of frequencies based on ~~a~~ base frequency and two sets of ratios (which may be entered as pairs of integers, 3 digits or as a real no.). Max. matrix size is 9 x 20.
- May 28 WAJEX includes Amplitude Modulation
- May 29 FUNC is changed to allow playing + showing during input + editing operations. Also, sharp attack envelopes are now correctly realized.
- June 6 PLAYMX is equipped with real-time digital reverberation! It is available with "sample increment" error correction but not "peak limit". There are two variables: gain factor (which is like feedback level; .70 to .80 is about right; max = .99) and ratio of direct/indirect sound in ~~max~~ 6 dB steps.
- POD7 now no longer includes reverb for non-real time
- July 11 POD7 includes a "short" calculation mode with <sup>calculation</sup> no transfer to magtape; samples are left on disk. To call, give a negative option no., e.g. -1 instead of 1, -5 instead of 5

# PODNEWS

Vol. 7 No. 5

Aug. 1 PLOTX allows the trajectory to be used in either the forwards or reverse order.

POD7 with negative options (Disk write only) includes an offset line which refers to <sup>where</sup> the sound starts relative to the beginning of the disk.

AUG. 3 A new version of POD7 has been created using block size of 6K words  
TESTM and sampling rate of 32.0 KHz.  
PLAYMX Please advise about any problems.

If anyone needs to play tapes created under the old system (4K blocks) please use PLAYMY and TESTMY on USER's disk (only)

TESTM & PLAYDK allow samples to be synthesized directly from disk: max = 200 bl.  $\approx$  38 sec.; TESTM also has editing facilities for dealing with these samples (Ask for a demo)

Aug. 7 POD7X, POD6X: Keyboard sound test exits with "RETURN" as with other sound tests.  
POD7: sampling rate is 32K and can be changed if required.

\*\*\* TESTM is now called PLAYX

Aug. 20 PLAYX is equipped with A/D conversion to either disk or tape in mono or stereo modes (see timing lists for sampling rates, etc.). In the case of the disk storage, it fills up the disk (200 blocks) unless interrupted on the keyboard.

Sept. 19 PLAYX / PLAYDK is equipped with real-time modification of delay reverberation, comb filtering, filtering (low-pass/high pass) under "arrow" control, in addition to speed.

Jan. 22/85 POD7X includes a multiple ~~loop~~ object keyboard performance; Change code 13 or enter with "play all obj. = -1"

Mar. 7 PLAYX / PLAYDK: use "E" to stop synthesis at end of loop

# THE NEW RT11 version 4 PODX System

New versions of all the PODX programs are now on all USER disks plus the floppies. You'll notice some differences:

- 1) File Handling is faster. For all .WFL, .DOC, & .FUN files, all aspects of file handling are faster. For .POD files, the initial lookup is faster and during PDFILX edits of "merge files" the read/write is also faster (& done in larger chunks). Waveform loading is also faster.
- 2) Sound Tests: in POD7X & POD6X, there is no more "repeated sound test" - you go immediately to a polyphonic keyboard test, and you exit from it (or avoid it) by typing "return". The frequency you enter for the carrier is always available with the "delete" key. You'll also notice proper scaling for negative indices & the lack of same for positive indices.
- 3) Waveform No. stored in the sound object. You may now code all 8 waveforms as carrier or modulator. However, previously generated files will have their w.f. # incremented by 1. Use PDFILX to systematically reduce the w.f. number (L.W.N.C. = -1) if you want to use these files.

- plus a host of small & subtle surprises here & there!

Of course there may be bugs (yeck!); report them in the usual way. BS.

- Mar. 26 PDMSKX includes hard copy output of mask data
- Apr. 2 PDFILX in edit mode includes a special edit mode (#10) to recalculate the frequencies in the score by treating the current frequencies as modulators or as fundamentals (similar to POD6X's Q2 option)
- Apr. 15 SCORE allows a POD6X file to be printed out without the complicating duration code (which often screws up the output anyway). All perf'ce variables are taken into account
- Aug. 5 POD6X The R4 option allows Merge file objects to be translated & used in POD6X (up to 30 obj. & 5 env's). R4 must be called before a score is calculated.
- Oct. 2 POD6X The R4 option allows you to get a complete printout of your compositional data while working on a section; you can also complete & store the current section as before.
- Feb. 14/86 ~~KSX~~ KSX A new 7-voice keyboard program for testing the Kamplis-Strong string algorithm.
- Mar. 21/86 GSX A new 19-voice keyboard-controlled program for real-time granular synthesis!
- Sept. 26/86 FUNC - Output is now stereo! 4 voices per channel (even voices on right, odd voices on left) so for instance each voice could have max. amp. = 8192 with no overflow  
- copy routine allows entire object to be copied with independent scaling of time, amp. & freq. Ident. Source obj. is obj. # - , voice # 1 .
- Oct. /86 PDFILG - score editor for granular synthesis
- Nov. 10/86 GSX, PDFILG - includes ramp editor

July/87: HELP renamed HELPX

GSX:

PF1 = list options

PF2 = display env. fraction

PF3 = retrieve & list presets (wait for R)

PF4 = store presets in file (wait for S)

- amp. attacks now allow random values to be calculated en route (except for cursor at far left)
- "J" requires harmonic spacing of frequency based on FREQ as fundamental (plus range)

GRMSKX:

- a new granular synthesis program controlled by tendency mask input (note screen editor for mask data); masks can be derived from presets

POD7X:

- change code 11 allows screen editing of object lists 10 at a time

GSX, etc.

- in FM synthesis, change C:M ratio by typing in a new ratio (eg 1:2) - note: the two members are separated by :, or . (no display)

Aug. 4

PDFILX, POD7X etc.

- you can create or edit a tuning file (PDFILX) & use it in score editing or keyboard tests (POD7X) by referring to a "pitch" which is used to reference a frequency (either integer Hz or freq. x10). Set control word 7 in score file to 2 or 3 (freq. x10). Tuning file can be changed in keyboard test (change code 5).

Try: PELOG, SLENDRO, TEMPIZ, JUST, PYTHAG

Aug. 6 GSX

additive is now 20 voices! (max. density = 2500 gps)  
& input is simplified



- Sept 2/87 GSX, GSAMX PDFILG DUR. RNB can be changed to DEL. RNB. (1)  
i.e. you can have a fixed duration and variable DELAY - useful for large RNB values
- GRMSKX Tendency masks can be derived from presets as interpolations between presets.
- POD7X Keyboard performances can be stored as a score when updating a file (cont's)
- Sept. 8/87 WAVEX Harmonic construction of waveforms now proceeds either interactively during a sound test, or numerically as before
- Sept. 14/87 PDFILX Scores may be screen edited in addition to other modes of edit; works similar to obj. edit in POD7X  
Objects may also be screen edited in PDFILX
- Oct. 1/87 CFM7X: Configurable FM includes sound test, obj.-file storage, keyboard recording, and score playback; scores may be edited (no obj. edit) in PDFILX.
- Nov. 2/87 GSX, GSAMX: Keyboard performances with presets may be stored as a score, playable (or editable) in PDFILG.
- Dec. 2/87 GSX, GSAMX, PDFILG: presets & objects are screen editable now in these programs (10 at a time)

Mar/88 GSX, GSAMX  
 etc. Caps Lock ON (upper case characters) results in continuous sound as before (note indication at top of screen)

CAPS LOCK OFF (lower case characters) now results in a decay at rate=INC applied to each preset as it is typed; attacks other than a fast one can be activated (as before) by the spacebar.

Note that ramps, etc. may occur while the decay proceeds!

The only exception is when the cursor is at far left (i.e. "lock" posit.)

PDFILG: The same control over continuous/decayed sound is possible depending on whether the CAPS LOCK is on/off when S,P is hit.

May 19/88 GSX, GSAMX grain durations shorter than 8ms are possible if you reduce the number of voices sounding. Limits are as follows.

<del>MIN.</del> DUR	Additive	FM	Sampled
8ms:	1-20 voi	1-8 voi	1-20 voi.
4ms:	1-10 voi.	1-6 voi	1-8 voi.
2ms:	1-4 voi.	1-4 voi.	1-4 voi.

Nov. 1/88 FUNC: The frequency tables may be stored as a tuning file. Current limits are 5 horizontal "projections" or "octaves" by up to 24 scale values (vertical entries in table) for a total of 120 stored frequencies.

WAVEX: Amplitudes in harmonic construction now treated linearly (not logarithmically as before) when w.f. is calculated to keep the results consistent with the interactive sound test version

Nov. 22/88 GSX: waveforms & no. of voices may be ramped (A, D, Q) when synch'd (+, -), also cyclically (C). Max # of values may be set with H. Changes are always by  $\pm 1$ .

GSAMX  
 PDFILG

Note: In additive, BOTH waveforms may be simultaneously ramped!

Dec 1/88 PDFILG: Ramp ~~variable~~ <sup>variable</sup> may be controlled manually or from the value stored in the object list. This option is like that for freq. or dur. replacement & makes it easier to control ramp speed

Feb/89 GSX: includes a stereo position; PF2 1<sup>st</sup> display ENV. FRACTION, then stereo pos'n. which may be manually toggled  $\updownarrow$ ; or ramped automatically with [ ] left  $\leftarrow$   $\rightarrow$  right

GSAMX

June /89 GSX } A trajectory file (as defined in PLOTX) can be implemented  
 GSAMX } with the J option in these files; it's always cyclic  
 Its speed may be lengthened with +INC, shortened with -

GRMSKX: Up to 10 mask files may be played sequentially.  
 Note: To maintain synchronicity of all masks, their total  
 durations in each file should be the same.

July 12/89 PDFILE: Voice numbers in the score are now  
 translated into spatial positions. A trajectory  
 may be added to the score in PLOTX (file creation option 2)  
 - Scores may also be repeated automatically only

Aug 11/89 GRMSKX: Trajectories may be implemented in all synthesis  
 modes, controlling either just the spatial position, or  
 overriding the amp. env. as well. Speed controlled by  
 INC which can go faster (to neg. values) using < .  
 Start trajectory with J, repeat to stop; position shown as  
 "PS"

GSAMX: variable rate mode: rate is expressed as a ratio OFF:ON  
 with two options:  $\phi$  = ~~reverse~~ direction during off/on states  
 1 = always take samples in reverse direction  
 (see documentation)  
 the rate ratio can also be synch'd + cycled.

Disk loop is controlled by start block no. & no. of blocks.  
 these are displayed at left and each may be synch'd (+, -)  
 to automatically increment or decrement after each loop.

WAVE X: waveform may be printed on L.P. and during harmonic  
 construction, so may the printout of amp. spectrum.

Aug. 21/89 GSAMX: variable rate & continuous disk sampling includes presets  
 activated at far left of screen. See DISK.DOC printout  
 Each preset denotes a different disk segment

Nov. 29/89 GSAMX: Option 2 (continuous sampling) allows an option to fill  
 the DMX memory once & granulate the contents to be added to  
 the unaltered original. Recording memory occurs on the  
 preset command or when signal exceeds a threshold. Note decay  
 or with ramp & attack.

Feb./90 GSAMX:

1) Fixed Sample Version: In addition to UP/Down transpositions, there is now:  
Variable Pitch: with suboptions

a) Variable No. of Transposed Voices where voices are either at "normal pitch" or the transposed pitch (a variable no. of them)  
 Note that normal pitch is determined by the no. of voices asked for which determines the sampling rate; a table prints this.  
 The transposed pitch is given by the "pitch" variable where  $160 = \text{normal pitch}$  & others are proportionate.  
 Note that "pitch" & "No. of voi. transp." are in the preset & can be ramped, etc. the effect is like a chord.

b) Variable pitch range: calculated from average pitch and pitch range (also in preset & can be ramped).

Note: In this program, there is no limit on max. duration; the samples just cycle through the sample when the end is reached!

2) Continuous Sample Version:

As the samples are read from disk (at real-time rates), <sup>DMX</sup> memory can be "frozen" after a single recording & held. The grains are taken from memory as before and combined with the original signal which may be omitted. The memory is recorded & frozen according to 2 schemes:

a) when the preset is initiated (keystroke) and if the amplitude of the signal exceeds a non-zero threshold (see PLAYX, option 4 to see your signal level)

b) on preset &/or at a regular interval determined by a ramp (A or D)

Note: manual & ramp activated "freeze" accumulate samples according to feedback levels

Feb. 14/90



RECDK: Records A/D conversion from Digisound-16 !!  
 Sampling rates from 20-44 KHz (Mono only at present)

Feb. 20/90

PLAYDK has been revised (includes disk presets)

PLAYX is now called DISKX and includes all disk sample functions

Feb. 22/90

PLAYDK allows the end of each loop to be "smoothed" by fading out the end of the loop & fading in the start of the next over a variable no. of samples (0 to ignore the option). Try 128-256 samples.

May 7/91

GSAMX : The SPEED variable in the various synthesis methods can now be changed by INCREMENTS other than 1. This allows faster changes on all 3 types of ramps. Also can be type

GSAMX : When using disk loop files (\*.LOP), the first preset is loaded on entering the continuous or variable rate mode (instead of specifying start block no. & no. of blocks)

GSAMX: Mono samples in variable rate mode can be transposed up in harmonizer fashion by an integer multiple (2, 3, 4... when answering the MONO=0) STEREO=2 question. However, the higher the transposition, the shorter the allowable grain without distortion, depending on stretch fac

Oct. 4/91

GSX: offers an "Asynchronous" granulation mode which features user-controlled DENSITY rather than delay between grains. Min. density = 2; Max. density = 2000 (grains/sec.)

Note that the grain duration is reduced when density requires it; however short grains (2ms) are possible at densities of less than 1000 gps.

Nov. 1/91

GRMSKX: Asynchronous granulation (controlled by DENSITY instead of DELAY) is now included for all Synthesis methods. Note that density is in gps and can be linearly changed via an "envelope"

Nov. 27/91

PDFILE6: Asynchronous granulation included for all synthesis modes

Jan. 17/92

GSAMX: Disk Loop Presets have an editor like ramps the editor also allows a sequence of presets to be entered (max. 16); implemented in the program with I at far left  
The direction options are switched so the "always reverse" is the default

Feb. 4/92

GSX, GSAMX Includes a trajectory plot/edit option. If traj. file doesn't exist, you have the option to plot it

GSAMX: fixed sample: ? displays each voice & whether it's transposed; manual on-off

# POD NEWS VOL. 3 No. 2

Mar. 20/92 @SAMX The disk loop editor allows a sequence of presets to be specified. This can be implemented during Synthesis with I (at far left), or directly from the menu "START AT BLOCK NO. .... SEQ. = -4"  
In the latter case, if you ask to correlate the rate with the amplitude, it will do so for the entire sequence

April 10/92 @SAMX: Variable Rate allows pitch changes such as 1 Octave Down, 5<sup>th</sup> Up, Octave Up etc. (as in a harmonic series).  
To avoid distortion with upward transpositions, use larger OFF:ON ratios, shorter gain durations & lower OFFSET

April 14/92 MERGE: now allows granular scores to be combined; keep in mind that presets/objects are essentially "monophonic" & no real overlap will occur through merging.

July 21/92 @SAMX For each element in the disk loop sequence (as above), a OFF:ON ratio may be typed in (during disk loop edit; type S for sequence, position cursor with Tab and type ratio).  
Ratio is implemented only when asking to play sequence (option -4) if requested; cannot be combined with amp.  
Correlation; ~~minimum loop length = 2 blocks~~

Note: disk preset character printed one space higher than before to avoid clashing with ramp indicator  
Also, if you want a longer sequence of ratios than there are presets in the sequence, ~~type~~ ask for "extra ratios" 2, 3, ...  
To add additional ratios to the sequence, type in new ratios with no presets in the preset editor

Aug/92 PLAINDK: includes Disk Preset File, Preset Sequence, manual preset retrieval. Also, speed value may be typed in.  
Also includes a menu of mixing options using a second KLOZ disk (see Disk documentation for details) & output via Digital Sound DACs

~~@SAMX is a variant of @SAMX that uses high memory & hence doesn't unload various subroutines; it's quicker to get in & out of Synthesis when using options like the Disk Loop or Preset editor. However, no smoothing is used.~~

Aug. 25/92 GSAMX Includes an additional variable rate model that allows multiple pitches simultaneously for transposing voices. Max. # voices = 15 & for each you specify the harmonic # you want, starting at 1 = 2 oct. below original i.e. normal pitch = 4

Oct. 9/92 PCAYDK The MIX options includes an option (11) to edit out unwanted material and move later material on the disk to fill in the space. This is useful for tightening up the material on the disk & saving space. The easiest way to use the option is to find the section to be omitted by playing it in PCAYDK, adjusting for the exact beginning & end of the material to be excised, then going into the mix options & asking for # 11: the section you just played is offered as default value

Oct. 30/92 PCAYDK: When you are playing a sequence of blocks you can use the Q command at the far left to randomize the blocks; initially the block length is 1, but with the + (auto increment) you can augment this to other lengths. To return to the initial disk loop, use R. The randomization effect can be turned off with Q (a second time, i.e. Q is a toggle). Don't forget to ask for a smoothing between blocks. If you load another disk preset while randomizing the random blocks are taken from the range of the preset.

Nov. 25/92 GSAMX All options have the Q function now

Dec. 4/92 GSAMX: <sup>Six!</sup> Five "harmonic presets" are available in option 4 (harmonic). They are specified with the disk loop editor and set in motion, at far left with SHIFT + 1, 2, 3, 4 or 5, 6

SHIFT 0 = normal pitch (4)	SHIFT 8 = down 1 octave (2)
SHIFT 9 = down a fourth (3)	SHIFT 7 = .. 2 octaves (1)

<sup>or at INC position (to allow</sup>  
<sup>ran. presets & harmonic presets simultaneously)</sup>

Jan. 22/93 GSAMX On a trial basis, in order to get smoother starts when recording, I'm trying out an "automatic" attack that is initiated with the spacebar only when the cursor is at the far left. The attack (at rate =  $\omega_c$ ) is delayed until the start of the next loop, which occurs when the counter clicks over 2 blocks past the ~~the~~ start block. Presumably, you'd use a CTRL D before this, so you're starting from zero. Let me know if you like it.

Feb. 19/93 PLAYDK The program automatically loads the first preset in your disk loop file - this also makes it easier to switch such file

April 7/93 GSAMX In option 3+4, ~~amp.~~ <sup>OFF:ON ratio</sup> may be correlated with + amp. or with the ABSOLUTE amp. value [to see these values use option 4 of DISKX]; previously it was always the ABS value. The user defined ratios in the DISKLOOP file, related to the sequence may be used in the following ways

- 1) as fixed ratios per disk preset
- 2) with an "extra" ratio so there is a phase relation when the sequence repeats
- (NEW) 3) as the max. ratio value for amp. correlation

NOTE that the "fineness of resolution" of amp. correlation depend on what you specify as the ON part of the ratio. For ON=1 the resolution is fairly crude as all ratios will be N:1 where you set max. value of N. For ON=2, the max N needs to be doubled to keep the same effective range, but now you have 1:2, 2:2, 3:2, 4:2. Higher value of ON will adjust the correlation even more finely, though the results will differ more subtly.

May 26/93 GSAMX: Trajectories + Panning implemented in all options  
 note: Panning can now be cyclic (with C) + pos. can be triggered in  
 \* To go to far left, hold "HOME" key down till cursor moves (F14 key)



To whom it may concern,

The DAT Machine is being used  
in the 12:30 show today for  
Doug Cross's piece.

Scott Morgan.

GSAMX USERS: req. with trajectory files! May 18/93

You're now using a new version of this program that uses the high memory of the Computer for data transfers. It will thus allow more space for future editions of the program\*. The other implications are as follows:

- 1) the "smoothing" at the end of a loop is now done in the DMX, and the duration of the fade-out + fade-in is expressed in Ms. (for a fairly low glitch, try 50-75ms, for minor transients, 10-25 should do). Note that the x-fade can be for a loop of a single block & the max. fade is about 1/2 block or 100ms. It applies to randomized blocks too (@ option).
- 2) For automated amp. control, there is no limit to the # of blocks scanned (the entire disk - 1024 blocks - can be scanned (it takes over 30 sec.)).
- 3) when you exit from synthesis to, for instance, edit a disk loop file or change # voices you can return directly to synthesis, as no <sup>control</sup> data is lost.
- 4) with Disk Loop Sequences where ratio is assigned, loops can be as short as 1 block.

Any problems, please report; the old version is called GSAMY.

BJ.

# PODNEWS Vol. 3 No. 5

June 1/93 GSAMX: manual pans [ ] are now cyclic, when C is requested. Speed varies as INC.

June 3/93 GSAMX: a variation on presets being enveloped or not (with CAPS LOCK OFF/ON) is available, namely COMPOSE + CHAR where the "Compose" key is next to the Spacebar. It is interpreted as requesting an attack at rate = INC of the given preset.

June 14/93 GSX: the logistic equation can now be applied to sampled sound and FM with re-initialization of random start values on preset + Spacebar. Note that in both maps, with sampled sound + variable pitch, (also FM), the FACTOR is implemented with the preset but NOT shown.

In all modes, the ASYNCH version includes the non-linear mapping applied to DELAY times between grains

In all modes, +/- sync on OFFSET, FREQ, DURATION, DELAY + DENSITY maps the non-linear value in a positive or negative manner respectively. The effect depends on the map (logistic is + only; gingerbread is +/- already) and the parameter involved.

June 17/93 GSAMX A new 10-voice option has been added that extends the variable rate harmonizer model to include a "pitch range" parameter that allows each voice to have a randomly different pitch with ~~the~~ <sup>each</sup> grain. At the moment, all transpositions are upward the alternative (: option) fixes the pitches at a linear separation over the range. The PIT-RNG parameter takes the place of OFFSET (which is less important than OFFSET Range) and has the range 0 - 8192 which corresponds to Bandwidth.

June 28/93 PLAYDK: The high-pass filter has a choice of lower cutoffs.

July 7/93 PLAYDK: The Ring + Amplitude Modulators now have a DC offset variable that allows you to minimize leakage of the modulator. You can adjust it by ear or look at the amp. of ambient blocks in DISKX, option 4 & use the corresponding positive #. Use can also use MIX option 12 to permanently add the required offset.

# Podnews Vol. 3 No. 6

Oct. 1/93 PLAYDK OSAMX  
The autoinc. value for start block is now a variable. Default is 1. Asked for with option "Loop Inc"  
note: Smoothing in PLAYDK & OSAMX now in millisec.

Nov. 19/93 PLAYDK  
In multiple copy mixing, you can now simulate the Autoincrement function by adding a positive or neg. no. of blocks to the start of the source each time a copy is mixed. Note that to simulate an autoinc. loop the "offset" at the end of each mix is 0; however, by using a neg. offset, overlaps of the auto-inc. pattern can be obtained - very complex results!

Feb. 11/94 PLAYDK  
Includes the most useful disk data functions from DISKX, namely:  
1) show min/max amp. per block  
2) graph max. amp. contour of 1 block  
3) graph & optionally edit sample sequence from a block  
To get these options, exit synthesis menu to get the appropriate menu

Apr. 27/94 RECDK  
Includes an auto-recording option to start the recording when the signal goes positive (default case) or above a specified true threshold (which may cause a click if set too high). Since normal low-level signals are negative, the default case may work best for clean start. You can also have the tape cued, leave RECDK in "pause" mode (after "Ready?") then start the tape.

PLAYDK  
The Karplus-Strong filter has a more sensitive control on feedback amplitude (generally in range 800 - 1020) that makes it more useful.

An option to "negate" samples is also added; this transposes the resonant freq. down an octave & makes it resonate to odd (rather than even) harmonics

May 6/94 PLAYDK  
The Mix option can implement a neg. sample offset which shifts the source material backwards a partial block.

# PODNEWS Vol. 3 No. 7

Feb. 24/95 PLAYDK includes an "interleaving" option which alternates blocks between two disc presets. At far left, hit J and then the preset letter of the <sup>second preset which</sup> to be interleaved with the first. <sup>(G to advance immediately)</sup> The program defaults to a duration of one block each per preset but can be changed with an auto-increment on duration. The no. of blocks advanced when returning to the preset is determined by the "loop inc" (suboption - 6) which defaults to 1 but can be set to other values. A second J toggles the effect off; or the effect can be cancelled by going to ~~I~~ I. When alternating between two presets, say Z and X and you want to change to a 3rd preset, say V, hit V while the preset is sounding which you want to replace (this is tough to do with fast changes, but does anyone have a better idea?).

July 21/95 GSAMX/PLAYDK (J) Note: Loop Inc can now be typed in at far left

Aug 2/95 PLAYDK The randomization (Q) & interleaving (J) options are now mutually compatible - ie you can use them separately, or together, in which case a random choice is made between the two presets that have been selected (which can be replaced by other presets). Note that both Q & J are toggles, so they can be turned off & on at will.

Sept 2/95 GSAMX ~~to~~ All options for disc playback activate the interleaving option as default above.

Feb. 2/96 PLAYDK Default speed is now 163 (30 kHz) & doesn't change when editing loop file. Hit M to display & change Maximum value of processing parameter as in GSAMX - note how it affects random (Q) range & limits A ram