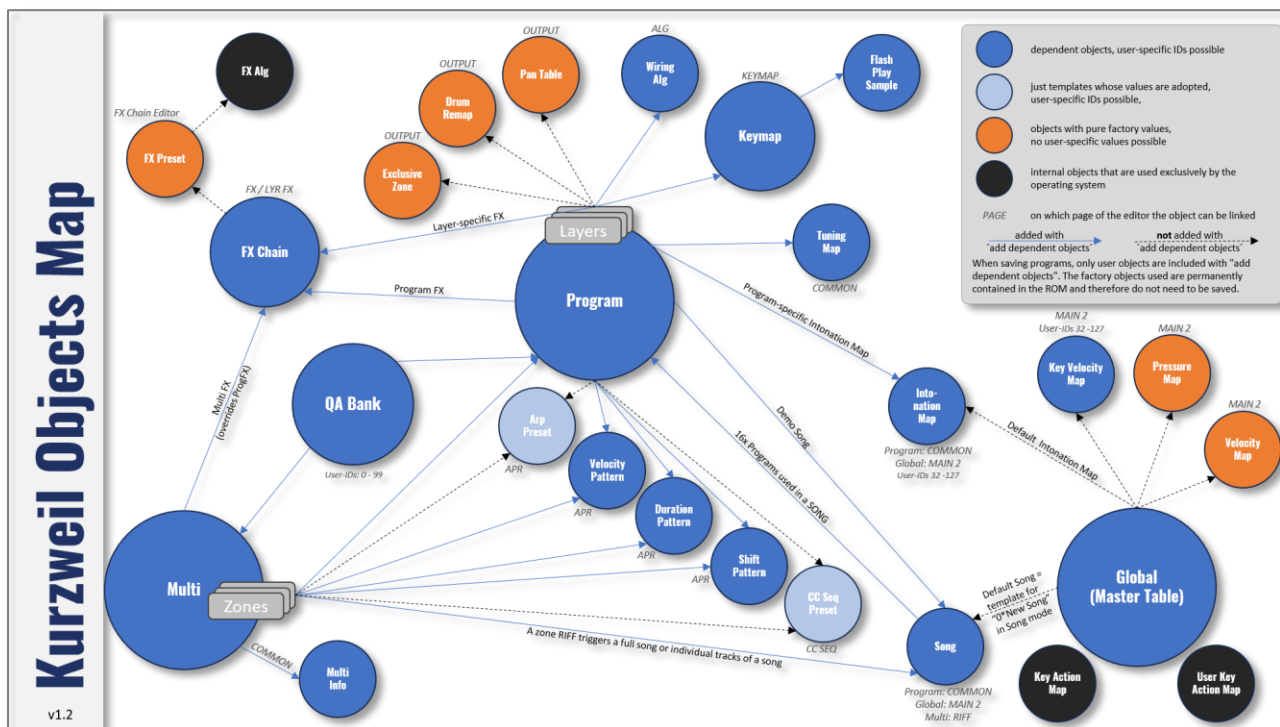


Kurzweil Objects Guide v1.3

So that settings and configurations can be reused, they are stored in so-called **objects**, e.g. effect chains (FX Chains), arpeggiator settings and programs themselves.

For example, a group of effects (reverb, chorus, flanger, ...) and their associated settings are stored in an FX Chain object under an object ID and an object name (e.g., ID:"5", Name:"Small Hall"). All programs or Multis can now use this FX Chain by simply entering the corresponding ID in the FX settings. The important point is that only the FX Chain ID is stored in the Program or Multi – that's all you need, since all effect settings are already stored in the FX Chain. A program therefore stores a reference to another object, not a second copy of its settings. The referenced object is called a dependent of the program.

Kurzweil keyboards apply this object-based approach to many different kinds of data. The image below shows all object types and how they depend on one another.



Updates of the factory objects are distributed together with operating system updates of the Kurzweil keyboards and also have their own version numbers. For example, the v1.10 update for the Kurzweil K2700 has the Operating System version 4.46.37288 and the Objects version 1.04. In this Objects version there are 9145 objects (1545 programs, 964 keymaps, 2790 FX Chains, ...)! Note that these updates do not contain the factory samples: those live in a memory module in the keyboard and cannot be updated or stored anywhere else.

The factory objects are permanently installed in the memory of the Kurzweil workstations and do not need to be backed up. Programs or Multis that you create or load yourself are stored as User objects. They can either use the factory keymaps, FX Chains, etc. or bring new objects with them.

However, if you save or load user programs, any User objects they use must be included as well. This is achieved by answering yes to the "Store/Load Dependent Objects" prompt.

The following table gives an overview of all object types used in Kurzweil keyboards.

Object Type	Description	
Multi FACTORY USER DEPENDENT	A Multi is a combination of Programs arranged as layers and splits across the keyboard in max. 16 zones.	
Multi Info FACTORY USER	Multis can display a small informative text in the Multi Mode selection page. The Multi information is stored in a separate object that will always go along with the Multi it belongs to in object operations like Load, Store, Move, Save or Delete. So it's not a dependent object – it's always combined with its Multi.	
Program FACTORY USER DEPENDENT	A Program is normally a single instrument, such as a piano or an organ. A Program is similar to a “preset” or “patch” on other synthesizers and contains up to 32 layers.	
Keymap FACTORY USER DEPENDENT	A keymap belongs to a program and contains a set of samples (up to 128 sample roots) and parameters determining how each sample will play when you trigger a note. Each keymap consists of a set of keyboard note ranges. Each range has a ROM or RAM sample root assigned within the range.	
Flash Play Sample FACTORY USER DEPENDENT	A list of samples (a digital audio recording from another source) stored in the memory of the keyboard . This can be individual samples or multi-sample objects (a combination of multiple sample roots for one instrument sound).	
Wiring Algorithm (ALG) FACTORY USER DEPENDENT	Algorithms are the core of VAST programs (Variable Architecture Synthesis Technology). The sound sources in each layer can be individually processed with an algorithm containing DSP functions .	
FX Chain FACTORY USER DEPENDENT	A sequence of audio effects used to process and enhance sounds. These effects can include reverb, delay, chorus, flanger, phaser, and many others. FX Chains can be customized and edited to achieve the desired sound, allowing musicians to create unique and complex audio textures.	
FX Preset FACTORY PRESET	A list of hundreds of predefined effects divided into types (e.g. Flanger, Chorus). FX Chains are formed from any combination of these or even customized effect boxes.	
FX Alg FACTORY INTERNAL	The DSP algorithms behind the effects, first introduced in the Kurzweil K2500 series (KDFX, Kurzweil Digital Effects). An FX preset stores settings for one of these algorithms.	
Arp Preset FACTORY USER PRESET	Use the Arp Preset to recall factory or user created Arpeggiator settings . An Arp Preset contains settings for all of the parameters on the ARP page (except for the State and KeyRange parameters, which are stored with the Program or Multi).	ARPEGGIATOR (ARP)
Velocity Pattern FACTORY USER DEPENDENT	Velocity sets the attack velocity of the played Arpeggiator notes. When you set Velocity in the Arp Editor Page to Pattern, the Velocity Patt parameter appears, which allows you to select a step sequence for arpeggiator velocity patterns .	
Duration Pattern FACTORY USER DEPENDENT	Sets the duration of each arpeggiated note according to a sequenced pattern. Duration Pattern steps are played back at the rate set for Beats. The duration of each note is a percentage of the current arpeggiator Beats value.	
Shift Pattern FACTORY USER DEPENDENT	A step sequence for arpeggiator note patterns . The note number of each played key is shifted according to a sequenced pattern , thus “Shift Pattern.”	
CC Seq Preset FACTORY USER PRESET	<i>The Continuous Controller (CC) Sequencer allows you to rhythmically modulate up to 4 program parameters (such as filter frequency) based on preset or user patterns.</i> Use the CC Seq Preset to recall factory or user created CC Sequencer settings . A CC Seq Preset contains settings for all of the parameters on the CC SEQ page (except for the State parameter, which is stored with the Program/Multi).	

Tuning Map FACTORY USER DEPENDENT	Program tuning maps can be selected and edited for each Program, to set tuning offsets for each key in cents. These maps can be used to emulate stretched tuning techniques which are commonly used for acoustic pianos and other acoustic keyboard instruments.	
Intonation Map FACTORY USER DEPENDENT	A Program Tuning Map changes the overall tuning of the instrument, while an Intonation Map allows for fine-tuning of pitches within that tuning. An Intonation Map allows you to adjust the pitches of individual notes within a scale or chord to achieve more precise intonation.	
Song FACTORY USER DEPENDENT	List of MIDI-Songs which are used for: - Song Mode: to record MIDI songs with up to 16 Tracks. - Program COMMON: Demo Song for the current program - Global: the default song used as a template when 0*New Song* is selected in Song mode. - Multi RIFF: Riffs are full songs or individual tracks of a song created in the Song mode that you can trigger in Multi mode.	
Pan Table FACTORY	The Pan Table allows you to select preset per-key panning tables , so that the note that each key produces is uniquely panned. These tables are particularly useful for producing the stereo image of a drum set when creating percussion programs, or for producing the stereo image of a piano when creating piano programs.	
Drum Remap FACTORY	The Drum Remap parameter defines how drum programs are mapped , so that drum sounds can be properly remapped when using the General MIDI (GM) drum map. For instance, the 'Kurz2' map means that the current drum kit uses a PC4 drum map.	
Exclusive Zone FACTORY	The Exclusive Zone parameter applies principally to drum programs. When using a drum program, you may want the closed hi-hat sounds to "cut off" open hi-hat sounds. Since you can remap the keymaps of drum programs, this parameter remaps "cut off keys" accordingly .	
QA Bank FACTORY USER	A Quick Access Bank contains 10 Programs or Multis that can be quickly selected by pressing the corresponding keypad (or favorites on the Forte) buttons. Up to 100 QA Banks can be managed under GLOBAL - OBJECTS.	
Master Table FACTORY USER	The master table saves all central, comprehensive settings , such as key velocity, transpose and the default program loaded when the keyboard is switched on. There is only one unique master table. The factory table is overwritten by user changes.	
Key Velocity Map FACTORY USER	Adjust the velocity response of individual keys. Each key can be shifted by +/- 50 in the Key Velocity Map editor.	GLOBAL
Pressure Map FACTORY	The Pressure Map parameter determines the way the Keyboard controls Pressure (Aftertouch) . Different maps generate different MIDI pressure values for the same physical key depending on how hard you press and hold the key.	
Velocity Map FACTORY	The Velocity Map parameter determines the way the Keyboard generates MIDI velocity information . Different maps generate different MIDI velocity values for the same physical key strike velocity. The default map (Linear) provides the widest range of velocity expression, but you may want to choose a different map if the default does not suit your playing style.	
Key Action Map FACTORY INTERNAL	Internal configuration of the installed keybed.	
User Key Action Map FACTORY INTERNAL	Internal configuration of the installed keybed.	

FACTORY	There are factory objects of this type on board (factory elements are available for every object type)
USER	You can create your own objects of this type.
PRESET	Presets are only used to recall settings. The most recent settings are always saved with the Program or Multi itself.
DEPENDENT	This object type is included in "load/store dependent objects".
INTERNAL	Not accessible to users; used exclusively within the operating system.

Each object type is stored in its own table. Here are the first 20 objects for selected object types on the K2061/2088 v1.07 (object version 1.1.14):

OBJECT ID	QA BANK	MULTI	MULTI INFO	SONG	PROGRAM	KEYMAP	SAMPLE	FX CHAIN	FX PRESET
0	–	–	–	–	None	–	–	–	–
1	Synth P	Majesty	–	New Song	Biosphere	Piano f Left	–	Little Booth	Small Wood Booth
2	Synth M	Sahara	Sahara_info	Sirius	Dirty Pluck Lead	Piano f Right	Stereo Pizz F#1	Soundboard	Natural Room
3	Hybrid P	Waviator	–	Investigations	Polycomper	Piano mf Left	Stereo Pizz B1	Small Dark Room	PrettySmallPlace
4	Hybrid M	Wavewash	–	Calvin's Curse	Synstring	Piano mf Right	Stereo Pizz D2	Sax Chamber	NiceLittleBooth
5	Pad P	Echo In Time	–	Just Gone	Thin Body Piano	Piano mp Left	Stereo Pizz F2	Small Hall	Sun Room
6	Pad M	Final Chapter	–	Up Flow	MTX12 #1	Piano mp Right	Stereo Pizz G#2	Medium Hall	Soundboard
7	Pad 2 M	Natural Park	–	Band Rehearsal	Sawbright	Piano 3Vel L	Stereo Pizz A#2	Green Room	Add More Air
8	Piano P	Blue Hole Diving	–	AOR Landscape	TB Bass	Piano 3Vel R	Stereo Pizz D3	Opera House	Standard Booth
9	EP P	Critters Crawl	Critters_info	Late Bloomer	C80S SawPad	Piano 3V Easy L	Stereo Pizz F3	Real Nice Verb	A Distance Away
10	Piano/EP M	Massive Drone	–	Late Bloomer	Evolving Pad	Piano 3V Easy R	Stereo Pizz G#3	Empty Stage	Live Place
11	Str/SynStr P	Chordal Passion	Chordal_info	Gina Piano	Softsaw Rez	Piano f Mono	Stereo Pizz B3	Med Drum Room	Viewing Booth
12	Syn Strings P	Starlight Piano	–	PianoMellow1	Gothic	Piano mf Mono	Stereo Pizz C#4	AbbeyPianoHall	Small Closet
13	Syn Strings M	Hammer Flange	–	Country Piano	New K-Synn	Piano mp Mono	Stereo Pizz E4	Predelay Hall	Add Ambience
14	Ensemble P/M	Mist Strings	–	Rock Piano	Hybrid	Piano 3Vel Mono	Stereo Pizz G4	Sweeter Hall	With A Mic
15	Rhythmic, etc M	Ethnic & Analog	–	CP80 1	Classic Saws	Piano 3V Easy M	Stereo Pizz A#4	Concert Hall	BrightSmallRoom
16	bank16	Retro SynthLicks	–	Deep Fuzz EP	AlphaCentauri	Piano 440 f L	Stereo Pizz C#5	Symphony Hall	Bassy Room
17	bank17	Vicious Split	Vicious_info	Wah EP	Magic Orchestra	Piano 440 f R	Stereo Pizz E5	Cathedral Chorus	Percussive Room
18	bank18	Lost Factory	–	Wdstk EP Reed	OrbX Braz 4	Piano 440 mf L	Stereo Pizz G#5	DeepChorsDlyHall	SmallStudioRoom
19	bank19	Sand Paper	Sand Pap_info	PianoGospel	Fluty Lead	Piano 440 mf R	Stereo Pizz C6	Omni Stage	ClassRoom
20	bank20	TiltedGeneration	–	ClavRokWAHswitch	Rosbach Piano	Piano 440 mp L	Stereo Pizz E6	Classic Plate	Utility Room

OBJECT ID	ARP PRESET	SHIFT PATTERN	VELOCITY PATTERN	DURATION PATTERN	WIRING ALG	CC SEQ PRESET	EXCL ZONE	DRUM MAP	PAN TABLE	INTONATION MAP	TUNING MAP
0	–	None	None	None	–	–	–	–	–	–	–
1	Default Arp	major	PseudoSine	long-short	ALG	Simple Filter	DrumExcl1	Normal	Drmpan01	Equal	Railsback
2	Minority Rap	minor	LoHi	long-2short	ALG	Keys Up Sync	DrumExcl2	PC2ReMap	–	Just	Grand Eight Ft
3	Happy 4th	Oct +	HiLoLo	long-3short	ALG	Slight Random	DrumExcl3	Kurz1ReMap	–	Just/b7th	Tines EPiano
4	Super Moria	Oct -	HiLoLoLo	6steps	ALG	Modwheel	DrumExcl4	Kurz2ReMap	Pnopan40	Harmonic	–
5	Mix	Oct 2x	HiLoLoHiLoHi	8steps	ALG	Pan	DrumExcl5	Kurz3ReMap	Pnopan25	JustHarm	–
6	Minor down	1's n 12's	6-pattern	12steps	ALG	Sync to Arp	DrumExcl6	Kurz4ReMap	Pnopan20	Werkmeistr	–
7	Steady	FullMajor	12-patternA	16steps	ALG	Mono Power	DrumExcl8	–	Perc Pan	1/5thComma	–
8	Crazy Octaves	FullMinor	12-patternB	Retro90's	ALG	Expression Trian	PercExcl1	–	GMpan01	1/4thComma	–
9	Crazy All	Major7	X0	long-short-x4	ALG	Filter Freq+Reso	GMExcl01	–	GMpan02	IndianRaga	–
10	AndUpAndDown	Minor7	0X	8stepsVAR01	ALG	Mellow Sin CC	GMExcl02	–	DrumPan02	Arabic	–
11	Fast Octaves	MajorMaj7	X00	16steps02	ALG	Split System CC	DrumExcl09	–	DrumPan03	BaliJava1	–
12	Dim Shred	Sus2	X00	16steps03	ALG	Polycomper CC	DrumExcl10	–	–	BaliJava2	–
13	Play Chords	Sus4	X000	long-short-x4	ALG	Sync Pipe CC	–	–	–	BaliJava3	–
14	Play Chords 2	FullSpanish	XX00	Time	ALG	The Bouncer CC	–	–	–	Tibetan	–
15	Flowers	Dim	XXX0	8steps	ALG	Arp O'Drome CC	–	–	–	Carlos A	–
16	Test Drive	Dim7d	X0000X	16steps Bass	ALG	Back To Ashes CC	–	–	–	Pyth/ausg4	–
17	Test Drive2	Dim7m	X00X0X	Synbass 1	ALG	Transistor CC	–	–	–	Pyth/dim5	–
18	Octave Machine	PentaA	XX0X0X	8steps-B	ALG	Modular 5th CC	–	–	–	EastMed	–
19	OctaveMachine2	PentaB	XXXXX0	SparceBsDurPatt	ALG	E-Swap CC Seq	–	–	–	–	–
20	–	PentaC	X000000X	8steps-C	ALG	Nomads CC Seq	–	–	–	–	–

The User objects are stored in their own area, which is ID 4096 – 8191 for the PC4/K2700 and ID 1024 – 4095 for the Forte (for exceptions, see Object Map). The user area of the PC4/K2700 is completely unoccupied and usable. Forte users should know that some of the IDs in the user area are occupied by factory objects.

MODE:Global Object Utils	6/14
1: Program 4096 Dyn 9ft Grand	
2: Program 4097 Suitcase EP	
3: Program 4098 Rich Grand 7ft	
4: Program 4099 Clavi AC	
5: Program 4100 Stevie Fuzz	
6: Program 4101 Big Rotary B3	
7: Program 4102 EG Style Organ	
8: Program 4103 Studio A Strings	
9: Program 4104 VerySloVeryThick	
10: Program 4105 Evolving Pad	
11: Program 4106 Divider	
12: Program 4107 Classic Saws	
SELECT	TYPE
OPTIONS	MOVE
DELETE	QA BANKS

Use the **Global Object Utils** page to check, move, delete User objects or to edit your QA Banks.

Caution: Deleted user objects can only be restored with the help of a backup file – there is no undo function here.

Any User object you want to keep should be backed up to an external USB device first. Dependents can be added under OPTIONS.

Back up your user data regularly, to more than one device, and keep older versions around for a while!