KETRON SD40 MUSIC ARRANGER

MODULE & MULTIMEDIA PLAYER

KETRON SD40 Manual & Tutorial

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KETRON SD40 MANUAL, TUTORIAL, HINTS & TIPS (V 1.0)

Congratulations on your purchase of the KETRON SD40 Arranger & Player Electronic module by KETRON.

The SD40 is an essential Swiss-knife musical tool with many options that fit into any flexible musician's studio, stage or both. It can be used as a stand-alone Midi or Audio Player, Live Drum and Karaoke machine … etc, or with a Midi controller such as Guitars, Accordions and Keyboards to produce instant live performance backing tracks, or even as a tool to create Live baking tracks at home or studio to be used on stage (*unlike the mechanical synthetic backing tracks available in most of the market today*).

This multi-media musical instrument is the first in this class of musical instruments to combine modern features such as a very intuitive touch screen, multi player capabilities including the new Audio Multi Tracking feature, Video display (MP4, PDF … etc), Style Modeling and live Sounds into a very affordable package - designed by musicians for musicians. Right out of the box, the SD40 is ready for any musician, performer, studio engineer or entertainer to use on stage, at a place of worship, or in the studio – with incredible Audio Drums, authentic live bass and backing tracks suitable for almost any song, thanks to the vast library of professional sounds and rhythms.

For simplicity, this tutorial will focus on the main areas of the SD40 such as **SOUNDS & VOICES**, **ARRANGER/STYLES/BEATS**, and **Multi Media PLAYER**. Most of the functions of this machine revolve

around these and in some cases combine these features to offer you capabilities yet to be seen or heard of on any other arranger module in the market today.

Depending on your purpose of purchasing the KETRON SD40, you can set it up for various **PLAY MODES** based on your needs (Pianist, Accordionist, Guitarist, Organist …etc). It turns on with this PLAY MODE screen so you can select which play mode you want to use, but to access it manually, simply press the
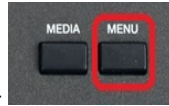
MENU button on the right side of the panel - to display the following screen.

Touch **PLAY MODE** on the screen to display the following screen and select the play mode you're interested in. The Play mode automatically configures the SD40's Midi channels, internal set ups …etc for instant use with the various Midi controllers for live or studio usage.
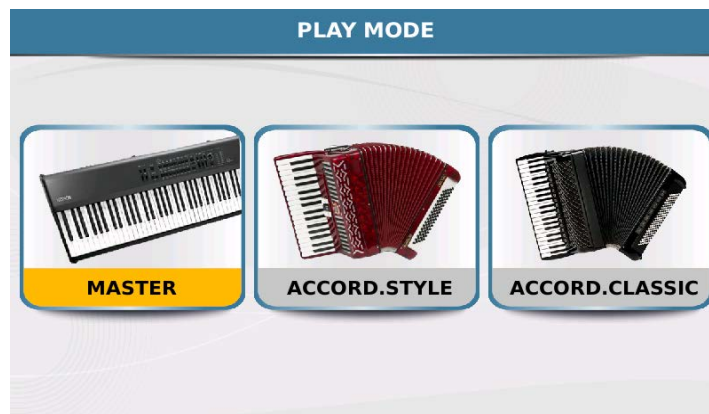
This is discussed in more depth below under the **MENU** section.

GETTING AROUND THE SD40 – NAVIGATION

Getting around the SD40 is very easy and can be done in a number of ways using these key buttons:-

1. **TOUCH SCREEN:-** The bright touch screen allows you to touch icons directly on the screen. To access contents within folders, simply double touch the folder (as *you would double click on a mouse)* to open it.
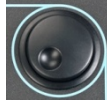
2. **DATA/VALUE DIAL/WHEEL:-** This wheel allows you to change the values of selected items. So, if you touch a numeric icon on the screen (*for an example*), you can turn this wheel to change its value quickly. You can also change the pages in certain screens (like style, voice etc).

3. **EXIT** button:- This button is very useful to get out of sub menus or folders and get back to the main operating screen of the SD40 during operation.

4. **ENTER** button:- This button is used to enter and display the content of a highlighted folder in the screen or to confirm operations on the screen such as pop up messages. It can also be used to start playing a file that has been selected (highlighted) on the screen, or to insert a file, voice or style into locations such as favorite voice or style list, or as a *PAGE+* button to turn to the *next* page when a selected group of styles or voices are displayed.

5. **SAVE** button:- Depending on which screen is being displayed, this button is used to SAVE current settings, custom start up, User styles, Registrations etc. This will be explained in details within the manual below.

1. FULL KEYBOARD MODE (PIANIST) or SPLIT (ARRANGER) MODE

When you turn on the SD40, it turns on in the SPLIT/**ARRANGER MODE**. If you are using the SD40 with a Midi keyboard or Accordion, you will notice a SPLIT POINT where to the left of the split are the notes used to control the arranger or play up to 2 separate LEFT voices manually or together with a style, and the right side of the split point are the notes used to play lead voice(s). If using a Midi or acoustic guitar and playing with Bass pedals, the pedals will play the left voices, while the guitar can be used to play the lead (right) voices. The DEFAULT VOICE for the RIGHT side is the GRAND PIANO, while the default voice for the LEFT side is the ELECTRIC PIANO.

To assign a new split point on your Midi controller, press the **KEYB. CONTROL** button on the panel …

to display the following controls …
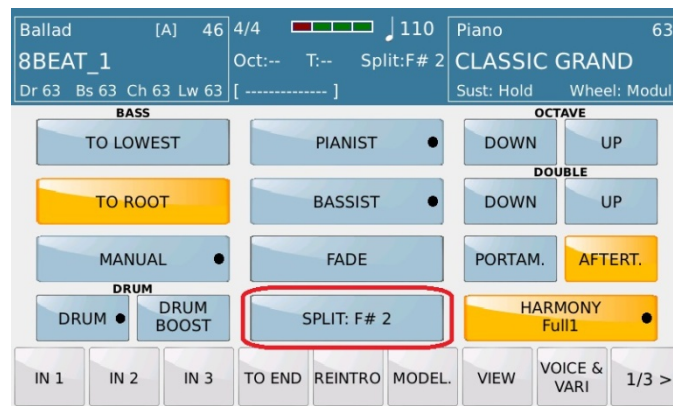
Touch and hold down the **SPLIT** icon on the screen to display the SPLIT point to the right side of the screen. You can now change the split point by:-

- Turning the data wheel to set the new split point.
- Touching the key on your Midi keyboard or Accordion where you want the new split point to be or playing a note on your Midi guitar … etc.

The current split point will be displayed on the screen (*right side*) as shown below:-
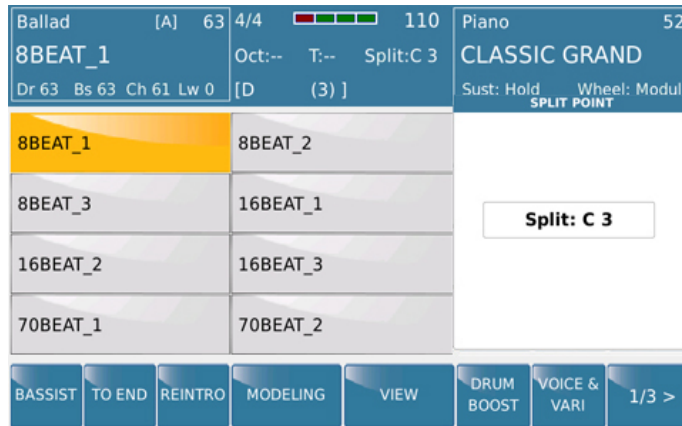
So if you want the split point to be at F#2, as you touch the SPLIT icon on the screen the SPLIT, press the F#2 key on your controller or midi guitar and this will become the new split point (and it will be displayed on the screen – right section where the split value is currently being displayed). Release the **SPLIT** button once set as needed. If you don't want a SPLIT point (*while holding down the **SPLIT** button*), you can also press the first key to the left of the keyboard (C) and the entire keyboard will now be the lead/right voice (or turn the wheel all the way to C#-2).

The proper way however to ignore the split point would be to touch the **PIANIST** icon on this screen to activate the PIANIST mode.
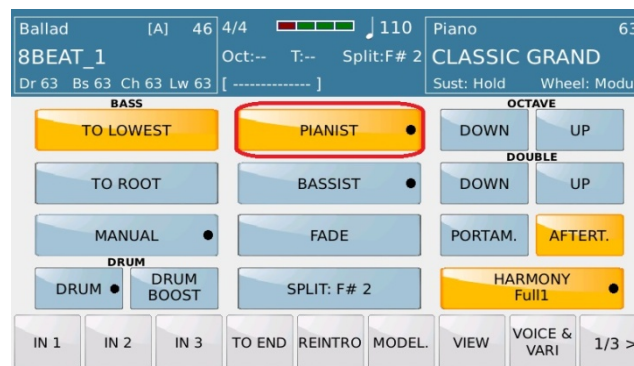
This button automatically removes the SPLIT point and the entire keyboard becomes one … (PIANIST MODE) - with one voice/voices governed by the RIGHT/Lead voice selection. In this mode (**PIANIST**), you can then select a voice or voices and play through the entire keyboard – just as you would do on a regular keyboard. In the **PIANIST** mode, a musician can also play the arranger as a regular piano and still have the automatic accompaniment follow along as they play (*the keyboard follows you and not the other way around*). This is discussed in more detail below in section *3.J - PIANIST (page 62)*

2. SOUNDS & VOICES

Unlike any other Sound Module you've probably come across, you will quickly realize that the SD40 produces some of the best natural sounds in it's class. The Sax, trumpets, Piano and other natural instruments come to life and 'breath' in your hands as you play them on the SD40, proving once again, that KETRON has lived up to its "Best Natural Sounds" motto.

2.A - PLAYING & USING SOUNDS (LEAD VOICES)

The SD40 comes loaded with more than 500 voices. There are more than 350 preset voices (*which are either individual sounds or layered voices as prepared by KETRON*). Press the **VOICE** button on the SD40's panel (*right side*) or touch the current voice displayed in the top right box on the screen.

…   or   ….
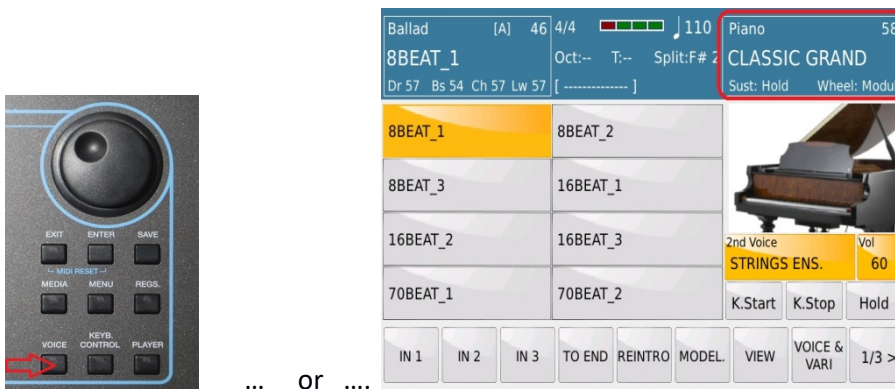
This displays the voice groups (to the right of the screen) and the voices in the current voice group (*to the left of the screen*) as illustrated below …
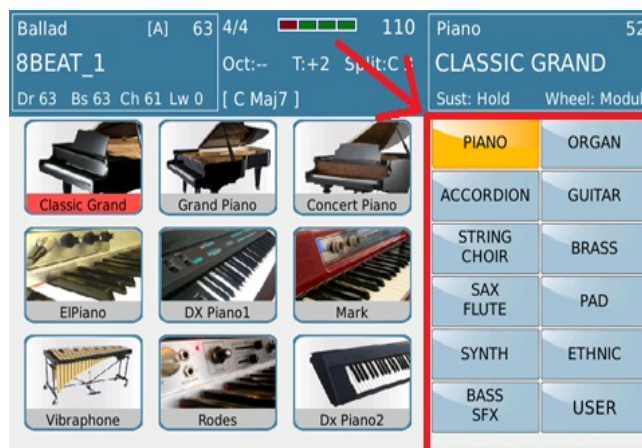
As you can see, the right side of the screen shows the various voice groups or categories where all the voices in the keyboard reside in. The current voice group selected is highlighted in yellow (*in the above case, PIANO*), while the various voices in this group are shown on the left side of the screen (*in this case the various pianos found in the PIANO group*). To use a voice, simply touch it. If you cannot find a voice you want, press the voice group button once more (*or press the **ENTER** button below the wheel or turn the data wheel*) to access the next page of voices in this same group. Once you find the voice you need, simply touch it on the left side of the screen and this becomes your new lead/right voice.

2.B - PLAYING 2 LEAD SOUNDS/VOICES AT ONCE (2nd VOICE)

You can instantly layer an additional voice either with a Factory voice or USER VOICE (*your edited/created voice*) - which we call **2nd VOICE**. From the factory, each lead voice already has an additional 2nd voice assigned to it which you can turn on/off by simply *touching the 2nd VOICE icon on the screen and it turns yellow*) as shown in **Fig A** below.
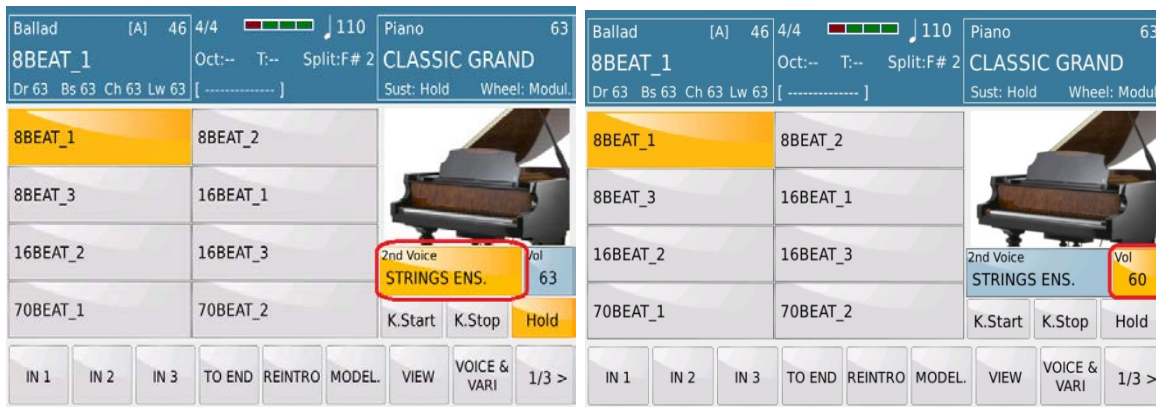
(Fig. A) 2nd Voice Select   (Fig.B) 2nd Voice Volume adjust

To adjust the 2nd voice's volume, simply touch the volume icon next to the 2nd voice icon (as shown in Fig B above). Then turn the data wheel to change – it's value is displayed as shown. Together with the RIGHT volume knob (*for the lead/main voice*) you can adjust how you want both voices to sound relative to one another.

2.C - HOW TO CHANGE THE 2nd VOICE OF ANY LEAD VOICE

Assuming you're not satisfied with the factory's 2nd voices that have been assigned to the lead voice, how do you now change the 2nd voice of any lead voice and make it your own? To do this, you would have to go into the **VOICE EDITOR** (edit a factory voice and save as a user voice, since the factory voices cannot be over-written/replaced).

- From the voice selection screen, touch and hold the lead/main voice whose 2nd voice you want to edit for 2 seconds. A screen similar to this one below will be displayed that shows all the elements (*individual voices*) that make up this voice (*the voices used to create this lead voice you have selected will be turned ON as shown on the far left On/OFF column*).
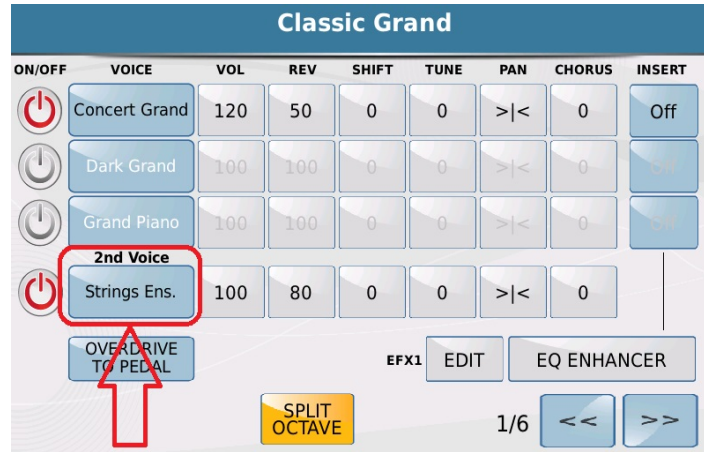
- To select a new 2nd voice for this lead voice, touch the current voice in the 2nd Voice box (*4th row*). A screen similar to this one below will be displayed. This screen shows the current 2nd voice that is being used for this lead voice (left) and the voice group from which this voice was selected (right).

- You can now select your new 2nd voice for this lead voice, simply select the voice group (*to the right*) where you think your 2nd voice resides, then select that 2nd voice (*to the left of the screen*). If you do not see the voice you are looking for – turn the data wheel or press the **ENTER** button to display the next page of voices that exist in the current category/voice group. There are many pages of voices per voice group which you can access this way.

- When done, press the **SAVE** button (*below the data wheel*) to save your new USER VOICE and it's corresponding 2nd voice (*remember, you cannot over write the factory voices so whenever a modification is made to a factory voice and you want to save it, it is saved as a USER VOICE. This therefore means that if you go back and select this factory voice, the original 2nd voice that was assigned to it by KETRON will still be there, and not yours*).

  - ⭕ **SAVE:-** This saves your new user voice in the USER VOICE location but with the same factory name.

  - ⭕ **SAVE AS:-** Opens a keyboard where you can name your new voice and save it by touching the ENTER button on the screen. Your new voice will now be saved (together with your matching 2nd voice) as a USER VOICE.

  - ⭕ **CANCEL:-** Nothing is saved and you will be returned to the previous GM VOICE SELECT screen. You can press EXIT to get back to the Voice EDITOR screen and press EXIT again to get back to the voice selection screen. (*The **EXIT** button usually steps you out of functions the same way you came in … meaning as you go in deeper and deeper into functions or menus, you can use the EXIT button to step out in steps as well … very useful if you want to make a minor correction in a previous step but do not want to start all over!*)

- To play this voice (with your new 2nd voice assigned to it):-

  - ⭕ Press the **VOICE** button once more to access the voices.

  - ⭕ Touch **USER** on the bottom right side of the screen (*it comes on yellow*). When you touch any of the voice group buttons from here on, the voices displayed to the left of the screen will be the USER VOICES (*not factory voices*). To play the factory voices once more, this **USER** button must be off (not yellow).

  - ⭕ Touch the group to the right of the screen where your new voice resides (PIANO, GUITAR). (*Hint:- It will be the same group from which you started with above when you wanted to create a new 2nd voice for your lead voice*). All the user voices in that group will now be displayed to the left of the screen.

  - ⭕ Touch your new voice to the left of the screen and play.

  - ⭕ To turn on the 2nd voice (*just as you did for the factory voices*), simply press the 2nd voice button on the right side of the panel. Adjust its volume using the volume slider below it.

◯ You can always go back and forth between the FACTORY VOICES (USER Voice button off – not yellow) and the USER Voices (user voice button on – yellow) by touching the USER voice button then selecting which voice you want to use for your performance.

2.D - PLAYING 2 OR MORE SOUNDS TOGETHER (EDITING/CUSTOMIZING/LAYERING)

Still not satisfied with only 2 voices to play/layer on the right hand and want to layer 3-4 voices at once? Despite all the voices found on the SD40, many want to be able to customize voices, layer with 2 or 3 voices, make changes and save as their own customized voice (**USER VOICE**). This is very easily done on the SD40. Better, still, using this same tool/editor as described above for the 2nd voice, you are quickly able to layer 2 or 3 voices and create one USER VOICE (*made up of your 2-3 voices … or 4 if you include the 2nd Voice too*). This way, at the touch of the screen, you can install recall your layered/edited voice and use them as you wish.

To start editing a voice, touch and hold down for 2 seconds a voice you want to edit or layer or that comes close to the voice you wish to create to open the VOICE EDITOR. Your screen should look something like this :-

The voice editor in the SD40 is quit extensive but very intuitive and easy to use. Once this screen (Page 1/6) is displayed you will notice the following.

- 4 Rows of voices.

    ◯ The first 3 rows (*shown with the red arrows above*) are the voices that can be layered to create a new voice. In this case, only 1 voice was used (*Lounge Tenor*) to create the LOUNGE TENOR voice. By touching the ON/OFF icon to the left and next to each voice,

you can turn on/off individual voices you want to use/layer together. As you turn the voices ON, the parameter values (*voice, volume, shift, tune …etc*) associated with each voice turns black showing that this selected voice is now active so you can change as you see needed. NB:- Even when inactive (white) you can still edit parameters of a voice (touch the parameter and turn the wheel to change its value), however the effects of these changes will only be heard if you turn this voice ON (by touching the On/Off icon to the left of the screen.

⭕ The 4th row is the 2nd voice tied to this lead/main voice. This is where you can change the 2nd voice of each lead instrument and then later save as a USER VOICE of your own.

- To the RIGHT of this screen, you can also turn on/off effects that you want associated with the individual voices. The effect type is selected at the bottom. You can also assign effects that will be activated by the volume pedal (*e.g. OVERDRIVE TO PEDAL*) as shown above

- SPLIT OCTAVE:- When this button is ON (yellow), if the PIANIST button is ON (*in full keyboard mode*) the octave of the entire keyboard is shifted up 1 to compensate for the lack of the extra keys. If this button is OFF, then turning on the PIANIST button will have no effect on this sound.

- Page 2/6 gives you access to the RANGE (*split points these elements which make up this voice will be heard over*), VELOCITY (*how hard/soft a key is pressed before this element of this sound is heard*), FIXED *(if on, then regardless of how soft/hard a key is pressed, the sound will be heard at the same volume/tone)*, SUSTAIN (*the sustain pedal will have an effect on this voice if checked*), EXP (*the volume pedal will have an effect on this voice if checked*).

- Right here, you can create a very 'intelligent' voice which depending on what area of the keyboard you play, you will hear element/voice 1. Depending on how hard you play, you will hear element/voice2, and so on.

- Page 3/6 gives you access to set certain parameters of this voice (*Portamento, pitch … etc*).
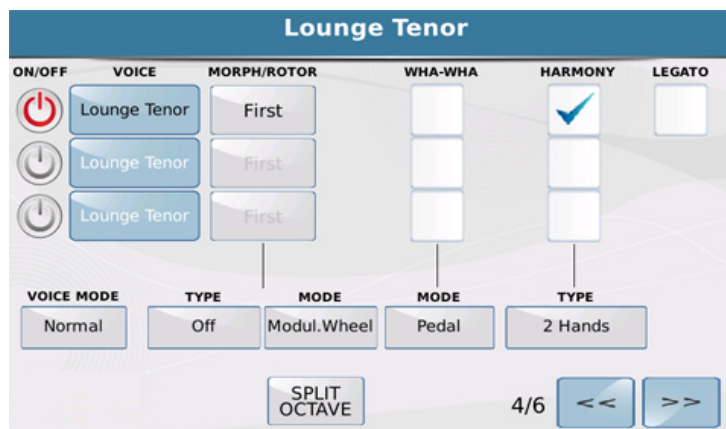
- Page 4/6 is a powerful page in this editor. It allows one to set (*if say you are using all 3 voices to create this huge custom voice*):-

  ⭕ **MORPH/ROTOR:-** If you set Voice 1 as First and Voice 2 as Second, with the Joystick up, you will hear voice 1 but as you move the joystick down, it now morphs until you will only hear Voice 2 once completely down. You can also select the type of morph below the screen.

  ⭕ **WHA-WHA: –** If checked, this element/voice will have the wha wha effect applied to it if a volume pedal is plugged into the SD40. This volume pedal can then be used to manually turn on/off the wha-wha.

  ⭕ **HARMONY: –** Adds a harmony to whichever voice it is checked in here (*whenever the HARMONY button on the panel is turned on – described in more details below in section 2L – HARMONY on Page 23*). This has brought about great harmonies for single or layered voices – depending on which of the 3 voices in this screen you want harmonized.

⭘ **Voice Mode:-** Touch this and turn the data wheel to select which voice mode is appropriate for your new voice (*e.g. Steel – where if 2 notes are played and you bend the pitch wheel, only the lowest note bends*), Duet and Trio – harmony modes with 2 or 3 voices harmonically added to the lead voice etc.
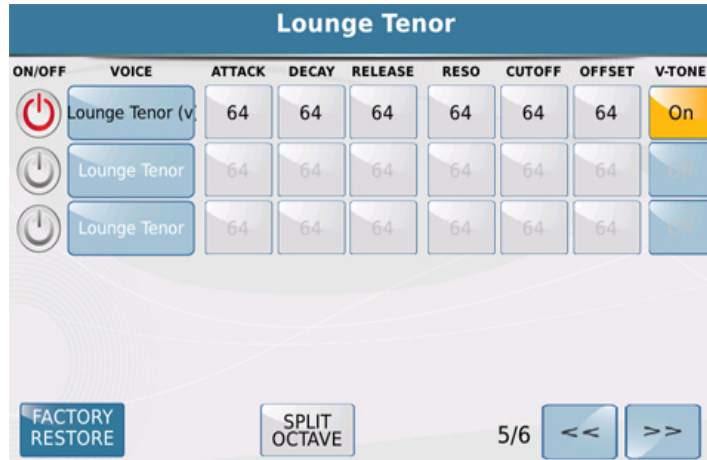
- Page 5/6 gives you access to set the attack, decay ... etc. These parameters impact the actual voice/sample you are editing and can be used to actually create a 'new' voice all together if edited properly.
- **V-TONE:-** Adds natural characteristics and embellishments to the Sound.
- Page 6/6 below is a continuation from page 5/6 above.
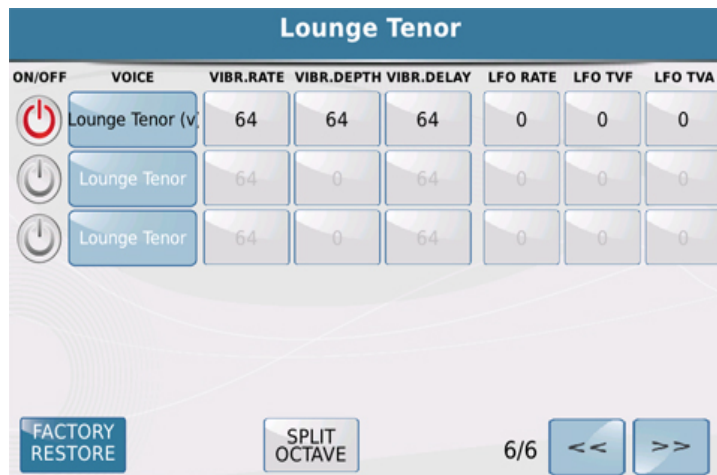
Once you have created your new voice, simply press the **SAVE** button on the panel to display the following options:-

- **SAVE:-** Saves this new voice in the USER VOICE section with the same name as the factory voice.

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- **SAVE AS:-** Allows you to name this new voice and save in the USER VOICE section when you press ENTER (after naming it).
- **CANCEL:-** Cancels all changes and reverts to the VOICE EDIT screen you just came from. If you press **EXIT**, all settings are restored and the keyboard returns to the voice selection screen.

2.E - PLAYING 2 SOUNDS WITH THE LEFT HAND (LOWER VOICES)

You can also assign up to 2 separate voices and play them together or separately on the left side of the keyboard. These voices are usually determined by the style that is currently being used, but we will show you how irrespective of the style selected, you can call up and use voices to the left of the SPLIT point of the keyboard.

- First make sure your SD40 is displaying the default screen (*screen it powers on with or similar. If not, simply press **EXIT** repeatedly until you get there*). Your screen should look like this:-

- Touch the **VIEW** button from this page to display the **STYLE VIEW** – all the elements/musicians/tracks that make up the style. This will include the LOWER1 (LOW1) and LOWER2 (LOW2) - 2 left manual voices as shown in the next screen:-
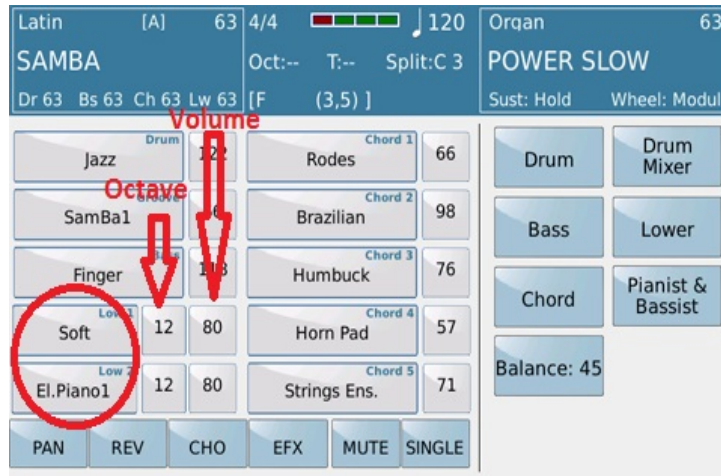
In this example, the first LOWER VOICE (LOW1) is called SOFT, and the 2nd LOWER VOICE (LOW2) is called EL. PIANO1. This means that if the LOWER volume slider is up and you play any key to the left of the SPLIT point on the keyboard, you will hear these 2 voices (*depending on how they are set up in the LOWER mode* – see **section 2H, page 19** below).

In this screen, all the parts/tracks that make up the style/beat are displayed and next to each one is the VOLUME of that part. The LOWER voices have an extra column – OCTAVE. This value determines the octave of the voice which you can change by touching the number and changing it by turning the data

wheel (+/- 12).

The column next to the OCTAVE values is the VOLUME column. Each LOWER/Left voice has a value which you can change by touching it and adjusting using the data value wheel. The LOWER volume slider on the left front panel controls the general volume for both LOWER voices.

2.F - CHANGING THE LOWER (LEFT) SOUNDS – MAKE THEM YOURS.

You can change the voice(s) played on the left of the keyboard as follows:-

- Touch the voice inside the LOW1 box (to change the first left voice). The following screen will be displayed showing you the voice groups on the right and the voices on the left where the current LOWER1 voice is from.
- Touch the voice group where you believe the voice you want to assign to the left hand resides. The left side of the screen will show the voices in this group. You can turn the data wheel or press the **ENTER/PAGE** button to access more voices in this current group.
- Touch the voice you want to play with your left hand.
- Press **EXIT** to return to the STYLE VIEW PAGE.

- If you want an additional LEFT Voice (LOWER2), touch the voice in the LOW2 box and pick a different voice for it in the next screen – just as you did for the first left voice. Press EXIT to return to the style view page.
- Play and make sure this is the voice you want to use in this particular scenario

2.G - OTHER USEFUL LOWER VOICE(S) PARAMETERS

There are other parameters and functions that govern the Left/LOWER voices and other parts of the Arranger section (*Drum, Bass, Chord, Drum Mixer, Lower and Pianist & Bassist*) however, in this section of this manual, we will only focus on the LOWER (since we are referring to the LEFT voices. These can be accessed by touching the **LOWER** button on the screen:-

The following screen is now displayed showing you the different parameters that control the LEFT/LOWER voices:-
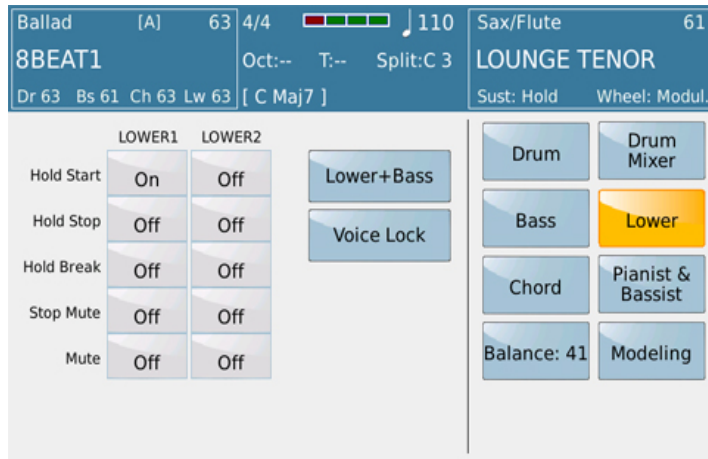
For each LEFT/LOWER voice, you can do the following from this screen:-

- **Hold Start:-** [Hold on Start]. When on, if a style is playing (and the **HOLD** button is on), this voice will be sustained (held) until the style is stopped.
- **Hold Stop:-** [Hold on Stop]. When on, if a style is not playing (stopped) or if you are just playing the keyboard normally and the **HOLD** button is on, this voice will be sustained (held). This is very useful especially if you have PAD/SYNTH or STRING voices on the LEFT side and you do not want a break between when you play/change chords on the left. In order to have a continuous voice, use this feature. To stop playing the voice, turn off the HOLD STOP on the appropriate LOWER voice or simply turn off the **HOLD** button.
- **Hold Break:-** The Lower voices are still heard when the style is quickly stopped using the Key Start/Key Stop feature.
- **Stop Mute:-** When on, the Left/LOWER voices are not heard during rapid breaks (when Key Start and Key stop are on and the left chord is played and release immediately or…. When only Key stop is on and same action is carried out. One the arranger is played normally, the voices are heard again.
- **Mute:-** This mutes the LEFT/LOWER voice as needed.

2.H - PLAYING MANUAL BASS (LEFT HAND BASS)

You can also play left had BASS on the SD40, i.e. play bass lines manually on the left side with your left hand, while playing lead parts with a separate voice on the right side of the keyboard. To accomplish this quickly and easily, simply press the **KEYB. CONTROL** button on the right side of the panel.

The following page is displayed.
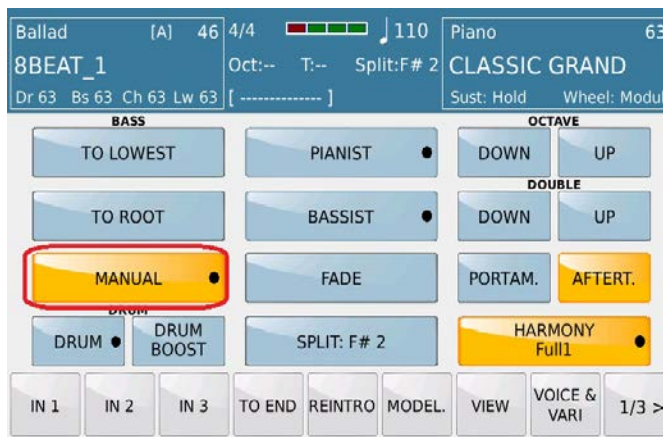
Touch **MANUAL** to turn it on (it turns yellow). Notice how the MANUAL (and other features like PIANIST, DRUM … etc) on this screen have a black dot next to them. This means if these features are touched and held down for 2 seconds, another display showing many more editable parameters for these features will be shown.

Now when you play any notes to the left of the **SPLIT** point, you will hear the bass (*Bass instrument is determined by whatever style has been selected prior to this*). So, you can now play a manual bass solo with your left hand. You can also access other BASS parameters and functions as discussed above by touching the **MANUAL** icon for 2 seconds to display the following functions:-
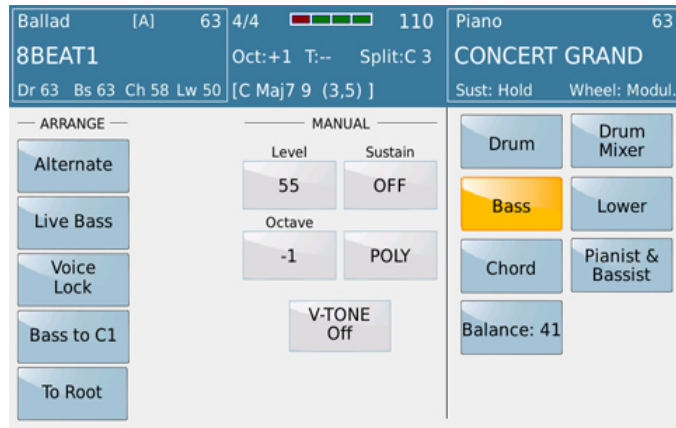
The left side of the screen now shows some very interesting BASS features under 2 columns – **ARRANGE** (where *you can use these features with the STYLE's bass/ auto bass – described in more details above under 2I – Manual bass Page 20*) or **MANUAL** (*with you playing bass manually on the left side of the split point*).

Let's exploit the other features associated with the MANUAL Bass (*which to change, simply touch and turn the data wheel*):-

⭕ **LEVEL:-** This is the volume of the manual bass. Adjust according to the right volume so as to get a good mix.

⭕ **SUSTAIN**
- ▪ **ON** (1-63):- When you play a bass note, the note gets sustained. The higher the value, the longer the bass note gets sustained. This is great when playing tunes that have sustained or linked bass notes e.g. some old Pop tunes.
- ▪ **OFF**:- When you play a bass note, there is not sustain and the note dies off as soon as you release the key. This is great when playing tunes that have rapid or complex bass lines like Jazz or Latin (Merengue), where the individual bass notes must be heard but not split over into the next note!

⭕ **** VOICE LOCK:-** Turn this on (yellow) to freeze the current bass. Usually when a band is performing, the bass player plays the same bass instrument for all songs. As such, use this feature to LOCK/FREEZE the bass instrument currently being used so that regardless of which style is later selected, the same bass instrument is retained throughout.

⭕ **OCTAVE:-** Select the OCTAVE of the bass instrument. -1 is the default but for some old Jazz tunes, you may want to set the OCTAVE at -2 (2 octaves lower).

⭕ **POLY:-**
- ■ POLY – allows you to play more than one bass note at a time.
- ■ MONO – You can only play one note at a time. If 2 or more notes are played, only the first note is heard.

⭕ **V-TONE –** This special feature adds "*ambience*" and more realism to the bass sound (or any instrument when selected in VOICE EDIT).

As for the Arranger BASS feature, this is discussed in more details below under "**3J – Arranger Instrument features**" on page 55.

To change the bass instrument currently being used –

- From the main/default arranger page, touch **VIEW** to enter the STYLE VIEW mode once more.
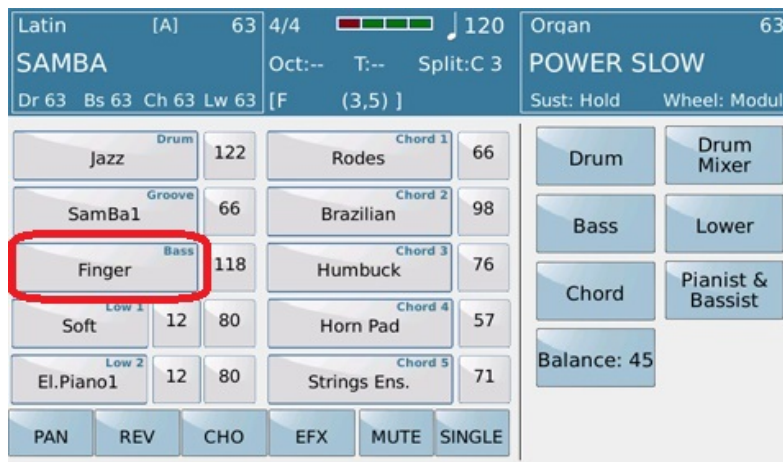
- Your screen should look similar to this one above. The bass box shows the current bass instrument being used/heard.
- Touch the current bass instrument (in the example above, *Finger*) to display all the other bass sounds within the BASS voice group. Remember you can turn the data wheel or press the **ENTER/PAGE** button to change the page and display other bass instruments. Once you find a bass sound you like, touch it to insert it into the bass box.
- Press **EXIT** to return to the style view page and your new bass should be in the bass box.

2.I - SAVING REGISTRATIONS - ALL YOUR SD40 SETTINGS FOR QUICK & INSTANT RECALL DUING A SHOW

All voices are now set but – how do you save this set up so you can instantly recall and use it in the future? Your keyboard is all set up. You have the LEFT voice(s) that you need. You have the perfect RIGHT/Lead voice that you need for a particular tune. You don't have time to recreate this scenario at a show in front of your guests so what do you do? How do you save this setup for a particular song so that you can instantly recall it at the touch of a button when you are ready to play? This is discussed in depth below under *6 – Keyboard settings/Registrations on Page 88*, but we can give you a summary here.

- With the voices now all set up the way you want, press the **REGIS** button on the right side of the panel to turn on REGISTRATION.

- Press the **SAVE** button

- The following screen will now be displayed:-
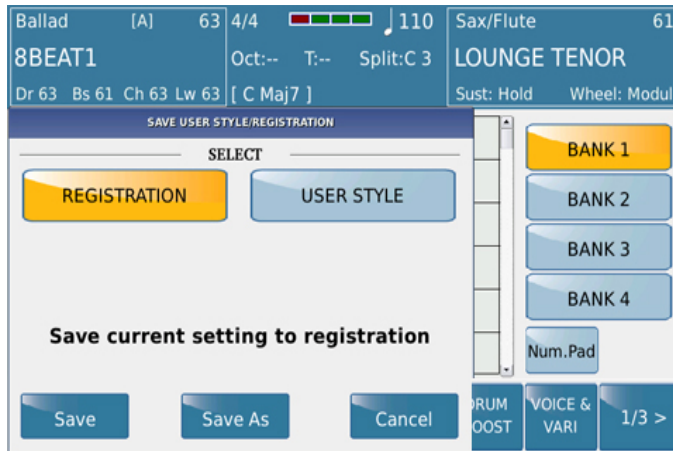
- Touch **REGISTRATION** (*Registrations are Song / Keyboard Setups which you save and can instantly recall for live or studio performances*) – and it should turn yellow.
- Now touch **SAVE AS** to give your current setting a name and press **ENTER** on the next screen's keyboard to save your song/keyboard set up.
- You can now change the set up of the keyboard and create different settings and save them again the same way with different names to create a library of keyboard settings for different songs. Note that even though you have created a setting for a song, as you perform, you (the user) can always overwrite this setting instantly as you change voices, tempo, styles on the fly. The settings will still be in memory, unless you save and overwrite them.

2.J - HOW DO YOU QUICKLY RECALL YOUR SONG SETTINGS AT A SHOW (REGISTRATIONS)?

Now that you have created many instant setups you can instantly recall (right hand, left hand, bass voices … etc), how do you recall them?

- Press the **REGS** (Registration) button found on the right side of the panel

… to access the REGISTRATION screen which looks something like this:-

- As you can see from the screen above, you have 4 banks of registrations/set ups and each bank can hold 1024 single registrations or song set ups. BANK1 is the default where your registration will reside (*unless you changed it*), so if BANK 1 is not already on (yellow), touch it.
- The center of the screen will now display your registrations along with some that were already put here by the factory. Scroll down (*using the data wheel*) to highlight your registration you want to load and press **ENTER** or touch it twice (*double click*) to load it. Your settings will be loaded immediately (left hand, right hand, manual bass [*if applicable*], style … etc) and you can then play the song the setting was initially created for.

2.K - INSTANTLY ADDING HARMONY TO YOUR LEAD SOUNDS

You can instantly add harmony to your lead sounds which are controlled by the chords you play. The HARMONY feature is once more located under the KEYB. CONTROL – so press the **KEYB CONTROL** button on the panel –

Touch the **HARMONY** icon (on the bottom right side of the screen) to turn on and off harmony. It will turn yellow (when on). The HARMONY icon also displays in it the current harmony type (so on the screen below, the harmony type currently being used is – FULL1).
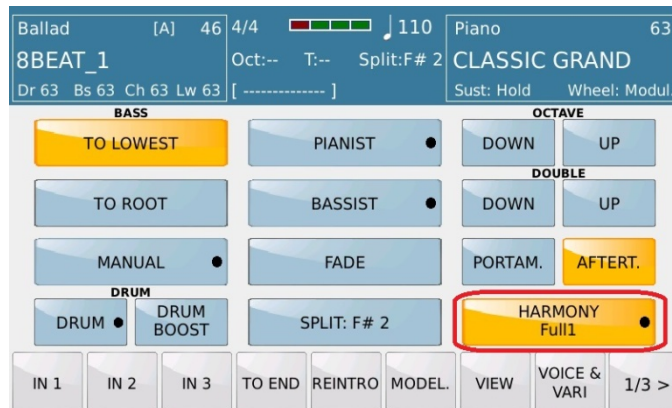
Once you do this, play a chord with your left hand and then play sounds with your right. You will notice that as you play, the SD40 will generate harmony notes to supplement the notes you play, based on the chords played by your left hand

The most efficient way to utilize this feature is to be in SPLIT/ARRANGER MODE. When you play lead voices to the RIGHT of the split point, harmonies are instantly added to these voices based on the chords to play to the LEFT of the split point of the keyboard.

SELECTING HARMONY TYPES:- By touching the **HARMONY** icon for 2 seconds (it has a black dot next to it, remember) the screen will display the various harmony types to choose from. Turn the data wheel to display even more below the current displayed list.
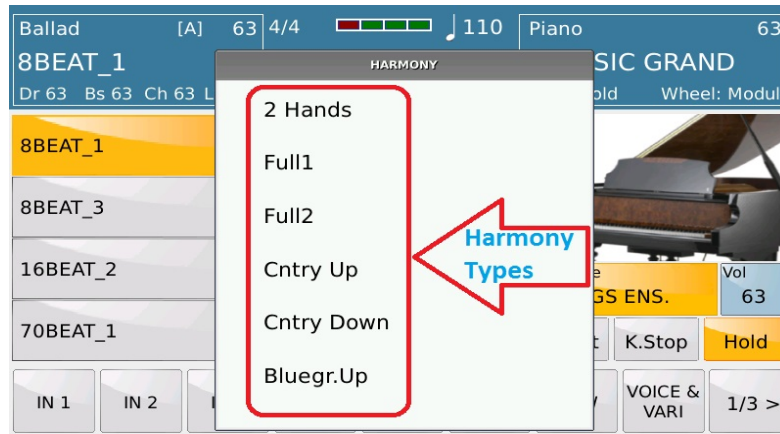
Touch the harmony type you want. Now play a chord to the left and a lead voice to the right and listen to how the SD40 instantly adds harmony to your lead voice.

2.L – USING DIFFERENT HARMONY TYPES WITH YOUR SOUNDS

You can assign which harmony types are used automatically with your sounds or if you choose to layer voices, which voices the automatic harmonies will be added to and which will be ignored, or further still … set which harmony type to apply to which of your layered voices once this voice is recalled (USER VOICE). This has already been described above in *(2.D PLAYING 2 OR MORE SOUNDS -Page 14).*

Please note that these harmonies referred to above, are for the voices you play on the keyboard and not what you sing through the microphone (VOCAL HARMONIES). VOCAL HARMONIES are covered below **(*4.B VOCAL HARMONIZER – Page 85*).**

2.M - INSTANTLY DOUBLE A LEAD VOICE (DOUBLE)

Ever play a brass instrument on a keyboard and notice how 'thin' it sounds compared to the real thing? To do so properly, you would have to play with both hands where one hand would play an octave higher than the other so as to create the same sound as a live band would. On an arranger module (such as the SD40), this becomes a little tricky especially since your left hand will be focused on playing chords. To accomplish this, the DOUBLE icon (found in the **KEYB. CONTROL** screen) on the SD40 takes care of this drawback instantly.

- In order to illustrate this better, for this example, select the **BRASS SECTION** sound found in the **BRASS** group.
- Play it with your right hand (*single notes only*). Great sounds but ….ok
- Press the **KEYB. CONTROL** button on the panel

>>>
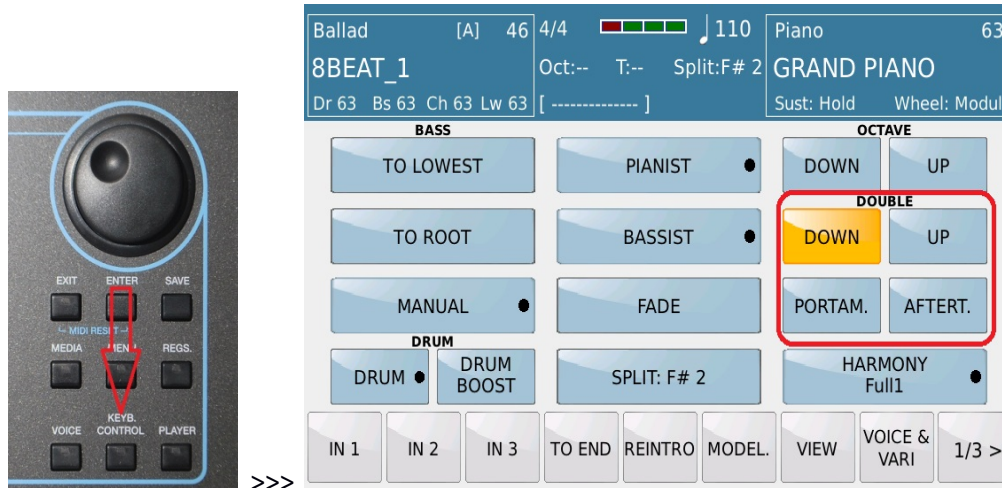
- Now touch the **DOUBLE UP** or **DOWN** icon by pressing it (*whichever one you touched will come on* – by turning yellow). Now play and enjoy the doubled notes.
- From this screen you can touch:-

  O DOUBLE DOWN:- Notes will be played an octave below the notes you play.

  O DOUBLE UP:- Notes will be played an octave above the notes you play.

  O PORTAMENTO:- Notes will slide up and down depending on the last note played.

  O AFTERTOUCH: - Turns on/off the aftertouch (*what happens when you press down a little harder on a key*).

2.N - VOICE LIST. YOUR FAVORITE VOICES IN ONE PLACE!

You have gone through all these voices and found out that for certain scenarios, you only need between 10 to 20 voices or so. How can you quickly access just a few voices that you need and not be bothered with all the others? You can create a voice list and store up to 40 of your favorite voices in this list such that when you touch the VOICE LIST icon on the screen, only your favorite voices will be displayed for you to quickly select from. This saves a lot of time during live performances and it gives you quick access to your best sound or sounds you use often.

2.O - HOW TO CREATE YOUR OWN VOICE LIST.

- From the main screen, touch the **VOICE LIST** icon….

This will display the first page of 8 favorite voices KETRON has recommended. You can select any of these voices as usual by simply touching the voice on the screen.
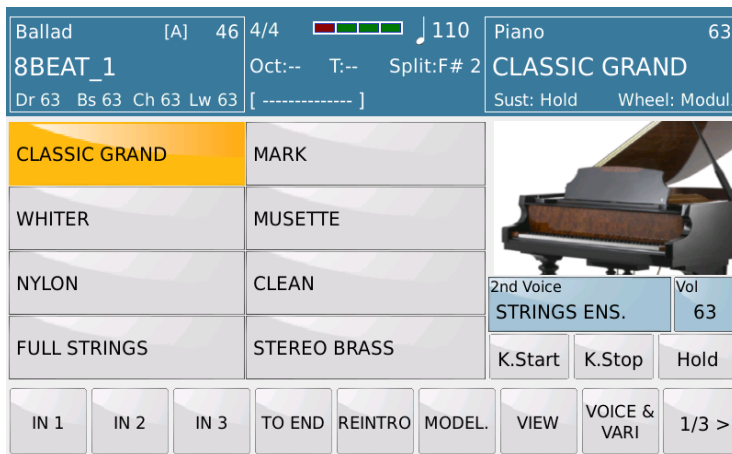
- If you turn the data wheel or press the **ENTER** button, you can access the next 4 pages of 10 voices each.
- Now let us select a voice we want to replace in the current **Voice List**. In this example, let's replace the voice MUSETTE with a voice of our own.
- Simply touch the voice - MUSETTE on the screen for about 2 seconds *(If you touch and release quickly, it will just be a voice selection meaning the Musette voice will be selected and heard when you play!)*.

- The SD40 will quickly display the next screen which is the voice screen where the current voice resides (*the voice groups are to the right and voices to the left as usual*). You are now in VOICE LIST EDIT mode … working on replacing the MUSSETTE voice with a voice of your own.

- Select the voice group to the right you believe your voice resides in and touch the voice with which you want to replace the MUSETTE. In this case, we have touched the voice group ACCORDION and so it is highlighted in yellow – while the left of the screen displays the first page of accordions.
- Repeat the above action – touch and hold a voice you want to get rid of/replace – go to the voice screen and make a new selection of the voice you want in that location instead – press **EXIT** to return to the VOICE LIST screen … etc.
- Remember the VOICE LIST is made up of 4 pages with each page being able to display 10 voices each – so you can fill the VOICE LIST up with up to 40 of your favorite voices (*you don't have to do this as just 10 voices in the first page may be sufficient … but at least you know you can*).

- Once done, you will now need to SAVE your favorite voices (VOICE LIST) or else when you turn off the SD40, they will be lost and you will have to do this all over again.
- To save your VOICE LIST, simply press the **SAVE** button while you are in the VOICE LIST page.
- The following "SAVE VOICE LIST" page should be displayed.
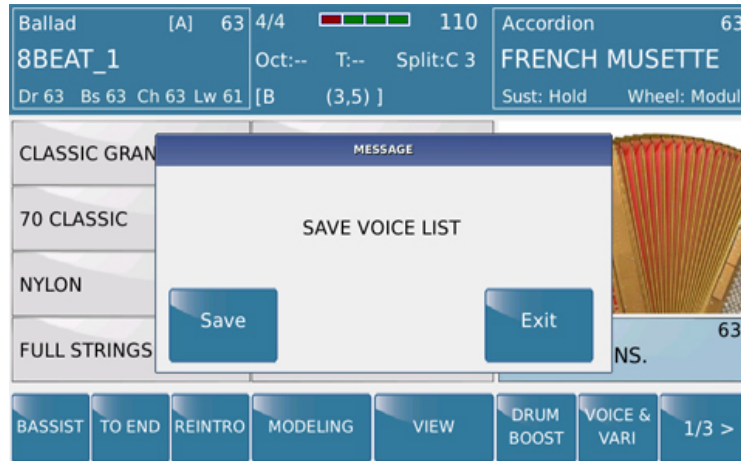
- Touch **SAVE** to save your new VOICE LIST (*or EXIT to cancel and do more editing or abort the VOICE LIST all together by pressing the VOICE LIST button and turning it off*). From now on, whenever you press the VOICE LIST button, you will have access to your favorite voices. (*NB:- You are not provided an option to name the Voice List as you can only create 1 voice list [of up to 40 favorite voices] and store in the SD40*).

3. STYLES & BEATS & RHYTHYMS

Some people call them beats. Others call them patterns. In the Arranger Musical world, they are called styles. At the heart of every arranger keyboard are styles. These are musical '*phrases*' which can be altered in real time to produce music based on the chords played on the keyboard. The SD40 comes loaded with 260 styles (the **AJAM**SONIC *version has over 600 additional styles*) meaning you will rarely lack a style to perform any kind of music.

When you turn on the SD40, it automatically powers up in the style mode page as follows -
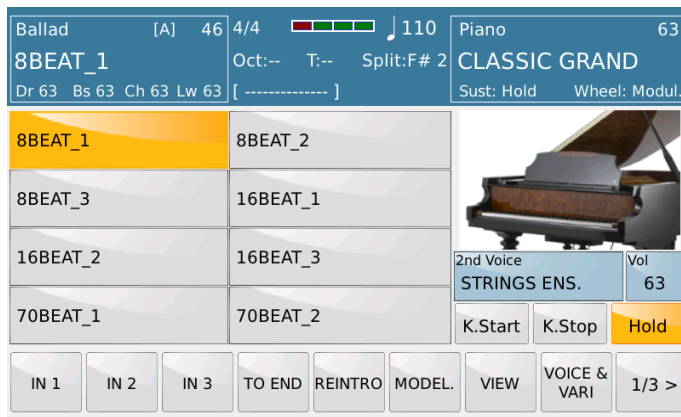
3.A - SELECTING STYLES/BEATS/MUSICAL ARRANGEMENTS

The SD40 powers on in the STYLE mode (*default page*) as shown below. If you are in a different setting, simply press the **STYLE** button on the right side of the panel (*shown above*) to get back to the STYLE / HOME Mode.
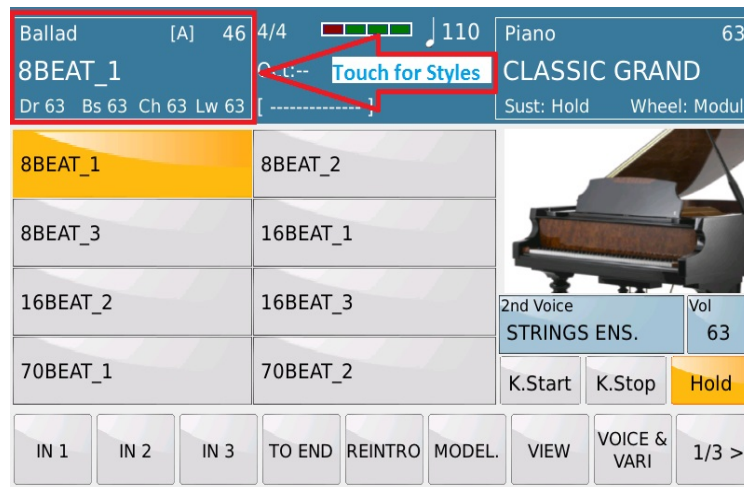
In the style mode, how do we interpret all this information displayed on the screen at once? Remember that one of the strengths of the Operating System of the SD40 is to give the user the current status of the Module at any given time. To accomplish this, KETRON has implemented a system that shows you what the current status of the module is (*style and voice selected, tempo, … etc*).

Here is a general interpretation of the main screen while in STYLE mode (*default screen of the SD40 as of OS 1.0)*

- The top left box of the screen shows :-

  ⭕ The group the current style resides in (Ballad). Touch this box to access and select other styles from the other categories available.

  ⭕ The variation of the style currently selected [A].

  ⭕ The overall volume of the style (63)

  ⭕ The name of the current style selected (8BEAT_A) – in capital letters.

⭕ The individual volume levels of the Drums, Bass, Chords and Lower parts of the style (Dr 63, Bs 63, Ch 61 Lw 63). These volumes are controlled by the volume knobs on the left side of the SD40 as shown –

⭕ You can touch anywhere in this box to quickly access the Style selection page

So the first 2 boxes on top of the screen are dedicated to the STYLE/ARRANGER section of the keyboard.

- The top center box shows:-

    ⭕ The time signature of the style (4/4)

    ⭕ The bar counter [▀ ▀ ▀ ▀]

    ⭕ The tempo /BPM (110)

    ⭕ The Octave setting for the Right/Lead voices (Oct:-)

    ⭕ The Keyboard transposition value (T:-)

    ⭕ The keyboard split point (Split: C3)

    ⭕ The chords played on the keyboard [D   (3)]

Ballad	[A]	46	4/4	110	Piano	63
8BEAT_1			Oct:-- T:-- Split:F# 2		CLASSIC GRAND	
Dr 63 Bs 63 Ch 63 Lw 63			[--------------]		Sust: Hold Wheel: Modul.	

8BEAT_1	8BEAT_2
8BEAT_3	16BEAT_1
16BEAT_2	16BEAT_3
70BEAT_1	70BEAT_2

2nd Voice
STRINGS ENS.

Vol
63

K.Start K.Stop Hold

| IN 1 | IN 2 | IN 3 | TO END | REINTRO | MODEL. | VIEW | VOICE & VARI | 1/3 > |

The top right corner of the screen shows the following information related to the Right/Lead voice being used on the Midi keyboard, accordion, guitar … etc :-

⬤ Group where the voice resides in (Piano).

⬤ Volume of the lead/right voice (63)

⬤ Name of the voice in Capital letters (CLASSIC GRAND)

⬤ Sustain and Wheel settings

⬤ You can touch this box to quickly access the voice selection page, or press the **VOICE**

button on the SD40's panel.

3.B - THE EXPLANATION OF THE VARIOUS PARTS OF A STYLE

Each style in the SD40 is broken down into the following sub elements:- 3 Intros/Endings, 4 Arranger/Variation parts of the style, 4 Fill ins, 4 Breaks and 1 To End (short ending). These style parts can be easily controlled with the following buttons on the panel below the screen:-

... and the following icons on the bottom part of the screen (main page 1/3):-
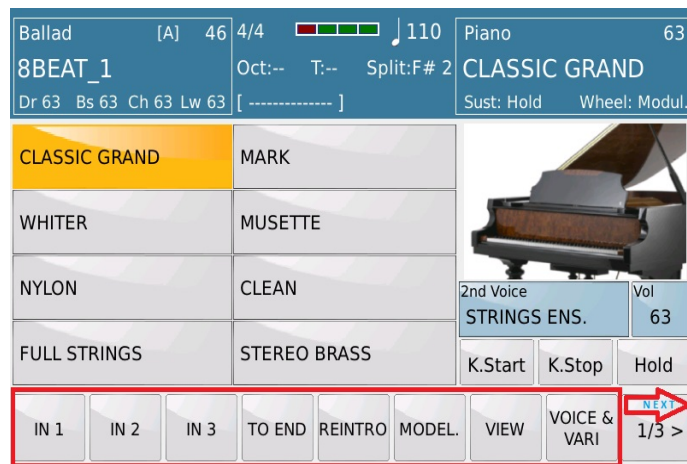
<<Page 1/3

(Touch "1/3>" to go to pages 2/3 and 3/3 for more controls!)

Each style element is also made up of 'your band' which is made up of

O Drums

O Bass

O Automatic Chords controlled by the style (CH1 - CH5)

O Manual chords controlled by the player (Lower1 and Lower2)

You can see all these parts by pressing the **VIEW** button on the main page (1/3) …

We will discuss this screen in more details below but at a glance, this gives you access to the individual style parts, instruments used, volume of each instrument, access to PAN, REV, CHORUS, EFX levels of each instrument … etc.

3.C - HOW TO SELECT A STYLE/BEAT FOR YOUR MUSICAL PERFORMANCE

As mentioned earlier, the SD40 comes with many styles / beats to choose from. How do you select the right style for your performance? When you turn on your SD40, the default style selected is called 8BEAT_1 from the BALLAD style category as shown below. To select a style, touch the top left box that shows the current style selected –
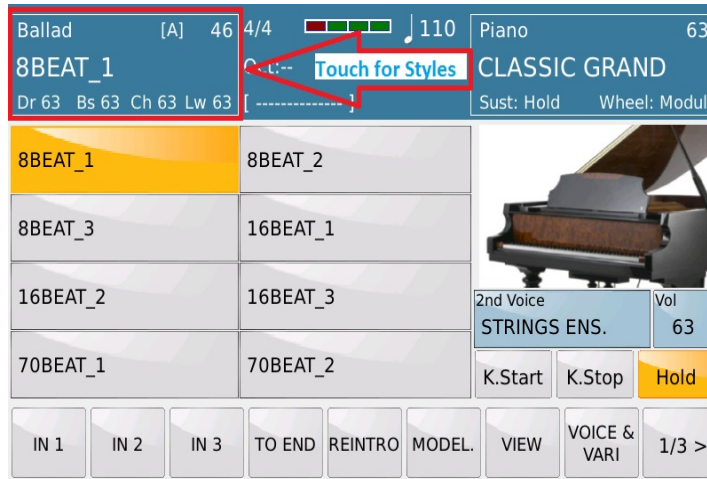
The following screen will be displayed showing you the various style groups to the right side of the screen (*as highlighted below*) –

As you can see from this example, the current style selected is from the BALLAD style group (shown on the right) and the style's name is 8BEAT_1 (selected on the left). Notice that the top part of the screen remains the same, showing you the style information and voice information at a glance.

- To choose a style, touch the style group where you believe the style you want to use is (for this example, BALLAD was touched). The first 10 styles in the BALLAD group are displayed to the left side of the screen. By turning the data wheel or pressing the ENTER/PAGE button, you can access the next pages of BALLAD styles (in groups of 10). Once you find the style you want, touch it.
- An hour glass is displayed temporarily – why? The SD40 uses AUDIO styles and so whenever an Audio style is loaded, the corresponding audio drums of the style need to be loaded as well, hence the short delay. Once loaded, the top part of the screen will be updated showing you the new style selection. The voice will also be updated if the **VOICE TO ABCD** is turned on (*style is automatically assigned voices that are called up as you change from variation A-D. This will be explained in details below under* **3.E Voice to ABCD – Page 48**).
- You can now press **EXIT** to return to the default screen once more. Notice the updated page!

3.D - RECOMMENDED WAYS TO PLAY AND ENJOY STYLES

Here are the instant controls used to control styles … right at your finger tips.

…on the panel, and the following on the screen …

To better explain the style functions and how and when to use what, we have provided the image above of the SD40's style control buttons (*hard buttons on the panel*) and soft buttons on the screen.

- To play the style you just selected:-

  ⭕ Touch the **K.Start** (Key Start/SYNC START) button. When this button is on, the style will start playing with complete backing once you play a key to the left of the SPLIT point (or any key if the PIANIST button is on [*full keyboard mode*]) or you press the bass pedals (if connected). You can also simply press the red START button if you want to hear drums only – until you play a chord to bring in the rest of the arrangement.
    - K.STOP & K.START both work this way –

STATUS/MODE	K.START	K.STOP
Nothing happens on chord section with Keys. To start the style, you will have to either manually press any of the Intro/Fill/Start button	**OFF**	**OFF**
Style starts playing as soon as a chord is played on the keyboard.	**ON**	**OFF**
Style starts playing as soon as a chord is played on the keyboard - however if a chord is played for less than 1 second and keys are released, the style stops. If a chord is played for longer than 1 second and then the keys are released, the style continues playing. Very useful when adding start/stop effects or repeated manual breaks while playing a tune .	**OFF**	**ON**
Style only plays when chords are played on the keyboard. If the keys/chords are released at anytime, the style stops playing.	**ON**	**ON**

○ Now touch any of the INTRODUCTION (**IN**) buttons (Intro 3 would be more musical and has lead parts as well) and the SD40 will play the INTRO#3 of this style after you play a chord to the left of the keyboard split point (or anywhere on the keyboard if PIANIST mode is on), or you press the corrected bass pedals (if connected).

○ Press **ARRANGER A** (VARIATION A) to start your song with the most basic arrangement of the style. As you progress into a verse, now select **ARRANGER B** (VARIATION B) ... etc. C & D are busier and better used for the endings of songs or as you climax into your song.

○ Press **ENDING 3** (same button as Intro but works as such – if the style is not being played and you press it, it works as an INTRODUCTION. If the style is being played and you press it, it now works as an ENDING)

○ You can use the **TEMPO** (SPEED) button to slow down the style or speed it up. Simply press the TEMO button - then turn the data wheel to increase or decrease the tempo of the style. The audio drums are right there behind you with no change in pitch.

○ The **HOLD** icon on the screen allows you to play and release a chord and the SD40 will still maintain that chord … until a new chord is played. If the **HOLD** icon is off (blue), the chord is released as soon as you lift your fingers off the keyboard (*chord section*) and the drums keep playing.

○ **RESTART** – allows you to restart the style at any given time. This is very useful especially if you have a vocalist that cannot keep to time and you have to follow him/her instead!

Now let's explain some of the SOFT style controls found on the bottom of the screen (*the others will be explained in their relevant chapters below*). The bottom right corner of the screen displays the current page you are on. Since there were too many controls to list below the screen, they were broken down into 3 pages as shown

Page 1/3 (Default page).

⭘ **TO END:-** Touch this when you want to end a style within a measure or 2 max. This is used in place of the regular ENDINGS (1-3) when a sudden but clean ending is needed … e.g. your host comes on to the microphone while you are playing and you have not quit gotten to the end of the song or a comfortable spot to press that ENDING1 (*which by the way would still end in about 3 measures*).

⭘ **REINTRO:-** KETRON have added this feature (demanded by many over the years). As the style is playing, you may want to play the INTRO line once more and so by pressing **REINTRO:-** (*on if yellow*), if you press any of the INTRO buttons, the INTRO (*and not the ending as usual*) will be played once more. Once the INTRO is played, the style will return to the variation it was playing just before the INTRO was pressed (unless as the INTRO is being played, you press a different variation button).

Page 2/3 (Touch page "1/3>" to move to the next page 2/3). Your screen should look something like this:-

This screen gives you direct access to the 4 fill ins and 4 breaks of the Arranger. The FILL and BREAK buttons on the panel give you access to one of the fills and breaks – however, when this button is pressed, the FILL/BREAK you hear depends on the Arranger/Variation that is being played before the button was pressed. So, if you were playing Arranger A and you press the FILL in button on the panel, Fill 1 will be heard. If you were playing Arranger B and you pressed the BREAK button, BREAK2 will be heard. If you were playing Arranger C and you pressed the FILL in button, FILL 3 will be heard …etc. This screen (Page2/3) allows you to instantly touch the FILL in or Break you want to hear regardless of what Arranger the SD40 is currently in.

Page 3/3 (Programmable parameters).
When you press the page button (2/3), page 3 will be displayed and looks like this –
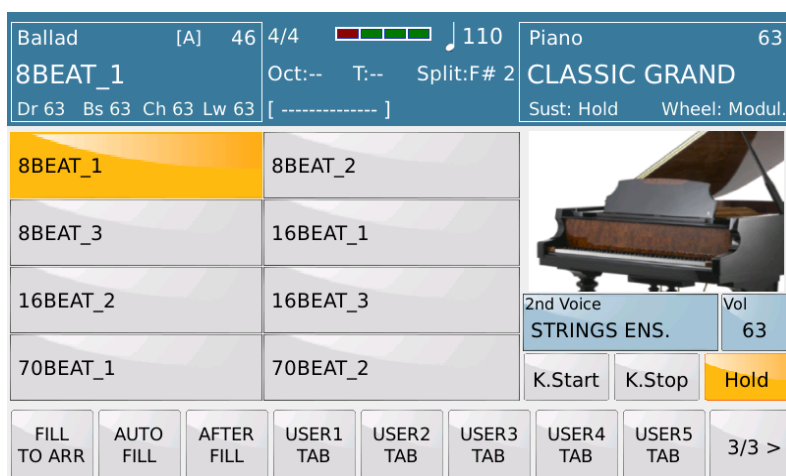
The first 3 soft touch buttons at the bottom of the screen are also accessible as described below under (**3.J – Drums, Bass & Chords - Page 55**), however by having them here right at your finger tips, it means you have direct access to these functions without digging into menus and pages to find them. The beauty of the SD40 is that this same page offers you 5 Programmable soft touch buttons (**USER TAB 1-5**) which you can assign to any of the functions within their menu. Let's explain each of these buttons and their functions:-

⭕ **FILL TO ARRANGER:-** As the name implies, as you play a style, if you press the **FILL IN/BREAK** button, the Arranger/Variation automatically jumps to the next one once the fill is over. Once it gets to Arranger D, it cycles back to Arranger A.

⭕ **AUTO FILL:-** If you turn on the AUTO FILL (yellow), then as you play the style and switch form Arranger to Arranger (Variation to Variation), the style automatically plays a Fill in between changes so that it sounds flawless and more professional. The other way to

achieve this same result would be to press a FILL in and then while the fill in is still playing, press the next Arranger (variation). With AUTO FILL on, this saves you one extra button to push – which means you can focus more on playing and less on navigating the SD40

⭕ **After Fill:-** The fill In is automatically activated if you press down hard on the keys (for midi controllers that transmit **AFTER TOUCH**). With this turned on (yellow), simply play and press hard when you want to activate the fill in!

⭕ **USER TAB (1-5).** Touch any of these to display 30 (in groups of 6) functions you can assign to these buttons. Turn the data wheel to display the next set of 6 functions and when you see a function you want to assign to any of these, simply touch it and it will be assigned to that particular soft touch button. Repeat this for the others. When done, press SAVE – CUSTOM START UP (the SD40 will save this START UP setting so you no longer have to repeat this each time the keyboard is turned on. FACTORY START UP will revert to all FACTORY SETTINGS so leave this … unless you want to RESET the SD40 to factory settings).

- If you need to program and use more settings, you can do so by programming functions you can control with your feet, using the optional FS6 (6 switches) or FS13 (13 switches) effects pedal. To do so
  - Press the **MENU** button on the SD40's panel
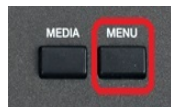
Your next screen should look like this –

- Touch **FOOTSWITCH** to display the foot switch program page as show below …

- Now touch the switch you want to assign a function to (e.g. #10) and a drop down menu showing all relevant functions you can program into #10 are displayed. You can use the data wheel to scroll down the list to others not currently displayed on the page.

- When you see a function you want, touch it and it is automatically assigned to that switch (*displayed right below it*).
- Press **EXIT** to get back to the main footswitch page and repeat the above for the other switches you want to program. Please note that although the diagram shows the FS13, if programming the FS6, use just the first row of switches (1-6) and ignore 7 – 13 at the bottom!
- When done (while still in the FOOTSWITCH page, press the **SAVE** button and touch **SAVE** to save the footswitch set. You can save up to 4 footswitch settings (SET 1-4) as shown below the screen.

3.E - LEAD VOICES ASSIGNED TO STYLE VARIATIONS

You can assign voices to each of the style arrangements/variations such that as you play, you do not have to worry about manually changing the voices of the lead/right hand (One Touch Setting). As you switch from style variation to variation, the lead voices will change automatically so you just focus on playing. Regardless of which voice is selected, you can always manually override them by simply selecting another voice.
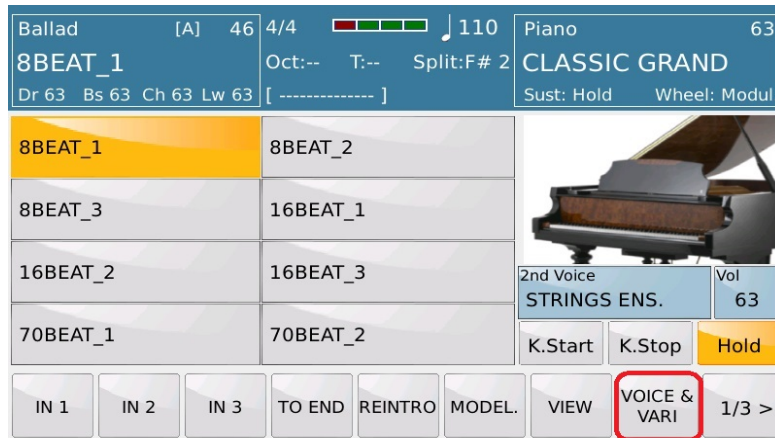
From the main STYLE **VIEW** page above, touch the **VOICE & VARI** (Variation) button on the bottom of the screen to display the following page –
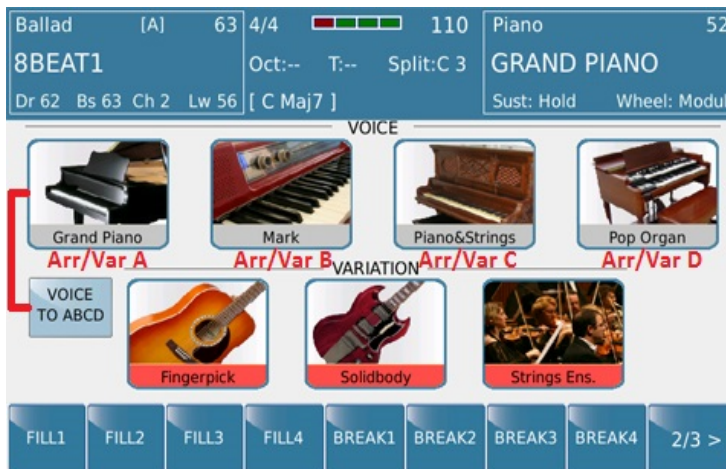
This page has 2 main functions which we will explain in detail – **VOICE – VOICE TO ABCD** (*One Touch Settings at the top row of the center screen*) and **VARIATION** (*muting/playing arranger parts so the style sounds less busy depending on your application at the 2nd row of the center screen*).

3.F – ASSIGNING VOICES TO VARIATIONS (ONE TOUCH SETTINGS)

As previously mentioned above, you can set up the SD40 such that certain voices are assigned to the arranger parts and the arranger changes these voices for you automatically as you perform. For this to happen, you must turn on the **VOICE TO ABCD** by touching it on this screen (it will turn yellow). From this screen, the voices that have been assigned to the various arranger/variation parts of this 8BEAT1 style are as follows:-

- GRAND PIANO - Assigned to Arranger/Variation A. When you play Arranger A, the lead/right voice automatically selected will be the Grand Piano.
- MARK - Assigned to Arranger/Variation B. When you play Arranger B, the lead/right voice automatically selected will be the Mark piano.
- PIANO&STRINGS - Assigned to Arranger/Variation C. When you play Arranger C, the lead/right voice automatically selected will be the Piano & Strings.
- POP ORGAN - Assigned to Arranger/Variation D. When you play Arranger D, the lead/right voice automatically selected will be the Pop Organ.

USES:- This can be used for various functions – for an example, you can have these 4 voices as your main voices for this style. Now turn OFF the VOICE TO ABCD such that as you switch arrangers, the voice does NOT change automatically. In this mode, you can now play and touch any of these 4 voices at any time. Use them as your 4 favorite voices for this style. You can also have these 4 voices set up such that if you are playing with any backing track/Midifile, simply touch the voice you want and play along.

3.G - CREATING YOUR OWN VOICE TO VARIATIONS (OTS)

Remember that these are the voices that have been set by KETRON for all the 260 factory styles. You can always change these and put your own voices to be associated with any style (factory or your s – USER STYLES. To do this:-

- First select the style whose lead voices you want to modify (Factory or User style) and go back to the **VOICE & VARI** screen as shown above by touching **VOICE & VARI** from the main style screen.
- Touch and hold for 2 seconds the voice you want to replace (e.g. the first voice - Grand Piano).
- The SD40 will automatically display the VOICE selection page for you to select the new voice you want to put into the selected location. Select a voice as mentioned above in 1.A – ACCESSING AND USING VOICES).
- Press **EXIT** when done and your new voice will be in place of the GRAND PIANO.
- Repeat the above process for all the voices you want to replace.

- When done, press the **SAVE** button on the right panel to save the new style with your voices – remember you cannot overwrite a factory style so this style will now be saved as a USER Style in the same group as the previous factory style.

- Make sure "**USER STYLE**" is highlighted (*in yellow*) and NOT REGISTRATION. If not, touch it so it is highlighted.
- Touch-

  ⭕ SAVE – if you want to maintain the same factory name

  ⭕ **SAVE AS** – if you want to give this style a new name. Touch **ENTER** in the next screen after naming the style to save it.

  ⭕ **CANCEL** – To abort this operation

- To use this style with your Voices, from the STYLES page, touch USER, go to the group your style resided in and touch it. It will be loaded with your voices.

3.H - STYLE VARIATIONS - MAKING STYLES LESS OR MORE BUSY

The variation section of this page allows you to instantly mute style parts so that the style is less redundant or busy, especially if you bring these parts in and out of the style as you play. This is a very useful feature if you are a professional player and play a lot. In many cases, you will want certain style parts (e.g. STRINGS) not to play because you want to play a SOLO using … STRINGS and you do not want your STRINGS to clash with those being performed by the style.
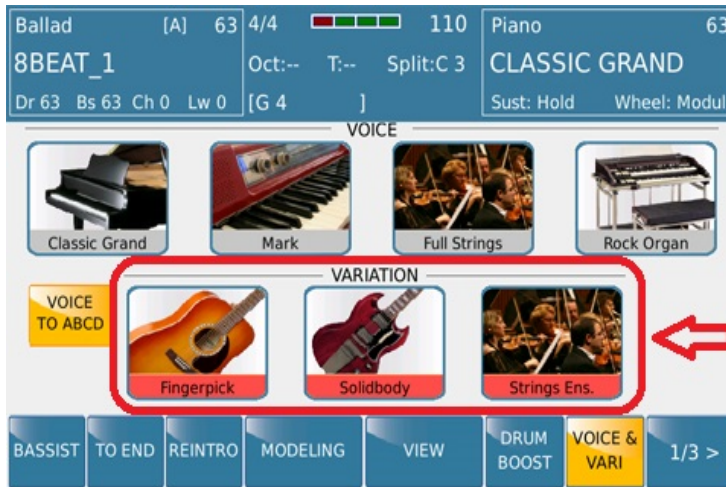
In this case, simply touch any of the **VARIATION** parts to turn them on (red underline) or off. In the example above, they are all ON so all the style parts are heard. As you switch between Arranger/Variation, notice how the sounds related to the variation parts (chords) are also changed - depending on the style. This feature allows professionals to express themselves without having the style get in the way ... while allowing musicians who are growing the capability to sound complete and live – with a little help from the SD40.

NB:- The 3rd VARIATION part (*location currently occupied by "Strings Ens" in the above example*) can be replaced with a variation for the DRUM/Groove instead. This is discussed in more details below under "2F –ARRANGER CONTROL – 'Drum' section".

3.I - MODIFYING STYLES TO MAKE THEM YOUR OWN – STYLE VIEW

Of course you are not stuck with the styles the way they were balanced and EQed from the factory. You can make slight modifications as such and save them as a **USER STYLE** for future recall as well. Just remember that, although you are making modifications to a FACTORY style, when you save it, the SD40 will save the style as a USER style so you will always have you factory styles the way they were from the factory and you can always go back to them at a future date.

From the main style page, touch STYLE **VIEW** to display the various style elements compositions as shown below –
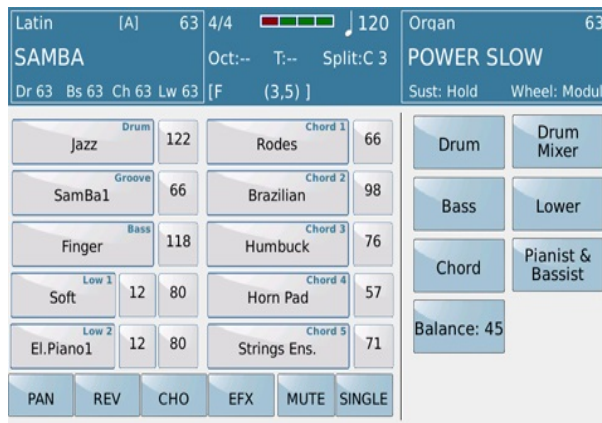
Notice again that the top part of the screen still shows the current condition of the keyboard (styles used, voices used, tempo … etc) while the middle shows you the various parts of the style and corresponding elements (volume in this case).

In this example, let's try and interpret the information displayed on this screen - the SAMBA style is made up of:-

- A drummer playing a JAZZ drum kit as shown in the first box (*center screen*).
- A percussionist playing a SamBa1 groove as shown in the second box
- A bass player playing a Finger bass as show in the third box
- Left Voices/Instruments of the Manual chords parts which you play live with your left hand (*Low1 and Low2*) – LOWERS/LEFT VOICES 1 & 2. Next to them is the octave of each instrument (*which you can change by touching the value and turning the wheel*) and their corresponding volume (*which again can be changed by touching the value and turning the data wheel*). This was explained in greater detail under (**2.E - LOWER VOICE – page 18**) above.
- Musicians (Chords 1-5) playing Rodes (Chord1), Brazilian Guitar (Chord2) … Strings (Chord5)

This initial VIEW screen is the **VOLUME** screen (*where you can regulate the volumes for all the individual parts*) and by touching any of the volumes associated with the instrument, you can adjust each instrument's volume accordingly.

The adjustments being made to any of the style parts can be made to impact just the current Arranger /Variation (*A in this case since the top box displays [A] and on the panel, Arranger/Variation A is lit up - so Arranger A is being modified*) if **SINGLE** is selected on the screen (*below the CHORD 5's volume box*). If you want to make these adjustment such that these changes are also carried out in ARRANGER/VARIATION B, C and D (*such that you do not have to manually go into these separately and adjust all over again*), then touch **SINGLE** so it toggles to **GLOBAL** (yellow) before making any adjustments. When **GLOBAL** is displayed, any changes you make will now impact all the ARRANGER/VARIATION parts together. **SINGLE** is useful if you only want to make changes to one of the variations/arrangements only.

As mentioned before, the first STYLE VIEW page displays the VOLUME of the various style parts. How do you access the other parameters and change their values as you see fit? Simply by touching the parameters below the screen as shown below
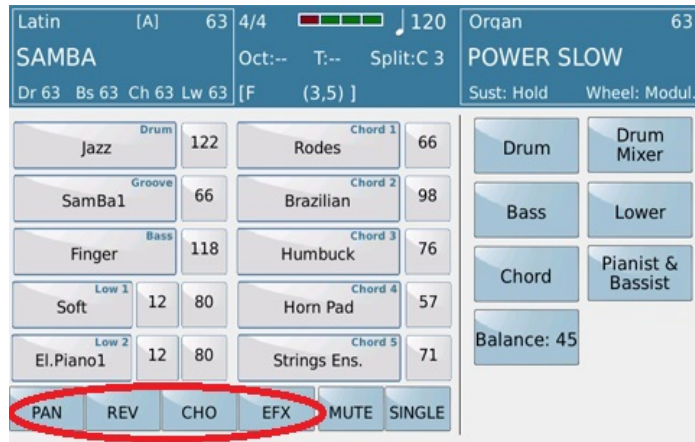
PAN:- Touch this to display the screen where you can adjust how much of the parts you want coming out of the left or right speaker. L shows the value out the left speaker and R shows the value out of the right speaker. It helps to create a great surround environment when you partially pan the instruments left and right about +/- 40.

REV (REVERB):- Touch this to adjust how much reverb you want applied to each part (0-127).

CHO (CHORUS):- Touch this to adjust how much CHORUS you want applied to each part (0-127).

EFX (EFFECTS):- Touch this to select which parts you want routed through the EFFECTS bus (EFX = ON. -- =OFF). The box below the LOW2 box will display the current effect type. Touch it to change the effect (*remember you can use the data wheel to scroll through other effects below and touch the one you want – then press EXIT to return to the STYLE VIEW – EFFECTS page*). Touch EFX again to exit from the effects mode (*not yellow*).

3.J - DRUMS, BASS & CHORD AUTOMATED ARRANGER FEATURES

Now in this section (*still from the STYLE **VIEW** page*), we will discuss in more detail some of the amazing control and features the SD40 offers from KETRON. You will notice that some of these features are unique to the SD40 or KETRON instruments in general and can their settings can set you apart from others with the *same* keyboard. Despite a lot of automation available to you, you can still manually control many of the automatic elements thus putting a human feeling behind an Electronic module.

- Touch **DRUM** to access the following screen and functions associated with the DRUMS (DRUM turns yellow):-
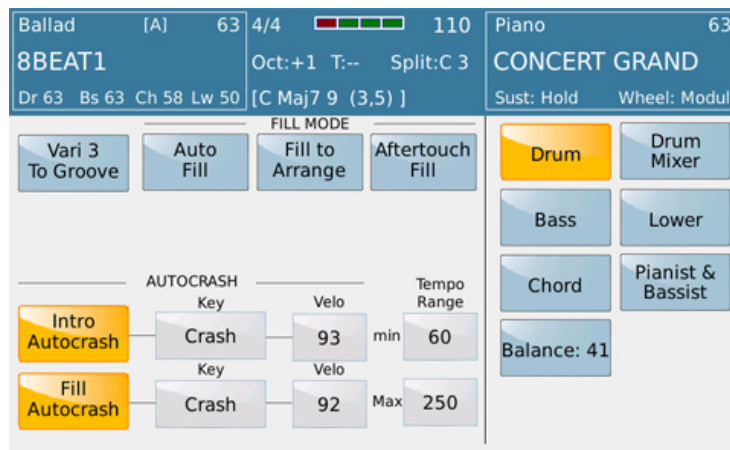
○ **Vari 3 To Groove:-** As mentioned above in *(3H –STYLE VARIATIONS – ARRANGER VARIATION)* section, the 3rd variation can be programmed to be for Drums/Grooves and not a chord track of the style, meaning you will be able to turn on/off busy drum and

percussion parts associated with the style. This happens when you turn on the **Vari 3 To Groove** on (Variation 3 on the main Voice & Variation screen gets replaced by the GROOVE).

=>
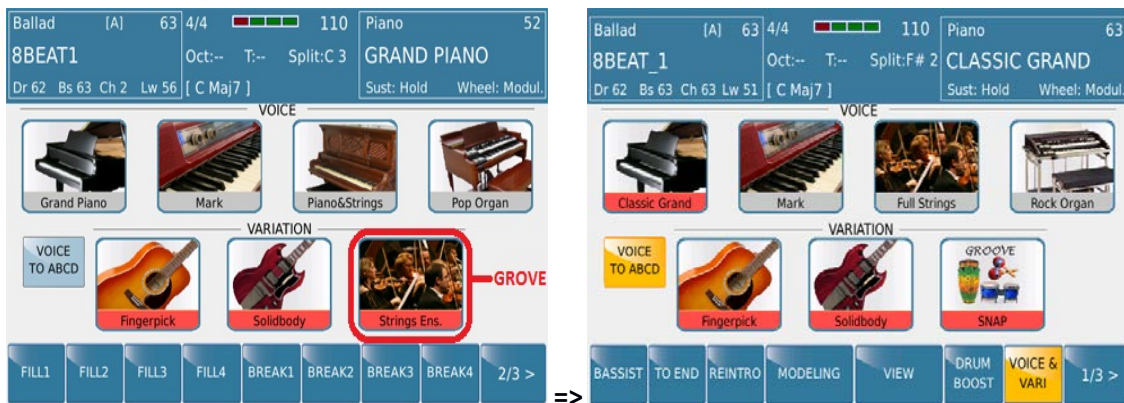
○ This way, you now have 2 musical VARIATIONS to use and 1 percussive/drum VARIATION. This is very useful especially for LATIN styles and beats that tend to have a lot of percussive parts. There comes a time when muting some of this at the touch of a button creates room for musicians to fully express themselves without competing with the SD40! Of course there are those who would prefer the keyboard played all the parts while they lay down a solid lead-instrument line.

○ **AUTO FILL:-** If you turn on the AUTO FILL (yellow), then as you play the style and switch form Arranger to Arranger (Variation to Variation), the style automatically plays a Fill in between changes so that it sounds flawless and more professional. The other way to achieve this same result would be to press a FILL in and then while the fill in is still playing, press the next Arranger (variation). With AUTO FILL on, this saves you one extra button to push – which means you can focus more on playing and less on navigating the SD40

○ **FILL TO ARRANGE:-** As the name implies, as you play a style, if you press the **FILL IN/BREAK** button, the Arranger/Variation automatically jumps to the next one once the fill is over. Once it gets to Arranger D, it cycles back to Arranger A.

○ **Aftertouch Fill:-** The fill In is automatically activated if you press down hard on the keys. This is the best as your fingers never have to leave the keybed. With this turned on (yellow), simply play and press hard when you want to activate the fill in!

○ **INTRO AUTO CRASH:** -When on (Yellow), whenever an INTRO is played, a 'crash' is heard at the end of the INTRO and just before any of the Arranger/Variations are heard.

You can touch the 'KEY' box to change the instrument that is heard (CRASH/RIDE) by turning the wheel once selected.

O **FILL AUTO CRASH:** -When on (Yellow), whenever an FILL IN/BREAK is played, a 'crash' is heard at the end of the FILL/BREAK and just before any of the Arranger/Variations are heard. You can touch the 'KEY' box to change the instrument that is heard (CRASH/RIDE) by turning the wheel once selected.

O **TEMPO RANGE** (MIN/MAX):- Touch this to manually set the maximum and minimum BPM/TEMPO for the selected style. Since the SD40 uses Audio Drums, this feature is very handy when you want to limit the range of the style just before the audio component begins to distort (*once the audio drum is stretched too far*).

- Touch **DRUM MIXER** to access the following screen and functions associated with the Styles Midi DRUMS (DRUM MIXER turns yellow):-
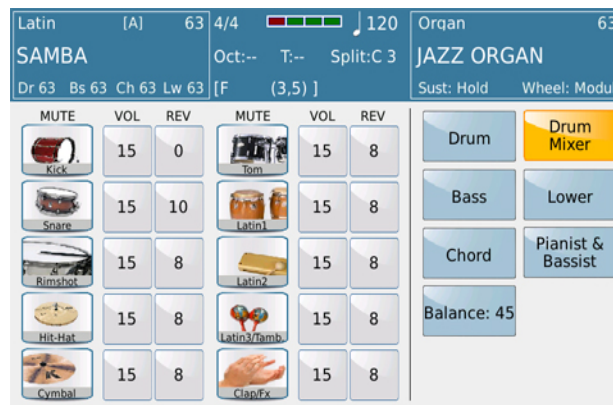
O From this screen, you can now
  - Touch the individual instruments to mute them (*yellow bar appears below their names*)
  - Touch the volume (**VOL**) column and use the data wheel to increase/decrease the volume of individual drum parts (e.g. increase the volume of just the snare, reduce the volume of the high hat ... etc).
  - Touch the reverb (**REV**) column and use the data wheel to increase/decrease the reverb level of the individual drum parts (*e.g. increase the reverb on the latin percussions, reduce it on the kick drum all together*) ... etc.

⭕ ***SPEAKING OF DRUMS*** … you can also play manual drum kits on the keybed. These superior drum kits and sounds are arranged on the keyboard according to the GM/GM2 protocol. Simply press the KEYB. CONTROL button to display the following screen –
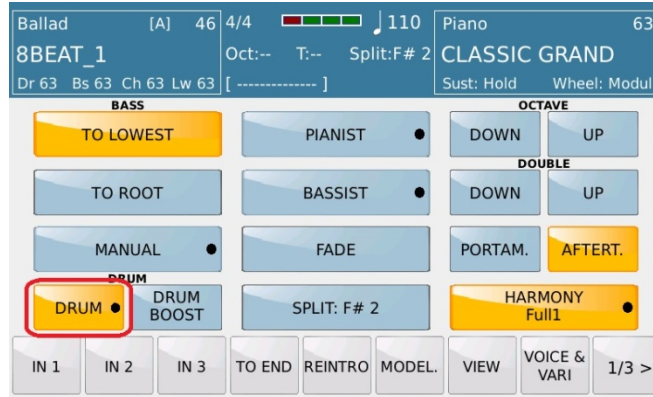
- Touch the **DRUM** icon (turns yellow) to manually play the drum kit from the keyboard.
  - ■ To change the drum kit of the manual drum set you are playing on the keyboard –
    - Touch and hold down the **DRUMS** icon for 2 seconds until the following drum set screen is displayed –

    - You can touch the individual drum instruments on the screen and play them live. To change the drum kit, simply touch the current drum set shown below the screen (in this case Standard_sd) and pick a new drum set from the pop up list displayed.
    - You can also remap the current drum kit and make your own drum kit. To do this, simply touch the drum you want to change (e.g. Kick drum). Then touch the remap box and select a new kick drum to replace the current one from the pop up list shown.

○ **DRUM BOOST:-** Instantly boost the level of the DRUMS by touching this icon (turns yellow when on) during your performance. This is very useful when say you have a drum fill ... or you are doing a drum solo (manual drums) and you want the drums to stand out of the rest of the mix. If turned on, don't forget to turn this off, else your drums will remain loud throughout the rest of the performance!

● Touch **BASS** to access the following screen and functions associated with the BASS (BASS turns yellow):-
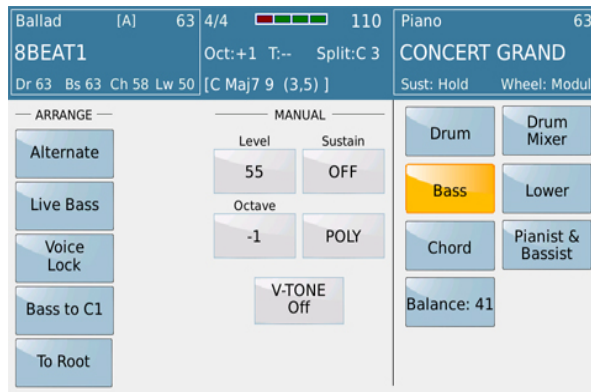
The left side of the screen now shows some very interesting BASS features under 2 columns – **ARRANGE** (where *you can use these features with the STYLE'S bass/ auto bass*) or **MANUAL** (*with you playing bass manually on the left side of the split point*).

Let's exploit the **ARRANGE** (ARRANGER/STYLE) bass features:-

○ **ALTERNATE**:- This is a special mode for the alternate Bass that adapts it to the chord change according to the correct rule of musical harmony. For example, by not repeating the basic note or the fifth that you have played. This function works only in Styles where the alternate Bass is programmed with tonic and fifth intervals.

○ **LIVE BASS**:- This function synchronizes the Bass immediately regardless of when the chord is played within a measure. In other words the Bass plays immediately when you play the note without waiting for the "down beat" of the measure. When this is off, the bass not is only heard on the down beat of the style's measure.

○ **VOICE LOCK**:- When on (yellow), this locks the bass sound so that regardless of which style you pick or keyboard setting/Registration you load, the bass instrument does not change.

⭕ **BASS TO C0**:- When on (yellow), this extends the arranger's bass lines down to C0. This is very nice especially for 5 String Electric bass guitars.

As for the manual BASS feature, this was already described above in details under *(2H – Manual bass Page 22)*.

- Touch **CHORD** to access the following screen –
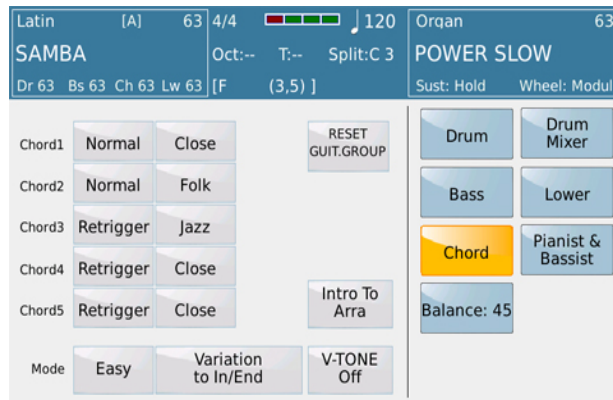
The first column on the left provides access to the chord settings. You may select either NORMAL or RETRIGGER modes. The second column gives you access to the chord types, namely - **CLOSED/PARALLEL/JAZZ/FOLK/BLUES**. These chord settings and modes only affect the Arranger/Accompaniment controlled chords (Chord1, Chord2, Chord3, Chord4, and Chord5).

- In **Normal** mode a chord plays during the basic measure as programmed.
- In **Retrigger** mode the chord is heard every time it is played – i.e. the individual chord notes are played regardless of where you are as you play the style.
- In **Close** mode the chords adapt the intervals to the next notes following the rules of conventional harmony.
- In **Parallel** mode the notes of the chords programmed are transposed in parallel without changing the intervals.
- The SD40 Arranger also includes three new modes for Chord harmonic variations and these complex modes are best suited for Jazz, Folk and Blues. Each of these modes have accompaniment and harmonies typical of the musical styles. A sophisticated musical algorithm controls Chord progression and change intervals arrangement depending on Chord rules in terms of Tonic (root) subdominant (4th) or dominant (5th) for this kind of music.
- Reset of Root recognition (Tonic) is done by pressing Chord notes fast (*with maximum dynamic*).
- At the centre of the display you will find the MODE function that may be set on **EASY** or **FINGER** modes.

- On **Easy** mode the instrument plays in standard mode recognizing the chord. Some tones may also be obtained by not playing the full chord. For example, you may play a major chord by playing only the tonic part. With the tonic plus the minor third you play a minor chord, with the tonic plus the seventh you play a seventh chord.
- On **Fingered** mode the chord is recognized and played only according to the notes you play.

- Touch **LOWER** to access the following screen:-
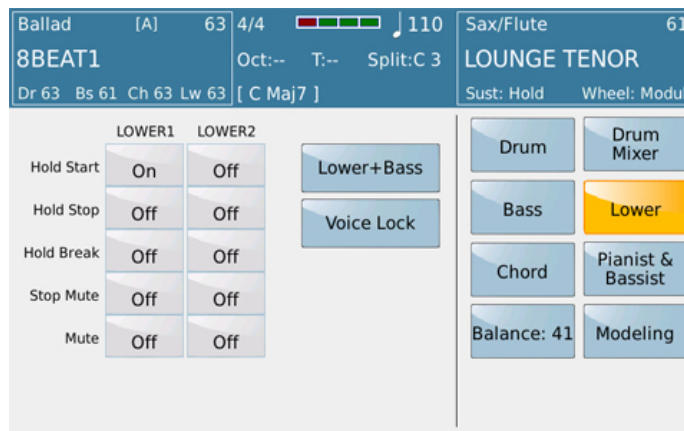
There are 2 columns associated with both the LOWER1 and LOWER2 voices which are the two sounds that can be assigned left of the split point of the keyboard (Left Hand Voice). Let's describe each function in full and how it can be of use to you:-

- **HOLD START**: When set to ON, the Lower1 or Lower 2 sounds will be held (sustained) as you play a style. The setting is enabled for all the Styles. This is great when sustained sounds like PADS or STRINGS are assigned to the left hand. This is what keyboard players would be playing in a live band when a vocalist is singing, say a verse (*soft*).
- **HOLD STOP**: When set to ON, the Lower1 or Lower 2 sounds will be held (sustained) even when the style is not playing (or has been stopped). Hold STOP is generally always disabled, but could be used in say a style, where once the music ends, you still want the PADS to be sustained way after the ENDING has been completed. Very useful for Orchestral/Theatric music.
- **HOLD BREAK**: When off the LOWER voice is not heard (interrupted) when any of the BREAK buttons are pressed while a style is being played. This could be useful if say you used a BRASS instrument as one of the lower voices and want to use a break and want the horns to come to an abrupt stop/end, especially with DANCE music.

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- **STOP MUTE**: When this is set to ON, the LOWER voice is not heard when the style is not running.
- **MUTE**: Instantly mutes the Lower voice selected regardless of whether the style is on (*playing*) or stopped.
- **LOWER + BASS**: This functions only when the style is not running (STOP) and allows you to play the manual Bass for the chord you are playing, together with the two Lower voices. This is very useful when the musician wishes to play a solo introduction before starting the automatic accompaniment. Once the Style starts however the Bass will be controlled automatically by the Style according to the chords played.
  - o Touch once to turn it on/off
  - o Touch once more to turn on LOWER+BASS (BASS HOLD). Bass note is sustained (held) when played.
  - o Touch once more to turn off.
- **VOICE LOCK**: Locks (*freezes*) the voices selected on the Lower/Left section so that regardless of which Registration (*Setting*) or Style you select, the LOWER voices will always remain the same
- Touch **PIANIST & BASSIST** to access the following screen:-
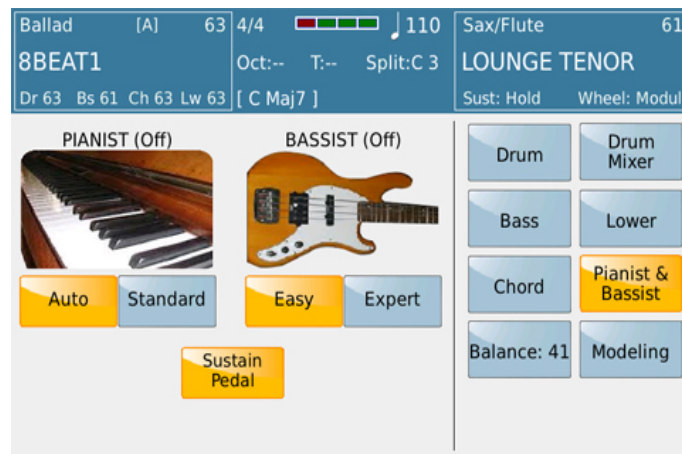
  - o Here you may use the Arranger in piano mode, **PIANIST (ON) …** in other words eliminating the split and extending the Upper section over the full keyboard ("Full Upper" mode). The chord will therefore be recognized on the Left section but also over the full keyboard, and whatever voice you select will be used through the entire keyboard.
  - o Also in this window, you may set the Arranger to where you can play bass with your left hand simply by touching BASSIST on the screen – **BASSIST (ON)**.
  - o The two modes, Bassist/Pianist, may only be used one at a time. They will now be described in more detail:

PIANIST
- o **Auto**: In this mode, simply play 3 or more notes on the keyboard so that the chord is recognized and once this happens, you can then play the melody with one, or at the most two notes, without changing the chords of the Arranger.
- o **Standard**: In this mode you freeze the chord recognized with the Sustain Pedal so as to play on the keyboard without altering the tone of the Arranger. This is the typical way a piano player plays anyway – pressing the sustain pedal when the notes being placed are in the current chord just played.
- o **Sustain Pedal**: When this parameter is enabled (ON), the Sustain Pedal control on Pianist is enabled once plugged into the SD40.

BASSIST
- o The Bassist function allows you to play the Manual Bass on the left section of the keyboard while controlling the Arranger and song line at the same time on the right section.
- o This function has 2 playing modes: **EASY** and **EXPERT**.
    - ■ **EASY**: This is the default mode of BASSIST. When you press BASSIST, the Manual Bass is automatically selected for the left hand while chords are recognized by interpreting the note played by both the left (Bass) and the notes played with the right hand. Simply play a chord of at least 3 notes on the right section for the instrument to create an accompaniment which the SD40 will play along with the selected style. In this mode, you may also play a song line of no more than 2 notes played together since 3 notes are automatically recognized as a new chord. This interactive style of play allows a Piano player to play freely without loosing their original playing skills while playing the bass manually with the left hand.
- o **EXPERT**: Expert mode is very similar to Easy mode, but facilitated with the SUSTAIN PEDAL. Play 3 notes to create a chord, then press the SUSTAIN PEDAL to freeze that chord. Any other notes played (2, or 3 or 4 or …) do not alter the chord of the arranger until the SUSTAIN PEDAL is released. Once the pedal is released, the next chord played on the keyboard is immediately recognized and played. This is the most professional method that allows a Piano player to freely express themselves without having to 'learn' a new/standard way of playing the Arranger keyboard. The Expert Mode takes a little bit of practice in order for you to know just when to press that SUSTAIN PEDAL so as to lock the chord, however it is well worth it since it allows you great freedom to express yourself musically when playing the Song just as a Pianist would.

- o **SUSTAIN PEDAL**: For both Pianist and Bassist modes, the Sustain Pedal option allows you to enable/disable Sustain on the lead/Right hand voices when you press the pedal.

The **PIANIST** or **BASSIST** modes can also be quickly accessed from the **KEYB. CONTROL** menu directly by pressing the **KEYB. CONTROL** button on the panel to access this screen ….

Then touching **PIANIST** or **BASSIST** once to simply turn on the feature or touching the icon for 2 seconds to display the relative mode
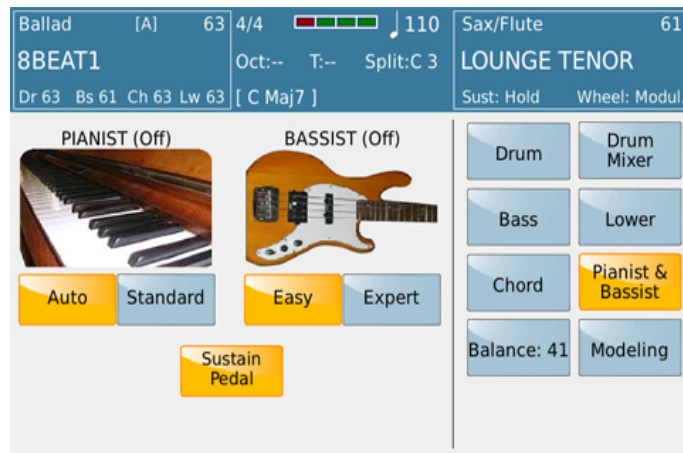
3.K - ADDING ARPEGGIOS (ARPS) TO YOUR STYLES & MUSIC

This is a new feature covered in more depth below under STYLE MODELING - however, yes you can add arps to your existing factory or user styles. This function can morph any current style into a modern dance or techno style or add fresh guitar strums horn lines ... etc to a rather boring style. This modification is easily accomplished through the style MODELING. To do so, from the default screen –

- Select the style to which you want to modify and add arps.
- Touch the MODELING icon on the screen

- to display the following screen below -
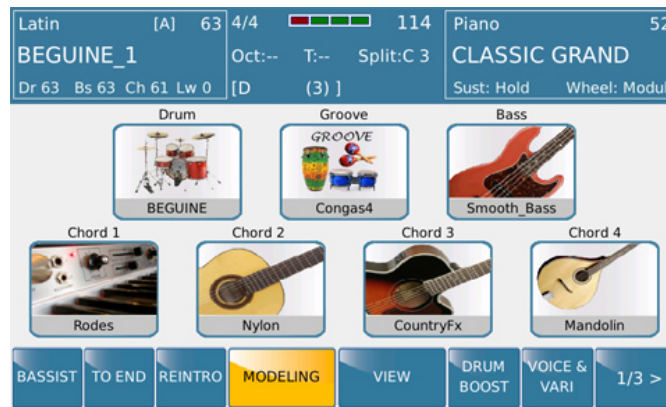
- As an example, let's replace the current 'boring' Nylon guitar lines used in Arranger/Variation A CHORD 2 with a new ARP Guitar from the built in KETRON library that has over 30 guitar arps. (**NB:-** *You can touch any of the ARRANGERS A-D on the panel and work with it's chord 2 instead*).
- Touch the **CHORD 2** icon above the MODELING icon to display a page similar to this below –

- On the right side of the screen, touch **GUITAR** to access the Guitar Library of arpeggios and other orchestral guitar lines.
- The left side of the screen displays the arpeggios found in the GUITAR bank. You can turn the data wheel to reveal even more.
- Since they are named generically (*Arp1, Arp2 …. Etc*), it would be wise to press the red START button to start playing the style (*play a chord so the full arranger is playing*) and then as the style plays, test each of these to see which one you want to use. For clarity, you can touch the SOLO button (*which will mute all the other arranger parts but CHORD 2 which you are now working with*).
  - You can also take this a step further and change the instrument used to create the ARP (in this case the guitar). You may want to replace the STEEL guitar with another guitar or another instrument from another category such as Brass or Piano. To do this, simply touch the CHORD 2 (GUITAR) icon to display the current instrument and it's source –
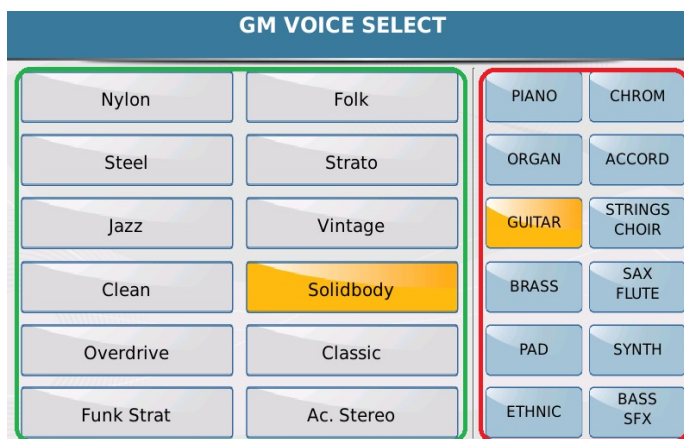
  - The part circled in **red** (*left of the screen*) shows you the various voice groups. You can pick any of these where you believe the instrument you want to replace the guitar resides in. For this example, we kept the guitar group and selected a new

guitar – SOLIDBODY to the right (*in the part circled in green – which displays all the instruments within the currently selected group*). Press **EXIT** when done to return to the previous screen.

- Once you have found the one you want, press the next ARRANGER section (A-D) on the panel and repeat the above.
- When you have completed modeling your style, you will need to save it as a USER STYLE, or else all changes will be lost once you select a new style or turn off the instrument. To save the new style as a USER style, simply press **SAVE** on the panel (*right side*) to display this screen below-
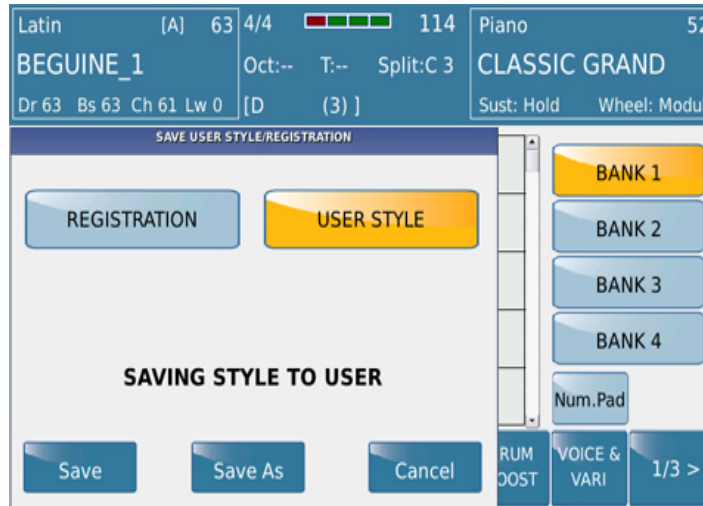
- Touch **SAVE AS** and name your new style in the next screen – then touch the **ENTER** button on the screen and save as a USER style. This style can now be used by you instantly by selecting it from the appropriate style category (**USER STYLE** on [yellow]) or in a REGISTRATION (Keyboard set up).

3.L - BUILDING YOUR OWN STYLES (STYLE MODELING)

Up until this point, we have been discussing making adjustments to factory styles and saving them as **USER STYLES** for future use. Apart from making changes to existing style parts, you can change them all together or customize them in one of two ways:-

A. Assemble a style of your own using existing style parts (**STYLE MODELING**)
B. Creating a style from scratch (requires professional Midi software such as Cakewalk)

KETRON has created a nice tool for the SD40 which allows you to alter the Drums, Bass, or any of the chord parts (1-5) to create an entirely new style and since all these parts were carefully created by professionals in studios from all over the world, it means your work is drastically reduced when it come to creating a style because most of it has already been done for you. Let's take a closer look at STYLE MODELING. First of all, select a style that comes close to the style you have in mind to create. Then from the main styles page, touch **MODELING** below the screen –
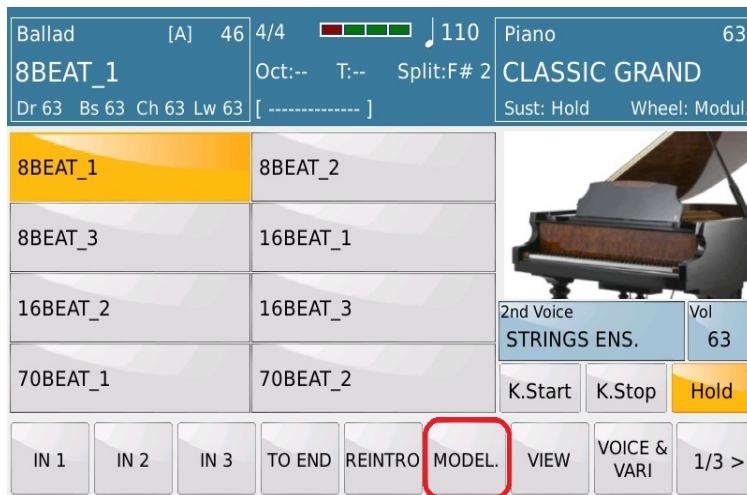
The following page will be displayed on the SD40 –

You can see all the relevant parts that make up the style (apart from CHORD 5). These are the parts you can modify and replace with hundreds of other style-templates that KETRON has provided for use in each section – so you have different templates for Drum, Groove (percussion), Bass and Chords (1 – 5).

At this point, it will be smart to press the red **START** button to start playing the style so you hear how the style is now (with no adjustment) and then adjust as suggested below.

Let's say we want to change the GROOVE of the style. Simply touch the **GROOVE** icon on the screen to display the following screen below –

The left side of the screen displays the first 10 grooves which you can select by simply touching any one of the groves. Still need to access more grooves? Turn the data wheel to access the next 10 and when you see what you want, touch it. As the style plays, you will immediately notice the new Groove playing once selected.

- **GROOVE** (box) – As you make your GROOVE selection, this box shows you the current GROOVE being used.
- Touch **SOLO** – if you want to isolate the GROOVE so it stands out better
- Touch **[72]** –and turn the data wheel to adjust the VOLUME of the Groove. **NB:-** You may want to make sure the **SOLO** is off (not yellow). This way, you adjust the GROOVE'S volume relative to the entire style mix and not just by itself!
- **DRUM** – If the DRUM track is not being used for the DRUM track elsewhere in the style, this part will be selectable and you can touch it and select from the left of the screen different DRUM GROOVES to use in the style (just as you did the GROOVE). However, if this is grayed out (as above), this means the DRUM bank is already being used by the DRUM track of the style and so cannot be used here. If you select a DRUM track and try to press START to play the style immediately, the following message may appear while the SD40 loaded the appropriate Audio Drums that have just been selected –
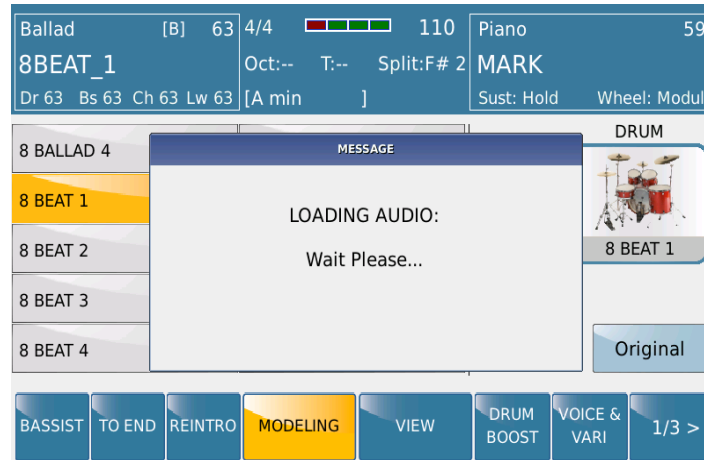
NB:- When a drum track is selected during MODELING, the new selection automatically loads the various audio drums for all the other Arranger tracks - so if you were in Arranger B and went into the STYLE MODELING and selected DRUM to choose a new DRUM arrangement for Arranger B, 3 new Audio Drums will also be loaded for Arranger A, C and D. You cannot load individual Audio Drums for individual Arranger parts!

- **ORIGINAL** – Use this to revert to the original style (*ignore all changes*).

Once done with the GROOVE, press **EXIT** to return to the main MODELING screen.

Now, lets MODEL the bass – similar procedure as above. Touch the BASS icon on the screen to access the BASS templates.

NB:- An additional feature to BASS and CHORDS (1-5) is that not only can you modify the Bass and Chord lines by making a selection from the database on the left, but you can also change the actual instrument being played (bass instrument in this case) by touching the BASS icon on the right and selecting a new Bass Guitar from those displayed. (*Don't forget to turn the data wheel to display even more instruments and press EXIT when done*).

Let's MODEL one of the CHORDS – CHORD 1. Touch the CHORD 1 icon from the MODELING main screen to display a page similar to this below –

Now, with the CHORDS, you can actually select, from 3 different banks, which kind of arrangement you want to use for CHORD 1 (*or any chord you have selected*) by touching any of the banks PIANO, GUITAR or ORCHESTRAL. For this example, the **PIANO** bank has been selected.

Based on your selection, the left side of the screen will display the relevant arrangements available (in this case, **PIANO** was touched and so the left side of the screen displays 2 rows of 10 Piano Arrangements available for use in CHORD 1. Turn the data wheel to display even more and touch the one you want). If the style is playing, as you touch, you can sample/hear the arrangement in real time – then keep the one you like. Remember this arrangement selected only impacts the current ARRANGER/VARIATION. You can select different arrangements for CHORD 1 of Arranger B, Arranger C and Arranger D – a very flexible and intuitive design by KETRON. Also note that the Fill ins, Breaks and Intro/Endings are not affected.

Once you have competed modeling your style, you will need to save it as a USER STYLE, or else all changes are lost once you select a new style or turn off the instrument. To save the new style as a USER style, simply press **SAVE** on the panel
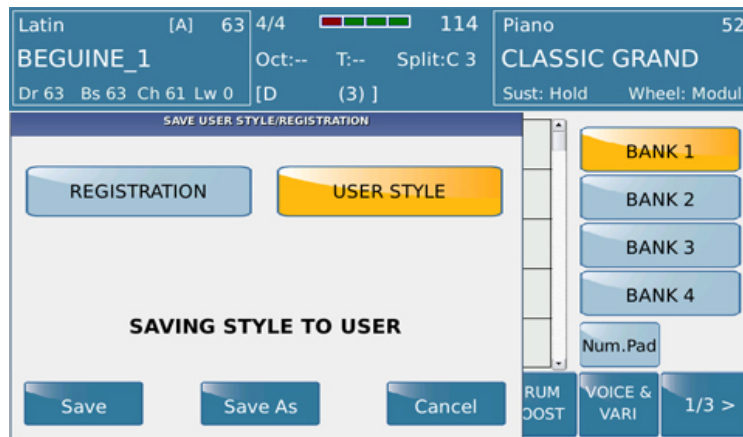
Touch **SAVE AS** and name your new style in the next screen – then touch the **ENTER** button on the screen and save as a USER style. This style can now be used by you instantly by selecting it from the appropriate style category (**USER STYLE** on [yellow]) or in a REGISTRATION (Keyboard set up).

3.M - CREATING YOUR OWN NEW STYLES FROM SCRATCH

(STYLE CREATOR)

It is possible to create a new style for the KETRON SD40 Electronic module (OS 1.0) by first creating a professional standard Midifile using an external PC sequencer (*such as Cubase, Sonar, Logic … etc*) and then importing this file into the instrument to be used as a style.

This tutorial covers the phases, formats and procedures needed to create a new style for the SD40.

KETRON STYLE FORMAT:- KETRON styles are composed of the following parts:- 4 Arrangements (A, B, C & D), 4 Fill ins, 4 Breaks, 3 Intros and 3 Endings. In order to create a style, you will need to implement in one Standard Midifile (format 0) all the parts mentioned above, separated by special markers.

Here are the rules that govern each of the style's parts:-

4 Arrangers (A, B, C & D):- This can vary between 2 – 16 measures max, however, the standard length is usually 8 measures long.

4 Fill ins (A, B, C & D):- Each fill in is associated with it's respective Arranger part (so Fill A is associated with Arranger A .. etc) and is a maximum of 1 measure long.

4 Breaks (A, B, C & D):- Each break is associated with its respective Arranger part (so Break A is associated with Arranger A .. etc) and is a maximum of 1 measure long.

Intro/Ending:- The length of the 3 Intros and 3 Endings varies depending on the style and is at the discretion of the user. In each of these however, if you want to maintain the format used by the factory style, please proceed as follows:-

Intro1:- The shortest intro phrase, usually just 1 measure long.

End 1:- Immediate ending in general of about 2-3 measures long – depending

on the style and BPM of music.

Intro2:- Usually just 2 measures long, recorded in the key of C major or C

minor, with no chord changes and no melody line(s).

End2:- Just 2 measures, recorded in the key of C major or C minor, with no

chord changes and no melody line(s).

Intro3 – End 3:- Written in the key of C major and C minor, but with free

harmonic chord changes within and may include melody line(s).

Each section within the Midifile has to be characterized by a marker which must have the following categorical names (corresponding to the style part and chord format – Maj = Major; MIN=Minor; SEV=Seventh):

ARRA_MAJ	FILA_MAJ	BRKA_MAJ	INT1_MAJ	END1_MAJ
ARRB_MAJ	FILB_MAJ	BRKB_MAJ	INT2_MAJ	END2_MAJ
ARRC_MAJ	FILC_MAJ	BRKC_MAJ	INT3_MAJ	END3_MAJ
ARRD_MAJ	FILD_MAJ	BRKD_MAJ		
ARRA_MIN	FILA_MIN	BRKA_MIN	INT1_MIN	END1_MIN
ARRB_MIN	FILB_MIN	BRKB_MIN	INT2_MIN	END2_MIN
ARRC_MIN	FILC_MIN	BRKC_MIN	INT3_MIN	END3_MIN
ARRD_MIN	FILD_MIN	BRKD_MIN		
ARRA_SEV	FILA_SEV	BRKA_SEV	INT1_SEV	END1_SEV
ARRB_SEV	FILB_SEV	BRKB_SEV	INT2_SEV	END2_SEV
ARRC_SEV	FILC_SEV	BRKC_SEV	INT3_SEV	END3_SEV
ARRD_SEV	FILD_SEV	BRKD_SEV		

The marker has to be positioned exactly at the beginning of the measure and precede every other event of that section. The control change (volume, pan, reverb, chorus and exchange programs) must be positioned exactly at the beginning of the measure and precede every other type of event notes and continuous control (modulation, Pitch Bend, etc.)

The first measure of the Midi file must have only one marker on the first tick. The marker must have the following name "Audya Style 1.0".

You can now start recording the events/notes of the style from the second measure.

The sequence order of the Midi parts of each section and of the marker is at the discretion of the user. (Ex. ARRA_MAJ, INT3_MIN, FILLC_MAJ, etc.). There is no fixed order to arrange these parts, as they will automatically be assigned to the appropriate style parts in the SD40.

All sections and related markers should be written back to back - without leaving any empty measures or spaces within the midifile.

STYLE PARTS AND RELATED MIDI CHANNELS:- In each section, it is possible to program the midi parts associated with each part. Here are the recommended style parts, midi channels and instruments to use:-

Style Part	Midi Ch.	Instrument	Note(s)
DRUM1	Ch 10	Drum Set	

DRUM2	Ch 9	Groove	
BASS	Ch 5	Bass	
CHORD1	Ch. 6	El Piano / Ac Piano	(suggested)
CHORD2	Ch. 7	Ac Gtr / El Gtr	(suggested)
CHORD3	Ch. 8	Strings / Pad	(suggested)
CHORD4	Ch. 11	Synth	(suggested)
CHORD5	Ch. 12	Lead	(suggested)

To get you up to speed quickly, we have attached to this tutorial a sample midifile (70's POP.mid) which you can use as a template to start. This is a template of an existing style in the SD40 so you can see how we programmed it.

By loading and opening this file in your sequencer, you will be able to immediately realize the structure and different sections used to create this Ketron style.

You can then replace the parts and notes of this template with yours utilizing your sequencer.

It is very important that you also comply with the following rules:-

1) The Arrangement parts (A-D), Fill ins and Breaks must be programmed in C Major. With built in Chord algorithms, the SD40 can then automatically generate all other chords played on the arranger so long as this structure is correct.

2) The following Midi events and controls can be used within the Midifile:-

Note On/Off, Bend, Modulation, Sustain, Expression, Pan Pot, Rev, Chorus,

Wha-Wha (On: CC 86 value 127 – Off CC 86 value 0. Chorus CC   85 - 0 to 127), Portamento On/Off (On: CC 65 value 127, Off CC 85 value 0), Portamento Time CC 5 value 0 to 127, Tempo Track (BPM).

3) The Midifile must be saved in Midi format 0 (zero) plus contain sub division markers and must have a resolution of 480 TPQ.

4) Never program double notes within the midifile at the same time on the same track.

5) All midi events within a section and marker should not over ride/overlay the next marker.

6) Do not write control change or pitch bend events on the same note neither during note on or off.
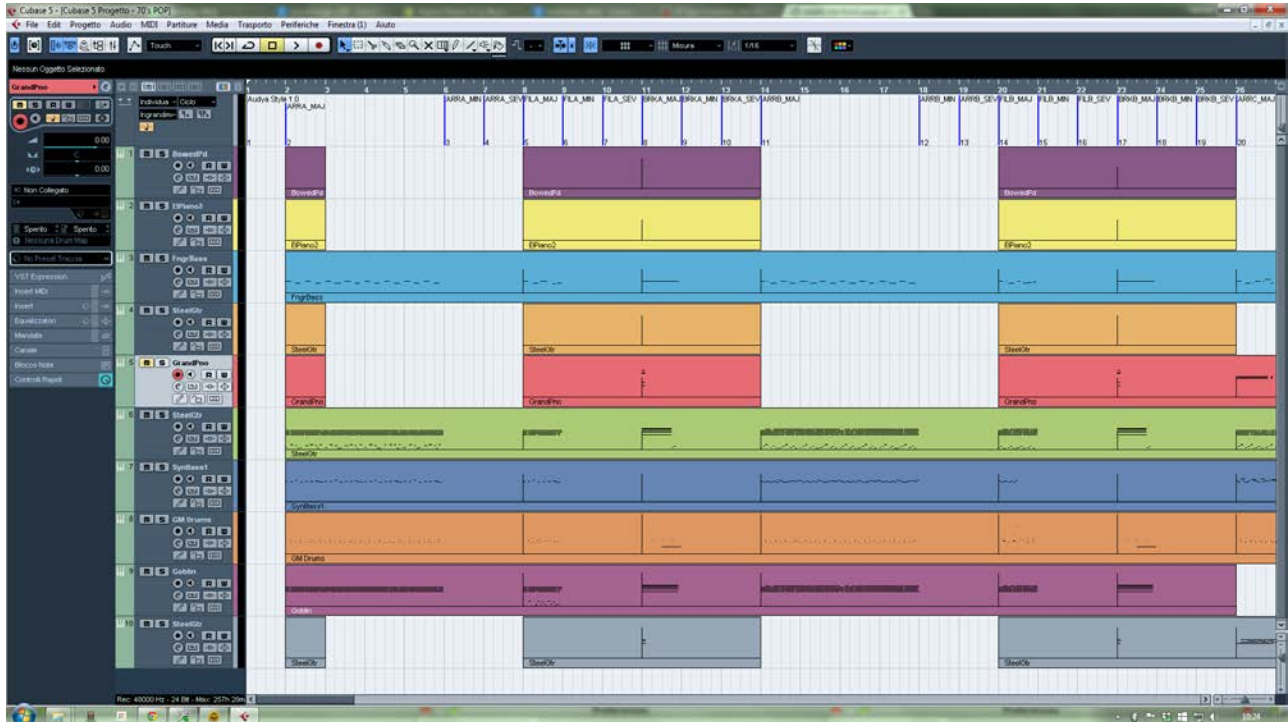
Screen showing example of the Midifile "70's POP.mid" using Cubase

Once you have completed recording the Midifile, you can now transfer it into the SD40 for use as a style. The SD40 also provides you with more tools to further enhance your new style, giving you the possibility to add say Audio Drums, or using the Style Modeling tool, grants access to hundreds of professional style parts such as bass. Chords, grooves etc.

CONVERTING THE MIDIFILE CREATED INTO SD40 STYLE FORMAT:- After saving the Midifile as type/format 0, simply rename the midifile with the new extension *.KST (example 70's POP.KST)[– where KST = Ketron Style].
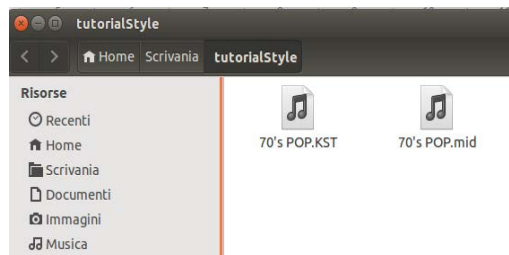
Connect the SD40 via USB to your computer and transfer the *KST file into any of the USER STYLE sub folders (Pop, Dance, Ballad … etc). For this example,
we will copy the file into the POP sub-folder.
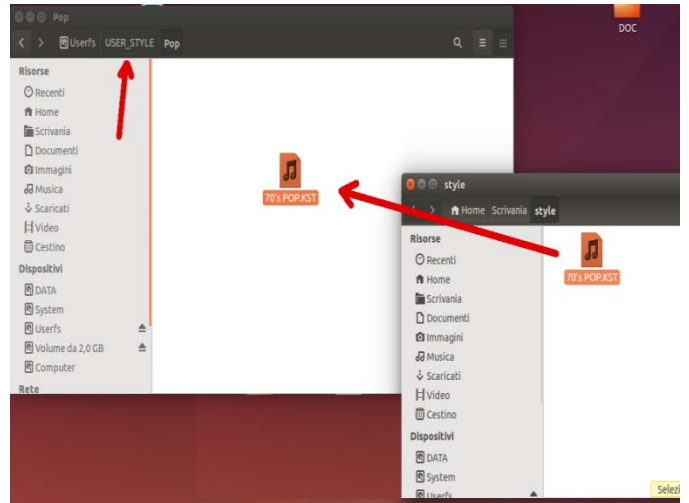
Disconnect the SD40 from your computer and go on the keyboard – press the **STYLE** button (on) and Touch the USER style icon on the screen. Now, touch the style group you copied your new style into (in this case **Pop**).

The SD40 will now load the style (*KST) and automatically assign all the style parts, relative effects ... etc as needed by the style to the relative style buttons (Intro, Arranger A-D, Fill Ins .. etc).
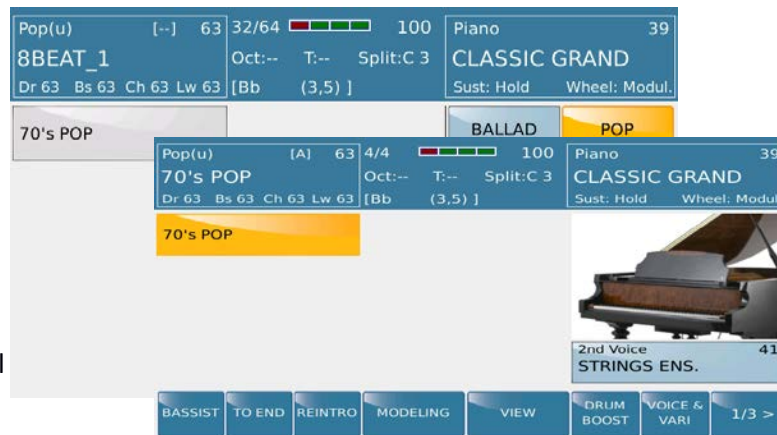
You can further enhance the style by going to style view (touch **VIEW**) from where you will have access to the individual style components (Drum, Bass, Chords .. etc) from which you can modify the volume, program change, effects, pan and other style parameters such as parallel/close chord modes, retrigger, etc for each style part.

Once complete with adjustments, press the **SAVE** button and save your finished style (as noted in the user manual).

As mentioned earlier, it is also possible to further enhance or modify the style using the new Style Modeling feature as described above in *(3.I- Assembling your own style Page 51).*

4. MICROPHONE & VOCAL HARMONIZER (VOICETRON)

The SD40 comes with studio quality professional built-in Microphone and Vocal Harmonizer circuits. This allows you to sing into your microphone and instantly add background vocals to your songs as you either play live (*as just a keyboard or using the styles and beats*) or with Audio (*Mp3 and Wave*) and Midifiles (*in which case the Midifiles control the vocal harmonies automatically*). To take advantage of this and start singing right away while having great back up vocalists at your finger tips, all you need to do is simply –

- Make sure the Mic volume knob is turned all the way to the left on the front panel (*this way there is no popping sound as you connect your mic to the unit*).

- Plug in a good microphone into the **MIC 1** input jack on the back of the unit (*XLR preferred for optimum performance, although this jack accepts both XLR and 1/4" plugs*).

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- Set the corresponding gain (initially at the 12 o'clock position – 1/2 way up [*line should be straight - up and down*]).
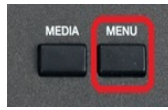
- Press the **MENU** button on the right side of the panel to access the

to display the following screen from where you can access the Mic/Vocalizer controls.

- Touch the **MIC/VOICETR** icon on the screen to display the following MICRO/VOICETRON page below ...

- Now, turn on the mic (touch **ON** under the MIRCO column) and adjust the Mic volume 1/2 way up for a start – then sing or talk into the mic for a sound check. If you hear any feedback, slightly turn down the gain at the back of the unit as this means the signal coming in may be too high/hot.

You can of course call up and set various microphone presets (such as REVERB, DELAY) ... etc and customize them the way you see fit for your voice.

This microphone EDIT page is made up of 2 columns:-

- **MICRO** (left) –These settings address the effects on the microphone. The ON/OFF button turns the mic on or off (*same effect as turning on/off the mic by pressing the* ***MIC*** *button on the panel*). Touch either of the silver knobs and turn the data wheel to adjust the microphone's Vol (Volume), Rev (Reverb level) and Echo. The values are displayed right next to each other. You can also change the value by touching the corresponding knob and moving/turning your finger on the screen.

4.A - MICROPHONE PRESETS & SETTINGS IN DETAIL

- o There are 10 Factory and 10 User settings for the microphone. By touching the settings box next to the On/Off button on the screen, a drop down menu displays all the 10 factory settings as shown in this screen below -

- o Simply turn the wheel to highlight the one you want and touch it (*or press* ***ENTER*** *on the panel – left side*) to select it – and it will be displayed in the box. The user settings are below the factory settings. If you EDIT any of the factory settings, they get stored in one of the 10 USER locations.
- o If you press **EDIT**, the SD40 will now display the various effects processes used to create the current Mic setting (Gate*, Eq, Compressor ... etc*) as shown in the screen below. The status of these processes (ON or OFF) is also shown above their icons.

- o You can then make changes to these parameters and save as a USER MIC setting. So for an example, if you want to make changes to the Noise Gate, touch the current selection (Soft) below the Noise Gate icon to display a list of selectable Noise Gate settings.

  - Touch the Noise Gate setting you want and press **EXIT** on the panel (*right side)* to return to the Mic Edit screen.
- o To view or modify the current EQ settings, touch **VIEW** on the screen and modify as you see fit to your voice – by touching and turning your finger on the screen or the data wheel.

MICRO EQUALIZER: Studio

- If you want to make your own EQ setting and save for future use, touch the current EQ setting box below the EQ graph from the previous screen (*Studio as shown in example above*).
- Turn the data wheel and select any **User Eq** (*1-4*) below.

EDIT MICRO

EQUALIZER PRESET
Standard
Flat
HI-FI
Studio
User Eq.1
User Eq.2

- Only a USER EQ setting can be saved for future use. (***NB:-*** *If you select a factory setting, you can modify it for your current performance but you cannot save the modifications made for future use*).

o Moving on, if you want to make changes to the Compressor, simply touch the current selection (Comp- 15db) to display other options as shown below –
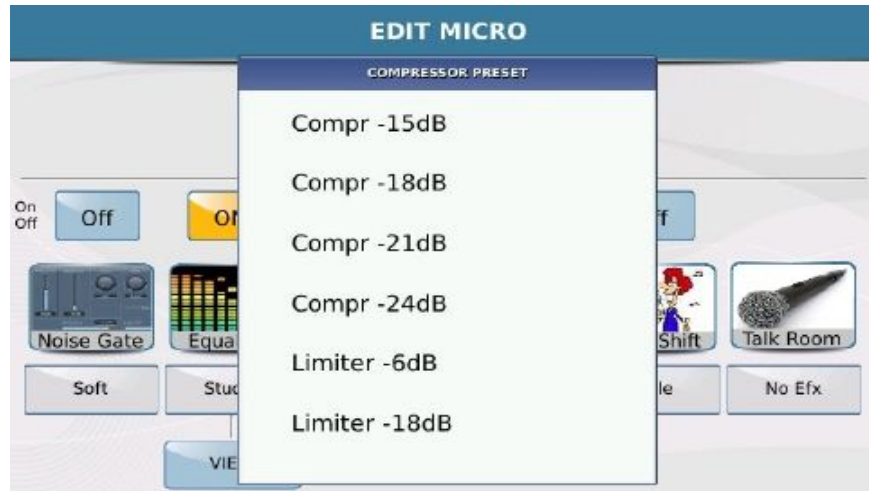
Select the new compressor setting you wish to use by touching it on the screen – then touch EXIT to return to the edit screen. (**NB-** *You can also touch an item twice (double click) to select it and return to the previous screen*).

o This method of editing the microphone settings is true for all the other parameters shown on the screen.

o NB:- To avoid pressing EXIT each time a selection is made, simply double-touch it (*touch it and touch it again – like double clicking on a computer*)

● **VOICETRON –** These settings address the vocal processor that adds harmonies to your voice as you sing into the mic. The ON/OFF button turns the harmonies on or off. Touch either of the knobs (*red line denote it is active*) and turn the data wheel to adjust the microphone's Vol (Volume), Rev (Reverb level). The values are displayed right next to each other. You can also change the value by touching the corresponding knob and moving/turning your finger on the screen or turning the data wheel.

(**NB:-** *A better way to control the vocal harmonizer (<u>which frees you up to play</u>) is by connecting the optional Footswitch (FS6 or FS130 and programming one of the switches to be the VOCAL On/Off button. This way, you simply raise the volume of the harmonizer on the panel as shown above and leave it set. When you want harmonies in your song, press the assigned pedal to turn the harmonies on/off*) Programming and using the optional Footswitches is described more below *(under section 8.G Menu - Footswitch Page 134)*.

4.B - VOCAL HARMONIZER (VOICETRON) SETTINGS IN DETAIL

Once you plug in your mic and turn up the vocal harmonies, you may not hear any harmonies. No, your SD40 is not damaged. Why are there no harmonies? From the factory, your SD40 is programmed to respond to harmonies by playing notes to the right of the split point (Right hand) so if you want to hear harmonies (with everything else on), you will have to play a note to the right of the split. On the AJAMSONIC SD40 units, the harmony has been programmed to be triggered by chords played to the LEFT of the spit point (left hand). How do you program the harmonizer and set it up to respond to chords played on what section of the keyboard? How do you select different vocal harmony types?

- From the **Edit Mico** screen above, touch the current vocal harmonizer setting (***HARMONY RIGHT in this case above***) to display the following screen that gives you access to all the other current vocalizer preset settings in the SD40.
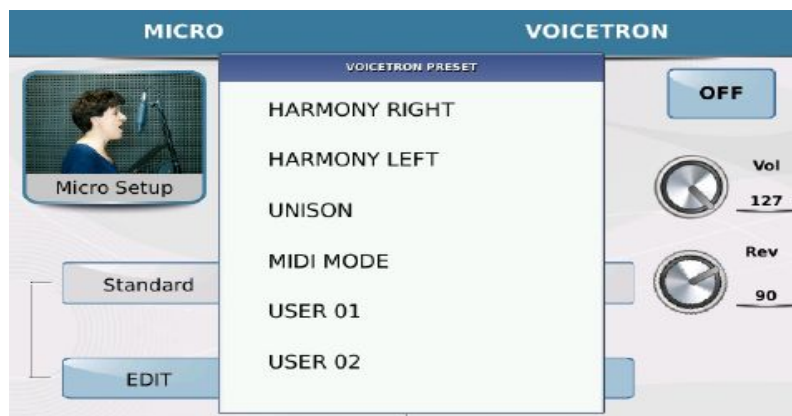
- Turn the data wheel to access even more below.

- Once you have found the appropriate setting, sing into the microphone and try it out. If you have made some customized adjustments, you can then press the **SAVE** button on the panel to save these as a USER setting for future recall/use – either SAVE the Microphone settings or SAVE the Vocalizer settings –
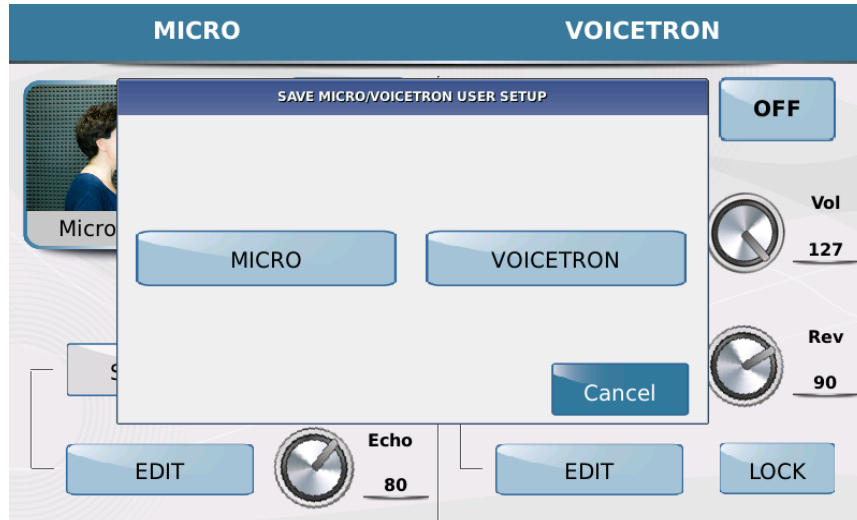
- Touch MICRO if you want to save the Microphone settings or touch VOICETRON if you want to save the vocalizer settings … depending on what was adjusted. You'll then be asked to save the settings and replace a USER setting –

- So in the example above, VOICETRON was selected from the previous screen and now you can save the current settings under the first user location- **USER** *01 (or turn the data wheel to select another User location)*. Touch **SAVE AS** and give USER 01 your own name in the next screen and touch **ENTER** to save it.
- NB:- In the vocalizer EDIT mode, there is a unique mode called VOICETRON TO ARRANGE (Vocalizer settings linked to the Arranger /Variation buttons A, B, C & D). What this does is … it allows you to program different Vocal Harmonies to the various Arranger buttons such that

when you are playing with Arranger A, a vocal harmony is heard (*or not*). When you switch to Arranger B, a different harmony type is automatically selected, when you switch to Arranger C … etc. This frees you up from having to manually select and switch harmony types as you play and best of all, you focus on playing and not pushing buttons.

- To access this, press **EDIT** under the VOICETRON column (*as shown below*) –

- The following screen will now be displayed below …

- Touch **Off** to turn this mode **ON** (yellow). (***NB:-*** *If this is left off, even if you proceed to set up the various modes, the modes will not change automatically as you switch between the various arranger modes*).
- Touch **VOICETRON TO ARRANGE** to get into the next screen where you can assign which vocalizer harmonies get assigned to which Arranger buttons (A, B, D, C Start/Stop …etc).
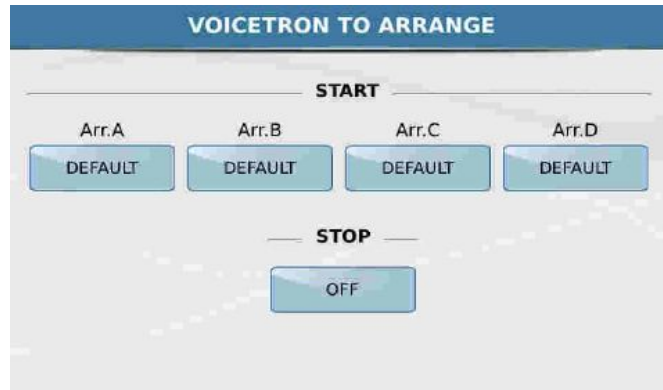
- Now below each Arranger button is the box displaying the current vocalizer setting that will be heard when that Arranger button is on. Touch each box and select from the drop-down menu which harmonizer setting you want each arranger button to use when active. When done, your screen should look something like this –
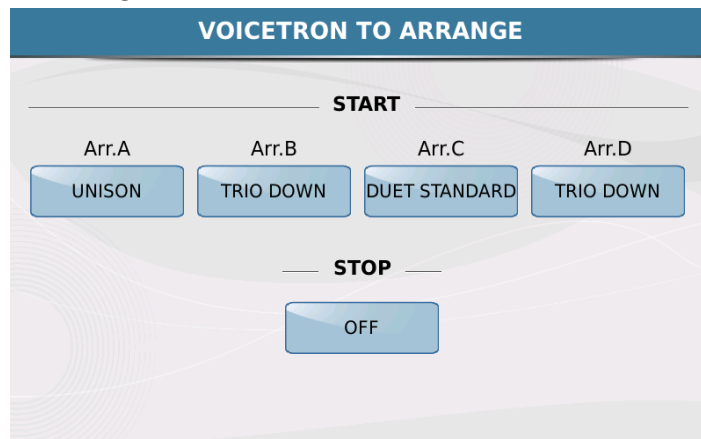
- In the example above, the vocalizer has been set up such that if you press –
  - ARRANGER A:- You'll hear UNISON (double voice but same notes).
  - ARRANGER B:- You'll hear TRIO DOWN (your voice plus harmonies below your voice).
  - ARRANGER C:- You'll hear DUET STANDARD (your voice plus another with standard harmony).
  - ARRANGER D:- You'll hear TRIO DOWN (your voice plus 2 others below your voice)
  - STOP (when the arranger is off/not playing). OFF – no harmonies.

4.C - TIPS ON USING THE VOCALIZER/HARMONIZER

Although exciting and very 'sweet' sounding in most cases, it is wise to use the vocal harmonizer just as you would harmonize in actual tunes … sparingly here and there (maybe reserve it for chorus … etc). If harmonies are used throughout the entire tune, there is the tendency for 'ear fatigue' to set in and as such, the harmonizer is no longer an 'effect' you bring in to enhance your song. Bring it in and out of your tune *– let your audience miss it rather than get bored of it*!

4.D - GUITAR / MICROPHONE #2 INPUT

You can connect either a 2nd Microphone or a Guitar or Instrument or an external player such as an Ipod into the INPUT jack at the back of the SD40 as shown –

Make sure the corresponding **INPUT gain** is all the way down BEFORE making any connections to the instrument to prevent any possible damages to the internal amp/speakers!!

If using a Guitar or any other musical instrument, you will have to let the SD40 know that the signal coming in is not from a microphone but rather a LINE musical instrument. To do this, press the KEYB. CONTROL button on the panel

and touch **MIC2/GUITAR** to display the following page-

The screen displayed above shows 2 columns – the left side is that of the microphone and the right side is that of the Guitar. Only one of these can be used at a time for the MIC2/LINE IN jack.

- ▪ If a **microphone** is what has been connected into the MIC2 jack at the back of the SD40, touch the ON button on the left side close to the **Micro Setup** icon (*the Guitar Setup will be turned off if it was on*).
- ▪ If a **Guitar** (or a musical instrument) is what has been connected to the MIC2 jack at back of the SD40, touch the ON button on the right side close to the Guitar Setup icon (*the Micro Setup will be turned off if it was on*).
- ● Adjusting the **MICRO2** settings is identically to adjusting the **MICRO1** settings already discussed above (under section *5.A Microphone Page 76*), so let's focus on the GUITAR setup. Touch **EDIT** to access the Guitar stomp boxes/effects units which will be displayed as such –

- Each of the stomp boxes displayed above represents different guitar effects used by Guitar players. Once you have plugged in your guitar into the Line input on the back of the SD40, simply touch the effect box's knob you wish to turn on or off. A red light denotes that the effect has been turned on (in the example above, the DELAY effect has been turned on).

    - To change the amount of delay, touch e.g. the delay knob (*it turns red showing it is in edit mode*) and turn it with your finger or turn the data value wheel as shown in the screen shot above.

    - The current effect (*in this case Delay effect*) is displayed in the box below the knob. To select a different Delay effect (*as an example*), touch the box with the current effect displayed to display a list with many other effects to select from –

 >>>

    - Touch the new effect you want to now use.

    - **NB:-** This process of increasing and decreasing the amount of effect used and changing the effect all together is the same for all the effects pedals (stomp boxes) show in this window, with the exception of the Amp Simulator. You can only turn it on or off.

5. - <u>SAVING AND RECALLING ALL SETTINGS (REGISTRATIONS).</u>

You are at a point where you've picked the proper voice for your right hand (lead), selected the best layered 2nd voice, picked the greatest style and slowed it down just right for your next song ("*I will always love you" for an example),* transposed the keyboard so you can play this tune in the key of C but sound as if you're playing it in the key of A … and then …. Oh my, how do you save this set up so that when you go to perform before your audience/friends, you can recall this exact set up for this song? **REGISTRATIONS**.

Registrations are just snap shots or setups of your keyboard at any given time. You can set up your keyboard just the way you want it to be to perform a particular song and save the entire set up (including lyrics of the song) such that, when you are on stage and it is time to perform, you simply press the **REGIS** button and touch your song setting and instantly, the SD40 loads all parameters that were saved in association with this song.

5.A - CREATING SETTINGS FOR YOUR SONGS AT HOME/IN THE STUDIO

Creating your song set ups is easy. However, before you proceed, you want to make sure the REGISTRATIONS are set up to save the settings you want them to save and ignore the settings you want them to ignore. This is done because in some instances (e.g. Footswitches or Midi setups), you want the settings of such to remain unchanged no matter what REGISTRATION is recalled.

5.B - DETERMINING WHAT A REGISTRATION SAVES AND IGNORES

To set up the SD40 such that the Registration can ignore certain settings and change others, from the main screen, press the **MENU** button –
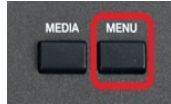
The following screen is displayed –

- Touch the **REGS.SETUP** (Registration Set up) to enter the registration set up screen where you can select what settings registrations will load up and which will be ignored. The screen displayed will look similar to this –

There are 2 columns displayed. The left column displays the 8 major functions while the right section displays the individual features within which can be saved and recalled within a registration (Yellow) or that will be ignored (blue). In the example above, in the GENERAL

section, we see that the **Transposer** and **Slider** values/levels will be saved within the REGISTRATIONS, however the footswitch, Arabic and Control settings will be ignored. NB:- Just for clarification – if you program the footswitches and save them in the footswitch menu, this means that even if you have different footswitch settings in different registrations, those settings will be ignored. This would be a good example for live use – unless you do intentionally want to program different registrations with different footswitch settings for different usages. In this case, you would turn on (touch) Footswitch here so it is yellow.

Touch **STYLE** to display to the right the various style elements that can be ignored or recalled as you switch registrations. Repeat this for the others (VOICE, PLAYMODE, DPS, MIDI, MICRO1/VOICETRON, MICRO2/GUITAR).

TAB AUTOSW.OFF (Tab Auto switch off) – this function automatically turns off the REGIS (REGISTRATION button after the registration has been loaded, thus returning the keyboard to full live play on the display. If this icon is off (blue), then the REGIS (Registration) button stays ON each time you turn it on, until you manually turn it off again.

Press **MENU** to turn off the menu and return to the default screen.

Now, let's get back to saving/creating a song set up (Registration:-

- Play around and select the appropriate elements (voice, style, tempo, key, lyrics (text files). Mic settings, vocal harmonizer ... etc that you want for this particular song.
- Once the keyboard has been set up appropriately press the **REGIS** button to turn on the Registration feature. The REGIS button lights up and the screen displayed should look like this –
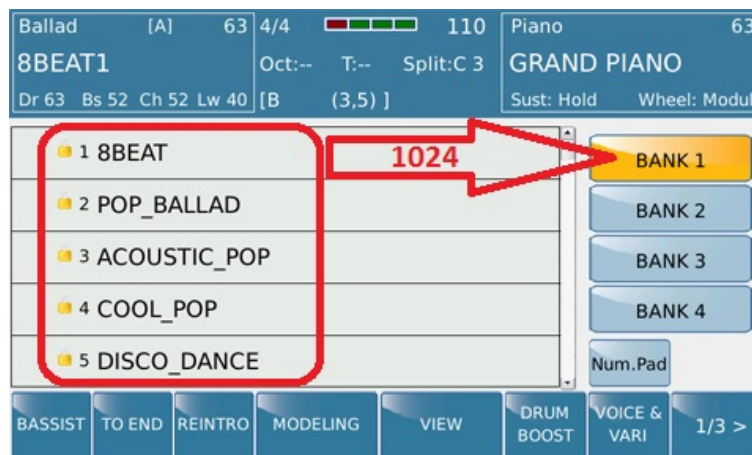
- The center of the screen displays the current registrations (*factory ones if you have not added any to this list*) found in REGISTRATION BANK 1 (*the yellow icon associated with registration files*

*and icons associated with other file types can be turned on/off from the home/Player screen under FUNCTION described below under **ICONS – Page 112**) . There are 4 banks (1-4). You can create up to 1024 Song settings/REGISTRATIONS in each of the 4 banks (Bank 1, Bank 2, Bank 3 and Bank 4). Let's keep ours in BANK 1 for now.*

- Press the **SAVE** button on the panel to access the SAVE REGISTRATION screen which should look like this –
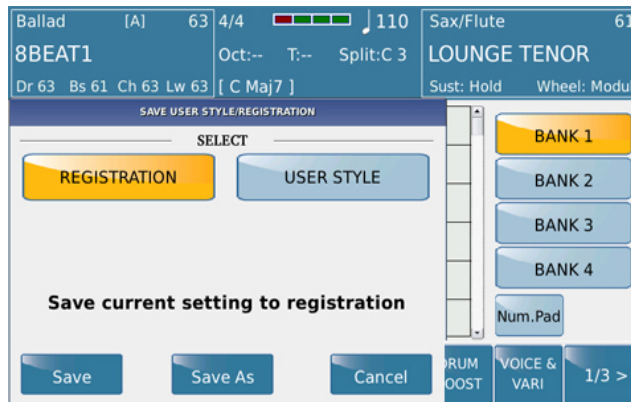
- REGISTRATION should be highlighted denoting you're about to save your own new Registration. If not, touch the Registration icon (it should be yellow).
- Now touch **SAVE AS** and give your registration a name – preferably after the song whose setting you've set this keyboard for this time (e.g. "I will always love") and touch **ENTER** on the next screen to save after naming the registration. **NB:-** Some may prefer to save a registration which in fact is a style setting that can be used to play multiple songs. So you may choose a style (BALLAD) and voice (SAX) and this set up maybe used to play 3 or 4 Ballads back to back. In this case, you may want to save the registration with a name such as 'SLOW BALLAD' so you know to recall this song setting to play most of your slow ballads back to back for an example.

5.C - RECALLING YOUR SONG SET UP/ REGISTRATIONS AT THE SHOW

The SD40 was designed predominantly with the live player in mind. Once you get to your performance, how do you now instantly recall all those settings you spent hours and hours creating at home?

- Press the **REGS** (Registration) button found on the top ride side of the panel …

to access the REGISTRATION screen which looks something like this:-

- As you can see from the screen above, you have 4 banks of registrations/set ups and each bank can hold 1024 single registrations or song set ups. BANK1 is the default where your registration will reside (*unless you changed it*), so if BANK 1 is not already on (yellow), touch it.
- The center of the screen will now display your registrations along with some that were already put here by the factory. Scroll down (*using the data wheel*) to highlight your registration you want to load and press **ENTER** or touch it twice (*double click*) to load it. Your settings will be loaded immediately (left hand, right hand, manual bass [*if applicable*], style … etc) and you can then play the song the setting was initially created for.

○ QUICK/INSTANT RECALL USING NUMBERS (**Num.Pad**). If you only have a few registrations, then scrolling up and down using the data wheel is easy, but if you have about 100 registrations, it could take you a while to locate the one you want. As you can see from the screen above, as you create the registrations, they are numbered automatically by the SD40. This way, if you have a song list, all you have to do is scribble next to it the number assigned to the registration. If you know the number designated to your registration, even if it is at the bottom of the list, you can instantly recall it by punching in the number associated with it:-

○ Touch **Num.Pad** on the REGISTRATION screen to display a screen like this –
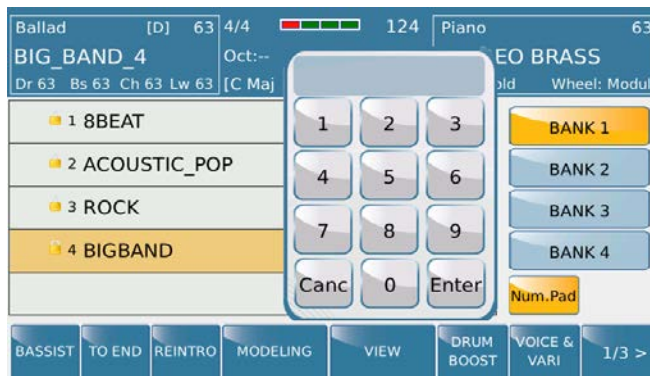
○ You can now key in the numeric value associated with the registration you want to recall – so using the screen shown above, let's say you wanted to recall the song setting/registration 'Rock', you would simply key in **3** or "**0-0-3**" and the ROCK song setting/Register will instantly be loaded and you can now play the song that was associated with this registration.

GLOBAL SEARCH FOR REGISTRATIONS BY NAME (Keyboard entry)

○ Another method you can use to search for a registration (*if you know it's name*) is to use the GLOBAL SEARCH feature. Within the registration screen, press the **SEARCH** button on the panel –

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⭘ The following search window is displayed –

- ▪ You can –
    - ● Touch the Keyboard and start typing the name of the registration. The SD40 will display all files with that name. The registration will be the one that ends with the *.reg extension. Touch it twice (double click) to load it and use.
    - ● Use the numeric keypad at the bottom of the screen to enter the letters into the box. Touch quickly twice (*for the 2nd letter*) or thrice (*for the 3rd letter*).

6. RECORDING (SONGS & PHRASES)

You can record a song or phrase directly onto the SD40's internal memory and transfer to a USB stick or your computer or keep in the SD40 for future use. There are 2 types of recordings that can be done on the SD40:- **SONG** (*complete song*) or **PHRASE** (*up to 16 bar loop which can be played back as you play freely throughout the entire keyboard*).

6.A - SONG OR PHRASE RECORDING

Recording a song is pretty easy on the SD40. You can record your song either as a Midifile (*data which records your activity on the keyboard… etc*) or WAVE (*Audio - which records the actual sounds as created on the keyboard*). Since the audio recording captures the actual sounds as recorded, you can later use the audio recording anywhere else (studio, church) and it will still sound as it did on the SD40. However when you record with Midi, unless it is played back using another SD40, chances are it will sound different when used on another machine because the sounds of that machine are not exactly the same as those of the SD40 (remember the midi recording is data and not the actual music [*audio*]).

> To start recording a song on the SD40 –
- Set up the keyboard for the song you want to record (select the voice, styles … etc).
- Press **MENU** to access the following screen –
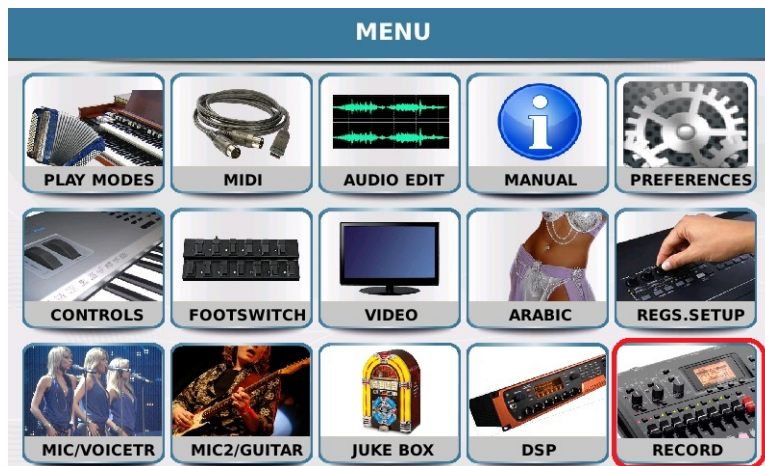
- Touch the **RECORD** icon on the screen to display a voice similar to that below –
- The following similar screen below will be displayed on the SD40 –

- Select the type of recording you want to do on the SD40 –
    - **MIDI:-** This records the data played on the SD40. Use this option if you intend to play the recorded material through the SD40 so as to get exactly what was recorded. You may also use this if you intend to use the playback material in the studio and allow for re voicing, modifications …etc. When MIDI is selected, the tempo (speed) and metronome bar are also displayed on the screen and can be modified before you start recording.
    - **AUDIO:-** This records the actual sounds as played on the SD40 as a wave file. Use this option if you want your recording to sound exactly the same when played back either on the SD40 or on another device. Recording is in stereo. When Audio is selected, the tempo and metronome bars are not displayed.

    <u>**RECORD A SONG OR PHRASE?**</u>

- **SONG** is selected by default (SONG MODE), so you can now proceed to touch REC when you are ready to start recording. Recording actually starts as soon as you touch a key (in MIDI MODE) or immediately (in AUDIO mode).
    - If you want to record a **PHRASE**, touch **PHRASE** on the screen BEFORE you touch REC.
    - Touch **BAR** and set the number of bars before the phrase is looped.
    - Touch REC to start recording. Touch it again to stop recording.
    - Touch PLAY to play your new phrase … and now you can play along with the keyboard while the phrase is looped. You can also quantize your phrase (*mini sequence*) at this point to use with your song.

7. AUDIO, VIDEO & MIDI MULTI MEDIA PLAYER

The SD40 is not only a keyboard player's dream come true. It is also the Swiss knife for musicians offering you the capability to play back MP3, Mp4, Wave and Midifiles and mix and match them with styles too. You can also time stretch audio files (*just as a DJ would today)* plus add LIVE EFFECTS to your music in real time and cross fade from one to the other automatically or live during your break.

<<<<<<<

The volume of the player can be adjusted using the **STYLE/PLAYER** volume knob on the panel as shown above.

- To access the PLAYER, press the **PLAYER** button on the panel to display the files and folders within the current selected drive (*default is the internal drive*).
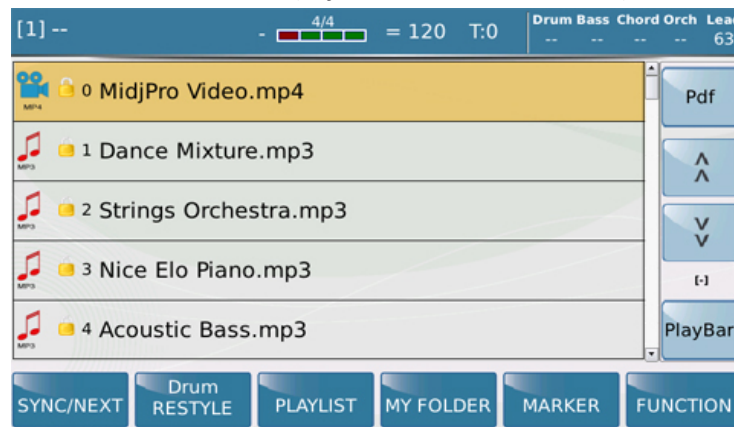
- (**NB***:- If you want to access or use contents found in a different storage drive such as your inserted USB stick, you will have to …) –*

- Press the **MEDIA** button to display the following screen which shows all the devices connected to the SD40 at this time.

- From the example above, you can see that there are 3 more storage devices that have been connected to the USB and SD card slots on the side panel of the SD40 …

- Touch the drive whose files you want to work with. From now one, you will be able to work with and access files within the selected drive. If you need to work with files in another drive, you will have to press **MEDIA** once more and touch the next drive you want to work with.
- Turn the data wheel to highlight the file you want to play and touch it twice once displayed on the screen (or press **ENTER**) to start playing it immediately. If you highlighted a folder instead, it will open up to disclose the contents that are within it.

As you begin playing files that are within the SD40 (*or over 2000 Midifiles and Audio files that come with the AjamSonic upgrade kit for the SD40*), there are some interesting features worth mentioning now that can be used to enhance your playing experience or in other cases, set you apart from other musicians and performers. Let us discus this in more details, so let's take a closer look at the features found on the PLAYER screen.

7.A SYNC/NEXT

This feature allows you to prepare another song that will start playing immediately once you want it to start as a song plays. In other words, you can synchronize the time it starts so it starts on say the down-beat of the previous song. To illustrate this better with an example, while in the Player screen as above -

● Touch a song and start playing it.
● As it plays, touch the **SYNC/NEXT** icon on the Player screen.
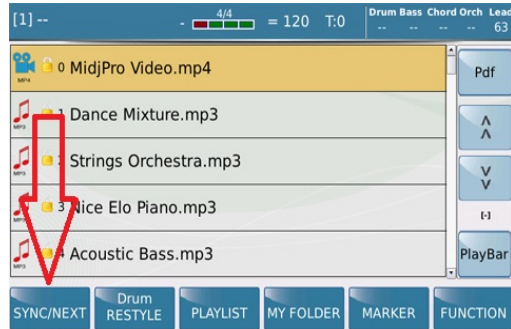
● The following screen shown below will be displayed (*bottom left screen*) –
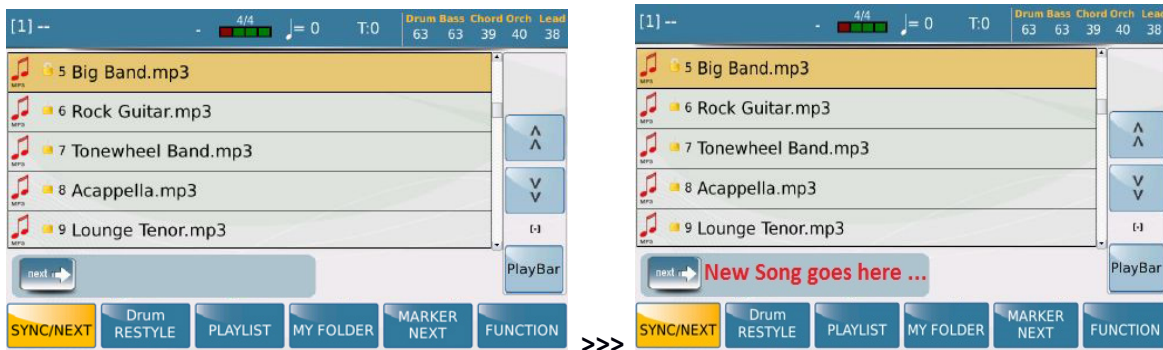
● You can now (*while the first song is playing*) select the next song you want to start playing. It will be displayed next to the icon on the bottom of the screen as shown in the top-right screen.

● Whenever you want to start playing the new song, simply slide the icon from left to right (*go to the new song …*)and the initial song playing will immediately stop, while the new song selected will start playing.

7.B DRUM RESTYLE

This tool is a blessing for those heavily involved with MIDIFILES. Although not an exclusive KETRON feature, the fact that you can replace the midi drums of your midifiles with LIVE AUDIO Drum used in the KETRON SD40 styles is revolutionary. Midifiles usually suffer from one thing – monotonous, repetitive and boring drums. This is because there I a lot more to drums than beating sticks and surfaces. Apart from the sound heard, there is also the characteristic of the drummer which is hard to replicate using Midi Drums. The SD40 allows you to thus take out the Midi drums of any Midifile, and replace it with the Live drums used within the styles. Taking it a step further, you can use and control fill ins and breaks as well within the midifile … thus bringing life into your sequences or songs.

- This feature can only be used on MIDIFILES, so make sure you are in a folder that has Midifiles. Select the midifile whose drums you want to REMIX. Your screen should look like this –

>>>
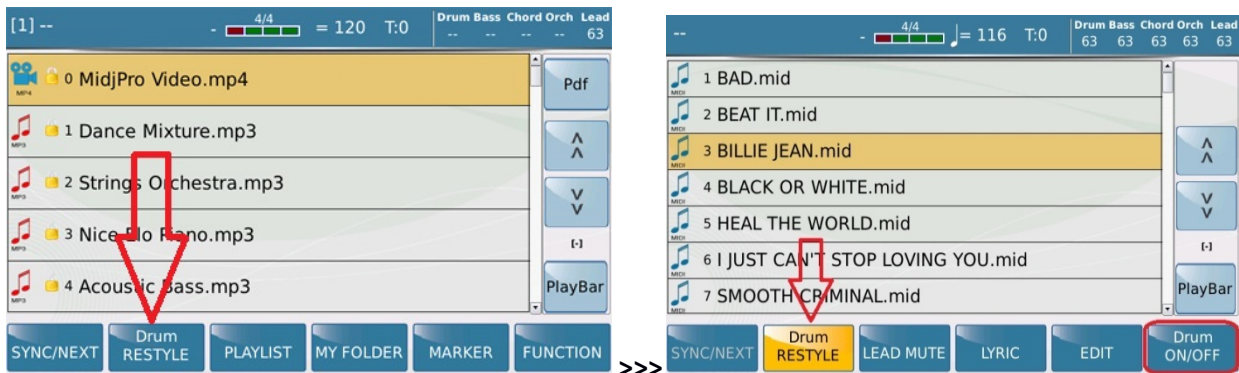
- Touch the **DRUM RESTYLE** icon on the screen. The SD40 will now take you to the STYLE SELECTION page from which you can choose a style (*close enough to the midifile you are trying to play*) whose drums you would like to incorporate in your midifile/sequence.

- Go ahead and select the style whose drums you want to use with your sequence/midifile. Once the hour glass disappears, press **EXIT** to return to the DRUM RESTYLE page. You are now ready to start playing your song with the new drums.
- Press the red **START/STOP** button on the panel to start playing the selected midifile.

- The song will start playing with the new AUDIO DRUMS. You will notice that the **DRUM ON/OFF** icon will now be on (yellow).
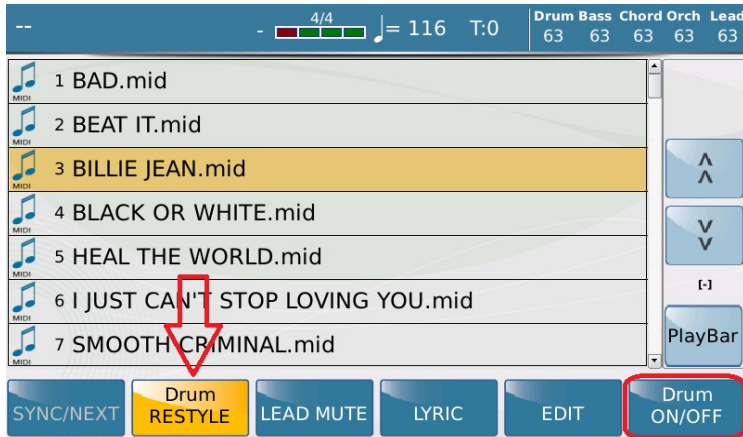
- This means the drums heard are currently the new Audio Drums from the style that was just selected. To turn of the DRUM RESTYLE (Audio Drums) and revert to the song's original Midi drums, touch the DRUM ON/OFF icon on the screen once more as the midifile plays –
- The drums heard will now be the original drums of the Midifile. You can use this button to toggle between the original Midifile drums of the song and the new drums you've mixed in, thanks to the DRUM RESTYLE feature. Press the FILL INS and BREAKS, ARRANGER A-D... etc to make the song totally your own!

7.B-1 – SETTING START AND END POINTS OF DRUM RESTYLE

You can set the **DRUM RESTYLE** feature so that the new Audio Drums automatically start and end between specific measures of the midifile, thus freeing you up to simply play. To do this, touch the **EDIT** icon from the **DRUM RESTYLE** screen as shown …

The following screen will be displayed…
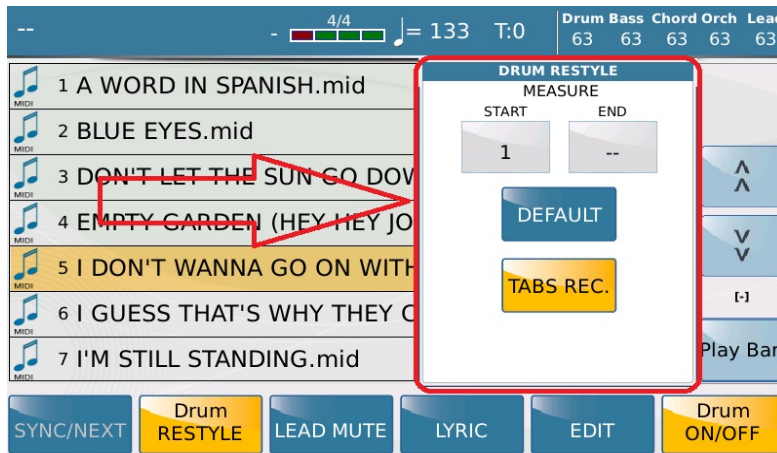
The right side of the "Drum Restyle" screen shows the start and stop measure which you can set by touching the respective box, then turn the data wheel to put in the values corresponding to where in the song you want the new audio drums to start and stop. This is a very nice feature especially when you have a song that has a complicated introduction or ending and you want the audio drums to come in just for the body of the song, while maintaining the Midi drums for the complicated parts programmed to suit just that song. You can go back to the default value (*no set point for the DRUM RESTYLE*) by touching **DEFAULT** icon on the screen.

7.C. PLAY LIST

The playlist allows you put your favorite songs in one place or create a playlist that the SD40 can play while you take a break during one of your performances. When you touch the **PLAYLIST** icon on the screen, a screen similar to this which shows you the first 10 Playlists is displayed –

You can create up to 110 PlayLists (10 per page). You can use the icons to the side of the screen to move the page forward or backward to see other Playlists in the other pages too. From the factory, one playlist has been created and named "PLAYLIST 1". To display the songs that make up a playlist simply touch the playlist whose songs you want displayed… so for an example, if you want to display the songs that are in the PLAYLIST 1 (factory Playlist) above, simply touch the PLAYLIST 1 icon on the screen to show the following –
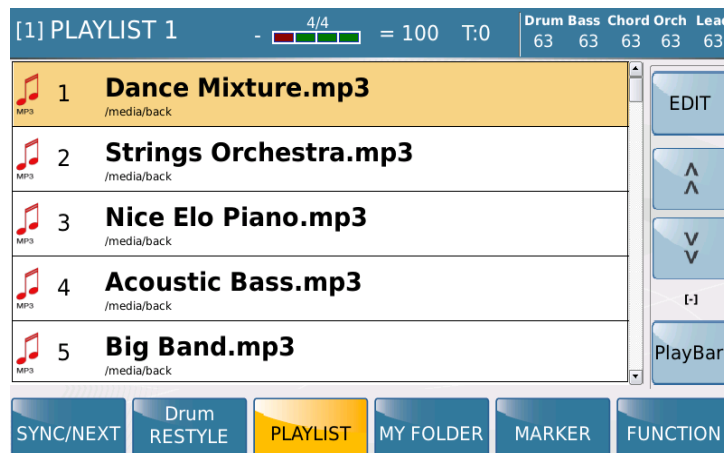
Now, you can touch any song twice (or press **ENTER** once highlighted) to start playing it.

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7.C-1- CREATING A PLAYLIST

You can create your own playlist from scratch or edit an existing playlist to take old songs out, insert new songs or replace songs all together. To create a new playlist,-
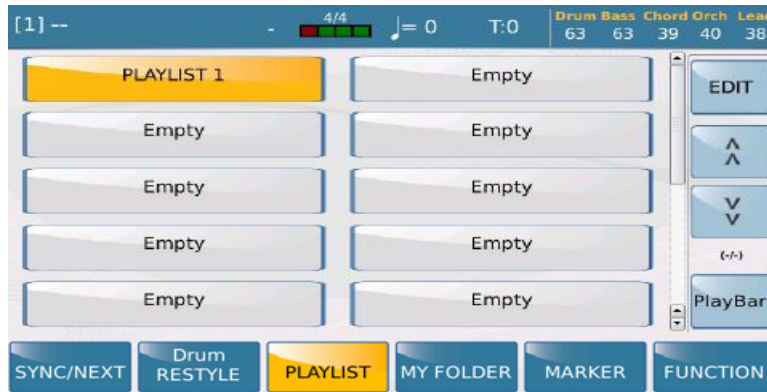
From the PLAYLIST screen above,

- Touch any of the EMPTY locations to create new playlist in that location (*might be best to touch that below the PLAYLIST 1 so as to create PLAYLISTS in order*). You should see a screen like this asking if you want to create a new playlist –
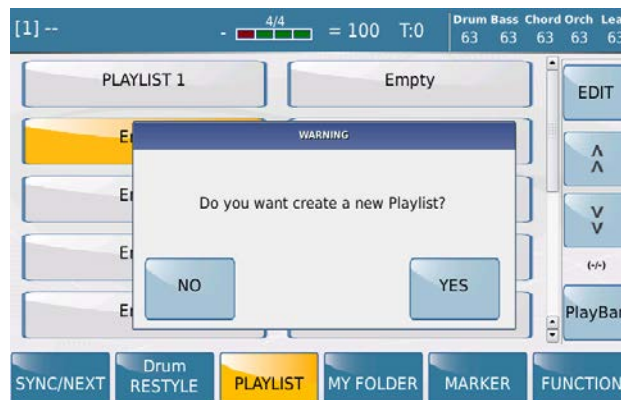
- Touch **YES** and the SD40 will take you to the drive you are currently working in (*shown on the top right corner of the screen*) and display all the folders and files within that drive. Your screen will look like this –
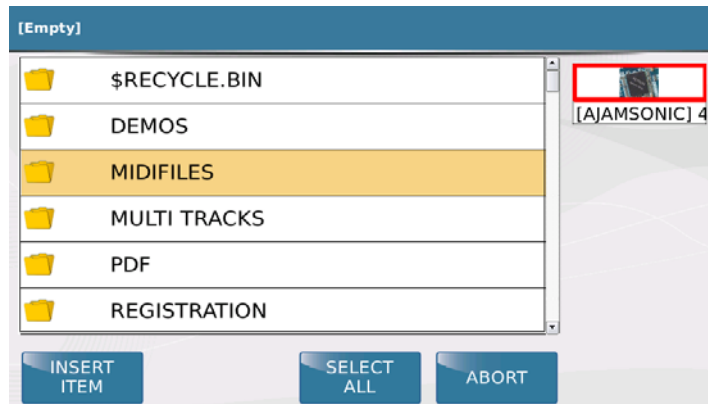
- **Nb:-** If you want to change to another drive installed on your SD40, simply touch to the right of the screen (*in this example, only one drive is installed – AJAMSONIC*)
- Scroll through and touch the folder where the files you want to add to your playlist exist. Touch twice to open (*or press ENTER once highlighted*). In the example below, we will access the files in the MIDIFILES folder as we want to add some midifiles to our new playlist. Your screen should now display the files in the relevant folder as such –

 >>>>

- Now, highlight the song you want to include in your playlist and press **INSERT ITEM** (as shown above) to insert the selected song into the new playlist. A blue dot will be displayed next to the song showing that is has been selected … as shown –
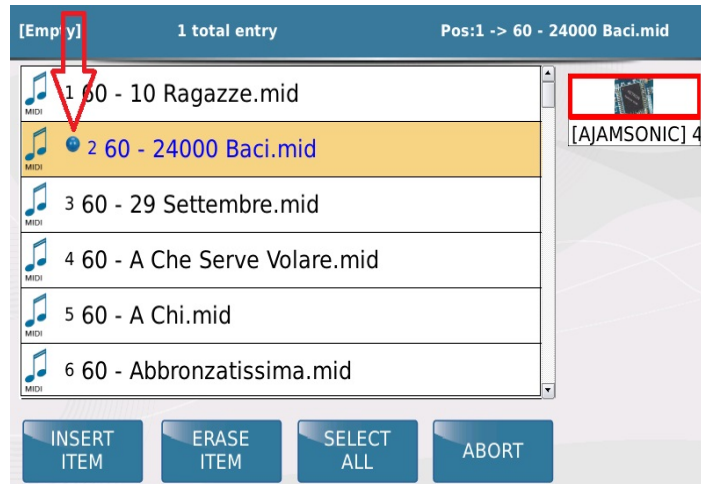
- Repeat the above to select (INSERT ITEM) all songs you which to include in this new playlist…
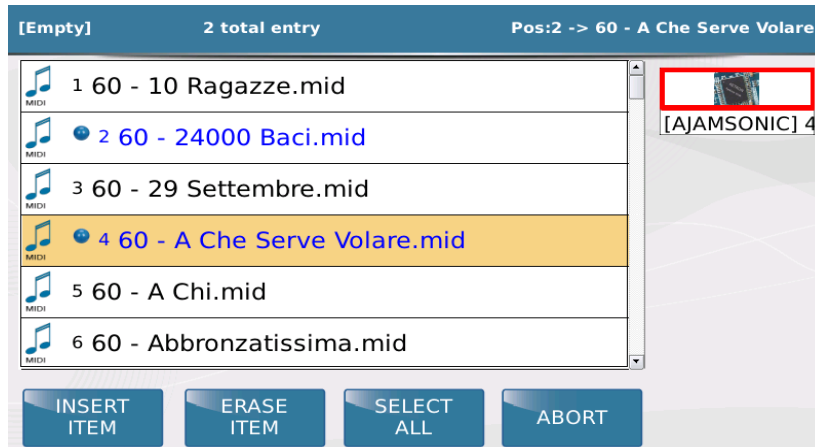
In this case above, 2 songs have been inserted into the new playlist (*24000 Baci.mid and A Che Serve Volare.mid*)

  - o **NB:-** You can also press **EXIT** and go to other folders and INSERT songs into the playlist – the SD40 is adding all the songs you select into the new playlist which you will then name once done with the song selection.
- Once you have selected all the songs you want to create your new PLAYLIST, press the **SAVE** button on the panel to access the next screen below from which you can name your new song PLAYLIST –

>>>

- When done, touch **ENTER** on the screen and you will see the new playlist created (as shown on the top right screen image above).

7.C-2. ADDING OR REMOVING SONGS FROM A PLAYLIST (EDITING A PLAYLIST)

You can also edit an existing playlist (insert a new song or delete old songs) so as to prevent you from creating a new one all together, simply to take out or insert one song. To do this

- Touch the PLAYLIST displayed on the screen which you want to edit. The songs within that playlist will be displayed on the screen as before.

- Touch **EDIT** on the screen to display the edit controls (*as shown below*).
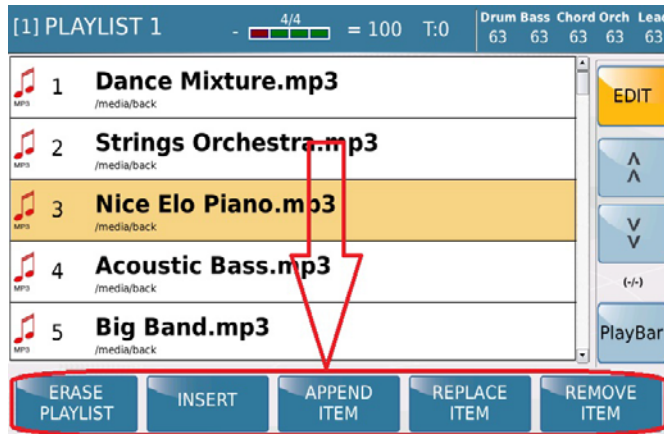
- You can now use these buttons to below to erase, insert, append, replace or remove songs within the current PLAYLIST. Simply touch any of these buttons, then touch the file you want the action to be carried out on and confirm in the next screen displayed *(that you really want to do this)*. Once done for all the songs in question, simply press **SAVE** once more to save the new playlist.

7.D MY FOLDER

MY FOLDER – works very similar to PLAYLIST above – however instead of having individual songs, you can now use entire folders instead and create favorite folders e.g. WEDDINGS (*where you store all your wedding songs*), BIRTHDAYS (*where you store all songs and pictures which you play at birthday parties*) … etc The creation and management of MY FOLDER is similar to PLAYLIST so need not be written all over.

7.E FUNCTION

There are a lot of functions that exist in this area which are used to control the general functioning of the keyboard. These are displayed in 3 columns on the following screen and we will describe each one briefly:-
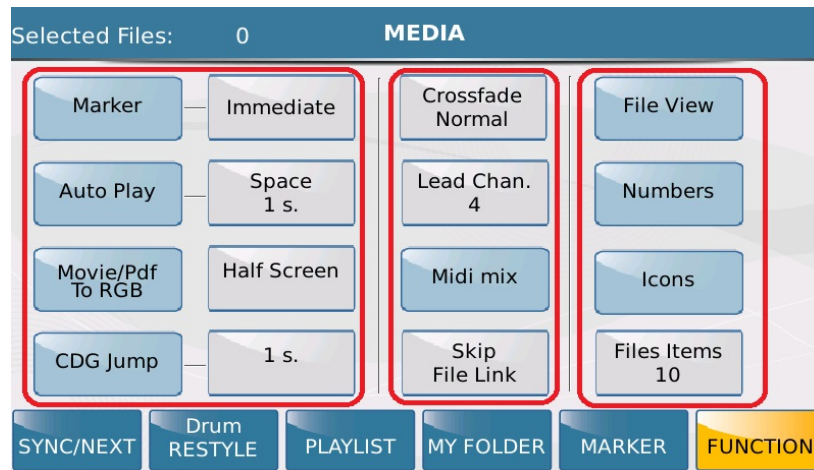
- **MARKER:-** These are pointers used to set certain points within a song such that while playing that song, that you can instantly or eventually **jump** to certain parts of the song (*e.g. verses, choruses … etc*) without having to wait until the song is finished. Midi Programs like Cubase or Cakewalk can be used to create/insert the markers within the song. When you touch MARKER, these marker points are then displayed for you to select where (within the song) you would like to go to. You can program the MARKER (by touching the box next to it and turning the data wheel) such that as soon as you touch a marker, the SD40 will:-
    - o **Immediate** – Go to selected marker point in song at once
    - o **End bar** – Go to selected marker point in song after completing the current measure it is playing.
    - o **End Section** – Go to selected marker position in song after completing the current section (e.g. after completing verse).
    - o **End Loop** – Go to selected marker position in song after completing current loop.
- **AUTO PLAY:-** When this is turned on (yellow), when using either PLAYER 1 or PLAYER 2, all songs (*midi or audio*) within the current folder are played back to back. The silent time (*in seconds*) between each song is set by touching the Space box and turning the data wheel to set between 0 (*no space between songs*) to 30 (*30 seconds between songs*). This feature is great especially when you are performing and need to take a break between sets but have no DJ.

- **Moive/Pdf To RGB:-** When this is off (blue), if you play a movie file (mp4, avi ... etc) on the Midjay Pro, the movie will be displayed on the Midjay Pro's internal screen/display. If this is on (yellow), then the movie will not be displayed on the Midjay Pro – however, it will be displayed on an external tv/monitor that has been connected to the unit (at the back).
- **CDG Jump:-** This function allows you to skip the initial data found on CDG files and it's cancellation value can be set by touching the value next to it and changing with the data wheel.
- **Crossfade:-** This sets how quickly (Fast1, Fast2) or slowly (Slow1, Slow2) or Normal the SD40 will lower the volume of one song while transitioning into the next song (*like a DJ*). So while one song is playing, if you select another, the volume of the first song decreases (its *speed being determined by this setting*) while the volume of the 2nd song increases (*speed also determined by this setting*).
- **Lead Chan:-** Most Midifiles have a channel purposely set for the lead/melody track. For most GM files, this channel is set to track 4. However it can be changed here by touching this icon and turning the data wheel to change it (1-16). This value is tied to the LEAD MUTE button on the panel.

  - **o** When the **LEAD MUTE** button is pressed while a MIDIFILE is playing, the lead/melody line is instantly turned off. This feature is great if you want to play along with a midifile, yet be the one to play the lead/song lines.
  - **o** **NB:-** If this does not initially work for your Midifile, it means that the lead / melody line of your song is not on channel 4. In this case –
    - Leave the **LEAD MUTE** on.
    - Come to this Function screen and start changing the LEAD CHAN value. When you hear the lead / melody of your song go off, you have found the channel on which the lead / melody line was created for this midifile.
- **MIDI MIX:-** This function allows you to quickly adjust the volumes of the individual Midifile parts/tracks using the panel volume knobs (Drums, Bass, Chords, Right and Style/Player when on [yellow]).

 If this function is off, then the midifile will play with the original volume initially programmed within it, thus ignoring the volume slider positions. Use this function when you want to quickly adjust say the drums or bass sounds while playing a midifile (*rather than going into the GM mix and trying to figure out where the bass or drums are and then lowering the volume in there*), or when you want to play many midifiles but want the volume to be consistent as you go from one to the other (*regardless of how the volumes were programmed within the midifile since the volume of the individual parts will be determined by the setting/levels of the volume sliders above*).

- **Skip File Link:**- .By default, when you load say a midifile, any other file that is associated with it (text, pdf… etc) gets loaded automatically. Skip File Link disables this function when turned on (yellow) - that is files that are linked by association. If you have a midifile called "Love you.mid" and you have it's associated text/lyrics file called "Love you.txt", when this function is on (white), whenever you play the midifile, the corresponding lyrics will be displayed on the screen as well. However, if this function is off (yellow), then when you play the midifile, the text (*or any other files associated with it*) will not be loaded and seen as well. Use this function when you want to be able to say play midifiles but still have the screen display full controls for you to perform with.

- **File View:**- When you touch this icon, the following screen will be displayed which allows you to select which files you want to be able to see once in any folder and to sort files in a particular way.

- o This function is very useful especially when you have mixed files (e.g. wave, Midi, Mp3, Mp4 ... etc) within a folder and you want to display say only the midifiles within the folder (.mid). For this example, you would touch the MID box (check mark will appear inside). Whenever you press the PLAYER buttons or MEDIA to display the content of that media or folders within that media, only MIDIFILE Songs will be displayed on the screen, while all the other file types will be ignored. By checking "All Files", then all files are displayed.
- o The **SORT** window (*below the File View Filter window*) allows you to determine how the files will be sorted out once displayed on the SD40, using the top part of the screen. Touch either box:-
  - **Alphabetical sort** – Items will be displayed alphabetically.
  - **Numeric sort** – Items will be sorted numerically.
  - **Dir On Top** – Folders will be displayed above and files below.
  - **Dir On Bottom** – Folders will be displayed below and files above.
- **Numbers**:- In order to organize files or sort them numerically, the SD40 assigns numbers to files as you load them into the keyboard. When **Numbers** is turned on (yellow), numbers are displayed next to each file and folder, thus enabling easy numerical search for something. When turned off, these numbers are removed.
- **Icons**:- When turned on (yellow), icons (*such as those to denote folders, audio files, midifiles … etc*) are displayed before the name of every folder or file. This way, you can quickly distinguish between files if present within a folder.
- **Files Item**:- This is the number of items (*lines*) displayed on each screen. Touch this box and turn the data wheel to change the number of items displayed

Display showing 4 lines per page   *Display showing 12 lines per page*
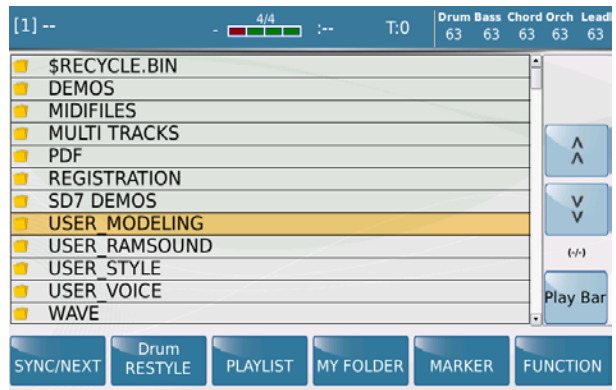
8. MENU

Various functions and controls are located within the MENU of the SD40. By pressing the MENU button
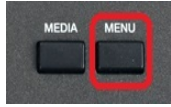
 on the panel of the SD40, these functions are disclosed within the following MENU screen... and here are the descriptions and how to use each of these functions.

8.A PLAY MODES

Depending on what you want to use the SD40 for (sound source, keyboard, as an organist ...), there are various play modes you can choose from to instantly set the keyboard up so that you simply play.

Some of these have already been discussed in details above and so we will focus on those that have not yet been discussed.

Touch **PLAY MODE** to access the following screen from which you can select which PLAY MODE suites your needs while using the SD40.

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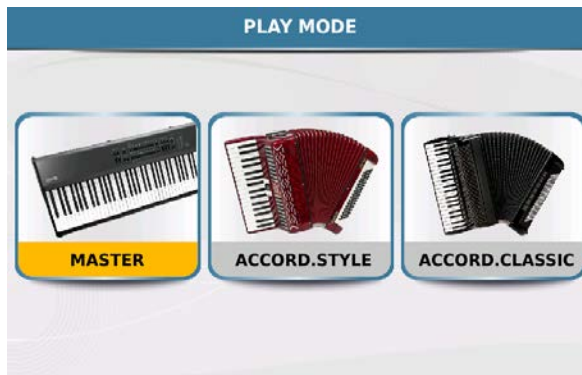
1. **MASTER:-** This sets up the SD40 to be controlled from an external controller such as another keyboard (e.g. KETRON GP1 with weighted keys), or Midi Guitar. Use this mode if you want to access the sounds and styles of the SD40 by playing on another Midi device. From the MIDI menu above, you can access and set up the midi channels to match the device you are connecting the SD40 to (see section *10 – Midi Mode Page 119*) below for more on Midi setup.

2. **ACCORD.STYLE:-** This sets up the SD40 to be controlled from an external Midi Accordion such that the chords played on the accordion control the Automatic accompaniment (styles) of the SD40. It automatically configures the MIDI in channels for the right/lead (01), left/chords (02) and bass (03). These can of course be changed from the MIDI screen (see section *10 – Midi Mode Page 119* below for more on Midi setup). The following screen is displayed when you touch ACCORD.STYLE (Accordion Play style) twice quickly –

Let's go through the various functions that are associated with the Accordion Style mode-

- **MODE**: Adjusts the general settings of the accordion depending on the accordion type - international or Belgian system. This may be set directly on the Touch Screen.

- **RIGHT VELOCITY**: This is a specific function for accordions with dynamic keyboards (*touch response built into the Midi*) that sets the velocity curve of the keyboard (Soft, Medium, Hard and Fixed). The setting may be made directly on the Touch Screen by selecting each of the 4 Curves from a Pop up that is displayed when you select the function. If you select Fixed (*when the touch response is fixed, or better still your Midi accordion has no dynamics*), a number that may be modified with the Dial will be displayed in the box: this is the value of the fixed velocity set on the keyboard.

- **LEFT VELOCITY:** This function is exactly the same as the previous but is used for the bass and chords.

BASS TO CHORD: When this function is set to **Normal,** the Bass note is factored in the chord. If for example you play a B Bass note and a chord in C major, the accompaniment interprets a C7+ with the basic C in the Bass. If it is set on **Lowest**, the lowest note remains in the Bass allowing you to play the chord in inversion. The setting may be made directly on the Touch Screen.

MANUAL BASS: This function allows you to play the Bass manually in two different modes. **Bass Only** removes the bass from the automatic accompaniment allowing you to play it manually. **Bass+ Chord** also removes the chords leaving only the drum, allowing you to play a manual Bass solo accompanied only by the drum rhythm. The setting may be made directly on the Touch Screen. These two options may be used only if Manual Bass in the Style section is enabled.

OCTAVE LOWER1 and **OCTAVE LOWER2**: These are used to set the octave transposition of each of the two Lowers assigned to the chord button panel. After selecting Lower 1 or Lower 2 on the Touch Screen, set the transposition value with the Dial.

BASS ON STOP: When this function is set to **Bass Off,** it mutes the Bass when the Style stops; when it is set to **Bass On**, it keeps the manual Bass enabled even during Stop. The setting may be made directly on the Touch Screen.

BASS SUSTAIN: This function allows you to adjust the sustain value of the Bass sound with the Dial.

BASS OCTAVE: This function allows you to adjust the octave transposition of the Bass with the Dial.

LEFT DRUM: This function allows you to the play the drum manually using the bass buttons. To enable (On) or disable (Off) this function, touch the corresponding box on the Touch Screen; a field is displayed on the right on which you may select the sounds to assign to the 2 layers of the bass buttons and the 2 layers of the chord buttons. To select the sound, simply touch the corresponding box and then touch the sound you wish to select on the Pop up window that opens up. The value of the percussion volume is displayed next to the box. To adjust the volume simply touch the box and select the value with Dial.

You can now save the settings made on this page such that the next time you turn on the SD40, you won't have to repeat this set up process to use your Midi Accordion.

- o Press the **SAVE** button on the panel.
- o The Pop Up box "**SAVE ACCORDION SETTING**" appears on the display from which you may save the settings by pressing **SAVE** or escape by touching **CANCEL**.

3. **ACCORD.CLASSIC:-** This sets up the SD40 to be controlled from an external Midi Accordion such that the chords played on the accordion do **NOT** control the Automatic accompaniment (styles) of the SD40, however the user can manually play up to 3 of these chords (*voices*) manually. It automatically configures the MIDI in channels for the right/lead (01), left/chords (02) and bass (03). These can of course be changed from the MIDI screen (section *10 – Midi Mode Page 119* below for more on Midi setup). The following screen is displayed when you touch ACCORD.CLASSIC (Accordion does not Play style) –

Once more, let's go through the functions available in this play mode. Note that these functions - **RIGHT VELO, LEFT VELO** and **LEFT DRUM** are identical to the functions described above (*in ACCORD. STYLE Mode*).

SUSTAIN: Select this function on the Touch Screen to adjust the Bass sustain value with the Dial.

RIGHT PRESET: This function allows you to select the sound to assign to the accordion keyboard. To do this, simply touch the box to open the Voice selection page (Voice Select). Then press Exit to return to the Classic Accordion screen.

BASS: This function allows you to assign 2 sounds to the Bass, for the Bass and Chord 1 section of the Style. Here again when you touch the box a window which is very similar to the Voice Select window is displayed on which you may select the instrument and category of instruments; press Exit to return to the Classic Accordion screen.

CHORD: This function allows you to assign 3 different sounds to the Chord tracks 3-4-5, following the same steps described for the Bass.

The **Volume** is displayed next to each of the 2 Bass sounds, the 2 sounds assignable to the Chord tracks and the 4 Left Drum sounds. Touch the box and change the volume value with the Data dial.

The functions **OCTAVE, PAN, REVERB** and **CHORUS** are displayed at the bottom of the screen. These are enabled **only for the Bass and Chord tracks** but not for the drums. When you select one of these functions, the value of the function selected (*namely the value of the octave transposition of the Pan of the Reverb and Chorus of the sounds assigned to the Bass and Chord tracks*) are displayed in the above box, which by default shows the volume. These values may be adjusted in the same way as the Volume, namely by touching the corresponding box and adjusting the value with the Dial.

You can save the settings made on this page.

- Press **SAVE** on the panel to access the SAVE screen.
- The Pop Up box "**SAVE ACCORDION SETTING**" appears on the display on which you may save the settings by pressing **SAVE** or escape by selecting **CANCEL**.

8.B MIDI MODES & SETTINGS

MIDI (**M**usical **I**nstruments **D**igital **I**nterface) is a protocol by which musical instruments can communicate with one another, including the SD40 which has extensive Midi controls that can be configured from the MIDI menu. You can actually use the SD40 to control other Midi devices or have them control the SD40

Touch the **MIDI** icon to access the following page –
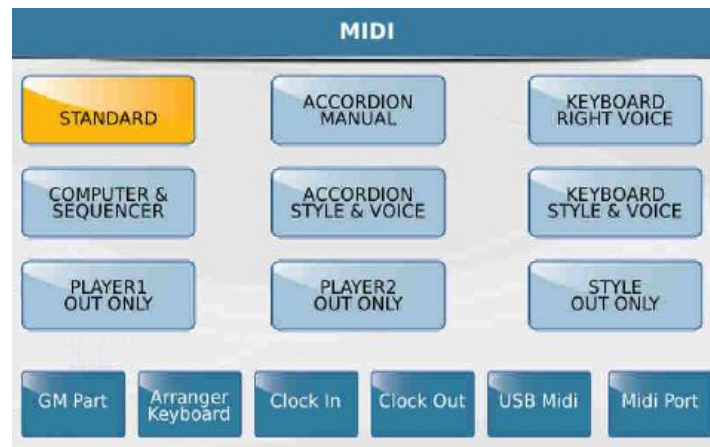
The 9 preset Midi settings (*programmed by KETRON*) are displayed at the centre of the screen and are programmed as such -

- **STANDARD**: If this mode is selected, the SD40 acts as a 'slave' and may be controlled from an external Midi controller (via the Midi In jack such as keyboard controller, midi guitar etc) to play the on board Styles and Voices of the Arranger sound module.

- **ACCORDION MANUAL**: This mode should be used if you connect your SD40 to a Midi Accordion. Accordion Mode automatically sets specific Midi channel for the following sections: Right Ch. 01, Left Ch. 02, Bass Ch. 03. It allows you to play the accordion manually, namely without an automatic accompaniment. Select this mode if you have a Midi accordion and want to simply play voices abd bass with your left hand, and voices with your right hand.

- **KEYBOARD RIGHT VOICE**: This is an optimized mode that allows you to control the Lead voice via the external keyboard. It is actually a variation of the Standard mode above.

- **COMPUTER SEQUENCER**: This mode allows you to connect your instrument to an external Software Sequencer or Computer (via the Midi In). Select this mode when you are playing a Midi file or sequences

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from a computer. This mode is very usefully for studios where the SD40 will work as an external sound module.

- **ACCORDION STYLE & VOICE**: This is a variation of Accordion Manual mode which uses the same Midi channel optimized for use with a Midi accordion and also allows the Arranger to be controlled via the accordion connected to the Midi In of the instrument.

- **KEYBOARD STYLE & VOICE**: This is yet another variation of standard mode which is optimized for Arranger control via an external keyboard connected to the Midi In jack of the instrument.

- **PLAYER 1 OUT ONLY**: This configuration is very useful when you want to play a Midifile using Player 1 on the SD40, but through an external sound module connected to the Midi Out of your SD40. In this case, all the voices and sounds heard will be coming from your external module, even though the actual midifile will be played on the SD40. This is the reverse of the COMPUTER SEQUENCER mode above.

- **PLAYER 2 OUT ONLY**: This configuration is very useful when you want to play a Midifile using Player 2 on the SD40, but through an external sound module connected to the Midi Out of your SD40. In this case, all the voices and sounds heard will be coming from your external module, even though the actual midifile will be played on the SD40. This is the reverse of the COMPUTER SEQUENCER mode above.

- **STYLE OUT ONLY**: This mode allows you to play the Arranger section of the SD40 using the sounds of an external module. Use this mode for an example if you want to use different sounds from an external sound source to play the styles, while playing the lead voices from the SD40. Such a combination offers more variety and combinations of sounds. (***NB:-*** *Results may vary depending on the voices used in the external module*).

At the bottom of the screen, you will find 6 virtual keys that provide access to new pages on which you may customize the Midi sections or enable specific functions as well.

- **GM PART:** Displays a screen that shows the 16 tracks called parts which correspond to the 16 Midi channels used during reception and transmission from the GM sound module built into the instrument.

- **ARRANGER KEYBOARD:** Displays a screen that shows the corresponding Midi channels used during reception and transmission from the sound module built into the Arranger of the instrument.

- **CLOCK IN**: When this is enabled (yellow) the SD40 accepts the Midi Clock command from external Midi appliances and may be synchronized with an external Sequencer / Controller connected to the MIDI In jack.

- **CLOCK OUT**: When this is enabled (yellow), the SD40 transmits the Midi Clock to External Midi appliances (Sequencer/Controller) connected to the MIDI Out jack.

- **USB MIDI**: Turns the USB Device port on the back panel into a Midi port for transmission and reception too. In this mode the Midi connection to sequencer software may be made directly using a USB cable without using the Midi ports and traditional Midi cables.

- **MIDI PORT**: Pressing this key opens a window to route the Midi ports as shown -
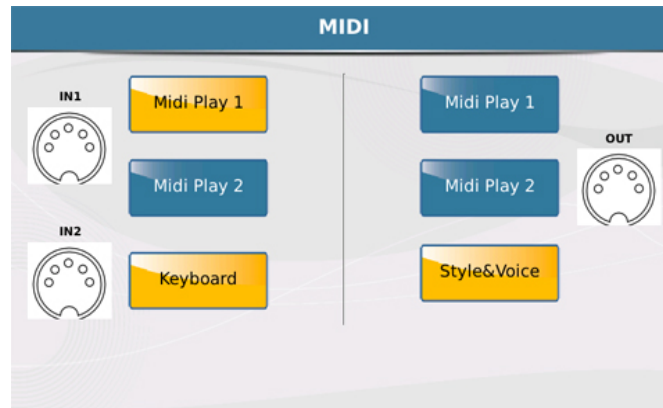
The window displays 3 devices on the instrument and the respective connections to the Midi In and Midi Out ports. Midi In 2 port is addressed exclusively to the Keyboard (Global).

NB:- When there is a MIDI signal on the MIDI IN port, the EXIT button will flash to denote that the SD40 is receiving a MIDI signal .You can use this as a test to make sure there is MIDI data coming in through the MIDI IN2 port.

8.C AUDIO EDITOR

There is a built in Audio Editor that can be used to perform simple tasks on wave files such as creating loops, normalizing, adjusting the volume … etc. Prior to using the AUDIO EDITOR, you will have to first select a wave file otherwise you will get a warning message to do just that. After selecting the song you want to work with when in the PLAYER (*wave format*) screen, simply press the **MENU** button again then touch **AUDIO EDIT** and an audio editing screen similar to this will be displayed -

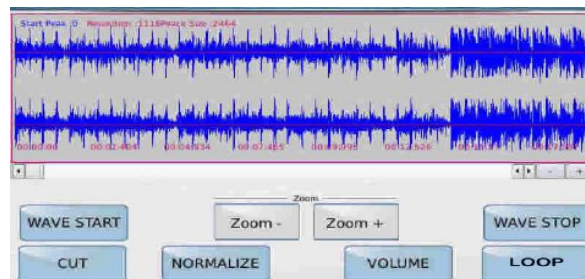The wave shape of the file will be displayed at the centre of the screen. You can zoom in to get a closer look at the sample or out with the functions ZOOM+ and ZOOM- on the display.

Press the red **START** button on the panel to play the file. A line moves progressively along the wave shape from left to right representing where you are in the song.

-**WAVE START**: Takes the counter (line) to the beginning of the .wav file. You can use this to set which point you want the song to start playing from (*with the data wheel once selected*). (*NB:- If you want to cut out a portion of the song, use this to set the start point of the song*).

- **WAVE STOP**: Takes the counter (line) to the end of the .wav file. You can use this to set which point you want the song to stop playing at (*with the data wheel once selected*). (*NB:- If you want to cut out a portion of the song, use this to set the end point of the song*).

- **CUT**: This function cuts out the portion of the song before the starting point, i.e. before the section set by the **WAVE START** above.

- **NORMALIZE**: Levels the volume so that the highest peaks coincide with the highest level under the distortion (0 Db).

- **VOLUME**: Regulates the volume of the file in percentages.

- **LOOP**: Allows you to assign Metadata Loop points on audio file so that when you press START, the song will play from the point set by WAVE START to the point set by WAVE STOP and loop all over automatically.

KETRON SD40 Manual & Tutorial

8.D. MANUAL (Digital Copy)

A copy of the factory manual of the SD40 resides inside the SD40 and can be accessed by pressing the
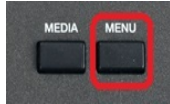
MENU button and then touching the **MANUAL** icon shown on the screen. The manual contains links that enable quick navigation between sections as you browse through. Use this digital manual in conjunction with the one you're reading now.

8.E SET UP (PREFERENCES)

Preferences such as language used, date and time, display skin, voice mode selection … etc can be set up on your SD40 so as to personalize it for your needs. To access the preferences, press the **MENU** button
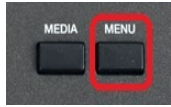
 and then touch the **PREFERENCES** icon shown on the screen to display the following screen –
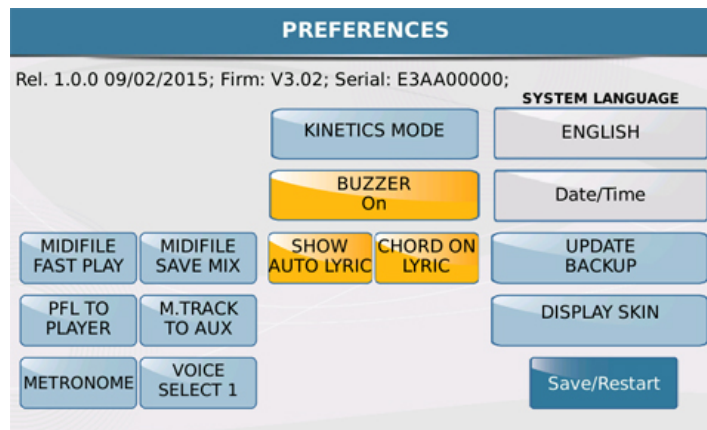
 Let's go through the various functions that can be accessed and set from this screen in more details.

The top of the screen shows the <u>current software</u> (*plus date it was released*) <u>and firmware versions</u> and the serial number of the unit.

- Midifile FAST PLAY: This function starts the playback of Midifiles quicker than usual by reading the opening measures (*which generally contain the data of the Controllers and other data*) rapidly. This is a very useful function for immediate Start, Mixing or Cross fading between midi songs.

- Midifile SAVE MIX : With this feature, the volume settings of the live volume sliders can be saved within a midifile. (*This also depends on the setting of the Midi Mix icon [on/off] status in the Function menu*).

- **PFL TO PLAYER** : This function enables the use of the headphone jack to playback songs within the Player (*pre-listen to a song before it goes through the outputs into your sound system*). If this function is selected, when you use the two players of the instrument the virtual key PFL appears at the top on the right of the display for headphone playback. When this function is disabled, the PFL key is enabled only in DJ mode.

M.TRACKS TO AUX : With this function we can assign audio track #6 (metronome or else) used in the MULTITRACK mode out to a separate AUX which can be managed separately from the master volume. This can be used for multiple functions such as Drummer Headphone, Single Output, Power Headphones, split, etc).

- VOICE SELECT 1/2 : This voice function affects the voice that is recalled each time a voice group is selected.

> Mode # 1:- Whenever a voice group is selected, the first voice in that group is always selected. Mode #2:- Whenever a voice group is selected, the last voice that was used in that group is automatically the one that is selected. This mode is great when you want to program the SD40 such that whenever a voice group is selected, a specific voice in that group is used. This way, all you have to do is touch the icon for the voice group and the voice you want is already there ready to be used.

- METRONOME: This function displays the metronome page with it's various options. When you select this function the following window is displayed with the metronome settings that will now be described.

- **VOL**: This is the virtual **Volume knob of the metronome**. Select this knob on the display and turn to adjust the metronome Volume or use the Dial.
- **TIME SIGNATURE*/** (numerator)and **TIME SIGNATURE/*(**denominator) : The corresponding boxes to these are for setting the time signature *(e.g. 4/4, 3/4 … etc)*. Simply touch each box and modify the value with the Dial.
- **LINK/RUN MODE**: This box may be set in one of four different modes in the same way. Touch the icon and once selected (yellow), turn the data wheel to select the option needed.
  - o NONE mode disables the metronome.
  - o FREE RUN mode enables the metronome and it is independent of the midifiles or Styles, just like an external metronome.
  - o Midifile mode links the metronome to the Midifile you are playing. In other words, it synchronizes the metronome tempo with that of the Midifile.
  - o STYLE mode links the metronome to Style synchronizing it with the tempo of the Style.
- **ENABLE**: Enables or disables the metronome sound (*audio*) and therefore has an ON and OFF mode which may be selected on the display. When set to OFF, the metronome will not be heard.
- **BPM**: You may use the BPM to set the metronome speed with the Dial.
- **OUT**: Sets the output mode of the metronome. After selecting this function with the Dial you may set it on "SOLO" mode that plays only the metronome through the headphones without music or other sounds generated by the SD 7 or on ALL mode where you will hear both the metronome and music through the headphones.
- **TYPE**: Allows you to assign 3 different tones to the metronome click. Here again simply touch the icon on the display (turns yellow) and set it's value with the Dial.

 - KINETICS MODE: This function allows you to scroll up and down the screen with your fingers (*by touching the screen and sliding your fingers up and down just as on most touch screen phones today*). To save this setting (*so that you don't repeat it next time the SD40 is turned on*), press the **SAVE** button on the panel and then touch **SAVE CUSTOM STARTUP**.

- BUZZER: When this function is ON you will hear a "beep" whenever you touch the display. This confirms that you have touched a valid part of the touch screen. When this function is Off the "beep" is

disabled. To save this setting press the **SAVE** button on the panel and then touch **SAVE CUSTOM STARTUP.**

- SHOW AUTO LYRIC: Automatically displays the associated lyrics with a song that is playing (*if available*).

- **SYSTEM LANGUAGE**: Allows you to set the language of your instrument. Touch the box to open a drop down menu from which you may select one of the following languages: English, German, French, Italian, Spanish or Portuguese. Select the **SAVE/ RESTART** on the display to save this setting.

- **DATE/TIME**: Allows you to access the following page to set the date and time on your SD40:

The months on the calendar displayed at the centre may be moved forwards or backwards with the right and left arrows.

To select the day simply touch the day of the month on the calendar or select the field **CURRENT DATE** and change the value with the Dial. To change the time, touch the respective boxes at the bottom of the screen. Adjust with the up (increase) and down (decrease) arrows next to each box. Finally, there is also a field called "**LOCALE**" on the screen on which you may select the language for the days of the week. Use the **UPDATE** key to update the date of the instrument to date set by the user. Select the **SAVE/ RESTART** on the display to save this setting.

SAVE/ RESTART: Touch this icon to save the language and Date / Time settings. The SD40 will reboot once this is completed.

- UPDATE BACKUP: This tab opens page for the various functions such Import / Export data (Playlist, System, My Folder backup) and the possibility (by SYSTEM UPDATE tab) to update the internal Operating System with future Oses.

- DISPLAY SKIN: As many devices of today, the SD40 allows you to modify the background display (SKIN). Touch this button to access a selection page with different SKINS suggested by KETRON:

Once you select your new preference the following screen will be displayed -
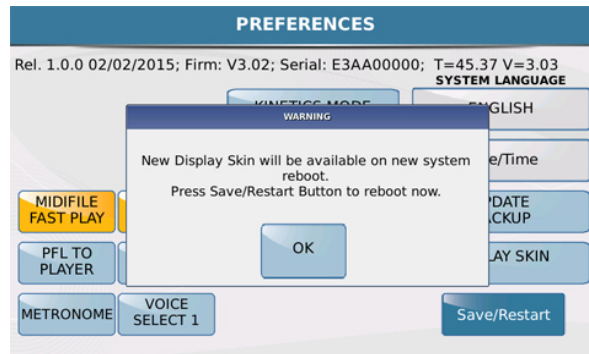
Touch "OK" to confirm and reboot the SD40. The SD40 will now power on with the new display as selected.

8.F KEYBOARD CONTROLS & SETTINGS

Here is where you will find access to many parameters and settings that control the overall keyboard

controls and settings. To access the CONTROLS page, press the **MENU** button and then touch the **CONTROLS** icon shown on the screen to display the following screen –

Let's take a closer look at the functions available and how they can be applied to our daily usage.

- GLOBAL: Allows you to tune the SD40 and modify Modulation sensitivity. To modify the tone, simply touch the **TUNE** box or the corresponding virtual knob and change the numeric value by turning with your finger or with the data Dial. In the same way, to change modulation sensitivity, touch the **MOD. SENSITIVITY** box or the corresponding virtual knob and change the numeric value with the Dial.

- **AFTERTOUCH**: This is a parameter that many keyboards have today and allows you to modify a sound by pressing a key on the keyboard a little harder … even after pressing the note. The effect applied to the Aftertouch may be a modulation, opening of a filter, increase in volume. For example, by assigning volume to Aftertouch, you can simulate the sustained effect of a string or wind instrument which may increase the intensity of a note even after the attack is over. On this page you may set the sensitivity of the Aftertouch response and the key pressure threshold below which the Aftertouch effect will not respond. Here again, the modifications are done by touching the **SENSITIVITY** and **THRESHOLD** boxes or the corresponding virtual knobs, and modifying their values with the data dial wheel.

- **EXPR.PEDAL**: This enables the Expression pedal to be used for controlling the volume of the Left and Style section and the PLAYERS. The response curve of the volume pedal may be set by touching the **PEDAL CURVE** box and using the Dial to change it's value.

- **POLARITY**: This allows you to select the polarity of the pedal switch to use (Normal Open / Normal Closed) based on what type of volume pedal you are using. This also means you can now use volume pedals from other manufactures too and customize the SD40 to accept them.

- **THRESHOLD**: This adjusts the opening threshold of the pedal controller to be used.

- **VELOCITY CURVE**: This sets the keyboard dynamic response of SD40 (Soft, Medium, Hard, Fixed). Based on how hard or soft you play you can set the way the SD40 will respond to your 'touch'.

- **FIXED**: This is used when you do not want any variation in volume or response from the keyboard when you play – you simply want a fixed volume (no expression). This turns on a fixed dynamic level which you can set using the data wheel.

- **AUX ASSIGN**: Allows you to assign to the **HEADPHONE / SEPARATE OUT** one of the following sections of the SD 7 (RIGHT/LEAD voice, DRUM or BASS). Whatever is assigned to this output is automatically excluded from the internal speakers.

- **LIVE DRUM SET**: This function creates dynamism and realism in the drum tracks by modifying a number of variables of the percussion instruments during performance such as snare, rim, hi hat … etc (just as a Live Drummer would).

- **SPLIT LOCK**: This function allows you to "lock" the Split point in Player Mode.

- **DRY ON STOP**: This function eliminates any effects (reverb, chorus … etc) on the microphone once the SD40 is not being played [*stopped*]. This function is great when you want the effects to be on when you perform/sing but not on when you speak or try to address your audience.

- **MAIN LEVEL**: This is the main volume of the instrument that may be set in this menu either by using the relevant box or the corresponding virtual knob and using the data dial. The main output may also be muted.

- **AUX / HEADPHONE LEVEL**: From this icon, you may adjust the volume of the headphones or Mute them, following the same steps described for the Main Level above.

8.G FOOTSWITCH CONTROL & SETTINGS

These are certain controls you can program such that you control them with the optional FS6 or FS13 Effects Footswitch, thus freeing up your hands to simply play. You can for an example assign the Start/Stop to Switch #1, Sustain to Switch #2, Vocalizer on/off to switch #3, voice change to switch #4 .. etc and in this way, you can activate all these functions by pressing the corresponding switches and not lifting your hands off the keyboard to touch on the panel.

To access the FOOTSWITCH page, press the **MENU** button and then touch the **FOOTSWITCH** icon shown on the screen to display the following screen –

⭕ Now touch the switch you want to assign a function to (e.g. #10) and a drop down menu showing all relevant functions you can program into #10 are displayed. You can use the data wheel to scroll down the list to others not currently displayed on the page.

⭘ When you see a function you want, touch it and it is automatically assigned to that switch (*displayed right below it*).

⭘ Press **EXIT** to get back to the main footswitch page and repeat the above for the other switches you want to program. Please note that although the diagram shows the FS13, if programming the FS6, use just the first row of switches (1-6) and ignore 7 – 13 at the bottom!

⭘ When done (while still in the FOOTSWITCH page, press the **SAVE** button and touch **SAVE** to save the footswitch set. You can save up to 4 footswitch settings (SET 1-4) as shown below the screen.

8.H EXTERNAL VIDEO MONITOR SETTINGS

The SD40 is capable of displaying all the information displayed on the internal touch screen onto an external video monitor or TV (Mirror mode) or just lyrics/text and pictures – depending on which you prefer. To access the VIDEO page and change the settings to match your monitor, press the **MENU** button and then touch the **VIDEO** icon shown on the screen to display the following screen –

- **EXTERNAL MONITOR TYPE:** The **VGA MONITOR** and **DVI MONITOR** icons at the top of the display allow you to select the type of monitor the instrument will be connected to. If you change from VGA to DVI or vice versa, please note that the system need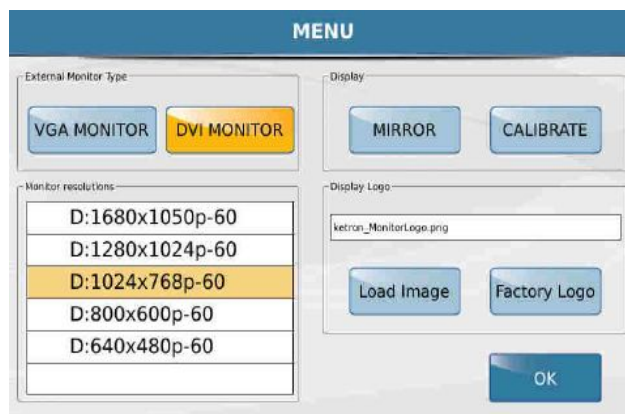s to reboot and load the relevant files needed for the changes. A dialogue box will therefore appear at the centre of the display asking you if you wish to reboot the system. (***NB:-*** *any changes that have not been saved will be lost if proceed with rebooting the instrument at this time*).

- **MONITOR RESOLUTION**: Further down on the display, you will find a table where you may select the resolution of the external video. The higher the resolution, the clearer and sharper the image, however please check with the manufacturer of the monitor to make sure it can handle high resolution data.

- **DISPLAY:** On the right side of the screen, you can turn on the **MIRROR** function (*that projects whatever is being shown on the SD40's display onto the external screen*), or disable it in order to display the entire screen content, however display only the song text/pdf and pictures (*if you do not want your audience to see you navigating through screens but focus on the lyrics to tunes*). **CALIBRATE :** Opens a system window in which you may calibrate the Touch Screen display. Once more, the SD40 will reboot once calibration has been completed. If you select "Yes", a cross will appear in the upper left hand corner of the display. Touch it to confirm that this is the top left corner. Repeat for all the other corners

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and center of the screen (*as the cross is displayed*). Once completed, the system will reboot automatically.

NB:- *You should calibrate the instrument as described above whenever you update your system or if the display no longer responds promptly when you touch it.*

- LOAD IMAGE: Press this function to load a customized image on the instrument which you may use as a preset background of the display. This is also very useful for you to advertise your business (e.g. if you are playing in a night club and can connect your SD40 to a few monitors there for display of your group's name, contact info, song set and lyrics … etc.

**- FACTORY LOGO**: This function sets the factory logo as background of the display.

8.I ¼ NOTE TUNING & ARABIC SETTINGS

The SD40 can be tuned for quarter note performances (*which is very common in Arabic music and others from that part of the world*). With such a scale, the SD40 is not limited and can be used to perform all kinds of music from all kinds of cultural and ethnic backgrounds.

To access the ARABIC page and change the settings to match your ethnic background music, press the
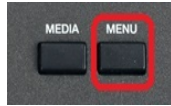
MENU button and then touch the **ARABIC** icon shown on the screen to display the following screen –
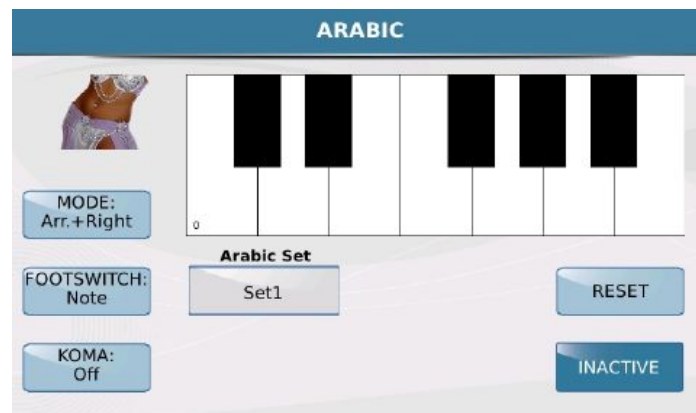
A virtual keyboard is displayed at the centre and can be used to modify the intonation of the single notes. Let's shed some more light on some of the functions offered in this menu.

- **MODE**: This defines the area of the keyboard to which the Arabic scale can be applied. By selecting this function you can use data dial wheel to select the

       * **Lowers + Right** mode in order to apply the Arabic scale to the Lowers and right section,

       * **Arr.+ Right** to apply it to the accompaniment and to the right section or

       * **Right** to apply the Arabic scale only to the right section.

- **FOOTSWITCH**: Use this to assign the Arabic scale to the footswitch. In **Note** mode, the footswitch controls the intonation of the note. In **Arabic.Set** mode the footswitch selects the Arabic set (from 1 to 16).

- **ARABIC SET**: This allows you to select an Arabic set from 1 to 16.

- **KOMA ON / OFF**: The **Koma** function is used to dynamically change the intonation of the scale while you are playing. This means that if the function is On, (yellow), when you press a note between C5 and B5 shown on the display, the note will be detuned by the default value of - 50 cent, but you may also adjust this with the Dial. Press the same note again to remove the modification.

- **RESET**: Resets the original modes for the Arabic Set selected.

- **ACTIVE/INACTIVE**: Enables or disables the Arabic scale.

To create an Arabic intonation you have set, follow these steps: select the note you wish to change on the display, change the tune value with the data dial. Use the virtual key **RESET** to restore the original conditions. After introducing your modifications, press **SAVE** on the panel and confirm again by touching **SAVE** on the display in the dialogue box. If you do not wish to save your modifications, select **CANCEL** on the dialogue box to cancel the modifications or **RESTORE** to restore the original conditions.

8.J REGISTRATION SETTINGS AND CONTROLS

As discussed above, Registrations are snap shot or keyboard settings that can be stored into memory locations in the SD40. You can save settings from footswitches, midi channels, voices, transposition values, styles, text files … etc – but you can also set up registrations such that some settings are not saved or ignored as you switch from one registration to another. This is useful (for an example) when you want to maintain the footswitch settings or midi channel settings as you switch from registration to registration and so you would want to 'ignore' these settings regardless of their values stored in other registrations.

What governs the functions that a registration saves or ignores is addressed in this section of the SD40

To access the REGISTRATION SETUP page and change the settings to match your play style, press the
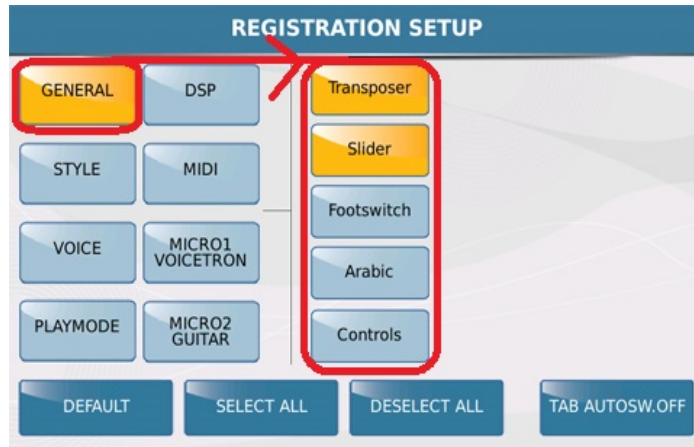
MENU button to display the menu screen –

- Touch the **REGS.SETUP** (Registration Set up) to enter the registration set up screen where you can select what settings registrations will load up and which will be ignored. The screen displayed will look similar to this –

There are 2 columns displayed. The left column displays the 8 major functions while the right section displays the individual features within which can be saved and recalled within a registration (Yellow) or that will be ignored (blue). In the example above, in the GENERAL section, we see that the **Transposer** and **Slider** values/levels will be saved within the REGISTRATIONS, however the footswitch, Arabic and Control settings will be ignored. NB:- Just for clarification – if you program the footswitches and save them in the footswitch menu, this means that even if you have different footswitch settings in different registrations, those settings will be ignored. This would be a good example for live use – unless you do intentionally want to program different registrations with different footswitch settings for different usages. In this case, you would turn on (touch) Footswitch here so it is yellow.

Touch STYLE to display to the right the various style elements that can be ignored or recalled as you switch registrations. Repeat this for the others (VOICE, PLAYMODE, DPS, MIDI, MICRO1/VOICETRON, MICRO2/GUITAR).

TAB AUTOSW.OFF (Tab Auto switch off) – this function automatically turns off the REGIS (REGISTRATION button after the registration has been loaded, thus returning the keyboard to full live play on the display. If this icon is off (blue), then the REGIS (Registration) button stays ON each time you turn it on, until you manually turn it off again.

Press **MENU** to turn off the menu button and screen and return to the default screen.

8.K Digital Sound Processor (DSP)

Since the next 3 icons have already been explained above in their respective chapters, we will proceed to the next function – **DSP** (Digital Signal Processor)!

The SD40 is equipped with a professional digital signal processor. Touching the DSP icon take you to the heart of the processor which instantly grants you access to the relevant parameters you can tweak so that your SD40 sounds just right for you.

Touch the DPS icon to display the following screen-
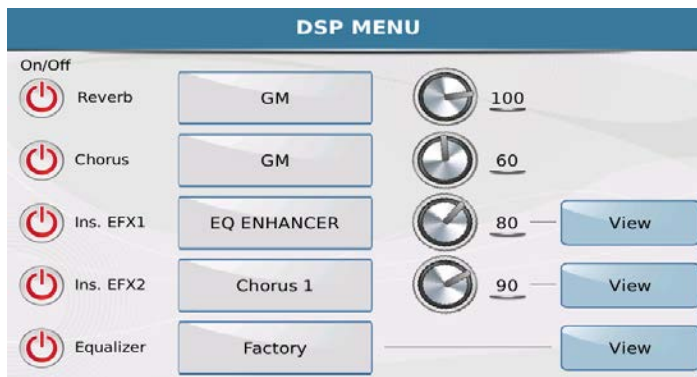
Use the ON/OFF buttons to the left of the screen to activate the selected effects you want to apply to the entire SD40 (Sounds, styles, Mp3, Wave, Midifiles … etc).

Touch any of the currently used effects to select another one from a screen such as this one below –
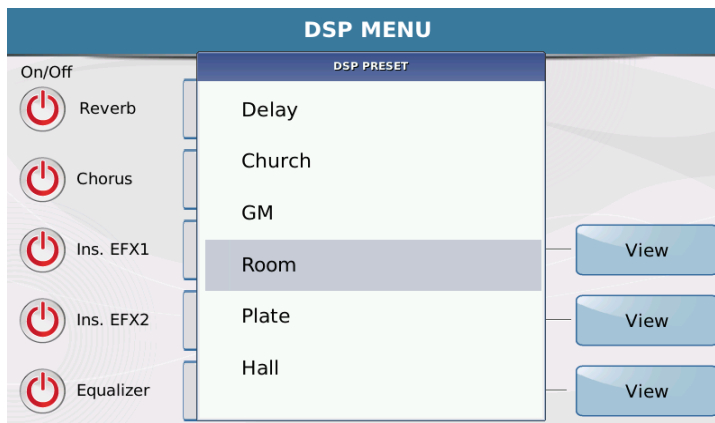
Turn the data wheel to scroll down for even more selections.

Touch the **VIEW** icon on the Ins (insert) EFX1 or EXF2 to display the various effects you can insert into the signal from the SD40 –

Each of the effects stomp boxes above can be turned on or off by simply touching the silver switch on the effects icon (red light on box denotes that effect is on). Touch BYPASS off/on to instantly turn off all the effects at once or turn on those that were initially used when you came to this screen. Each effect box (Distorso, Chorus, Wha Wha, Delay, Amp Simulator, Filter, Compressor and Equalizer) shows the effect that is currently being used on the bottom of the box. To change the effect type, simply touch the bottom of the box effect being used to display a drop-down menu of other effects that can be selected. In this box, below, the **DISTROSO box effect** (Distortion 1) has been touched to display the following –
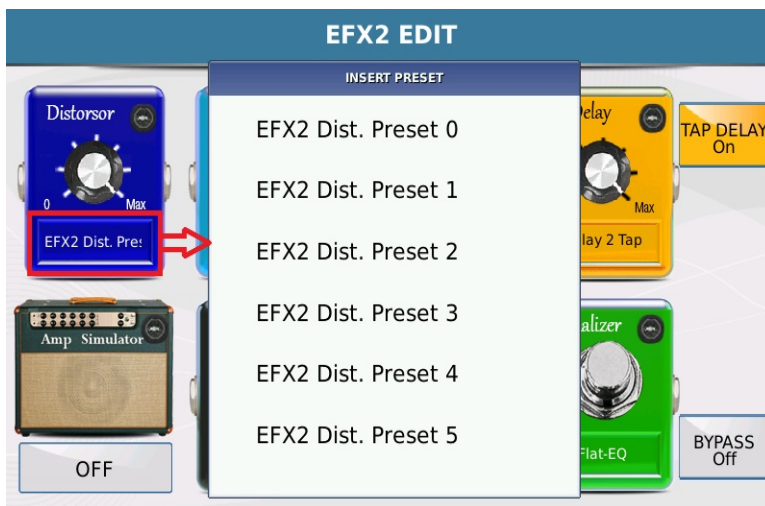
Select the effect you want to use, then press **SAVE** on the panel to save it so that this setting is kept even when the SD40 is turned off.

You can touch the **EQUALIZER VIEW** icon to display the following screen–
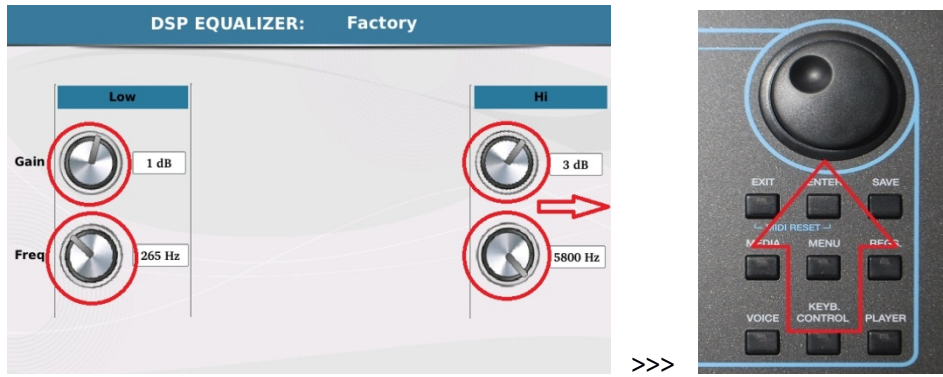
Now touch the knob whose value you want to change and turn the knob to change it's value directly on the screen – or once selected (silver line turns red), use the data wheel to change it's value.

9. GUITARIST'S CORNER

Midi Guitars have been around for ages and guitar players have found ways to catch up with their keyboard counterparts in being able to have fun playing different sounds using drum machines and synthesizers. Many have however resorted to using Midifiles and backing tracks (making folks think they are 'DJ's now' because it has been a challenge for them to have a device which they can perform with and which follows them as though they were playing with a live band … until now.

The KETRON SD90 (SD9 & SD60), SD40, Midjay Pro & AUDYA 4 (*referred to as the **module** from here on*) can be set up to be controlled by Guitar players in various ways. You can choose to use your feet to change the chords (*using bass pedals such as the KETRON K8 Pedal board*) or simply set up the machine to recognize the chords you play (*PIANIST AND GUITARIST mode described above on page 68)* which allows you to simply play and focus on your performance – not your feet. You can also play lead sounds from the KETRON simultaneously (*such as piano, sax …etc*). For this option, you will need to have a Midi Guitar such as the CASIO MG-510, or ROLAND GK-series or an **Audio to Midi interface** attached to your guitar which translates the audio signal to midi.

Midi set up for various controllers

Midi Guitar

Midi Out

Lead Voice
Chords

Set Up Midi In Sd40
- Press Menu
- Touch Midi Accordion Style Voice On/yellow
- Touch Arranger Keyboard
- Touch Rx (Midi Receive) On/yellow
- Set Right Left And Bass Chords
  If Using Keyboard Midi Controller
→ Then Set Only Global Channel
  To Match That From Keyboard.

Play lead sounds **AND**
control the arranger using
only your MIDI Guitar, **OR**
play lead sounds using the
MIDI Guitar and control the
arranger with your feet -
using the K8 Midi
Pedalboard below.

You can also pre-record
your backing tracks at home
and simply play along with
them at your gig!

Midi Cable!!!

Ch1 — Right/lead In Channel 1 Global 1

Ch2 — Left/chord In Channel 2

Ch3 — Bass In Channel 3

Midi in 2

Acoustic Guitar

Use With
K8 Midi Pedal Board

K8 Midi pedalboard

Midi Out

Used To Trigger
Chords And Control Styles

KETRON   SD40

- **GUITAR SET UP 1:- PLAYING WITH BASS PEDALS (K8 Midi Pedal board):**

When using the optional KETRON midi Bass pedals, you can use your feet to change the chords of the arranger while playing your Guitar as you normally do now. With this set up, you can use either an electric guitar or an acoustic guitar. As you play, simply press any of the notes on the bass pedal to generate a chord which the unit will play to back up whatever you are playing. For minor or 7th chords, you can choose to either use both feet to press both notes (*e.g. C and Bb to play a C7th chord*) or you can program the optional footswitch (FS6 or FS13) or the optional hand switch (HS9) such that when you press a switch/button on either of these devices and press a note on the midi pedal board, that note played will be a 7th, minor, minor 7th …etc – based on the chord tonality/type selected.

[*PROS:-* More accurate control of chords. Hands are totally free to solo on guitar and play as you wish. This method can be used by any solo artist (*Harmonica player, vocalists, trumpet player … etc*). *CONS:-* Limited chord tonalities. This requires more concentration as you multi-task with feet and hands which sometimes leads to less focus on your audience/performance. Since you do not have midi, you cannot play the lead voices such as piano, sax with this method. Also requires you to sit or get a high stool as you're on one foot most of the time, kicking pedals].

- **SET UP & TUNE UP TO USE BASS PEDALS:**
    You have to make sure that when setting up your unit to use bass pedals, both the pedals and the KETRON unit are on the 'same page', meaning communicating together on the same channel. The module can receive and transmit midi data on up to 16 channels and so too can the midi bass pedal. If the bass pedal is set to transmit on midi channel 2 (*which is the default channel whenever it is turned on*), this means that you will have to set the module to RECEIVE on midi channel 2 … so both have to be on the same channel. To set the midi channel on the module, please proceed as follows:-
    - Press the **MENU** button on the SD90/SD40/Midjay Pro to display the menu screen.

- Touch the **MIDI** icon on the screen to display the MIDI page.

- If not already selected, touch **STANDARD** (it will be yellow).
- Touch **ARRANGER KEYBAORD** at the bottom of the screen to display the current Arranger keyboard set up.

- The 4 icons on the bottom of the screen (**Chan, Shift, Status & Filter**) are the various modes whose midi channels can be set up for various functions as described above on page 160 – MIDI). Touch **Chan** to get to the channel page and touch **RX** to access the Midi RECEIVE channel settings as shown above.
- Touch the **LEFT** box and turn the data wheel to set this to channel **2** to match the midi channel from the Midi Pedal board. (**Note:-** *By pressing the MIDI button on the Midi Pedal board repeatedly [once to go to channel 3, twice to go to channel 4, thrice to go to channel 5 … channel 16), you can also program the midi pedal board to transmit on a*

channel other than the default of channel 2 when powered on – just make sure the numbers match!].

- ▪ Press the **SAVE** button on the panel to save this current midi setup and ok the confirmation message displayed to save settings to the current **STANDARD** midi setup.

- **PLAYING:** You can now 'test' the pedals. From the main screen of the module, press the K.Start/Key Start (*or for SD40 and Midjay Pro, touch the K.Start icon on the screen*). This will allow the module to start playing whatever style you have currently selected once you press any of the keys on Midi pedalboard. If the module does not start playing, check the settings above or the midi cable or make sure that the K8 Midi pedalboard is plugged in (*there is no power switch – as soon as it is plugged in, it is on*). Play your guitar while changing chords with your feet and listen as the module and music **follow you** (*different from playing with a <u>backing track</u> or <u>Midifile</u> where YOU follow the sequence*)!

- **GUITAR SET UP 2:- PLAYING & CONTROLLING WITH MIDI GUITAR.**

For professionals who do not want to learn a new way of playing and want to simply play and have the module follow them, there is yet another way to set up the unit – **PIANIST & GUITARIST** mode as described above on page **8**. With this set up, as you play, the module will only change chords when you play (*strum or pluck*) 3 or more notes. This means that whenever you want to have the module change chords, simply play or pluck 3 or more strings and the new chord will be recognized … then simply play 2 or less to solo, while the module back you up. Since you are playing with a MIDI guitar, this also means you now have access to the lead solo voices – wow your audience by selecting the sax, flute or piano voice and playing these directly 'on' your guitar!

[**PROS:-** More natural playing is achieved and you do not have to have additional accessories connected to the module. You can also play more complex chords – good for Jazz, Funk, Blues, Gospel …etc. Since the module is following you, you focus on your audience and performance. You have access to all the lead voices of the module so you can play other sounds in conjunction you're your lead guitar or individually - the choice is yours. **CONS:-** Heavily depends on the tuning of your guitar meaning you may have to tune during a long performance to avoid playing the 'wrong' chords.

You will need a midi interface or audio to midi converter. You have to think ahead so as to be prepared to change chords exactly where chord changes are required. Solo is limited to 2 or 1 string since 3 will trigger the unit to change chords and try and keep up with your 'noisy solo'!].

- **SET UP & TUNE UP TO USE ONLY MIDI GUITAR:**
  There are 2 procedures needed to allow you to control the chords and play the module's lead voices – set up the MIDI channels and set up the module for PIANIST & GUITARIST mode.
    - **1. MIDI CHANNEL SETUP:** You have to make sure that when setting up your module, the midi channels match up with the midi channel your Midi Guitar is transmitting on (*most default to channel 1*). Assuming the Midi Guitar is set up correctly and transmitting ALL STRINGS on Midi channel 1, proceed as follows to set up the KETRON module to receive on channel 1:
    - Press the **MENU** button on the SD90/SD40/Midjay Pro to display the menu screen.

   - Touch the **MIDI** icon on the screen to display the MIDI page.

    - If not already selected, touch **STANDARD** (*it will be yellow*).
    - Touch **ARRANGER KEYBAORD** at the bottom of the screen to display the current Arranger keyboard set up.

- The 4 icons on the bottom of the screen (**Chan, Shift, Status & Filter**) are the various modes whose midi channels can be set up for various functions as described above on page 160 – MIDI). Touch **Chan** to get to the channel page and touch **RX** to access the Midi RECEIVE channel settings as shown above.

- Touch the **GLOBAL** box and turn the data wheel to set this to channel **1** to match the midi channel from the Midi Guitar. (**Note:-** *When you do this, test by playing each string on your Guitar. You should hear whatever voice is currently selected on the Module e.g. Piano or sax coming through your system. If only a few strings work, this means you have to go back to your Midi Guitar setup, tune and set the sensitivity once more on the strings that are not heard as they are NOT transmitting to the KETRON arranger!*].

- Press the **SAVE** button on the panel to save this current midi setup and ok the confirmation message displayed to save settings to the current **STANDARD** midi setup.

- **2. CHORD DETECTION SETUP:** Next, proceed to set up the correct chord detection mode on the module so that when you play 3 or more notes, this chord is recognized and played by the module.

  - Press the **PIANNIST** button on the panel (SD90/60/9) or from the main style screen, touch **VIEW – PIANNIST & BASSIST** (SD40/Midjay Pro) to access the PIANNIST page as shown below.
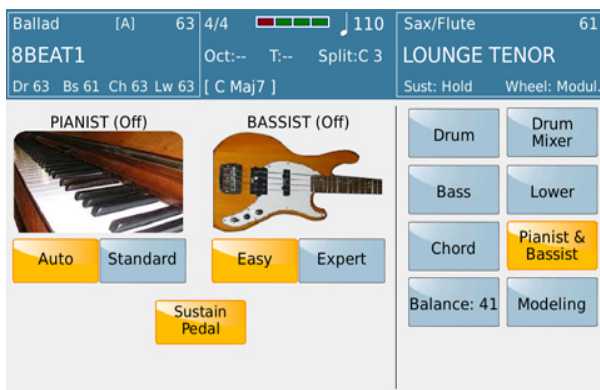
(Midjay Pro does NOT have Sustain Pedal option!)

- Here you can set the module in GUITAR mode, **PIANIST (ON) …** in other words allowing chord detection when you play a full chord or pluck 3 or more chords. Also, whatever voice you select can now be played as a solo instrument.


- The two modes, Bassist/Pianist, may only be used one at a time. They will now be described in more detail:

PIANIST (& GUITARIST MODE)

- **Auto**: Most favored! In this mode, simply play 3 or more notes on the keyboard/guitar so that the chord is recognized and once this happens, you can then play the melody or solo with one, or at the most two notes, without changing the chords of the Arranger. For a guitar player, this method eliminates the use of bass pedals as you can now play freely. It is also preferred because you only change chords when you play 3 notes or more, giving you more control over the module.
- **Standard**: In this mode, the module recognizes chords all the time – so even if you play just a single note, that note will be interpreted as a root chord and thus the module will keep changing chords as you play any note. This is not the best setting for modern music (*whose chord change usually occur every 4 or 8 or 16 or … measures, and not every bar/note*)!
- **Sustain Pedal (feature not in Midjay Pro)**: When this parameter is enabled (ON), in conjunction with the **STANDARD** mode above turned on, the Sustain Pedal control on Pianist is enabled once plugged into the module. For Guitarist, turn this on when you want to use a sustain pedal to freeze the chord recognition when playing a solo or lead line and don't want the arranger to 'read' the notes you are playing – in other words as you play, you press the pedal to 'lock the chord in' so you solo on the instrument. Release the pedal and strike a chord to have the arranger read and play the new next chord.
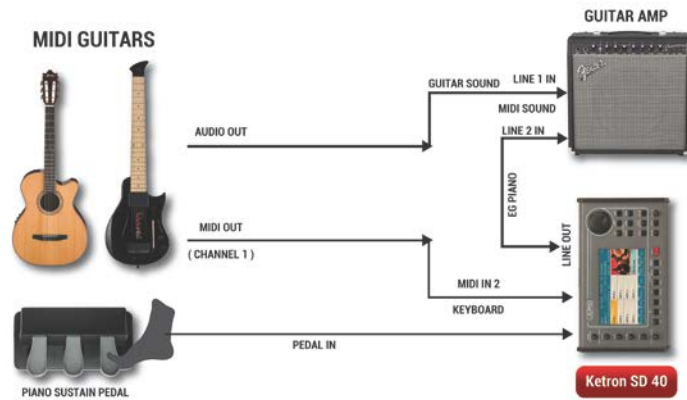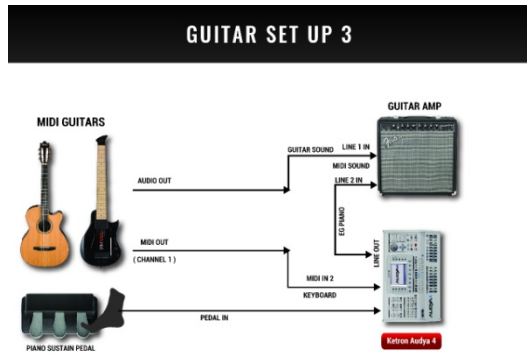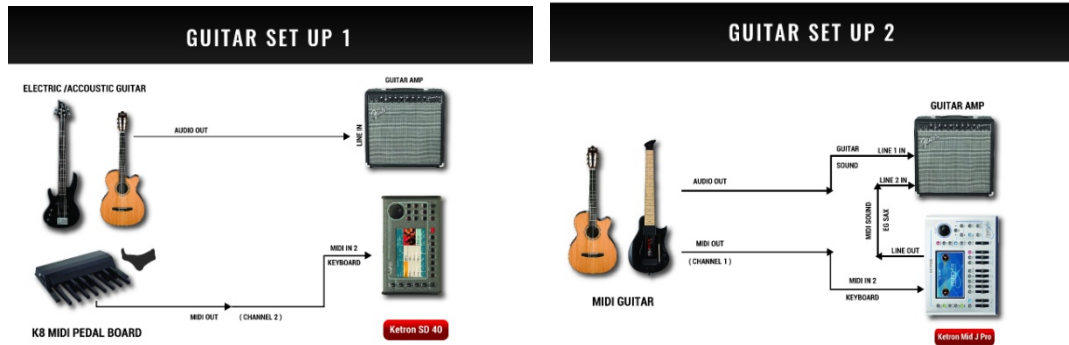

- In order to avoid repeating all this whenever the unit is turned off, then back on, you need to save these settings as Custom Start up (press **PLAYER 1** button [**PLAYER** for SD40], press the **SAVE** button and touch **CUSTOM START UP**!

Again as a reminder … this applies to all current KETRON Modules and Keyboards … including …

GUITAR EFFECTS AND STOMP BOXES (ALL IN YOUR SD40)

You can now leave your effects and stop boxes at home as we have you covered in the SD40! Yes … simply plug your guitar straight into the SD40 and edit your effects to your liking … as described above in page 143!

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For whatever purpose you intend using the SD40 for (*as a stand-alone Midi or Audio Player, Live Drum and Karaoke machine … etc*), or with a Midi controller such as Guitars, Accordions and Keyboards for instant live played backing, or even as a tool to create Live baking tracks at home or the studio to be used on stage for live performances, the SD40 is an essential Swiss-knife musical tool with many options that fit into any flexible musician's studio, stage or both.

Now enjoy your KETRON SD40 Module and a special thank you from the folks at KETRON and AJAM Inc.

Designed, compiled and written by AJAM Inc. USA