WX2

MULTIMEDIA WORK STATION

WX400

MULTIMEDIA WORK STATION

MULTIMEDIA
WORK STATION

OWNER'S MANUAL
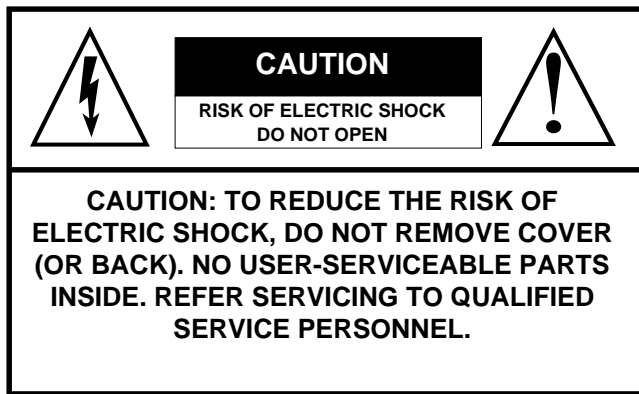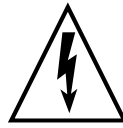
GENERALMUSIC

IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

INSTRUCTION PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the Safety and Installation instructions and explanations of Graphic Symbols before using the product .

2. This product must be earthed. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and earthed in accordance with all local codes and ordinances.

DANGER - Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

3. To reduce the risk of injury, close supervision is necessary when this product is used near children.

4. Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool or the like.

5. This product should only be used by a stand or cart that is recommended by the manufacturer.

6. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

7. This product should be located so that its location or position does not interfere with its proper ventilation.

8. This product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.

9. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

10. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

11. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power supply cord, do not pull on the cord, but grasp it by the plug.

12. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

13. The product should be serviced by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or

B. Objects have fallen, or liquid has been spilled into the product; or

C. The products has been exposed to rain; or

D. The product does not appear to be operating normally or exhibits a marked change in performance; or

E. The product has been dropped, or the enclosure damaged.

14. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

15. WARNING - Do not place objects on product power cord or place it in a position where anyone could trip over, walk on or roll anything over it. Do not allow the product, or its bench, or its pedal board to rest on or to be installed over power cords of any type. Improper installations of this type create the possibility of fire hazard and/or personal injury.

16. Electromagnetic interference (RFI). This electronic product utilizes digital sampled wave processing technology (S.W.P.) that may adversely affect radio/tv reception. Read FCC information inside back cover for additional information.

SAVE THESE INSTRUCTIONS

WX2
WX400

Owner's Manual

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CHAPTER 1 - INTRODUCTION

Congratulations! and thanks for purchasing the WX2/WX400 Multimedia Workstation.

Considering the high level of technology and innumerable features offered, WX2/WX400 is a very easy instrument to operate. Its user-friendly interface is one of the main attractions - in next to no time, whether expert or novice, you will be able to discard the initial sense of panic normally felt when you look at the control panel of a new instrument for the first time.

Perhaps the best advice we can give you.....

Read this manual

It's a well known fact of life that simple things can become very complicated if some time is not dedicated to browsing through the relative documentation.

You are strongly recommended to read *at least* the introductory part of this manual (Introduction, Getting Started, Interface Basics) which takes you through a guided tour of all the functions without going into details. It's then up to you.

WX2 and WX400 - what's the difference?

The keyboard and the aesthetics - WX2 has 61 notes and has the classic "keyboard" appearance; WX400 has an 88 note keyboard with weighted keys (Hammer Action) and has the typical "digital piano" look. In all other respects, both instruments are identical - therefore, this manual refers to both models by using the term "WX".

Welcome to all WS users who don't want to throw their WS Songs disks away.....

That's right, WX is compatible with WS software - at least as far as Songs go!

You can load WS Songs (WS1, WS2, WS3, WS400, GWS400) through the specific function (Load WS Song) found in the Disk Utility page.

We haven't forgotten the S-Series users.....

WX, if fitted with the optional 2 Megabyte Sample RAM DISP, can load samples from S-Series disks. So, if you've got a friend whose got an S2 or S3, better if he's also got the Sample Translator, you can share some great sounds.

⚠️WX400 ASSEMBLY INSTRUCTIONS

HOW TO ASSEMBLE YOUR WX400 PIANO WORKSTATION

1. Remove parts **A**, **B**, **C**, **F** from the packing and accessories **D**, **E**, **G**, **H** from the plastic bag.
2. Fix the pedal cross-bar **B** to the flanks **C** with the bolts **D**, using the hexagonal rod spanner **E**, as shown in Fig. 1. The pedals cable must be passed through the rear loophole, as shown in Fig 1 bis.
3. Fix the bass reflex box **A** to the flanks **C** with the bolts **D**, using the hexagonal rod spanner **E**, as shown in Fig. 1.

ASSEMBLY LIST:

A. BASS REFLEX BOX.
B. PEDALS CROSS BAR.
C. RIGHT/LEFT FLANKS WITH BASS.
D. 8 HEXAGONAL RECESSED BOLTS.
E. HEXAGONAL ROD SPANNER.
F. CABINET.
G. 4 THUMB SCREWS.
H. 4 ADHESIVE CLAMPS.

FIG.1

FIG.1bis
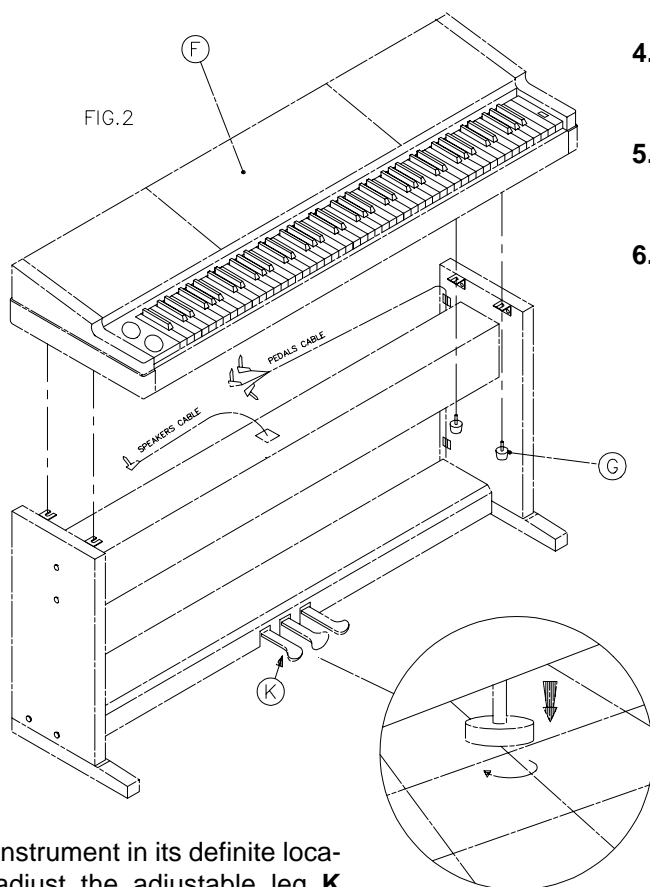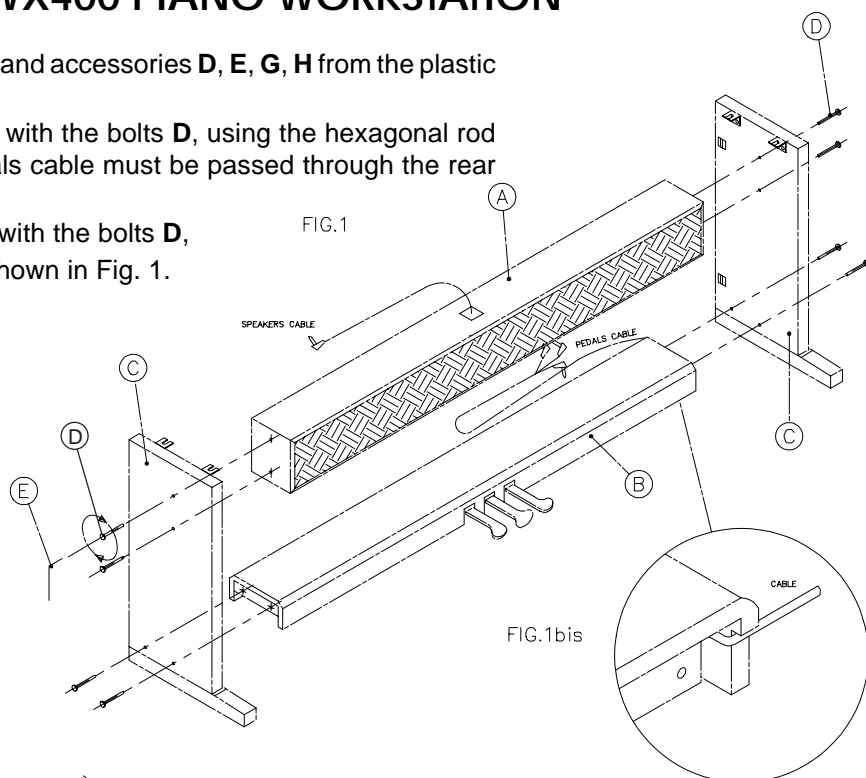
FIG.2

4. Place the cabinet **F** on top of the assembled base, fixing it into position with the thumb screws **G**, as shown in Fig. 2.
5. Attach the 4 adhesive clamps **H** (two at the back of the inner right flank and two under the cabinet), and clamp the pedals cable as shown in Fig. 3.
6. Insert the pedals and speakers jacks into their respective rear panel sockets as shown in Fig. 3.

FIG.3bis

FIG.3
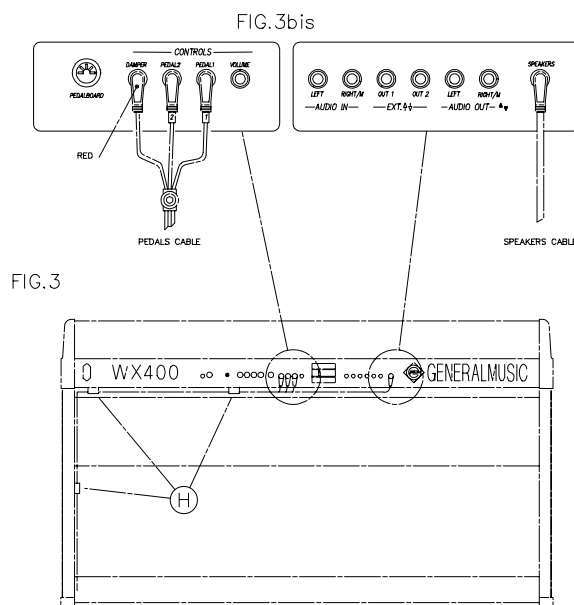
7. Place the instrument in its definite location and adjust the adjustable leg **K** under the pedals cross-bar until it rests firmly on the floor.

GETTING STARTED

If you're familiar with hooking up gear, here's a non-illustrated list of fundamental things that need to be done to play right away.

You can use the supplied WX2/WX400 Demo disk or WS Songs Disks and listen to the way the WX plays them.

The chapters which follow discuss each function of the keyboard in greater detail.

Quick installation

◆ Be absolutely sure that your WX voltage matches with your main supply voltage.

◆ Place WX2 on a stable keyboard stand, or on a hard, flat surface. Make sure that the WX400 is correctly assembled by following the instructions carefully.

◆ Check the level of the Master Volume control or, if you are connected to an amp/speaker system, make sure the volume is at a save level.

◆ If you want to use an amp/speaker system, connect the rear panel Stereo output jacks (Left and Right/M) to the system using a pair of standard (1/4 inch) audio cables. Use Right/M stereo jack for Mono reproduction.

◆ If you prefer, plug in a set of headphones using the appropriate jack located on the left front end of the panel below the Pitch/Mod Track Ball.

◆ Plug the optional Pedal(s), the multi-switch or the Volume pedal into the appropriate pedal sockets.

◆ Connect the instrument's power cable.

◆ Power up and start playing. The instrument powers up in Real Time Performance mode showing 8 Sounds belonging to Bank 1 of the Piano family.

WX DEMONSTRATION STYLES

WX incorporates 7 Demonstration Styles.

◆ Press the DEMO button in the SEQ EDIT section.

◆ Select one of the demo Styles with the corresponding Function button (F1…F7) and press Start/Stop to start it.

You can play along with the Style in playback mode; when it reaches the end, it stops automatically.

◆ Press "All" (button F8) to start a medley from the selected style; the medley stops when it reaches the end of the last style.

◆ Press ESC to escape from the Demo display.
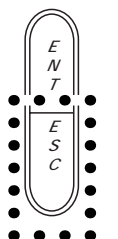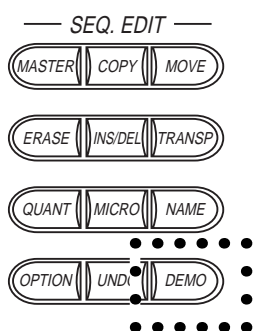
Play some ROM Sounds

◆ Select the displayed Sounds of the current Real Time Performance by means of the row of Function buttons marked F1 … F8. The sounds are shown in two rows across the lower display area.

◆ Press the PAGE+ button in the Edit section once then again to access Banks 2 and 3 of 8 Sounds each, some of which are variations of those in Bank 1. The small number to the extreme left shows which Bank of the currently select Family you are in.

◆ Return to the Bank 1 Sounds with PAGE-.

◆ Select a different Sound Family from the family groups on the extreme left of the control panel (Piano, Bass, Guitar...) and continue selecting other sounds.

Drum family

◆ If you select the "Drums" family, you can choose Percussion sounds and Drumkits from 16 different Banks. The Drumkits are in Banks 2 and 3.

◆ Use PAGE+ button to access the other Banks and return with PAGE–.

Samples

◆ The "Samples" family provides 8 banks, the first two with 8 sounds, the remaining 6 with 8 "empty" slots ready to receive Samples loaded[1] from disk.

◆ Use PAGE+ button to access the other Banks and return with PAGE–

NOTE 1:
WX can load samples from Disk only if the instrument is equipped with the optional Sample RAM (2 Megabytes).

Zoom in and see your Sound in large type

◆ Press the "right" arrow of the cursor diamond to zoom in on the active track in the left box of the display and view the Sound in large type.

◆ Press the "left" arrow to return to the normal display.

Select some Real Time Performances

◆ Press one of the first three Performance bank buttons of the top row of the Performances and Style Banks - for example, PERF 1. 8 Performance names will be displayed across the bottom part.

◆ Select each Performances using the selection buttons F1…F8. Note that most of the displayed Performances activate multi-track situations. In some cases, you will hear that some sounds are active across different keyboard extensions with respect to others.

◆ Select another Performance bank and continue experimenting with the selections.

Layer two Sounds (tracks)

◆ If you start from a single track situation, press the "down" or "up" arrows of the cursor diamond to move the reverse-highlighted cursor in the display one step lower or higher to the next track.

◆ Activate the selected track by striking the central button of the cursor diamond,

called the "Toggle". Now you can play layered tracks (the tracks do not necessarily have to be consecutive to be layered - you can layer tracks 1 and 4, tracks 3 and 11 and so on...).

◆ Zoom in on both tracks with the "right" arrow of the cursor diamond and zoom out with the "left" (you cannot zoom in on more than two tracks).

Multi-track situations

◆ Use the "up" and "down" cursor arrow to select tracks and the Toggle to activate any number of selected tracks up to a maximum of 16.

◆ Different sounds can be assigned to the reverse-highlighted track by selecting a different Sound family. Use the Function buttons (F1…F8) to select the Sounds.

◆ Each track can be programmed to play across a preset keyboard range by accessing the SPLIT function in the Edit section. See the relevant chapter for more details. If you enter Split mode, don't forget to press SPLIT again, or ESC to escape.

Deactivate tracks (Sounds) with the Toggle

◆ An active Track displays its number, the sound currently assigned to it and the "track status" showing "ON" in the extreme left column.

◆ If you select an active Track with the "Up" or "Down" cursor arrows, you can temporarily deactivate it by pressing the Toggle. The track status column will show "OFF", the sound assigned to it will not be displayed not will it play. This status is called the "mute" condition. Press the Toggle once more to re-activate the track.

Select and play Internal Styles

◆ Access an Internal Style Bank by pressing one of the 8 buttons from the lower row of the Performance & Style Banks on the extreme right of the control panel (Dance, Beat, etc.).

◆ Select one of the displayed Styles by pressing the relative F function button. Note that 4 tracks are engaged by the Sequencer (the track status shows "SEQ"), while the remaining 2 are either "OFF" or "ON".

◆ Press <u>Start</u>/Stop to start the Style and play a note or chord on the lower part of the keyboard. Play a tune on the right part; the melody line will be accompanied by an automatic Rhythm and Arrangement (called a Style).

◆ Press the Fill button for a Fill In and the Var button for a Fill Variation. This last function triggers a variation of the basic style after the Fill Var terminates.

◆ Select other Styles within the same bank by means of the function buttons (F1…F8) and note how the Sounds assigned to the tracks change according to the Style selected.

◆ Press the M. PERF button (below button F7) and select some Styles. Note how tracks 5 and 6 rest unchanged while those engaged by the Sequencer vary according to the Style selected.

◆ Deactivate the M. PERF button to restore the normal status.

◆ Access another Internal Style Bank by pressing one of the 8 Style buttons (Ethnic, Pop, etc.).

◆ Stop the Style by pressing Start/<u>Stop</u>.

Sing along with a Song using SCORE

SRAM
Static RAM - a battery backed memory that can store user programmed data that is to be used regularly.

Your instrument is supplied with two Songs loaded into the SRam. When you power up, both Songs will be loaded into the instrument's memory (RAM) automatically.

◆ Press SONGS in the "Sequencer & Users" group.

◆ Select the Song "My way" with the relative Function button (F2).

◆ Press **Start**/Stop to start the Song.

◆ Press the SCORE button in the "Sequencer & Users" group.

◆ While the Song is in playback, select each option available on the lower part of the display (All, Lyrics, Zoom, Chord) and observe the difference between each function.

◆ Press SCORE or ESC to escape SCORE mode.

◆ The Song stops automatically, or you can stop it at any time with Start/<u>Stop</u>.

Load a Song from the supplied WX Demo Disk

NOTE 1:
The instrument cannot be played during the automatic loading procedure.

1. <u>Automatic loading</u>[1]

◆ With the WX switched off, insert the WX Demo Disk into the driver.

◆ Turn WX on - all the Songs present in the Demo disk will load automatically.

2. <u>Loading after turning the instrument on</u>

◆ Press DISK in the EDIT section and check that you are in DISK mode. If you are in "SRam operations", press the F5 button corresponding to "Disk" .

◆ Scroll down to "Single".

◆ Rotate the Dial to select "Song".

◆ Press ENT.

◆ Scroll to the Song to load and press "ENT" twice.

◆ Press "DISK" to escape from Disk mode.

◆ Press SONGS from the SEQUENCER & USERS buttons.

◆ Select a Song with the appropriate F function button.

◆ Start the Song with <u>Start</u>/Stop.

◆ Play along with the song using tracks not engaged by the Sequencer (those identified by the "KYB" symbol).

Pr eload

◆ An alternative and faster Song loading procedure is the PRELOAD function, which can also be performed while the Sequencer is in Song playback mode. In practice, this feature displays the Bank of available Songs in correspondence with the 8 Function buttons (F1…F8).
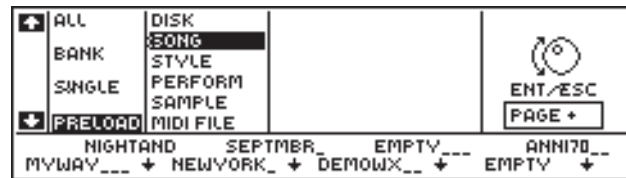
◆ You can then choose the song to load by pressing the relative Function button.

This function is only valid for WX Songs and is discussed in a later chapter.

Load a Song Style from WS Songs Disks

Use this operation to load Song Styles from WS disks (WS1, WS2, WS400, GWS400):

◆ Press DISK to access DISK mode (check that SRam operations are not selected):
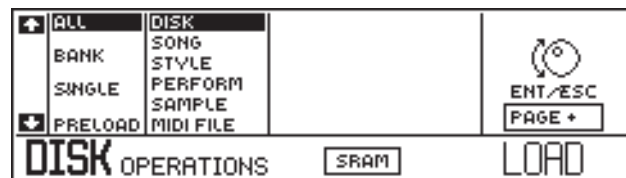
◆ Press PAGE + three times to access the UTILITY page and scroll down to "Load WS song" with the Down cursor arrow.
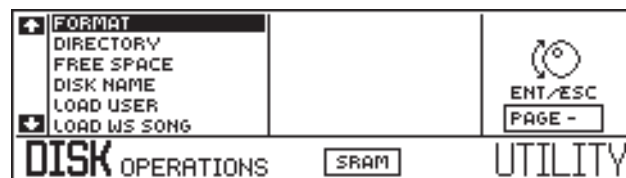
◆ Press ENT and the WS disk directory will be displayed:

◆ Rotate the Dial to select the required Song (.All file) and press ENT to start the conversion.
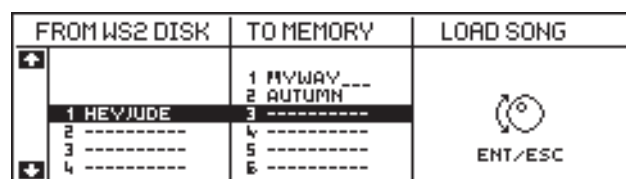
◆ Rotate the Dial to select the destination in Memory and press ENT twice.

◆ Escape Disk mode by pressing ESC or DISK.

◆　　　Press the SONG button and select the song with the relative Function button.

◆　　　Start the Song with <u>Start</u>/Stop and play.

How to record a Song

You can create a multi-track Song by using the following real time recording method.

It is also possible to record patterns (Programmable Styles) and Song Styles which exploit existing patterns. These are discussed in the relative chapters further ahead.

◆　　　Select SONGS in the "Sequencer & Users" group.

◆　　　Select an "empty" position.

◆　　　Confirm SONG REC MODE.

◆　　　Select a Track to record with the Up/Down Cursor arrows and activate it for recording with the Toggle.

◆　　　Press Start to start the recording and, after a one bar count down, start playing.

◆　　　When you finish playing, press Start/**Stop** to stop recording.

◆　　　Listen to the playback by pressing **Start**/Stop again. You can record additional events at this stage.

◆　　　When you have finished recording the first track, press Stop to end recording and confirm the recorded track with the Toggle.

◆　　　Select another track and Repeat the operations for other tracks to create your Song.

◆　　　When you have finished recording all the tracks of your Song, press ESC and press **Start**/Stop to start the playback.

DETAILED START-UP

This section explains some of the most important "Getting started" steps in greater detail and takes you through a tour of the rear panel, describing the various cable connections, as well as the Clock/Calendar which you can set right away.

BEFORE STARTING……

Before connecting anything, it is important that you rest your WX2 securely on a stable keyboard stand. Otherwise, it should rest on a hard, flat surface.

The WX400 is supplied with an appropriate support and speakers box. It should not be substituted with any other kind of support.

WX2/WX400 does not have any user-serviceable parts therefore, under no circumstances should you attempt to remove any panels or try to open the unit by removing the screws from under the instrument. If you attempt to open WX, you'll risk electric shock.

THE REAR PANEL
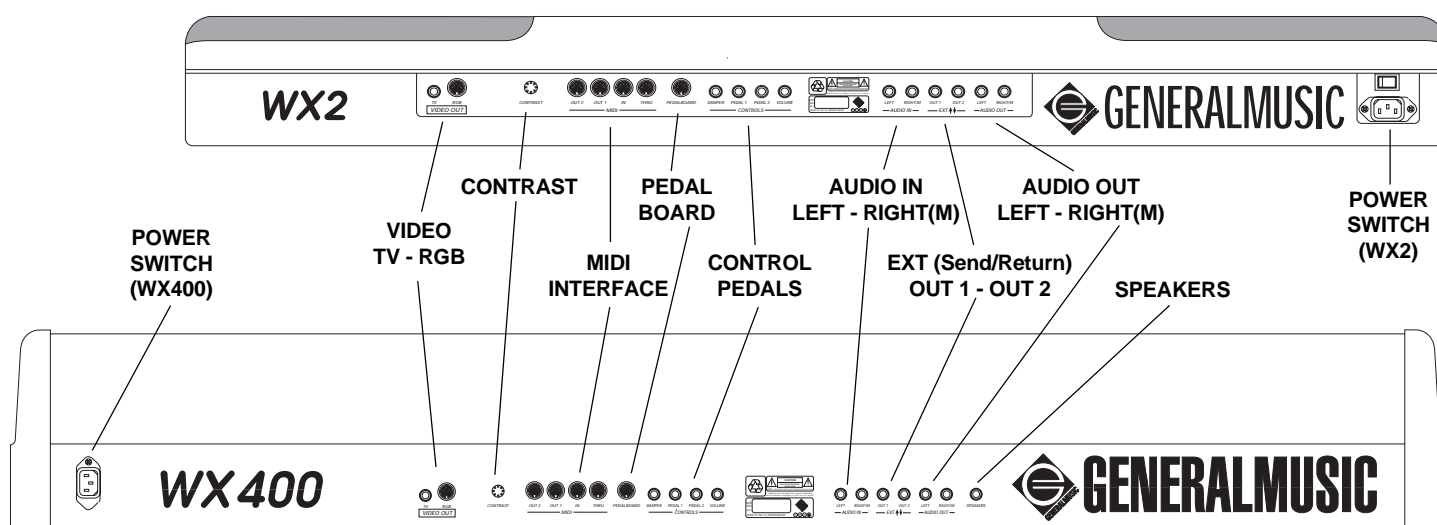
CONNECTING THE POWER CABLE

Your WX runs on a voltage that matches with the voltage in your area. If you face the rear panel of WX2, the power connector is on the right hand side, while on WX400, it is on the left hand side.

After connecting the power cable to the WX end, plug the other end into an earthed (grounded) outlet. If your power source does not have an outlet that matches the plug on the power cable, do not defeat the safety feature by changing plug on the power cable but install the correct grounded outlet. This will reduce the risk of a shock hazard and avoid problems with audio hum.

POWER SWITCH

The power switch on the WX2 is located on the rear panel - on the WX400, it is positioned on the extreme right hand side of the keyboard.

THE INTERNAL AMPLIFIER

WX Sounds are enhanced by 20+20 Watt Stereo Amplification in the WX2 and 40+40 W Stereo Amplification in the WX400.

SPEAKERS SOCKET (WX400)

The WX400 includes a sound box containing the instrument's speakers. The box is connected to the "**SPEAKERS**" socket on the rear panel by means of the cable (with a stereo jack) attached to the box. Read the WX400 assembly instructions.

The Master potentiometer on the WX control panel controls the instrument's overall volume.

AUDIO OUT LEFT-RIGHT/M OUTPUTS

If you want to unleash more audio power in stereo, you can connect a mono audio cable to each of the "Audio Out" jacks marked Left, Right/M. Connect the other end of each cable to your mixing board or PA system inputs.

If only one input is available, use the WX's Right/M output to get the full signal in mono.

THE EFFECTS SEND/RETURN JACKS (Ext ′′ Out 1 - Out 2)

Sound sources which connect to the WX Audio In (L/R) cannot be processed by the WX Effects Processor. The Effects Send/Return outputs can be used to process instruments connected to the Audio In inputs and then return them to the main WX mix.
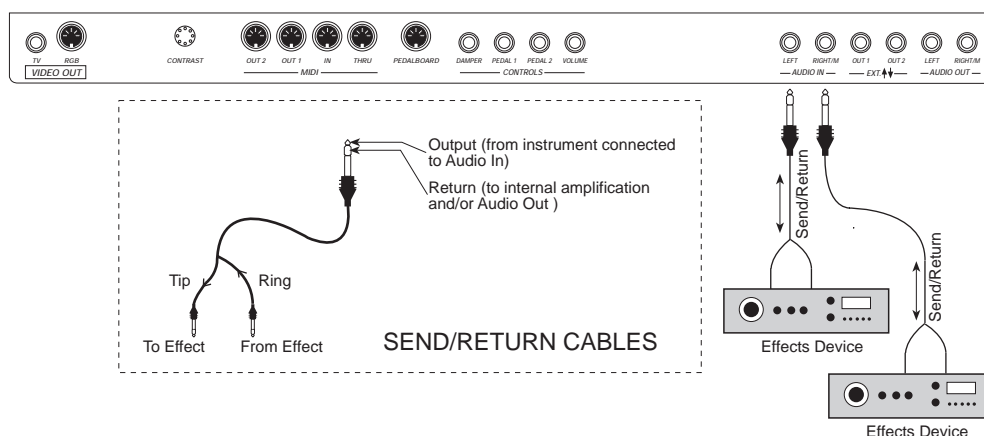
Each EXT ′′ jack (Out 1 - Out 2) on the WX rear panel is a stereo jack. If you connect a Send/Return cable to one of these jacks, the Tip connects to the output and the Ring serves as the signal Return. Therefore, you can process the sound with an external effect (reverb, chorus, distortion, etc.) and return it to the WX internal amplifier and/or Audio Outputs (L/R).

AUDIO IN LEFT-RIGHT/M INPUTS

To exploit the WX internal amplifier, you can connect audio cables from an external sound source (a microphone, a musical instrument or a cassette recorder) to the input

[Left, Right/M] jacks. There is also a facility available in the Mixer function to control the Treble, Bass and Volume of the incoming audio signal.

CONTROL PEDALS - CONNECTION OF THE FOOTPEDALS

WX has two jacks (**Pedal 1** - **Pedal 2**) which can be programmed to accept Switch Control pedals (logic) or Continuous Control pedals (analog), a third jack for a Switch Control pedal (logic) marked **Damper** and a Continuous control jack marked **Volume**, preset to control the standard MIDI Foot command - MIDI O4.

The default status of the programmable jacks varies according to the instrument.

In WX2 (all optional): Pedal 1 = Volume - Pedal 2 = Start/Stop - Damper = Damper

In WX400:Pedal 1 = Soft - Pedal 2 = Sostenuto - Damper = Damper.

The pedals in model WX400 are enclosed in the pedal cross-bar of the instrument. To connect the Pedals, follow the assembly instructions at the begining of the owner's manual. The jacks are marked 1, 2 and 3 where jack 3 refers to the Damper.

The three Pedal jacks Pedal 1, Pedal 2 and Damper are all function assignable and have reversible polarity options, allowing the connection of pedals of different brands.

PEDALBOARD

You can connect a Pedalboard to this jack.

MIDI CONNECTIONS

The MIDI implementations are one of the attractions of WX, which makes it an excellent MIDI controller. Both models are fitted with a MIDI IN, a MIDI THRU and two MIDI OUT ports (Out 1 - Out 2).

The WX2/WX400 Keyboard will respond to Note messages transmitted to MIDI IN for all notes C-1 – G9 (note numbers 0 - 127). In some cases, the higher notes will not sound.

HEADPHONES

Both WX models have a headphone jack on the left front edge of the instrument, below the Track-ball.

Connect a pair of headphones for private listening without disturbing others in the same room. The headphone Volume is controlled by the Master Volume slider. Inserting the headphone jack disconnects the internal speakers but does not affect external amplification if used.

IMPORTANT: The VIDEO outputs are operative only if the instrument is fitted with the optional VIDEO INTERFACE (a small printed circuit). Models not equipped with the V.I. are identified by a removable label applied near the rear panel Video Out sockets.

THE VIDEO INTERFACE - VIDEO OUT JACKS (TV and RGB)

These two rear-panel outputs provide various possibilities of interfacing with a monitor.

If you possess an "ATARI" type colour monitor, the 13 pin DIN connector marked RGB sends a signal which is compatible (100%) with the standard adopted by the said monitor. For high quality images therefore, it is sufficient to connect the monitor directly to the WX RGB connector using the cable supplied with the monitor.

To connect your WX to a domestic TV screen, the latter must be equipped with a SCART connector, or a COMPOSITE VIDEO jack. In the first case, you can connect the RGB output directly to the SCART connector by means of the supplied video cable. In the

second case, use is made of the RCA jack marked "TV" which sends a "composite video" signal. Attention! This is not a modulated signal and should not be connected to the TV aerial socket!! This signal is analogous to the one used by domestic video recordings, therefore, it is sufficient to use a normal RCA cable normally supplied with video recorders. In this case, however, the quality of the image is inferior to that obtained from the first two cases.

As a last resort not foreseen by the specifications, you can connect to a video recorder that is already connected to a TV, exploiting the rear-panel TV RCA jack. This is the only case where you can project the images generated by WX on a TV screen not equipped with a SCART connector or a composite video input. The quality of the images, however, is greatly reduced owing to the exploitation of the modulator incorporated in the video recorder.

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able label applied near
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Out sockets.

The following table summarises all the possibilities:

MONITOR	VIDEO OUT	ACCESSORIES
ATARI (Colour)	RGB	(Standard Atari cable)
TV or Computer Scart	RGB	WX VIDEO CABLE
TV Video input	TV	RCA VIDEO CABLE
TV	TV	Video Recorder RCA Video cable

Note:
You can connect to a
colour computer
monitor provided it is
fitted with a SCART
socket.

POWERING UP

The power switch on model WX2 is located next to the power cable connector on the rear panel. Model WX400 has the power switch located on the extreme right of the keyboard facia.

When you power up, the display shows the WX2 or WX400 logo for a few seconds, then the "Real Time Performance" display will appear.

```
ON    1 WXGRANDP         TEMPO 120    CHORD:
OFF   2                  INT          OFF
OFF   3
OFF   4                  REAL TIME PERFORM BANK : 1
OFF   5                  PERFORMANCE : 'PIANO
OFF   6                  BARS ( 4/4)    1    1    1
 1    BRTPIANO    HONKY      ELPIANO2    CLAVINET
WXGRANDP↓  ELGRAND1  ↓  ELPIANO1  ↓  HARPSI1  ↓
```

The Graphic Liquid Crystal backlit display is your principal means of communication with the instrument. A glance at the display shows you where you are at all times and pressing a button on the control panel corresponds to a display change almost every time. The display's contents are discussed in a later chapter.

CONTRAST

If the display appears too dark or too light, you can adjust the contrast by means of the small rear-panel control. It may require adjustment for different viewing angles.

The Keyboard

The WX Keyboard sends and receives Attack and Release velocity, sends mono (channel) Aftertouch messages and receives mono and poly Aftertouch messages.

MASTER

Master Volume Slider

This slider controls the volume of the Stereo Audio Output pair and the headphone jack. The Ext Out 1 and Out 2 outputs and MIDI Volume are not affected by the Master Volume slider.
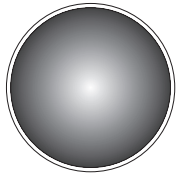
Track Ball

This control provides the Pitch and Modulation functions, the first obtained by left/right movements, the second by up/down movements. Intermediate levels are also possible with diagonal movements, obtaining both effects simultaneously.

Both controls are fixed and cannot be programmed. However, both controls can be enabled or disabled for each Track of any Performance.

Before getting to grips with your unit, set the Internal clock and calendar....

Your WX has a digital clock and calendar which is backed by a re-chargeable Nickel-Cadmium battery. When the unit is switched off, the clock/calendar continues to operate. Every time the instrument is powered up, the battery is re-charged.

Procedure

◆ Press CLOCK in the Edit section to access Clock mode:


```
CLOCK                                    ⌂
                         JUNE        4   1993
            3.  16'  48"  P.M.
       [HOUR] [MIN] [SEC] [A/PM] [MONT] [DAY] [YEAR] [RUN]
```
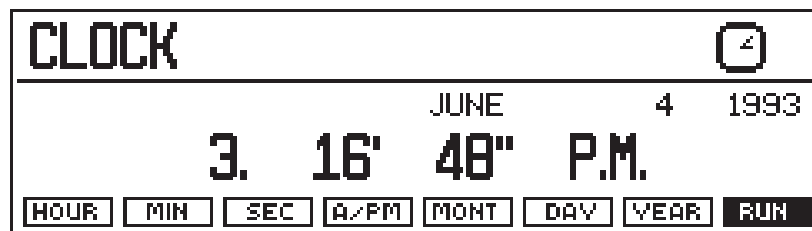
◆ Press the Function button (F1…F8) corresponding to "HOUR" and rotate the Dial to set the correct hour.

◆ Repeat the procedure for the Minutes and Seconds.

◆ Pass to the Calendar by selecting "DAY" and rotate the Dial to select the correct day.

◆ Repeat the procedure for the "MONTH" and "YEAR".

◆ Press "RUN" to start the Clock/Calendar.

◆ Press "CLOCK" or "ESC" to escape from the display.

USE ONLY GENERALMUSIC SOFTWARE

It is important that you use only Generalmusic software! Whether you are an amateur or a professional, you should know that:

a)   any software that you use must comply with the laws currently in force, with the SIAE (Italian Authors and Editors Society), with copyright laws and with publishers who reserve all the rights for public viewing and synchronisation of texts (WX);

b)   Generalmusic disks comply in all respects with the laws currently in force;

c)   our software is original, unedited, programmed by highly expert technicians/ musicians who are perfectly acquainted with all Generalmusic equipment;

d)   the quality of our library, in continuous expansion with the latest titles from the recording industry as well as the classics for all musical tastes, is unanimously recognised and at your complete disposal from the best musical instrument stores.

All original Generalmusic disks have the Generalmusic logo printed on the metal protection plate and on all our covers.

For your keyboard or expander, ask your dealer only for original Generalmusic software.

CHAPTER 2 - INTERFACE BASICS

In this chapter, you can learn how to move around the control panel and start to get acquainted with the principal playing modes as well as the selection procedures. The illustration below shows how the instrument's control panel is divided into various zones, each providing a primary operation: edit mode, navigation and data entry, sequencer edit, performance & style bank selection, sequencer and user controls and sound bank selection.
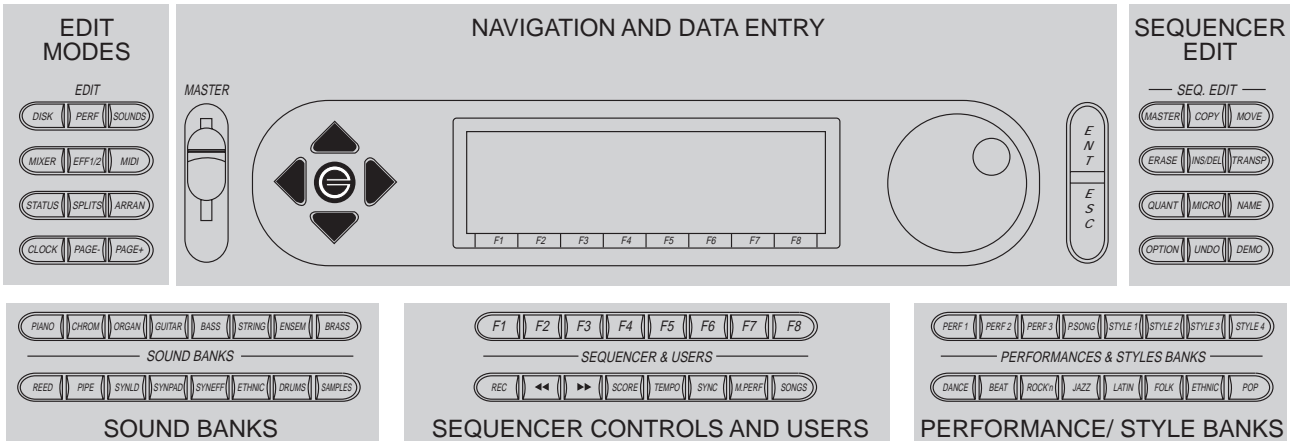
NAVIGATION AND DATA ENTRY

Navigation and Data Entry tasks are performed within the Display area and include the Cursor Diamond, the Data Entry Wheel, the Ent/Esc buttons and the Function buttons F1…F8. The PAGE+ and PAGE- buttons of the Edit section also contribute to the navigating operations in the display area.

The display

The backlit LCD graphic display is certainly the most important interface between you and the WX. A great deal of information is constantly available due to the display's 240 x 64 pixel dimensions and each button pressed reflects a command or editing change.

Each mode displays functions and parameters organised into smaller, related groups and the entire "picture" is called a Page. Accessing a mode for the first time opens an "entry level page" and in many cases, the current mode will have one or more additional pages, selected with the PAGE+/- navigation buttons.

Below we examine the entry level display for the Status mode.
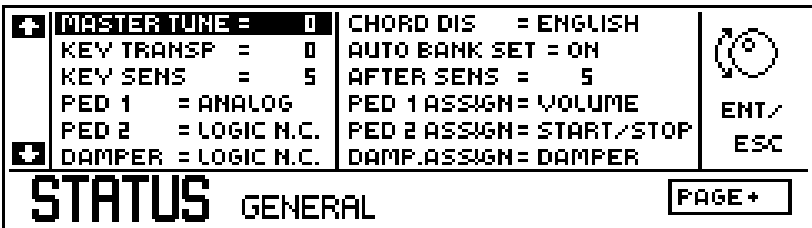
The lower display area shows the current mode (the mode identifier) and to the right, PAGE+ reminds you that other pages follow.

The left and right display areas above the identifier show various functions. The currently selected function is shown in reverse-highlight.

THE CURSOR DIAMOND

Your principal navigating tool is the **Cursor Diamond**, arranged in four arrows in a diamond fashion and a central "On/Off" switch, called the "Toggle".

This control moves the display's cursor around the currently selected page, in the directions indicated by the "arrows". The display cursor is a reverse-highlighted rectangle which marks the value of the currently selected parameter.

Selecting Tracks or performing Editing tasks involves selecting various elements in the display and changing their values. The Tracks or Parameters are selected by highlighting them and their status is changed with Data Entry Dial or Toggle, as shown below.

The "TOGGLE" - the central Cursor diamond button

The central button of the Cursor Diamond is used as a Data Entry control but, its use is limited to toggling between "On" and "Off" situations.

Zoom in - zoom out

Zoom out   Zoom in

In Bank situations where Tracks are displayed, the right cursor diamond zooms in on a single Track or two layered Tracks, so that you can view them in larger type.

Normal size is restored with the left cursor diamond.

The Function buttons (F1…F8)

In many edit situations, the Function buttons F1…F8 are used to navigate from one function to another.

The function of these buttons change depending on the currently selected mode.

The PAGE+ and PAGE- buttons of the Edit section

The two buttons are exclusively used to change page. Edit modes which consist of more than one page will show PAGE+ on the entry level page. Depending on how many pages follow, you will see "Page+/Page-" or "Page-" on subsequent pages PAGE + advances to the next page, PAGE - returns to the previous one.
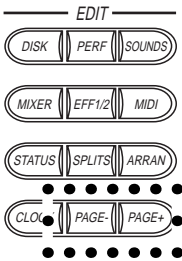
DATA ENTRY

All Data Entry tasks are performed within the display area.
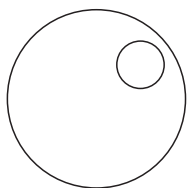
The Data Entry Wheel

Data Entry is performed mainly using the **Data Entry Wheel** (or Dial) to the right of the display. This control is particularly useful owing to the possibility of providing continuous entry of data - you can enter large or small changes very quickly.

Rotating in a Clockwise direction increases a value while an anticlockwise direction decreases it.

Turning slowly increases/decreases by one increment. Turning rapidly jumps increments in large steps.

The Keyboard

The Keyboard is a source of alphanumeric entries when you are in situations which require a name to be written to identify a Performance, a Song, a Disk or other.
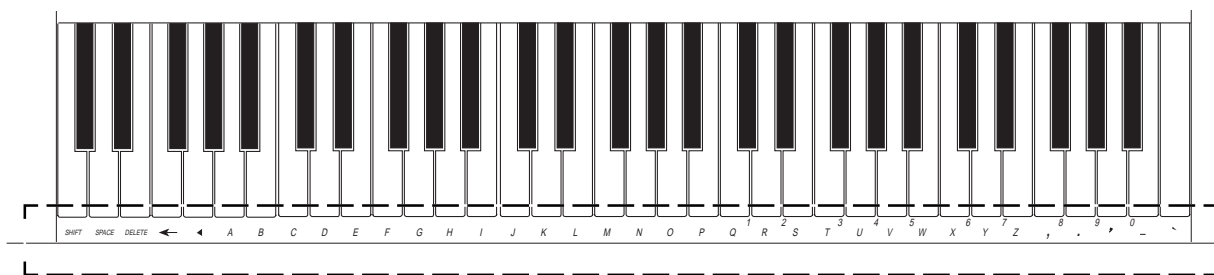
Numbers and letters are entered one character at a time by pressing the relative key. After the entry, the flashing cursor moves to the next position automatically. If you make a mistake, there is a Return key (<—) to cancel the last entry, a Delete key to cancel the entry at the cursor position, a Space key to create a space between two entries, a back space key (◀) to move the cursor backwards one step at a time and a Shift key to toggle between uppercase and lowercase letters. The Dial moves the cursor left or right.

Up to 8 characters can be inserted (11 for Disk or SRam) and, when you have entered the name, confirmation is required by pressing Enter.
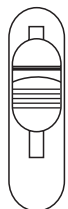
The Ent and Esc buttons

The Ent button accesses the SAVE PERFORMANCE command and confirms all situations which show the message "Press Ent to confirm" or "Yes".

The Esc (escape) button confirms a "No" situation, leaves the current editor and returns to the main display.

MASTER VOLUME

This slider regulates the overall Volume of the instrument.

THE EDIT MODES

The very heart and control centre of the entire WX system, the Edit section consists of 10 programming modes which render WX2/WX400 operative.

```
———— EDIT ————
( DISK | PERF | SOUNDS )
( MIXER | EFF1/2 | MIDI )
( STATUS | SPLITS | ARRAN )
( CLOCK | PAGE- | PAGE+ )
```
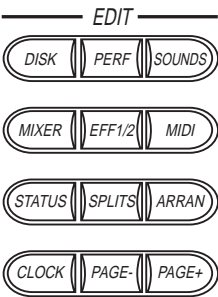
Each Edit mode is identified for the kind of operations that are performed in that mode. In some cases, there is a sub-editor which provides a set of parameters necessary to edit the function found in the current mode.

All the modes consist of an entry-level page and most have one or more pages which are selected with the PAGE+ and PAGE- buttons.

You can pass from one accessed edit mode to another without having to leave the currently selected mode.

The WX keyboard will always be active, regardless of the mode you are in. In fact, the only time you can't play it is when you are in the middle of a "Load All" disk operation or while the unit is powering up.

THE SOUND BANKS

These contain all the Sounds available in WX, arranged in Family groups according to General MIDI (Piano, Bass, Guitar, etc.).

```
( PIANO | CHROM | ORGAN | GUITAR | BASS | STRING | ENSEM | BRASS )
———— SOUND BANKS ————
( REED | PIPE | SYNLD | SYNPAD | SYNEFF | ETHNIC | DRUMS | SAMPLES )
```
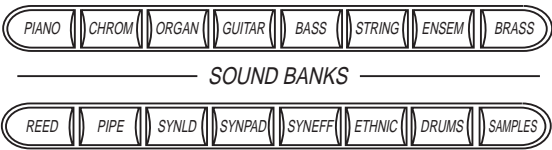
NOTE: 1
Only if all the Samples slots are occupied. In default conditions, the total number of sounds instantly available are 472.

Each Family consists of three banks of eight related Sounds, except the Samples family with eight banks of eight, and the Drum family with 16 banks of 8 (2 Banks are exclusively Drumkits). All totals to over 500 Sounds[1], instantly available in all playing modes.

THE SEQUENCER & USERS CONTROLS

Here you will find the Function buttons F1…F8, with which most of the selections are made, the SONG button to access the selection of the Songs and the SEQUENCER controls (Rec, <<, >>, Tempo, etc.). The Sequencer also makes use of the Start/Stop and Cont buttons in the group on the extreme left of the keyboard.
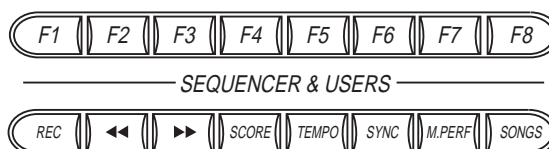
Also included is the SCORE facility, which permits you to see the lyrics of a song across the display in synchronisation with the music being played. There are also several viewing options that are discussed in the relevant chapter. You can view the images generated by WX on a normal domestic TV screen or a coloured computer monitor.

THE PERFORMANCE AND STYLE BANKS

These buttons access the four playing modes, each based on a "Performance".

The top row contains three banks of REAL TIME PERFORMANCES (24), a bank of SONG PERFORMANCES (8) and four banks of PROGRAMMABLE STYLES (32). The bottom row contains the INTERNAL STYLES (64), divided in eight families according to the type of music (Folk, Latin, Pop...).

THE SEQUENCER EDIT SECTION

This section of primary importance unites all the Edit functions of the SEQUENCER, where you can programme Songs and Styles and edit every event recorded.
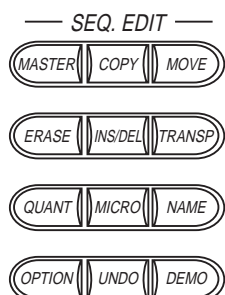
Some of the major features of this section are: the "Microscope", where you can view and edit every recorded event in every track of a multi-track sequence, the "Master" track, a "ghost" track where elements common to all tracks are recorded (time signature, tempo variations, Performance changes, etc.), the "Undo" function, a facility that restores your last memorised recording, irrespective of what changes are made to the current recorded status.

Within the same group are the DEMO button, which allows you to select one of the 7 Demo songs, or "All" to play them as a medley, and the OPTION button, predisposed for new functions that rely on software (user programs) which can be loaded from disk using the "Load User" option in the Disk Utilities.

THE 4 OPERATING MODES

In this chapter we'll examine the four principal operating modes and describe the basic features of each mode and how to select them.

What the modes are

The modes render WX logical to work with and each mode is named for the kind of operation you can perform while in that mode. While each mode differs in many respects, they all have one thing in common - the Performance.

REAL TIME PERFORMANCE MODE

This mode provides one of the "media" for WX's ROM Sounds and is the principal source for real time playing. You can create multiple combinations (from 1 to 16 sounds playing simultaneously) without having to think about using the sequencer. This mode is selected by recalling one of the REAL TIME PERFORMANCE Banks (PERF 1, PERF 2 or PERF 3).

```
ON    1 WXGRANDP          TEMPO 120     CHORD:
OFF   2                   INT           OFF
OFF   3
OFF   4                   REAL TIME PERFORM BANK : 1
OFF   5                   PERFORMANCE : 'PIANO
OFF   6                   BARS ( 4/4 )    1    1    1
 1      BRTPIANO    HONKY       ELPIANO2    CLAVINET
WXGRANDP↓  ELGRAND1  ↓  ELPIANO1  ↓  HARPSI1  ↓
```

The 8 available Performances within the accessed Bank are selected with the Function buttons (F1…F8).

One interesting feature of Real Time Performances is that they "carry" user-programmed Sounds. WX does not have a Sound Library where Sounds can be added, moved or deleted. The 472 resident WX Sounds can, however, be modified and stored in the Real Time Performances. Each Performance can store up to eight modified sounds and a drumkit. More about this in the Edit Sounds chapter.

INTERNAL STYLE MODE

NOTE 1:
"Fixed" refers to the fact that the recorded sequences of the Internal Styles are not user-programmable. The relative Style Performances can, however be modified and saved.

The **Internal Style** mode is the principal source of fixed[1] automatic Rhythms and Arrangement patterns and is selected by recalling one of the Internal Style Banks (Dance, Jazz, Pop, etc.).

```
SEQ   1 DKSTAND1          TEMPO 164     CHORD:
SEQ   2 ELECBASS          INT           C ******
SEQ   3 WXGRANDP
SEQ   4 SOFTSAX           INTERN.STYLE BANK: ROCK'N
OFF   5                   STYLE : TWIST
ON    6 TROMBON1          BARS ( 4/4 )    1    1    1
        ROCKN    CHARLEST    SLROCK2    BALLAD2
 BOOGIE  ↓   TWIST  ↓  SLROCK1  ↓  BALLAD1  ↓
```

The 8 available Styles are selected with the Function buttons (F1…F8). Each Style is associated to a Style Performance.

PROGRAMMABLE STYLE MODE

Identical to the Internal Style mode, the **Prog. Style** mode is user-programmable and accessed through the Style Banks: STYLE 1, STYLE 2, STYLE 3, STYLE 4.

When you select one of the EMPTY Prog. Styles with the Function buttons (F1…F8), you will be prompted to enter Record mode to create a new style.

Style recording is discussed in the relevant chapter further ahead (to escape from the above display, press ESC).

The **Styles** generally consist of 4 polyphonic sections (tracks) engaged by the Sequencer, plus one or two free sections which are played in real time on a divided (split) keyboard. More about these in the relevant chapter.

SONG AND SONG STYLE MODE

This mode is the principal source of musical sequences recorded with the Sequencer and is accessed by pressing the SONGS button. If Songs or Song Styles are present in memory, they can be selected using the Function buttons (F1…F8).

Songs are multi-track recordings (up to 16 tracks) without the use of repeating sequences such as those used in the Styles. A Song Bank can contain 1 Song and up to 8 Song Performances.

Song Styles are user-programmable Songs which exploit the existing Internal or Prog. Styles and allow you to record one of both "free" tracks (5 & 6). These are based on repeating sequences (Riffs or Patterns) and rely on the Style Performances. Up to 8 Song Style Performances can be associated to a Song Style, provided that the M. Performance button is active (Sequencer & Users group).

Song Styles have 4 tracks engaged by the Sequencer and two free tracks to play or record in real time - the maximum number of tracks in this case is always 6:

Summary

You can play in **Real Time Performance** mode freely without engaging the Sequencer. You can create up to 24 different Sound combinations which can be recalled instantly.

You can play one or two tracks with factory-programmed Rhythm and Arrangement patterns by selecting from the 64 available **Internal Styles**.

You can play and record your own Rhythm and Arrangement patterns using the **32 Programmable Styles** which can be created internally or loaded from disk.

You can playback and record **Songs** and **Song Styles**.

SELECTION - using the modes

You can play your WX regardless of the mode you are in - in fact, the only time you cannot play is when you are in the middle of a DISK LOAD ALL operation. You can even play while you are formatting a disk!

To select the elements that make up the modes and to pass, therefore, from one mode to another, use is made of a unique and instant selection system.

The fundamental element of the mode system is the "BANK" which consists of a group of 8 elements, either Sounds, Performances, Styles or Songs.

Example:

If one of the SOUND BANKS are pressed, eight names corresponding to the eight sounds belonging to the given "family" will be displayed in the lower part of the display.

By pressing one of the F1-F8 selection buttons, the sound corresponding to the button pressed will be immediately selected in the reverse-highlighted track.

The same applies for the REAL TIME PERFORMANCES, the PROGRAMMABLE STYLES, the INTERNAL STYLES and the SONGS.

Let's go through some practical examples.

To select a Sound

The simplest thing about WX is Sound selection.

◆ Press one of the SOUND BANKS to select the required Sound family:
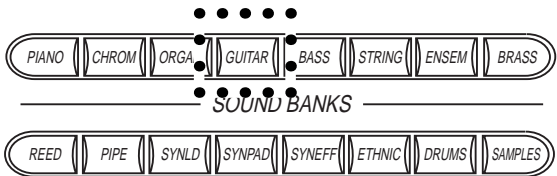
The selected Family is shown in the lower display area:
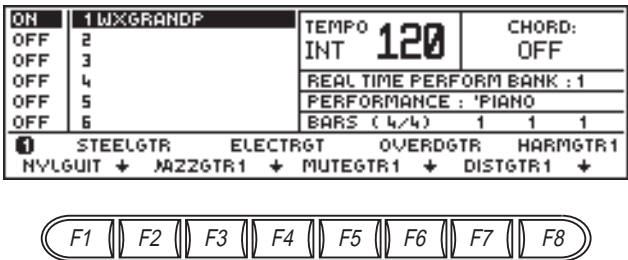
◆ Press one of the Function buttons (F1…F8) to assign the relative sound[1] to the selected (reverse-highlighted) track in the display:
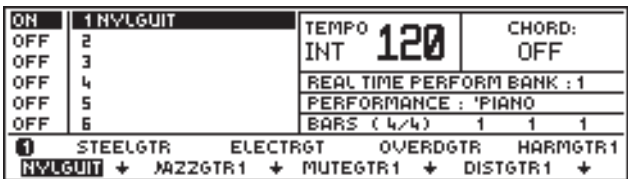
NOTE 1:
The newly selected Sound Bank will not be accessed until one of the Sounds are selected. This is a general rule for all Banks.

EDIT

DISK | PERF | SOUNDS

MIXER | EFF1/2 | MIDI

STATUS | SPLITS | ARRAN

CLOCK | PAGE– | PAGE+
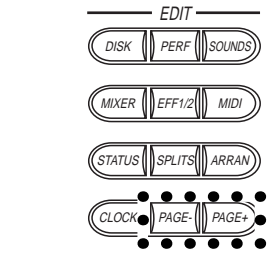
Second and third banks

The Sound Banks provide a maximum of 24 Sounds for each family, with the exception of the SAMPLES family which provides 64 and the DRUM family with 16 Banks.

The Sounds are arranged in groups of eight in three different banks, accessed by pressing the PAGE+ and PAGE– buttons in the Edit section.
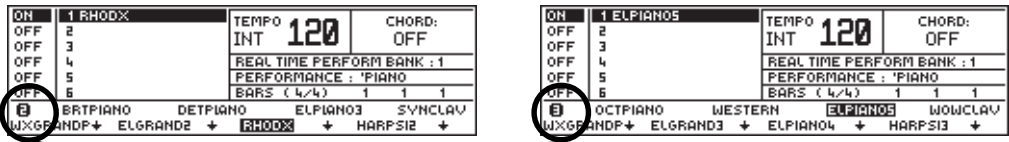
The number displayed on the extreme left shows you which bank is currently selected.

SAMPLES
WX must be fitted with the optional 2 Megabyte Sample RAM to be able to load Samples from disk.

The **SAMPLES** family provides eight banks; the first two contain resident ROM samples while the remaining six banks contain "empty" slots to memorise samples loaded from disk.

Samples Bank 1

Samples Bank 2
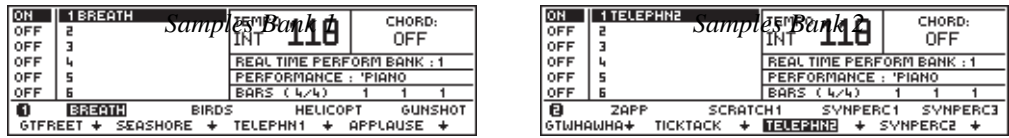
The **DRUMS** family provides 16 Banks of percussion sounds, two of which have 8 Drumkits each (Banks 2 and 3):
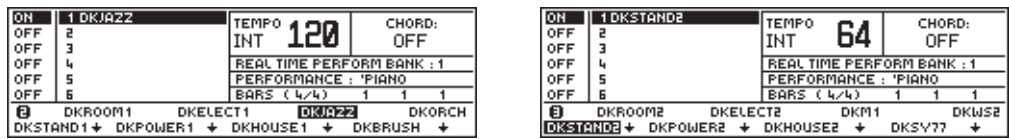
To select a Real Time Performance

◆ Press one of the PERFORMANCE BANKS (Perf 1, Perf 2, Perf 3) in the Performance and Style banks:

PERF 1 | PERF 2 | PERF 3 | SONG | STYLE 1 | STYLE 2 | STYLE 3 | STYLE 4

——— PERFORMANCES & STYLES BANKS ———

DANCE | BEAT | ROCK'n | JAZZ | LATIN | FOLK | ETHNIC | POP
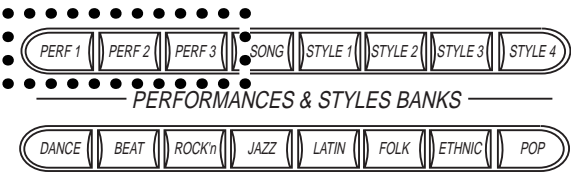
The eight Performance names are shown in the lower display area:
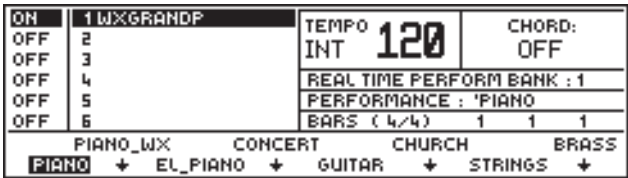
◆ Press the Function buttons (F1…F8) to select the Real Time Performances.

F2   **F7**
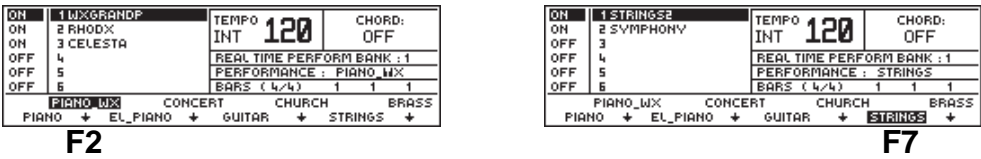
Each Performance Bank provides 8 Performances, all of which are multi-timbral configurations. You can modify the Real Time Performances to suit your requirements.

WX2
WX4

To select an Internal Style

◆ Press one of the relative Banks (DANCE, BEAT, ROCK'N, etc.) from the lower row of buttons in the Performance and Style Banks.
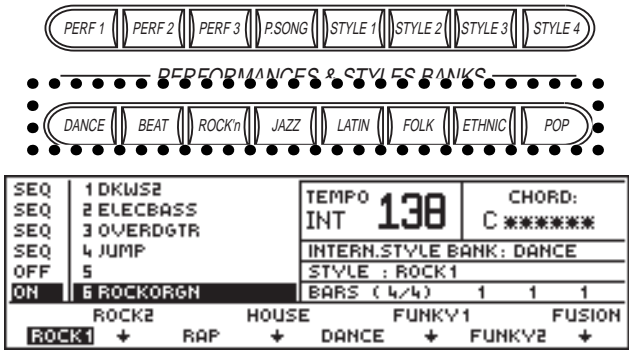
◆ Press one of the Function buttons (F1…F8) to select an internal Style.

F2

F6

To select a Programmable Style

◆ Press one of the relative Banks (STYLE 1, STYLE 2, STYLE 3, STYLE 4) from the upper row of buttons in the Performance and Style Banks.
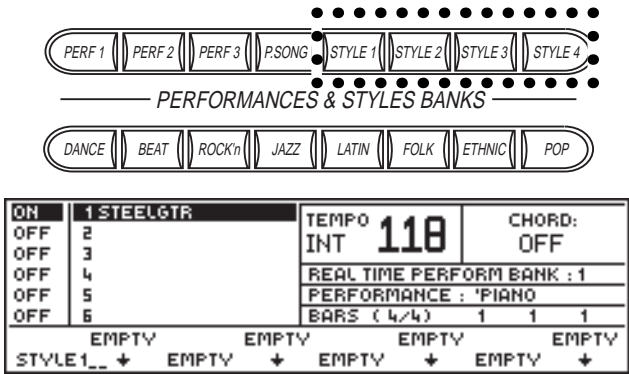
◆ Press one of the Function buttons (F1…F8) to select a Programmable Style.
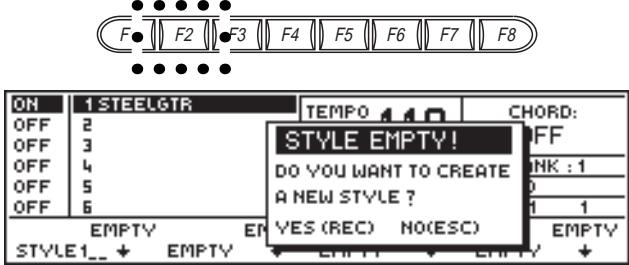
Recording Styles:
Complete explanations
on how to record a Style
are found in the Styles
chapter.

◆ You will be prompted to enter Record mode to start recording a new style.

◆ Press ESC (no) to escape from the display.

To select a Song

◆ Press the SONG button in the SEQUENCER & USERS section to access Song mode.
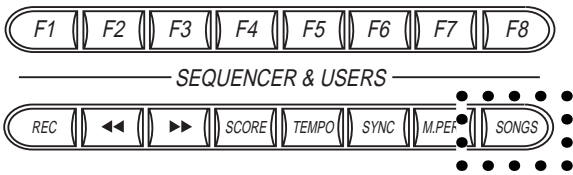
◆ If one or more Songs are present, press one of the Function buttons (F1…F8) to select a Song.
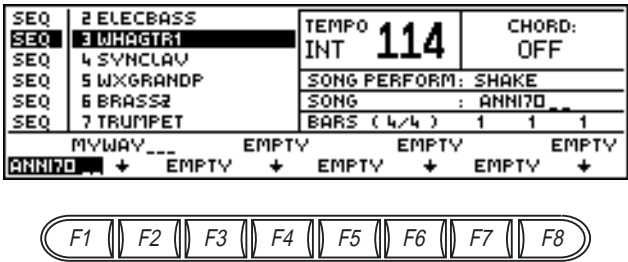
◆ If a Song is not resident in memory, you will be prompted to enter Record mode to start recording the Song.

Recording Songs:
Complete explanations
on how to record a
Song are found in the
Sequencer chapter.

◆ Press ESC (no) to escape from this display.

Conclusion

From these very simple operations, we can conclude that the two rows of buttons across the lower part of the control panel are selectors for the single elements (sound, style, performance, song) and they provide a means of passing from one mode to another.

The keypads on both sides of the display area are used to gain access to all the Edit modes (modification of the principal parameters of the instrument [Edit section] and of the recorded events [Seq Edit]).

CHAPTER 3 - PERFORMANCES, TRACKS & ROM SOUNDS

This chapter tells you something about three elements common to all playing modes - the Performances, the Tracks and the ROM Sounds.

THE PERFORMANCES

By "PERFORMANCE", we refer to the union of appropriately programmed parameters (multi-timbral combinations, volumes, transpose, panpot, midi channels, etc.), or the possibility of recalling a particular setting of all the parameters instantly by pressing a single button.

The "Performance" can be considered as the basic "medium" for all the playing modes; in fact, <u>whatever mode the instrument is currently set to, its basic structure will always be a Performance.</u>

SAVE PERFORMANCE - how to memorise a modification

All modifications made to the current Performance can be saved. To memorise a parameter in a Performance, press ENTER twice (once to access and once to confirm) to gain access to the "SAVE PERFORMANCE" command.

Therefore, if you are playing with a Style, you can modify one or more parameters to suit your personal requirements, save the result in the Performance and subsequently save it to SRam (Static Ram) or to Disk for future use.

Example:

◆ Starting with the default display showing the Sound "WX GRAND P" active to play, press one of the Sound family buttons, assign a different Sound to the selected track and memorise the modified Real Time Performance.

◆ Select the GUITAR family and assign "NYLGUIT" to the selected track by pressing F1:

◆ Press ENTER:

◆ Press ENTER again to confirm the Save Performance command. The modified Real Time Performance will remain in memory until you modify it again or turn off the instrument.

What parameters do the Performances memorise?

The amount of data memorised by a Performance is understandably immense, considering that you only need to press one button on the control panel to set the instrument to the required playing mode.

The data memorised:

The Performance name, the "track configuration" and a set of specific data for every memorised track, including the individual volume settings and MIDI In and Out channels, the Out port, the track status (Local/MIDI In/Off, etc.), the destination (Internal Sound engine or external on MIDI Out) and other parameters which include the playing mode (poly/mono), the track transpose and tuning status, the aftertouch status (on/off) and many others which are explained further ahead.

How the Performances of the playing modes differ

The Performances associated to the various playing modes differ in several aspects:

If you want to play Sounds in real time, you must select a **REAL TIME PERFORMANCE** - this recalls one or more Sounds (up to 16, one assigned to each track) together with a precise setting of all the elements of the panel which the Real Time Performance can memorise.

To play a Rhythm and automatic Arrangement, you must select an **INTERNAL STYLE** or a **PROGRAMMABLE STYLE** - these recall a series of pre-recorded accompaniment patterns (Riffs - repeating patterns for the Major, Minor, 7th chords, etc.) as well as a related setting of all the parameters of the panel which the Style Performance can memorise.

To play a pre-recorded musical sequence, you must select a **SONG** - this recalls a musical sequence based on a multi-timbral recording (up to 16 sounds) as well as up to 8 different settings of the parameters of the panel (**SONG PERFORMANCES**), which can be recalled during the execution of the Song.

N.B. Another mode, called the **SONG STYLE**, is also available, offering the possibility of recording (and playing back) a Song by exploiting the existing automatic accompaniment structures (Styles). This mode is explained in detail in the relevant chapter further ahead.

The Style and Song commands

The Start/Stop button

A Style or Song is started by pressing the START/STOP button, and stopped with the same button (Start/Stop).

The Fill/Tap button

Fill: While a Style is playing, this function "interrupts" the basic rhythm and arrangement pattern with a "Fill-In" (a short sequence that breaks up a continuous pattern, rendering it less monotonous). If the variation patterns is playing, it also triggers the basic Rhythm and Arrangement pattern.

Tap: If the Style or Song is not playing, this button provides a means of establishing a personalised playing speed by beating time .

Tap three or four times on the button (depending on whether the Song or Style is in 3/4 or 4/4 time) with short, sharp strikes. The Song or Style will start automatically after the last beat.
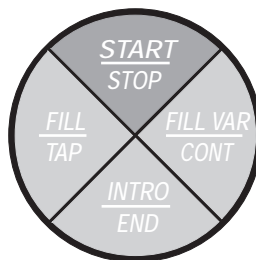
The Fill Var/Cont button

The "**Fill Var**" function recalls a variation of the basic Fill In of a Style and triggers a variation of the basic Rhythm and Arrangement.

If a Song is playing, the "**Cont**" function starts the sequencer from the point where it was stopped with Start/Stop.

The Intro/End button

Intro: if the sequencer is not playing, this function recalls an "Introduction" to a Style (a "lead" into the Rhythm and arrangement before the basic pattern takes over).

End: pressed when a Style is playing, this function recalls an "Ending" (a finishing sequence, or "coda", that brings the pattern to an automatic stop).

Add Modulation/Pitch changes to your playing with the Track-ball

The Track-ball provides two "fixed" effects which can be enabled or disabled for all the tracks of the current Performance.
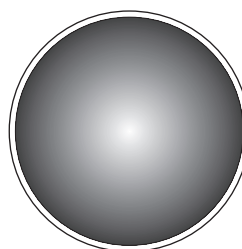
Up/Down movements provide **Modulation** (Vibrato).

Left/Right movements provide **Pitch** changes (–2/+2 semitones).

A RAPID TOUR OF THE MAIN DISPLAY

Each zone of the display provides useful information, as shown with the following example of the main display:

```
ON   1 WXGRANDP        TEMPO  120      CHORD:
OFF  2                 INT            OFF
OFF  3
OFF  4                 REAL TIME PERFORM BANK : 1
OFF  5                 PERFORMANCE : 'PIANO
OFF  6                 BARS ( 4/4)    1    1    1
 1     BRTPIANO    HONKY      ELPIANO2    CLAVINET
WXGRANDP+  ELGRAND1  +  ELPIANO1  +  HARPSI1   +
```

1.   **The current status of the Tracks**

    ON   = Active Track

    OFF = Mute Track (temporarily "turned off" or "disconnected")

    Other messages encountered:

    KYB = Track only active for the WX Keyboard ("Local")..

    SEQ = Track engaged by the Sequencer (cannot be played in real time).

    MIDI = Track being used only by an external unit connected to MIDI IN.

2.   **The Track numbers and the names of the Sounds assigned to them.**

```
ON    1 WXGRANDP
OFF   2
```

3.   **The TEMPO window,** where you can see the playing speed (Metronomic tempo) of a Style or Song and the status of the sequencer Clock (INTernal or EXTernal). In this display situation, the DIAL affects on the TEMPO value at all times.

```
TEMPO  120
INT
```

4.   **The CHORD window,** where the chord played will be displayed when you are playing with Internal or Program Style modes. The chord notation can be shown in English or Italian (changed in the Status Edit mode).

```
CHORD:
OFF
```

5.   **Indication of the currently selected playing mode**, the Time Signature of a Style or Song and the indicator of the SEQUENCER position (BAR 1 / 1 / 1).

```
REAL TIME PERFORM BANK : 1
PERFORMANCE : 'PIANO
BARS ( 4/4)    1    1    1
```

6.   **Bank of eight elements** which can be selected with the Function buttons F1…F8 (Sounds, Styles, Performances, Songs).

```
 1     BRTPIANO    HONKY      ELPIANO2    CLAVINET
WXGRANDP+  ELGRAND1  +  ELPIANO1  +  HARPSI1   +
```

SOME SIMPLE OPERATIONS TO PERFORM WITH THE CURSOR DIAMOND AND TOGGLE

Mute or activate a Track

◆ Press the TOGGLE to mute a Track shown in reverse highlight:

Press this button
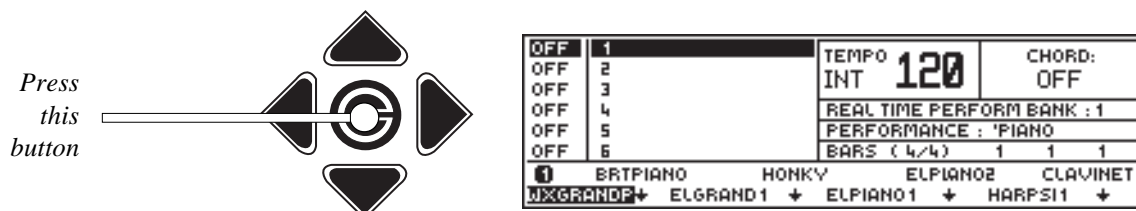
A Muted track is temporarily deactivated, both for the keyboard as well as an external device communicating with WX on MIDI IN.

◆ Re-activate the selected Track by repressing the Toggle.

Select tracks and create multi-track situations

The tracks shown "off" can be selected with the Up or Down cursor arrow and they can be activated at will with the Toggle.

◆ The easiest action is by using a combined motion of the thumb and forefinger on the Up or Down cursor arrow and on the Toggle to select and activate the Track.

An example is shown below using the Down arrow:

1. THUMB ACTION

2. FOREFINGER ACTION
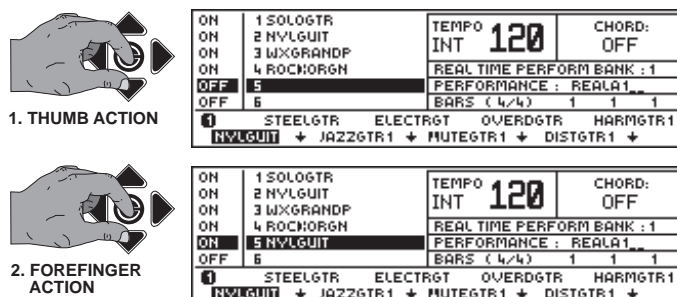
View a Sound in large type

◆ Press the right cursor diamond to "zoom in" on the active Track and view the Sound in large type:

◆ Press the left cursor arrow to restore normal Track dimensions.

◆ Two layered sounds can be viewed in large type by striking the right cursor arrow:

◆ Strike the left cursor arrow to return to normal display dimensions. You cannot "zoom in" on situations consisting of three or more tracks.

N.B. Layered Sounds do not necessarily have to be consecutive.

Split Sound Tracks

Sounds can be programmed to play across user-defined keyboard extensions using the Split function.
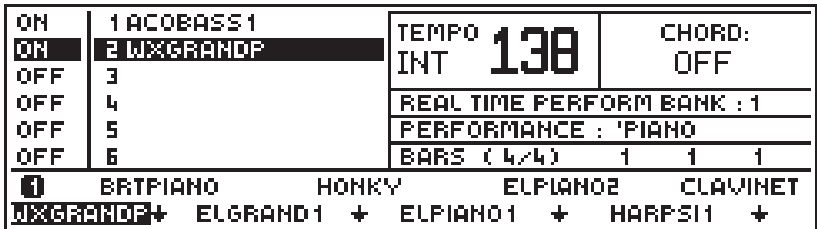
The two layered Sounds can be split so that Acoustic Bass plays on the left side of the keyboard (A0-A#3), while the WXGrand plays on the right (B3-C8):
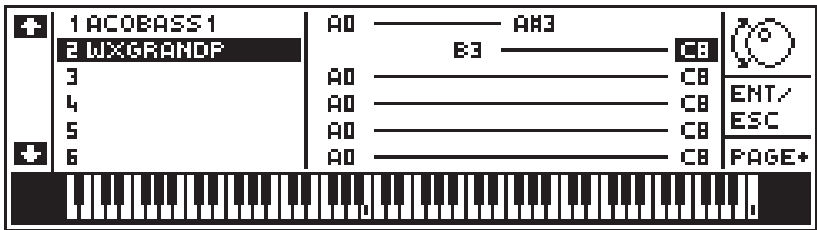
Detailed explanations of the SPLIT function appear in the Edit section chapter.

Mixing the Sound volumes of a multi-timbral situation

Sound combinations can be mixed by accessing the Mixer Edit mode which shows a graphical representation of the status of each track.
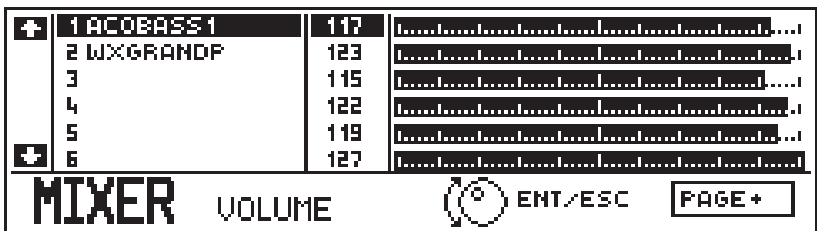
Each track of the currently active Performance can be mixed within the values 0 - 127 by selecting with the Down cursor arrow and rotating the Dial to vary the Volume . See the Mixer Edit mode in the Edit section chapter for more details. Press Esc or Mixer to escape from this display.

THE TRACKS AND THE TRACK CONFIGURATION

The term "Tracks" has been mentioned several times therefore, at this stage, it is important to clarify what a Track is and what "Track configuration" refers to.

Tracks and the Real Time Performance

A Track NOT utilised by the Sequencer can contain a Sound to play in real time on the WX keyboard or on an external controlling device connected at the WX MIDI IN.

For each Real Time Performance track, you can regulate an appropriate set of parameters and the entire set of elements can be memorised by the Performance.

Tracks and the WX Sequencer

If a track is engaged by the Sequencer, it can contain a certain "string" of events (or notes) and an assigned Sound.

In a typical example, a Song consists of a Drum track containing a sequence of recorded notes that make up the Rhythm, a Bass track that provides the Bass accompaniment, a Guitar track for an arrangement, and so on....

The Track Configuration

The Track Configuration refers to the individual status of every track of the Performance with respect to its "reaction" with the keyboard, whether it accepts MIDI IN events and the destination (internal sound engine or MIDI Out) of the events it generates.

The Track Configuration can be programmed in the Edit Performance mode (see the Edit section chapter from more details).

The number of Tracks in Real Time Performance mode

◆ <u>From one to sixteen tracks</u> can be assigned to the keyboard or exploited by an external sequencer.

The number of Track in Styles (and Song Styles) mode

◆ <u>Four tracks (from numbers 1 to 4)</u> can be engaged by the WX Sequencer (usually, drum, bass and two accompaniment), or assigned to the keyboard or exploited by an external sequencer.

◆ <u>Two tracks (from numbers 5 to 6)</u> can be assigned to the keyboard, or used by an external sequencer.

The number of Tracks in Song mode

<u>From one to sixteen tracks</u> freely assignable to the WX Sequencer or keyboard, or to an external sequencer;

1 LYRICS track to store the eventual song lyrics;

1 CHORDS track to store the chord symbols;

1 SCORE track to store the melody line written as musical notes on a staff.

The SCORE function

The last three functions on the previous page are all found in the SCORE function and they represent, without doubt, the major innovation of this instrument.
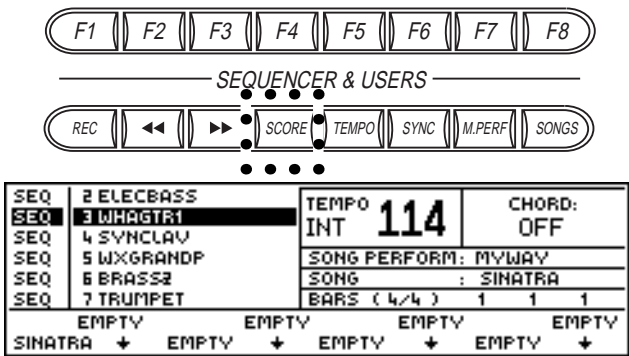
◆ As well as the backing of a Song, WX gives you the melody line written as music notes on the staff (also called "Stave") together with the lyrics;
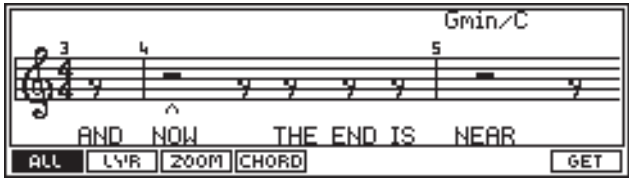
◆ the LYRICS;
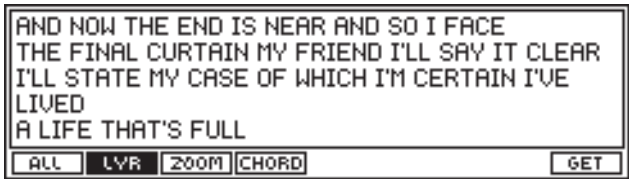
◆ the LYRICS IN LARGE TYPE;

◆ and the CHORD NOTATION.
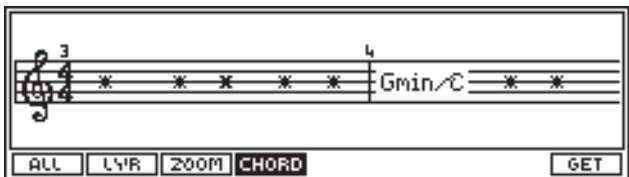
All can be viewed on the instruments display, or it can be projected on a normal domestic TV, or a colour computer monitor (such as an "ATARI" and others).

You can, also choose to see these elements singularly, simultaneously, or combined on both media: for example, you can see the chords of a song in the WX display and the lyrics on a normal domestic TV screen. More about this later.

THE ROM SOUNDS

This section takes a look at the Sounds permanently resident in the WX - in ROM (Read Only Memory). The technology used to generate the sounds is the most up-to-date, including PCM Samples, Wavetables, Multiloop, Crossfade Multiwave and Subtractive synthesis.

Dual and Single Oscillator Sounds

The 32 Oscillators incorporated in WX are exploited in two ways to produce "Dual Oscillator" and "Single Oscillator" Sounds.

Dual Oscillator" Sounds are generated by two oscillators which operate in synchronised pairs. In one of the variations of the sophisticated sound generating system, called "Multi-loop Crossfade Looping", the sampled waveform "header" incorporated in a Sound is "read" alternately with continuous fading to produce a more natural sound. The graphical representation below illustrates how two oscillators are exploited to produce a sound:

BrtPiano (Oscillator 1)

Multiloop Vector

BrtPiano (Oscillator 2)
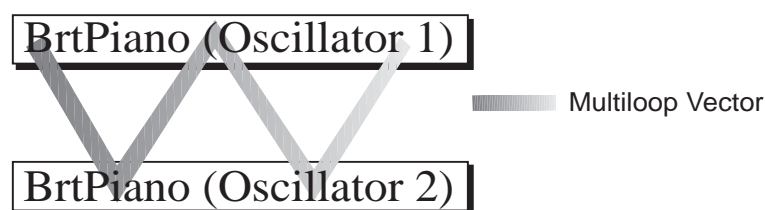
In order to obtain this result, however, the 32 Oscillators are employed to produce 16 note polyphony.

"Single Oscillator" Sounds are characterised by the use of a single oscillator for each sound. The 32 oscillators are, therefore, fully exploited and the resulting sounds have a maximum polyphony of 32 notes.

Therefore, if you play only one sound (a single track), you can obtain a maximum of 32 note polyphony using "Single Oscillator" sounds, or a maximum of 16 note polyphony using a "Dual Oscillator" Sound.

Naturally, in situations consisting of two tracks, at the most, your polyphony is halved.

In multi-track situations, your maximum polyphony is governed by the sounds assigned to the track of the currently selected Performance.

To distinguish between the two types of Sounds, you can refer to the ROM Sound table in the Appendix which identifies the "Single Oscillator" sounds with an ASTERISK (*).

Drumkits and Sound Patches

A Drumkit is a percussion sound map where a different drum sound is assigned to each note of the keyboard.

The 16 WX **Drumkits** occupy the second and third Banks of the Drums family. They are recalled by selecting the relative Function button (F1…F8) after gaining access to the Drums sound bank.

These type of "Sounds" incorporate a "Dynamic Switch"; this is a Dynamic threshold below and above which different Sounds can be assigned so that playing harder triggers

the sound on the higher dynamic level. For example, a note can play bongo low by playing with a soft touch and bongo slap by playing harder.

Similar to the Drumkits are the **Sound Patches** which also incorporate a Dynamic Switch. These sounds change character or even sound by playing harder. For example, the Sound "Rhodx" is constructed by assigning "ElPiano2" to the lower dynamic level and "ElPiano1" to the higher. Sounds shown with a cross (†) in the ROM Sound map (in the Appendix) correspond to Drumkits and Sound Patch sounds.

How the Sounds are organised in ROM

The ROM Sounds are arranged in an Instrument Patch Map (Sound Library) with corresponding Program numbers. The WX Sound Library is a fixed map which cannot be re-arranged.

The Sounds fall into sixteen families of 3 Banks each, except the Samples family, which consists of 8 Banks, and the Drums family which consists of 16. All the Banks of each family contain similar instruments (except the Samples and Drums Families).

Therefore, the Piano Bank consists of: WXGrand, BrtPiano, ElGrand1, etc..

Similarly, the Guitar Bank consists of: NylGuitar, SteelGtr, JazzGtr, etc..

All the Bank 1 Sounds of the Families (otherwise called "Capital" sounds) with Program Number XX-1 are organised according to General MIDI Standard. The remaining two Banks provide some Variation Tones with program numbers of the type[1]; 1-2, 1-3, 2-2, 2,3… 21-2, 21-3, etc., generally considered as a GS Standard implementation.

The ROM Sound Table is shown in the Appendix at the back of this manual.

NOTE 1:
Sounds with the higher Program Change numbers have up to 16 variations, with Program Changes of the type 116-1, 116-2... 116-15, 116-16. See the Rom Sound Table in the Appendix.

The Drums Family

The Drums family provides 16 Banks of 8 Sounds each. Banks 2 and 3 contain 8 Drumkits each and the standard GM Percussion map, in the form of the Drumkit "DKStand1" shown below, in Bank 2.
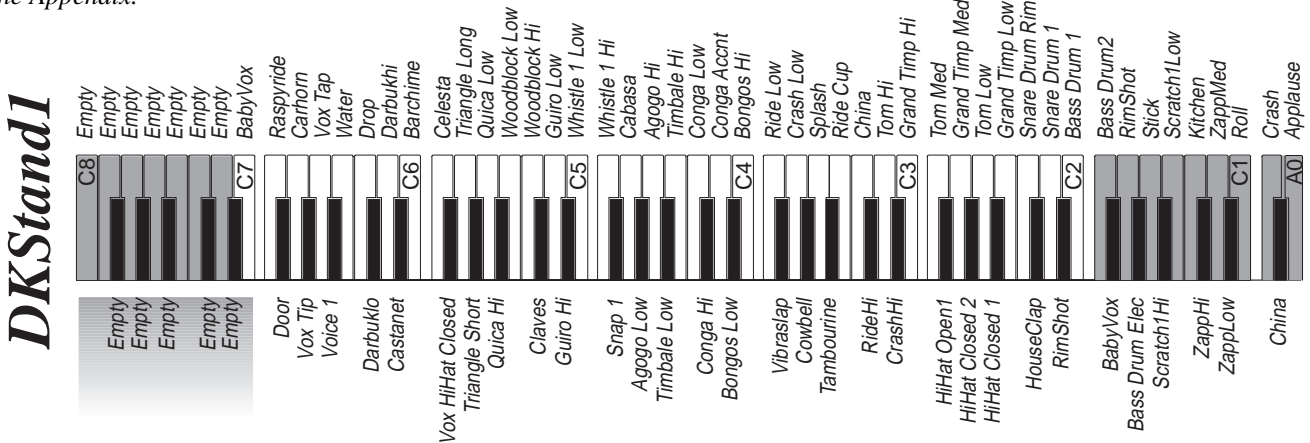
All the WX Performances have a Drumkit assigned to MIDI Channel 10 (Track 10) to comply with GM Standards.

Note: if the WX General MIDI function is set to "ON" (page 3 of the Edit MIDI functions), all program changes received on MIDI Channel 10 are automatically addressed to the WX Drumkits to comply with General MIDI Standards.

See the Edit MIDI chapter for more information regarding General MIDI.

EDIT

DISK | PERF | SOUNDS

MIXER | EFF1/2 | MIDI

STATUS | SPLITS | ARRAN

CLOCK | PAGE- | PAGE+
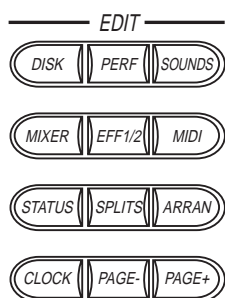
CHAPTER 4 - THE EDIT SECTION

We have already said that the **EDIT SECTION** is the heart and control centre of the instrument.

In this chapter, we'll discuss the modes available, firstly from a general point of view followed by a detailed description of each one.

General overview of the Edit Section

Nine Edit modes are available, each one identified for the kind of operations that are performed in that mode.

In some cases you will find a sub-editor which provides a set of parameters necessary to edit the function found in the current mode.

When you enter one of the modes for the first time, you will open an "entry-level page" and others, if present, can be selected with the PAGE+ and PAGE- buttons.

The Edit section displays:

Most displays in this section have several things in common, as we can see by the following Status display example:

```
MASTER TUNE =    0    CHORD DIS   = ENGLISH
KEY TRANSP  =    0    AUTO BANK SET = ON
KEY SENS    =    5    AFTER SENS  =    5
PED 1    = ANALOG     PED 1 ASSIGN = VOLUME
PED 2    = LOGIC N.C. PED 2 ASSIGN = START/STOP
DAMPER   = LOGIC N.C. DAMP.ASSIGN = DAMPER       ENT/
                                                  ESC
STATUS  GENERAL                          PAGE +
```
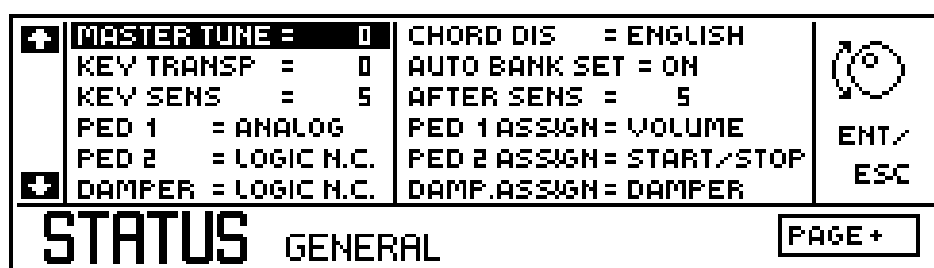
1. The Up and Down arrows on the extreme left refer to the Cursor diamond Up/Down buttons. The items listed in the display can be selected by using these two navigating tools.

2. The DIAL symbol indicates that the Data Entry Wheel is active. In this case, it will operate as a data entry control, in other situations, it moves the reverse-highlighted zone up or down.

3. The "ENT/ESC" phrase indicates that the buttons of the same name to the right of the display are operative. ENT is always used to confirm a selection while ESC escapes from the current Edit mode.

4. The rectangle enclosing "PAGE+/-" indicates that, by pressing these buttons, you can access other pages containing other functions. In the above case, these buttons select the "General", "Microtuning" and "Videomonitor" pages.

5. The lower part of the display shows, from left to right, the Edit mode identifier, the type of function and, in some cases, the name of the page.

Once you get acquainted with these graphic elements, you'll move around quickly and easily in all display situations.

WX2
WX4

The Edit Section provides the following edit modes:

DISK   Accesses the four principal disk functions; Load, Save, Erase and Utility, as well as the Static RAM. This last feature is an exclusive function offered by WX which, unlike the much talked about buffered memory that memorises the last situation prior to turning off, the SRam allows the user to turn on the instrument with the situation effectively required. Therefore, all the operations foreseen in this section can be carried out either on the DISK-DRIVE or on the STATIC RAM.

The Utility page also offers the Load WS Song function - great for all those WS users who don't want to lose all those WS disks!

MIXER   Pressing the MIXER button gains access to the parameters relating to the volumes of the various tracks, the panpot and several general controls of the machine.

STATUS   Facilities for the setting of all the general functions of the instrument not tied to the Performance parameters, such as Master Transpose/Tuning, Keyboard Dynamic and After Touch sensitivity, Pedal/Footswitch polarity settings and function assignments, etc., intonation scales and a Video monitoring section (score and lyric settings, monitor view mode, etc.).

This page also provides the function that permits you to toggle between English and Italian chord notations, displayed in the Chord box when playing with Styles.

PERF   Gains access to the track configuration, where you can configure the way each track reacts with the WX keyboard, MIDI IN events, the WX sound engine and MIDI OUT destination, as well as all the programmable Performance parameters assignable to each track, such as the mode (poly, mono), detune, transpose, effects 1&2 assign, pedal/footswitch assign, priority, name and others.

EFF 1&2   Gains access to the two Digital Effects processors (Effect 1 and Effect 2) providing a selection of static and dynamic effects as well as editing facilities for both.

SPLITS   Where you can program the individual keyboard extensions of all tracks of your Performances. This function also provides the programmable Chord Split position for the Styles.

SOUNDS   This button accesses the Macro-editing facility which allows a very extensive Sound editing capacity with only a few parameters.

Depending on whether you enter this mode with a Sound or a Drumkit, you will have at your disposal two different Sound edit modes.

MIDI   Where you can configure the MIDI IN and OUT channels for each track, set the MIDI IN/OUT filters and control other parameters such as Internal/External Clock, MIDI Merge, System Exclusive, and others. Of special interest is the General MIDI function which guarantees GM Standard operation when you load Standard MIDI Files generated by instruments of other manufacturers.

ARRANG   Accesses the Arranger where you can set all the automatic functions relative to the Styles, such as One finger, Bass Follow, Harmony, etc..

DISK AND STATIC RAM

General information

As you become more familiar with your WX, you will discover the practical advantages of working with disks and the Static Ram because of the power and flexibility that these two elements give you.

DISKS give you the possibility of building up a vast library of Sounds (Performances), Styles, Songs and loading/saving **MIDI Standard File** data.

The **SRam** provides you with the possibility of storing indispensable data permanently without the need of loading it each time you turn on your WX.

For example, you can store a personalised Real Time Performance in SRam that you know you are going to use often - when you turn on your instrument, you will find your Performance ready to play.

The WX disk drive uses 3.5'' High Density micro floppy disks and incorporates an initialisation process which formats them with a capacity of 1.44 Megabytes.

The data is memorised in the floppy Disks and in SRam under the form of *files* and these "documents" are read by the MIOS[1] operating system incorporated in the instrument.

NOTE 1:
MIOS = Musical
Instrument Operating
System (an exclusive
Generalmusic System).

Precautions to take when handling Disks

The user not so familiar with Disk operating procedures is advised to read through the precautions to take when working with Disks. These serve to introduce newcomers to the common methods of working with floppy disks and the Disk Driver, as well as some basic precautions to take when working in this environment. Those already familiar are not obliged to read all but another minute of reading time may tell you something that you don't already know.

One factory-preset Demo Disk is supplied with the WX2 and WX400. It contains several Songs with Lyrics which can be recalled in the Display and used to sing along with the Song in playback.

What precautions should you take with your Demo disk?

Before you begin working with the Disk Drive, you should acquire at least 1 new unformatted disk that you will use to **make backup copy of your factory Demo disk**.

Once the data from the Demo disk has been loaded, you should make a backup copy by saving all the data in the instrument memory to a new Disk. When you've finished, store the original in a safe place, far away from transformers (basically all electronic equipment), loudspeakers (magnets), tape decks (the erase head) and heat sources.

Other simple rules to follow are:

◆ Do not slide open the protective disk shutter as this may cause damage to the disk. Damaged disks should be thrown away as they may cause damage to the driver recording head.

◆ Avoid disk damage and Drive damage by removing disks when the driver is in operation (operational led must be off);

◆ Always have several empty disks close at hand;
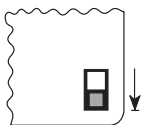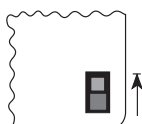
◆ Don't forget to Write protect disks that contain your most important data and maintain a set in a clean, safe place, free from dust, dirt, smoke, ash, liquids, extreme temperatures and direct sunlight;

◆ Always put the correct size label on the disk (within the outlined location on top of the disk) and avoid layering labels, as excess disk thickness may cause misalignment of the drive cartridge. Write on labels with a soft felt pen. Don't use lead pencils and don't use erasers;

◆ Save frequently to avoid loss of edit data due to unforeseen circumstances (power failure or other). You don't have to memorise 10 Performances with edit data before saving. Get into the habit of saving data which might not be easy to replace;

◆ Organise your saved data properly by identifying and documenting it correctly in order that you know exactly where to go and look for data quickly without wasting time;

◆ Lastly, remember that loading replaces the current memory contents with that of the disk. Before loading from disk, think twice as you may be about to erase data that still hasn't been saved on disk.

How to load a floppy disk into the Disk Drive

Load your disks into the Drive as shown in the following diagram:

*This green led , when on,
Shows that the driver is
in motion.*

*Press this button
to extract the
floppy disk.*

*Orient the Disk
correctly,
shutter first,
hub down.*

*Insert the floppy Disk
in the direction shown
until is fits into place
with a "click".*
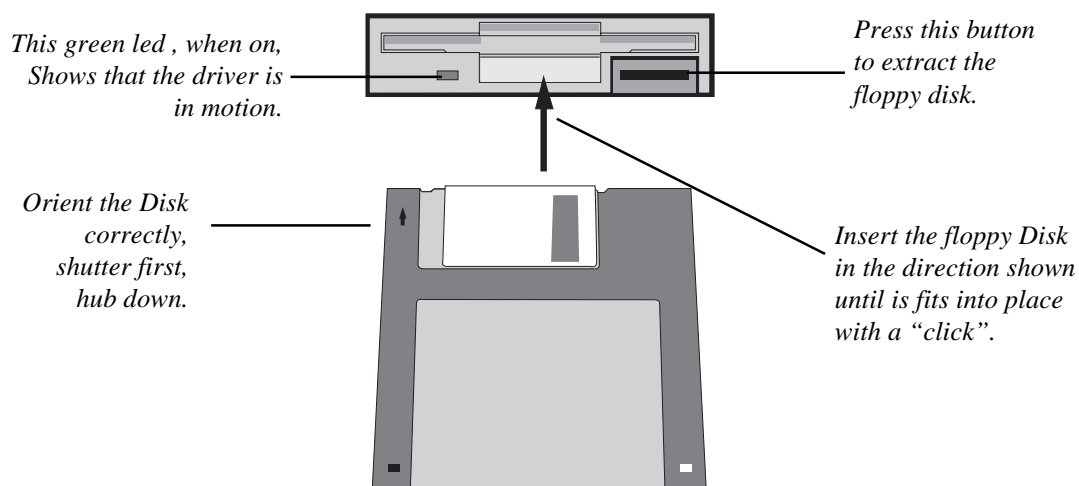
DISK OPERATING MODES

Press **DISK** in the Edit section to access the four principal DISK or SRam operations - **LOAD**, **SAVE**, **ERASE** and **UTILITY**.

The first page usually shows the LOAD operations:
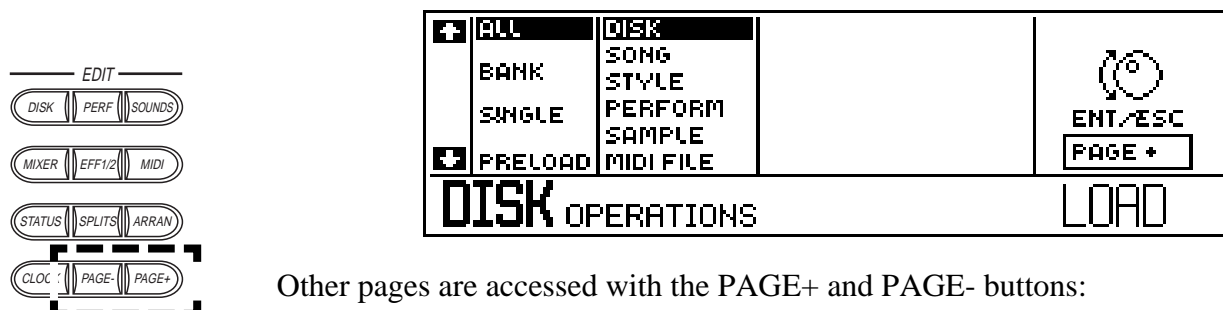
Other pages are accessed with the PAGE+ and PAGE- buttons:

How to toggle between DISK and SRam

All the pages of the Disk/SRam edit modes show a small rectangle in correspondence with the F5 function button:
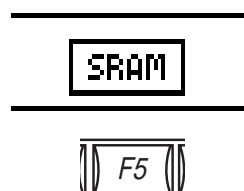
If **DISK operations** are currently selected, press F5 (corresponding to SRam) to access the SRam operations.
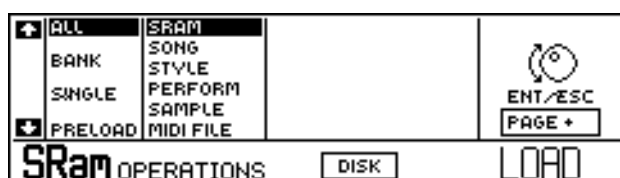
Conversely, if **SRam operations** are currently selected, press F5 (corresponding to Disk) to access DISK operations.
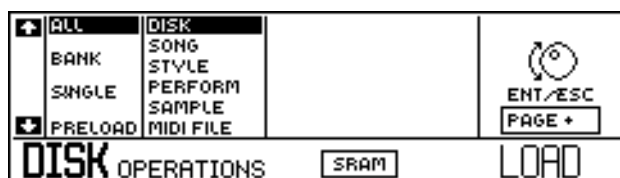
Loading data into SRAM

It should be clear to the user that data cannot be loaded from a DISK directly into SRAM - you can only go via the instrument's Memory.

For example, if you want to load some Songs from DISK into SRAM, first you must load the Songs from Disk into MEMORY, then, SAVE the Songs from MEMORY to SRAM.

All the operations described in this section are valid for both types of operation, unless otherwise indicated.

LOAD OPERATIONS

Use the **LOAD** function to load the contents of your Disks, or of the Static RAM, into the instrument's memory[1]. When you load data, the data previously in internal memory will be overwritten and lost.

The four main LOAD operations are:

Load All - **Load Bank** - **Load Single** and **Preload.**

1.   LOAD ALL DISK (or all SRAM)

1.1   This mode loads all data (except MIDI files) from the inserted Disk or from SRam into the internal Memory:
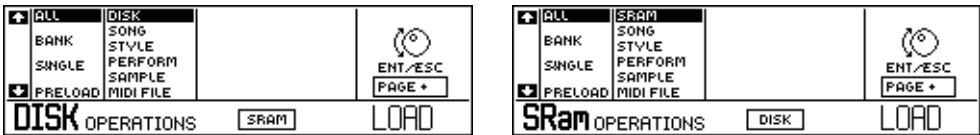
1.2   Confirm the operation with ENTER.

The "WAIT PLEASE" message appears together with an animated clock indicating that WX is examining the type of disk inserted or the type of data in SRam:

N.B. the "Wait Please" message does not appear when you load data from SRam into the instrument's internal memory.
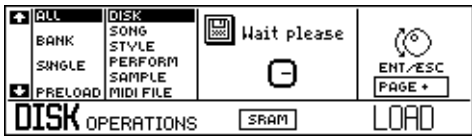
1.3   If the disk is a WX disk, you will be asked to confirm the operation before proceeding. If you are performing an SRam operation, the same message will be displayed:
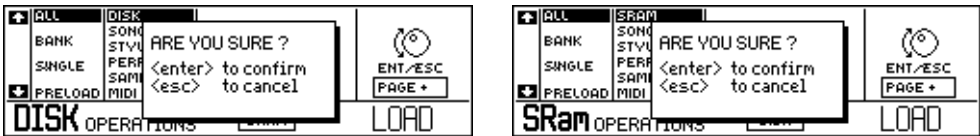
1.4   Confirm with ENTER or quit the operation with ESC.

NOTE 2:
Loading times
Loading times depend on the disk contents and the type of data loaded. Times vary from 1 second to approximately 1 minute.

Confirmation of the operation is indicated by the "Loading" message[2], the animated clock, the green disk drive led and a familiar noise from the driver. Both Disk and SRam operations show the same message:
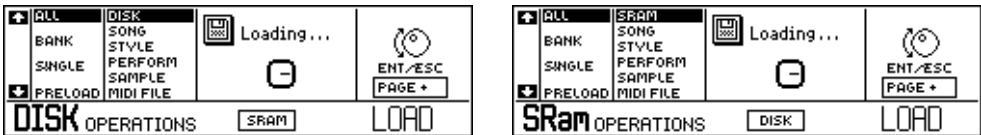
When the message at the centre of the display disappears and the driver led turns off, your data will be loaded.

Automatic loading

The LOAD ALL operation is performed automatically when you turn on your WX with a DISK inserted in the driver.

If, instead, data is present in SRam and no disk is present in the driver[1], turning on will Load All from SRam into the instrument's volatile memory (RAM).

Automatic loading of all disk or SRAM data is a very useful method of setting your instrument up automatically while powering up. During the loading process, you can occupy yourself with other duties (cable connections, microphones, etc.).

Important

WX is supplied with a RAM of 2 Megabytes (for the Sequencer and Performance data) and a Static RAM of 256 K Bytes. An optional 2 Megabytes of RAM (Sample RAM) is available for the exclusive purpose of handling up to 48 additional Samples loaded from DISK.

In future, an option to expand the Static RAM will be made available by GENERAL-MUSIC.

2.   LOAD ALL SONGS

This operation loads all the Songs present on Disk or in SRam into internal memory. Up to eight Songs[2] can be loaded simultaneously.
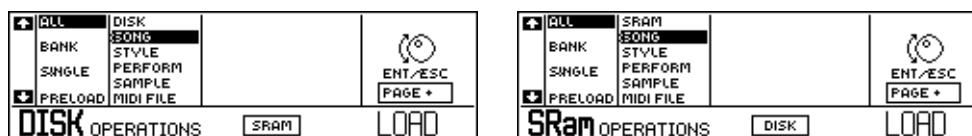
The procedure is the same as for Load All Disk.

3   LOAD ALL STYLES

This operation loads up to 32 Styles simultaneously. The data will be positioned in the PROGRAMMABLE STYLE BANKS.
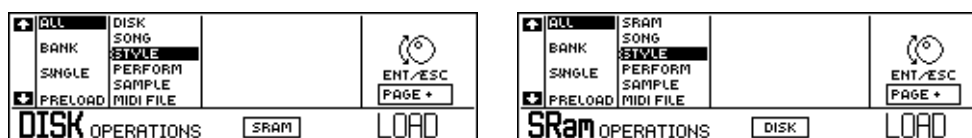
The procedure is the same as for Load All Disk.

4   LOAD ALL PERFORMANCES

This operation loads up to 24 Performances belonging to the REAL TIME PERFORM-ANCE BANKS.

The procedure is the same as for Load All Disk.

5   LOAD ALL SAMPLES

This operation loads all the Samples contained in the inserted DISK (up to a maximum of 48), provided that the instrument is fitted with the optional Sample RAM [1]. The samples will occupy the SAMPLES family Banks from 3 to 8.
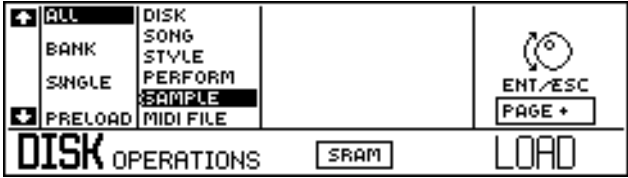
The procedure is the same as for Load All Disk.

LOADING SAMPLES FROM THE S-SERIES DISKS:

If you have some disks belonging to the S-Series instruments (GEM/Generalmusic S2, S3) which contain samples, you can load these into the WX using the standard Load All Samples[2] or Load Single Sample operations.

LOAD BANK MODE

1.   LOAD A SINGLE BANK OF STYLES (Programmable)

This operation loads a Bank containing up to 8 Programmable Styles (Bank 1 = Style 1, Bank 2 = Style 2 and so on..).
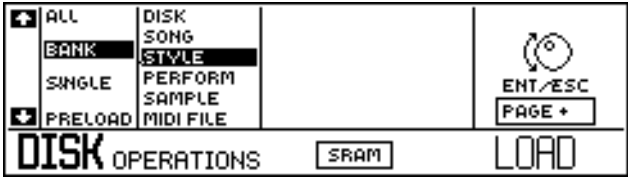
1.1   Confirm the operation with ENTER.
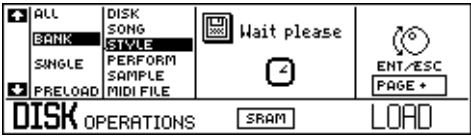
After a short period, a new display appears showing the disk contents on the left side and on the right, the Memory contents.

Note the "STYLE" message

1.2   Use the Up/Down cursor arrows and the Dial to select the Bank to transfer into Memory (at this point you can also opt to load the Style Performance Banks - see "Style Performance option" on the next page).

NOTE 1:
WX instruments have a 2 Megabyte RAM which houses the user-programmed Songs and Sounds. If you want to load Samples, you must fit the WX with the optional 2 Megabyte Sample RAM.

NOTE 2:
As samples tend to be quite large in terms of Memory, unless you require all the samples on disk, you are advised to load only the ones required one at a time, in order to reduce the long loading times.

1.3   Press ENT to start the loading operation:
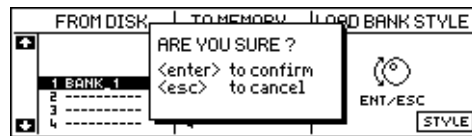
1.4   Confirm the operation with ENTER:
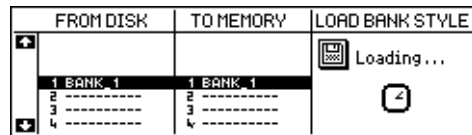
1.5   Complete the operation with ESC to return to the main Load display.

N.B.   An optional operation is provided with the F8 function button.
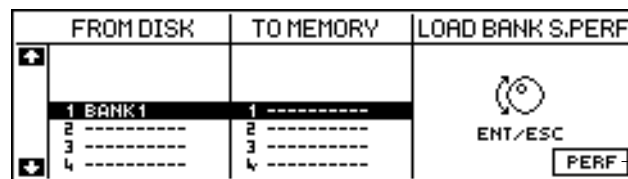
Note the "PERF" message

This permits you to load single bank of **Style Performances** containing user-programmed performances relating to the INTERNAL STYLES (Bank 1 = Dance, Bank 2 = Beat, Bank 3 = Rock'n and so on...):

NOTE: You can only load a Style Performance Bank into its corresponding Memory destination (Bank 1 to Bank 1, Bank 2 to Bank 2 and so on..).

Important

For what concerns the INTERNAL STYLES, while it is possible to vary the Sounds assigned to all the tracks (the volumes, transpose parameter, etc.), related to the Internal Style Performances, it is not possible to cancel the recorded sequences contained in the first four tracks. In practice, you can modify the parameters of the Style Performances, save the modifications using the standard "Save Performance" function and save the Bank of Style Performances to disk for future use.

2.   LOAD A SINGLE BANK OF REAL TIME PERFORMANCES

Use this operation to load a bank of Real Time Performances (Bank1 = Perf1, Bank2 = Perf2, Bank3 = Perf3).

The procedure is the same as for Load Bank Style.

LOAD SINGLE MODE

Use this operation to load single elements into the instrument's Memory from Disk or SRam, according to your requirements. The Load Single mode procedures are the same as those used in the previous Load Single Bank mode. By confirming the operation with ENTER, the display situation allows you to select the single element required and the position that it will occupy from the 8 available in Memory[1].

1   LOAD SINGLE SONG

Use this operation to load a single Song into internal memory:
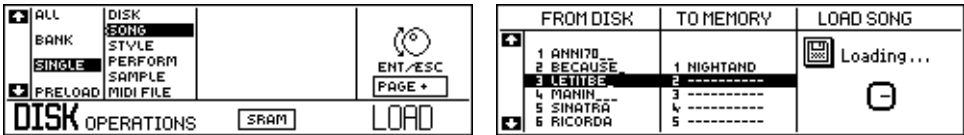
2   LOAD SINGLE PROGRAMMABLE STYLE

Use this operation to load a single Programmable Style into internal memory:
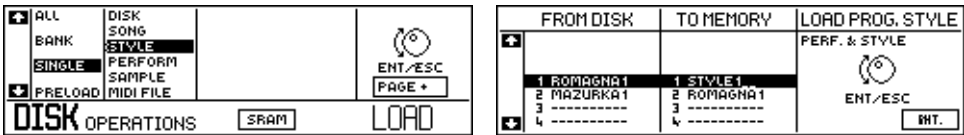
For example: if you load the Style 1 (showing the name it was given) from disk into the Memory destination number 29, it will appear in Style Bank 4 corresponding to Function button F5.

Load Single Internal Style Performance:

An optional operation is provided with the F8 function button. This permits the loading of a **Single Internal Style Performance**:

Note the "PERF ONLY" message
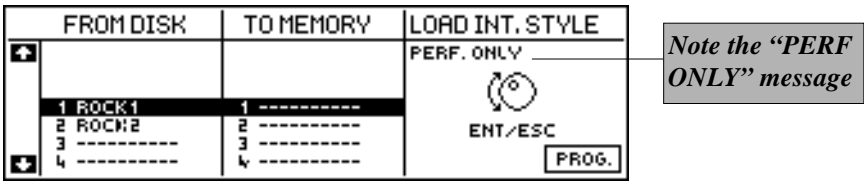
You can choose a Style Performance from 64 user-programmed Performances available but **you cannot memorise them to a destination of your choice**:

3   LOAD SINGLE PERFORMANCE

Use this operation to load a single Real Time Performance from disk or SRam.
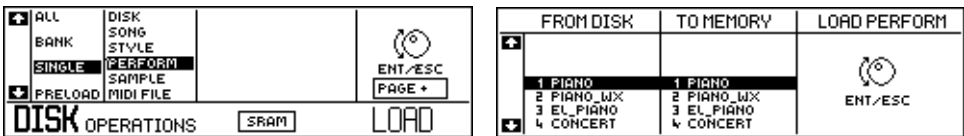
4.   LOAD SINGLE SAMPLE

Use this operation to load Single Samples from WX disks, from S-Series disks, or from SRam.
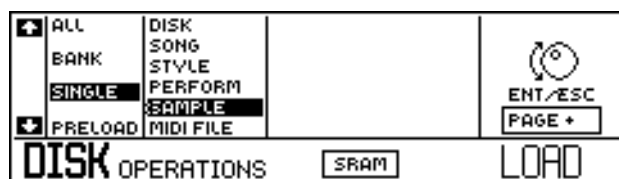
The Load Single Sample operation permits you to scroll through the WX or S-Series samples available:

You can load a Sample to any destination available from Banks 3 to 8 of the Sample family.

IMPORTANT:

Samples can only be loaded into the Sample Family Banks (3 to 8) if the instrument is fitted with the **optional 2 Megabyte Sample RAM**. Up to a maximum of 48 Samples can be loaded if the Sample RAM DISP is fitted.

5.   LOAD SINGLE MIDI FILE

This operation, although almost identical to the "Load Single Song" example outlined on the previous pages, differs in the type of files displayed.

What is a Standard MIDI File
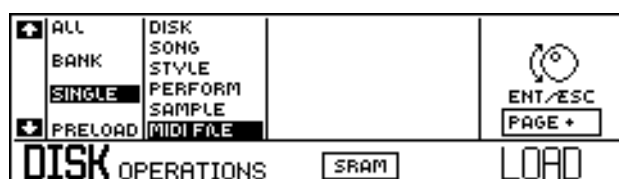
NOTE :
WX reads MIDI File Format 0 (Single-track files) and reads and writes MIDI File Format 1 (Multi-track files which conserve the Song's Track partition, records the Tempo and Tempo variations as well as the Time signature).

This standard makes it possible to use sequence data regardless of the source equipment or manufacturer. Files of sequencer data created on equipment that conforms to this standard can be loaded and played back on the WX2/WX400.

The WX recognises Format 0 and Format 1 MIDI files:

Format 0: All data from Tracks 1-16 of a Song are contained on a single track.

Format 1: All data from Tracks 1 - 16 are conserved separately, in the same manner as when the data is created.

In addition, sequence data created by the WX can be saved to disk as a Standard MIDI

File (see Save), making it possible to load and play back this data on other equipment.

"Load MIDI File" Loads a Song memorised by a Sequencer in a standard interchange format, otherwise called the **MIDI File.**

The disk from which your **WX** reads MIDI Files, (or to which it saves MIDI Files), must be one "initialised" by an Atari ST/STE/TT computer, or by a computer that works with the MS-DOS operating system. Apple Macintosh files must be copied to a disk formatted with Apple File Exchange™, AccessPC™ or other similar "utilities". The disk can be a **3.5" DD** or **3.5" HD** type**.**

5.1   Press ENTER:

The directory of the Atari/MS-DOS disk appears which may consist of several items as well as some MIDI Files, which are identified by the "**.MID**" extension[1]:

NOTE 1:
*You can isolate all the
MIDI files by pressing
F8 - this masks all files
present on Disk except
MIDI files and
facilitates the selection
of the required file.*
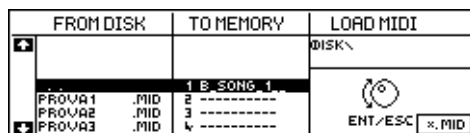
5.2   Select the MIDI File to load as well as the destination to Memory:
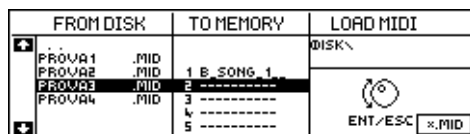
5.3   Press ENTER twice:
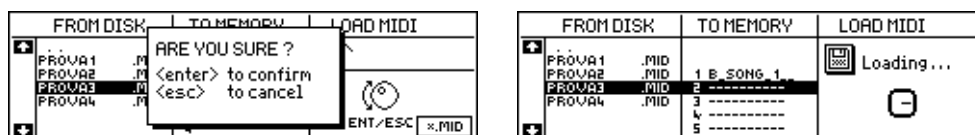
5.4   The display updates to the new situation:
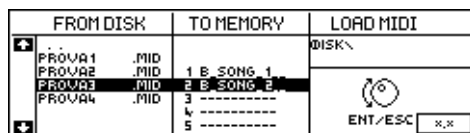
The internal Directory will show the converted MIDI File as a Bank/Song, but you can change its name using "Name" in the Sequencer Edit section.

More about MIDI Files in the Edit MIDI and SEQUENCER chapter.

Preload

This operation makes it possible to load a Song from Disk[1] or SRam while the sequencer plays back another.

The PRELOAD MODE, specially studied for use in live situations, permits songs to be loaded with a reduced number of operations without stopping the sequencer.

1.   While a song is in playback mode, press DISK and select PRELOAD:

2.   Selecting "Preload" with the DOWN arrow gains direct access to the disk's song directory without pressing ENT. The song names will be displayed in correspondence to the function buttons.

3.   At this point you only need to press one of the F1-F8 buttons to start the loading operation.

N.B. To escape from this option press ESC, while, to exit from this display without escaping the current option, press the DISK button again. You can, therefore, load a new song using only two manual operations.

Attention. The Preload operation can only be performed in Song mode. Attempting to preload in any other mode will display the following message:

Cancel the display with ESC.

SAVE OPERATIONS

Use these operations to save data from internal memory to Disk or SRam. When data is saved to a Disk or SRam file which already exists, the old data will be lost. You can use the Disk Protect Slider to keep important data from being accidentally overwritten.
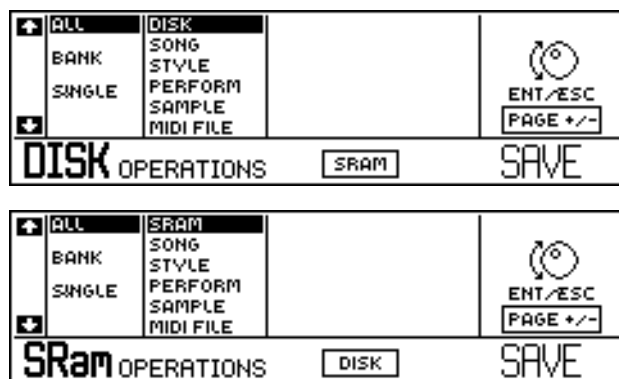
The three principal SAVE functions are:

SAVE ALL, SAVE BANK and **SAVE SINGLE.**

SAVE ALL MODE

1.   SAVE ALL TO DISK (or to SRAM)

This operation saves the entire contents of the internal memory to Disk or SRam.
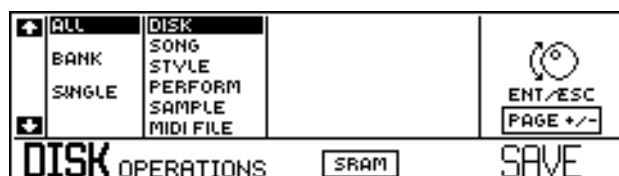
Start the procedure with ENT and, after the disk has been examined, press ENT again to confirm or press ESC to cancel the operation without saving.

When the "saving" message disappears, the operation will be complete.

2.   SAVE ALL SONGS

This operation saves all the Songs present in Memory to Disk or to SRam. Up to eight Songs[1] can be saved simultaneously with this operation.

Note 1:
Each Song corresponds to a Song Bank which can store up to 8 Song Performances.

The procedure is the same as for Save All Disk.

3   SAVE ALL STYLES

This operation saves up to 32 Styles (simultaneously) relating to the Programmable Style Banks to Disk or SRam.
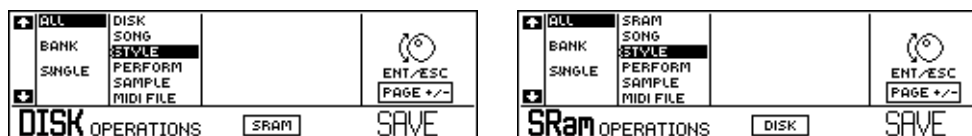
The procedure is the same as for Save All Disk.

4   SAVE ALL PERFORMANCES

This operation saves up to 24 Performances simultaneously relating to the Real Time Performance Banks (Perf 1, Perf 2, Perf 3).

The procedure is the same as for Save All Disk.

5   SAVE ALL SAMPLES

NOTE 1:
WX instruments have a
2 Megabyte RAM which
houses the user-
programmed Songs and
Sounds. If you want to
load Samples, you must
fit the WX with the
optional 2 Megabyte
Sample RAM.

This operation saves of all the Samples contained in MEMORY (up to a maximum of 48 if the instrument is fitted with the optional Sample RAM[1].
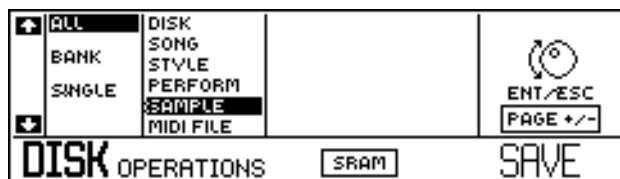
The procedure is the same as for Save All Disk.

SAVE BANK MODE

1.   SAVE A SINGLE BANK OF PROGRAMMABLE STYLES

Use this operation to save a Bank of 8 Programmable Styles (Bank 1 = Style 1, Bank 2 = Style 2 and so on..) to Disk or SRam.

1.1   Press ENTER and select the Bank of Styles as well as the destination to Disk or SRam:

1.2   Press ENTER twice to confirm the operation.

Save a single Bank of Internal Style Performances

N.B. An optional operation is provided with the F8 function button. This allows you to save a single bank of **Style Performances** containing user-programmed performances relating to the INTERNAL STYLES (Bank 1 = Dance, Bank 2 = Beat, Bank 3 = Rock'n and so on...):

```
┌─────────────┬─────────────┬──────────────┐
│ FROM MEMORY │   TO DISK   │SAVE INT.STYLE│
├─────────────┼─────────────┼──────────────┤
│▲16 --------- │16 --------- │PERF. ONLY    │
│ 17 --------- │17 --------- │              │
│ 18 --------- │18 --------- │     ((○)     │
│ 19 TWIST     │19 TWIST     │              │
│ 20 --------- │20 --------- │   ENT/ESC    │
│ 21 --------- │21 --------- │              │
│▼22 --------- │22 --------- │       [PROG.]│
└─────────────┴─────────────┴──────────────┘
```

NOTE: You can only save a Bank of Style Performance to its corresponding destination on Disk or SRam (Bank 1 to Bank 1, Bank 2 to Bank 2, etc.).

2.   SAVE A SINGLE BANK OF REAL TIME PERFORMANCES

This operation saves a bank of Real Time Performances (Bank1 = Perf1, Bank2 = Perf2, Bank3 = Perf3) to Disk or SRam.

```
┌──────────┬──────────┬──────────┬──────────┐
│▲ ALL     │DISK      │          │          │
│          │SONG      │          │  ((○)    │
│ BANK     │STYLE     │          │          │
│          │PERFORM   │          │ ENT/ESC  │
│ SINGLE   │SAMPLE    │          │[PAGE +/-]│
│▼         │MIDI FILE │          │          │
├──────────┴──────────┴──────────┴──────────┤
│ DISK OPERATIONS   [SRAM]         SAVE      │
└───────────────────────────────────────────┘
```

The procedure is the same as for Save Single Bank Styles.

SAVE SINGLE MODE

This mode saves the following single elements to Disk or SRam from the instrument's Memory:

> **1**   **A SINGLE SONG**
>
> **2**   **A SINGLE STYLE**
>
> **3**   **A SINGLE PERFORMANCE**
>
> **4.**   **A SINGLE MIDI FILE**

The operations performed in Save Single mode are the same as those used in Save Single Bank mode. By confirming the operation with ENTER, the display allows you to select the single element to save as well as the position that it will occupy from the 8 available on Disk or SRam.

Save Single MIDI File

WX converts sequence data to STANDARD MIDI FILES, **format 1**, making it possible for instruments of other manufacturers to playback WX Songs (provided the units conform to this MIDI Standard).

Format 1 MIDI Files conserve the separate track data (1-16) of a Song in the same manner as when it was created.

The Song to MIDI FILE conversion follows exactly the same steps as all other Save/Load Single operations, with the additional step where you can give the MIDI File a name.

All MIDI FILES are identified by the extension "**.MID**" which is "attached" to the converted file automatically.

Example:

1. Set the display parameters to "Single" and "MIDI FILE":
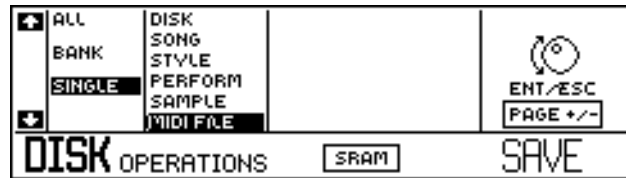
2. Press ENTER and the directory of the Songs in Memory will be displayed:
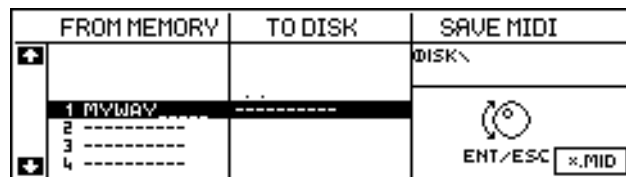
If the disk contains several different files, an option that isolates all the MIDI files present is provided by the F8 function button. When pressed, only files showing the .MID extension are displayed.

3. Select the Song to convert and press ENTER.

4. After a short period during which the "Wait Please" message is displayed, the display shows an active rectangular edit zone on the right where you can write the new name of your converted file, using up to 8 characters.
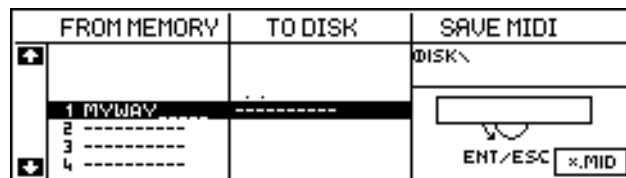
5. In this display situation, the keyboard converts to an alphanumeric source where each key provides a letter or a number as well as other functions:

   Shift = Capitals, Space, Delete at the cursor position, <— [cancel previous entry], ◀ [move cursor one step back].

6. Inserting the first character moves the cursor one step to the right.
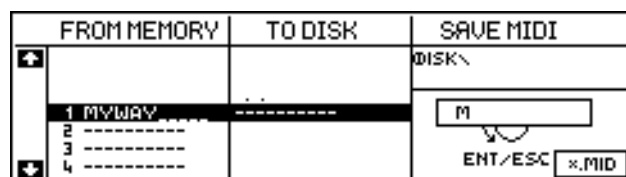
7. Continue in this way until the name is fully written:
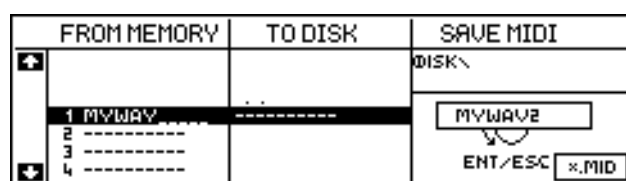
8. Press ENTER once and once again to confirm, or Esc to cancel the operation:

FROM MEMORY	TO DISK	SAVE MIDI
1 MYWAY	-----------	🖫 Saving...
2 -----------		
3 -----------		🕒
4 -----------		

9. After a short period, the SONG will be converted to the MIDI FILE, shown by the .MID extension:

FROM MEMORY	TO DISK	SAVE MIDI
1 MYWAY	MYWAY2 .MID	DISK\
2 -----------		
3 -----------		ENT/ESC ×.MID
4 -----------		

NOTE: Some songs may be protected by a GENERALMUSIC copyright - in this case, attempting to convert to MIDI FILES will display an appropriate message, informing you that the operation cannot be performed and inviting you to escape.

ERASE OPERATIONS
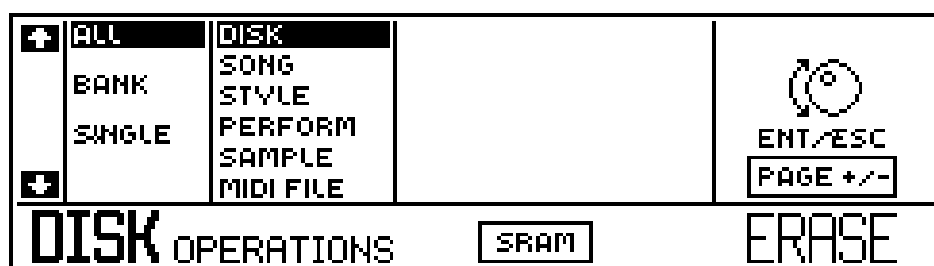
All operations relative to the cancellation of data from Disk or SRam are carried out on the ERASE page.

The operations are identical to those used in the Load and Save operations discussed in the preceding pages.

The ERASE function permits the cancellation of the following elements:

    All the contents of Disk or SRam

    All Songs (from Disk or SRam)

    All Styles (from Disk or SRam)

    All Performances (from Disk or SRam)

    All Samples (from Disk or SRam)

    A Single Bank Style (from Disk or SRam)

    A Single Bank Internal Style Performance (from Disk or SRam)

    A Single Bank Performance (from Disk or SRam)

    A Single Song (from Disk or SRam)

    A Single Programmable Style (from Disk or SRam)

    A Single Internal Style Performance (from Disk or SRam)

    A Single Performance (from Disk or SRam)

    A Single MIDI File (from Disk or SRam)

Example:

How to ERASE a modified Performance of an Internal Style.

1.   Set the Erase display parameters to "Single" and "Style":
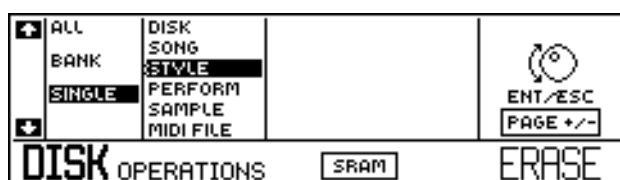
2.   Press ENTER and, after the "Wait Please" message, the Prog. Style directory will be displayed:
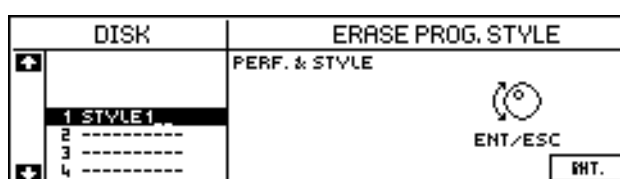
3.   Select the option "INT" with F8 to access the directory of the Internal Style Performances:
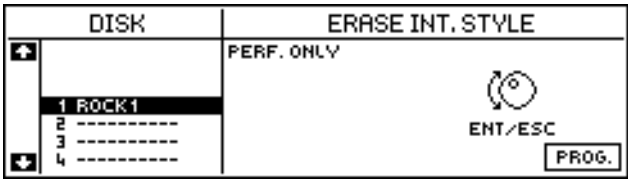
4.   Select the Performance to erase and press ENT twice:

When the "Erasing" message disappears, the operation will be complete.

UTILITY OPERATIONS
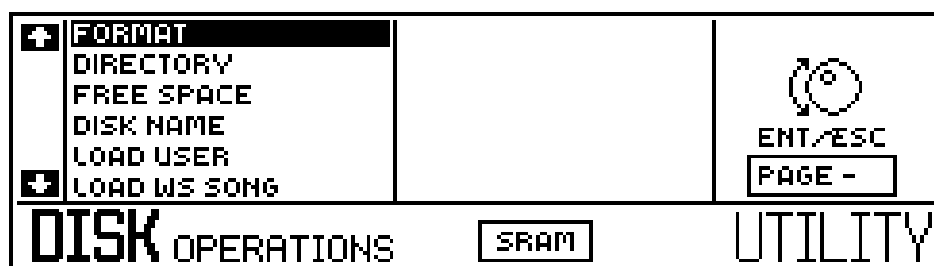
1)   FORMAT = allows a disk to be formatted.

This operation formats a floppy disk (3.5" HD) so that WX can use it to store data. A newly purchased disk must be formatted before it can be used. Disks formatted by other devices must also be formatted with this operation before being used. When a disk is formatted, all data contained in it will be destroyed. Be careful not to format disks containing important data and use the Disk Write Protect slider to prevent accidents. You are also recommended to label your Disks clearly.

After inserting the disk, start the operation pressing ENT.
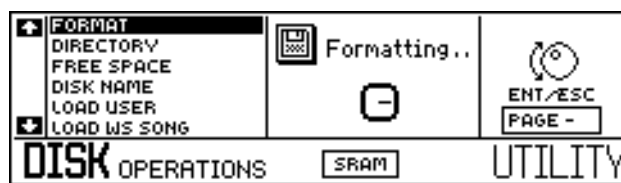
The formatting process takes just over a minute then returns to the main Utility display.

2)   DIRECTORY = allows the contents of a disk to be examined.

The "Directory" is a list of "items" contained in the disk (or SRam). It is divided into the various elements that make up the memory:
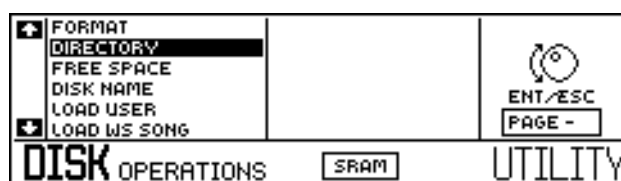
By pressing ENT the disk's directories are displayed:

Select one of the elements and press ENT again to access all its files.

Examples:

If you access the Song directory, the display will show something like this:

Similarly, the Performance directory shows:

3)   FREE SPACE = Displays the free space available.
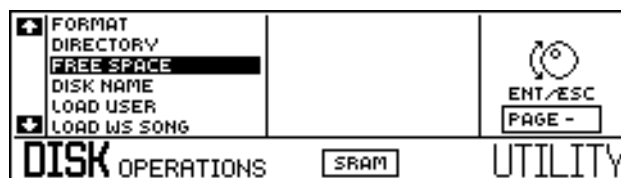
When a disk is inserted in the driver, this function displays the amount of space available on the disk, in the instrument's memory and, if fitted, on the optional RAM .

Press ENT to obtain the information required:
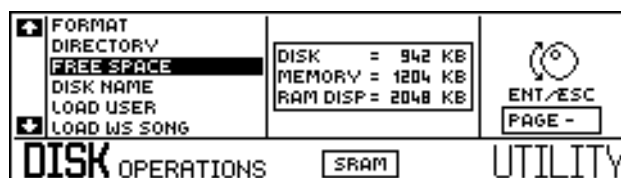
Note: If SRam operations are active, the display will show the free memory available in the Static Ram as well as the instrument's Memory and eventual optional RAM.

4)   DISK (SRam) NAME = Allows a name to be given to a disk or to the SRam.
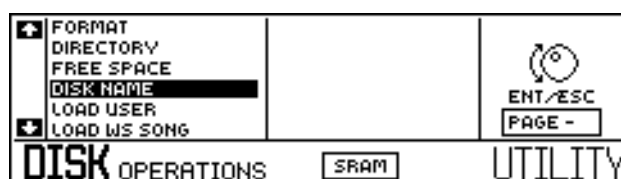
Press ENT to access the name writing procedure:

```
┌──────────────────────────────────────────┐
│ ↑ FORMAT                          ┌───┐   │
│   DIRECTORY                       │(◎)│   │
│   FREE SPACE                      └───┘   │
│ ▓DISK NAME▓         ┌──────────┐  ENT/ESC │
│   LOAD USER         └──────────┘  ┌─────┐ │
│ ↓ LOAD WS SONG                    │PAGE-│ │
│ DISK OPERATIONS     [SRAM]  UTILITY       │
└──────────────────────────────────────────┘
```
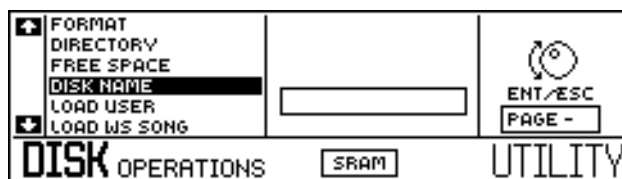
The small rectangle on the right is the active zone where the name can be written.

The letters, the numbers and other symbols are silk-screened under the keyboard and they are entered into the active zone by pressing the relative keys. The flashing cursor moves one step to the right after each entry.

On the extreme left of the keyboard several functions are provided:

Press "Shift" to write capital letters, press it again to return to small letters;

Use "Space" to create a space;

Use "Delete" to cancel the entry at the flashing cursor position;

Use the arrow "left arrow" (<—) to cancel the last entry;

Use the "back space" (◀) to move the cursor backwards.

Other symbols (apostrophe, comma, etc.) are located on the extreme right side of the keyboard.

A name consisting of up to 11 characters can be written (for Disk or SRam only - all other name situations permit 8 characters).

Press ENTER to confirm the name. Press ESC to escape the function and cancel all entries.

5)   LOAD USER PROGRAM

```
┌──────────────────────────────────────────┐
│ ↑ FORMAT                          ┌───┐   │
│   DIRECTORY                       │(◎)│   │
│   FREE SPACE                      └───┘   │
│   DISK NAME                       ENT/ESC │
│ ▓LOAD USER▓                       ┌─────┐ │
│ ↓ LOAD WS SONG                    │PAGE-│ │
│ DISK OPERATIONS     [SRAM]  UTILITY       │
└──────────────────────────────────────────┘
```
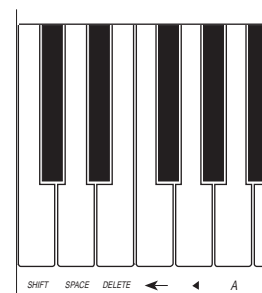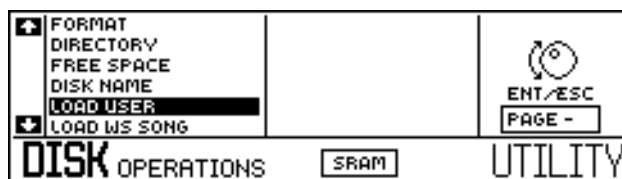
Another important WX innovation. This function allows new functions, implemented from time to time by GENERALMUSIC, to be loaded from disk to WX. Press ENTER after selecting the option:

```
┌──────────────────────────────────────────┐
│ ↑ FORMAT          ▓1 DISK_DIR▓    ┌───┐   │
│   DIRECTORY        2 COPY_PRG     │(◎)│   │
│   FREE SPACE       3 HARDCPY      └───┘   │
│   DISK NAME        4 ----------   ENT/ESC │
│ ▓LOAD USER▓        5 ----------   ┌─────┐ │
│ ↓ LOAD WS SONG     6 ----------   │PAGE-│ │
│ DISK OPERATIONS     [SRAM]  UTILITY       │
└──────────────────────────────────────────┘
```

Select the User Program required and press ENT.

Once loaded, access to the new function can be gained by means of the OPTION button in the SEQ. EDIT. section.

6)   LOAD WS SONG
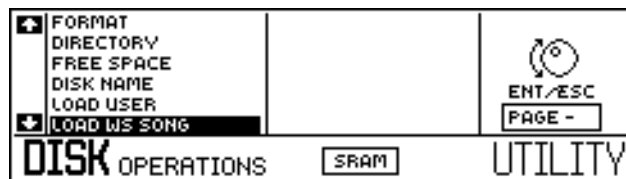
One of the most popular functions of this instrument. Being compatible with WS software, WX accepts WS songs from WS songs disks via an appropriate conversion. It is therefore possible to insert a WS disk directly into the WX drive.

Pressing ENT after selecting the function shows the WS disk directory:

Select the required Song and press ENT. The same procedure is already discussed in the GETTING STARTED chapter, on page 1-6.

N.B. The WS library contains more than 500 GENERALMUSIC songs, not to mention many others throughout the world!!

EDIT MIXER
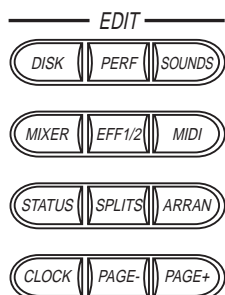
The MIXER is where you can balance the volumes and the panpots for all the tracks of the currently selected Performance and gain access to several general controls of the machine.

1. The Volume Page

The first page, called VOLUME, is where you can see and control the volumes of all the available tracks.

The volume of each track is represented graphically by a horizontal bar:
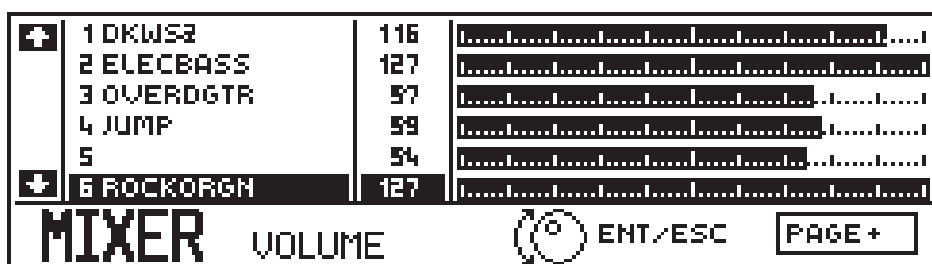
The tracks are selected with the UP/DOWN cursor arrows.

Rotate the dial to regulate the volume of a track on a scale that runs from 0 to 127.

To save the modifications:

Once the required volume levels have been set, press the ENT button to save the settings in the current Performance.

A window will be displayed which prompts you to confirm the operation with ENT or cancel it with ESC.
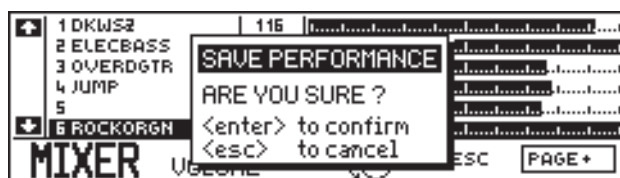
If the operation is confirmed, the new data will be stored in the current performance; if cancelled, the new data will remain unaltered up to the moment you select a different performance (or turn off), after which it will be irremediably lost.

2.   The PANPOT Page

Press the PAGE+ button to access the second page, called PANPOT.

```
┌──────────────────────────────────────────────────────┐
│ ✦ │ 1 DKWS2    │  0  │ ....l....l....l....l....l.I.l....l....l....l.... │
│   │ 2 ELECBASS │  0  │ ....l....l....l....l....l.I.l....l....l....l.... │
│   │ 3 OVERDGTR │ 12  │ ....l....l....l....l....l..l▓▓▓▓▓l....l....l.... │
│   │ 4 JUMP     │ -11 │ ....l....l....l..▓▓▓▓▓.l....l....l....l....l.... │
│   │ 5          │  0  │ ....l....l....l....l....l.I.l....l....l....l.... │
│ ✦ │ 6 ROCKORGN │  4  │ ....l....l....l....l....l.▓▓.l....l....l....l.... │
│  MIXER   PANPOT        ⟨◎⟩ ENT/ESC   │PAGE+/-│        │
└──────────────────────────────────────────────────────┘
```
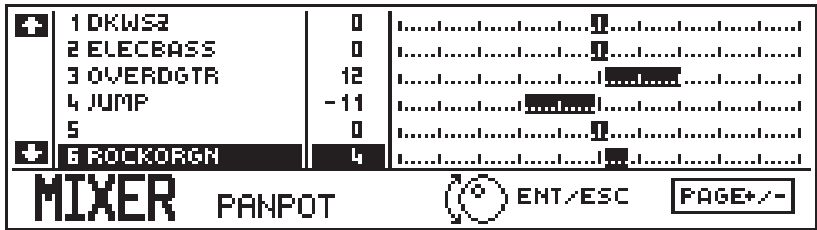
The PANPOT control permits a panoramic control of the sounds between the Left and Right internal audio channels (and L/R Outputs).

Each track is graphically represented by a horizontal bar and the central "0" position represents the exact centre of the two outputs.

To move the Sound to the left:

Rotate the Dial in an anti-clockwise direction - this generates negative values, indicating a movement towards the LEFT output.

To move the Sound to the right

Rotate the Dial in a clockwise direction - this generates positive values, indicating a movement towards the RIGHT output.

The values range from -31 (all to the left) to +31 (all to the right).

Press ENT to save the modifications in the current Performance.

3.   The MASTER Page

Press the PAGE+ button to access the MASTER page.

```
┌──────────────────────────────────────────────────────┐
│ ✦ │ TREBLE   │  6 │ ....l....l....l....l..▓▓▓▓▓l....l....l.... │
│   │ BASS     │  4 │ ....l....l....l....l..▓▓.l..l....l....l.... │
│   │ VOLUME   │ 23 │ ▓▓▓▓.l....l....l....l....l....l....l....l.... │
│ ✦ │ LOUDNESS │ ON │                                           │
│  MIXER   MASTER        ⟨◎⟩ ENT/ESC   │PAGE+/-│            │
└──────────────────────────────────────────────────────┘
```
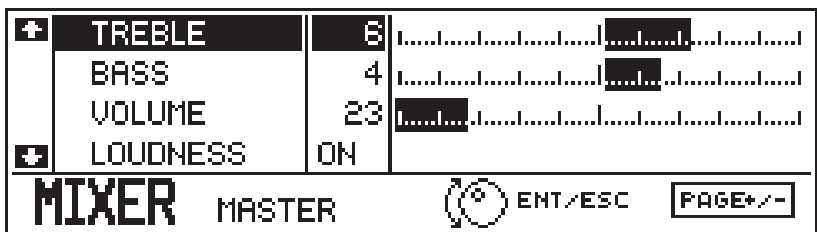
This page contains general controls for the keyboard, comprising the following parameters:

1. TREBLE: a gain (attenuation) of the high frequencies.

2. BASS: the same type of control, but for the low frequencies.

3. VOLUME: adjusts the general volume of the instrument and is linked to the MASTER potentiometer located on the panel.

4. LOUDNESS: when "On" it inserts a particular equalisation (a simultaneous control of Bass and Treble tones) which favours certain frequencies at low volume.

N.B. The LOUDNESS parameter has no effect at high volumes.

s.

4.   The AUDIO IN Page

Press the PAGE+ button again to access the last page of this section, the AUDIO IN page.

```
┌──────────────────────────────────────────────┐
│ ✚  TREBLE        0 |....|....|....|....|·|....|....|....|....| │
│    BASS          0 |....|....|....|....|·|....|....|....|....| │
│    VOLUME      100 |▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄|....|....| │
│ ✚  INPUT      LINE                            │
│ MIXER  AUDIO IN    ((°)) ENT/ESC  │PAGE-│     │
└──────────────────────────────────────────────┘
```
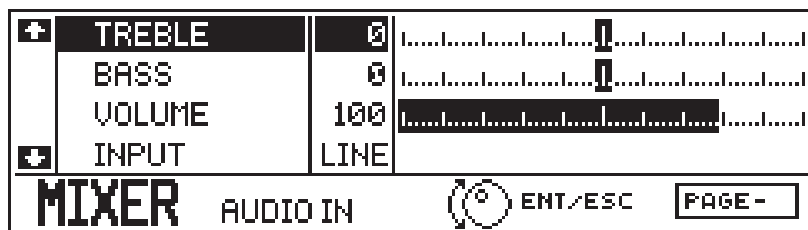
The page layout is identical to the previous one, apart from the INPUT parameter, and it allows the same type of operations, but in this case, they affect eventual signals connected to WX by means of the AUDIO IN (Left and Right) inputs.

This page contains the following parameters:

1. TREBLE: a gain (attenuation) of the high frequencies.

2. BASS: the same type of control, but for the low frequencies.

3. VOLUME: adjusts the general volume of the connected instrument and is linked to the MASTER potentiometer located on the panel.

4. INPUT: This controls the input gain and provides a choice of two options:

MIC for a microphone connection;

LIN to connect another musical instrument or HI-FI apparatus (a recorder or a compact disk unit).

EDIT STATUS

EDIT
DISK PERF SOUNDS
MIXER EFF1/2 MIDI
STATUS SPLITS ARRAN
CLOCK PAGE- PAGE+
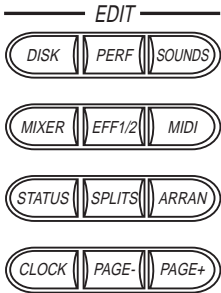
In this section you will find all the parameters relating to the instrument's general controls grouped together or, more precisely, the parameters not linked to the structure of the performances.

1. The GENERAL page.

```
┌──────────────────────────────────────────────────────────┐
│ ✚ │MASTER TUNE =    0│ CHORD DIS   = ENGLISH │  ⟲◎       │
│   │KEY TRANSP  =    0│ AUTO BANK SET = ON     │            │
│   │KEY SENS    =    5│ AFTER SENS  =    5     │            │
│   │PED 1    = ANALOG │ PED 1 ASSIGN= VOLUME   │  ENT/      │
│   │PED 2    = LOGIC N.C.│ PED 2 ASSIGN= START/STOP │ ESC   │
│ ✚ │DAMPER = LOGIC N.C.│ DAMP.ASSIGN = DAMPER  │            │
│   │ STATUS   GENERAL                      │ PAGE+ │        │
└──────────────────────────────────────────────────────────┘
```
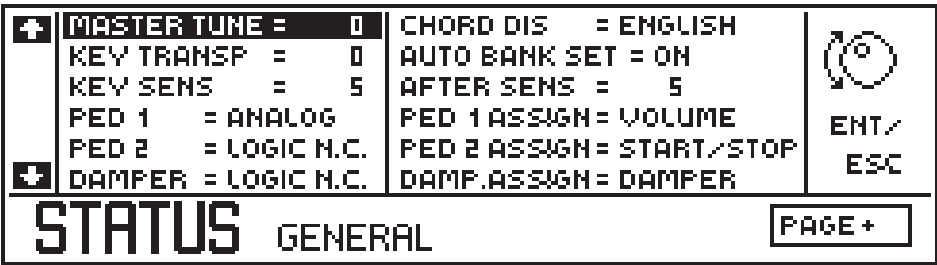
Navigation:

Use the Up, Down, Right and Left cursor arrows to select the parameters by moving the reverse-highlight cursor.

Use the Dial to enter a value or select the status of the currently selected parameter. You can also use the Toggle to switch from On to Off and vice versa (where permitted).

The following functions are available:

NOTE 1:
Each step is equivalent to 1/64th of a semitone.

1. Master Tune: controls the pitch of the instrument within the value range[1], -63 to +63.

2. Key Transpose: carries out a general transposition in semi-tones, within the range -24 to +24. This function can be individually disabled for any track (in Edit Performance) - this is particularly necessary for the drum track, to avoid the transposition of percussion sounds which would result in the change of sound (from Cymbal to Snare, for example).

3. Key Sens: controls the keyboard sensitivity to dynamic variations. A scale of 1 to 5 is available where the higher values provide increased sensitivity while the lower ones give the inverse effect.

4. Chord Display: allows you to choose between Italian or English chord notations - displayed in the right hand corner when playing with Styles.

5. Auto Bank Set: normally, when this function is ON, selecting a track also recalls its associated sound bank. This is to allow the user maximum flexibility in sound selection and to avoid too many operations when working with multi-timbral situations.

If, however, you want to assign instruments from the same bank to several different tracks, you can disable the Auto Bank set function (OFF) to avoid automatic Bank selections for every track selection.

6. After Sens: controls the aftertouch sensitivity. A scale of 1 to 5 is available where the higher values provide increased sensitivity to After-touch pressure while the lower ones give the inverse effect.

7. Six parameters related to the three programmable pedals.

> **Ped 1 =**   **Ped 1 Assign = (function)**
>
> **Ped 2 =**   **Ped 2 Assign = (function)**
>
> **Damper =**   **Damper Assign = (function)**

The parameters on the left select the type of pedal, while those on the right select the function to assign to it.

> **Ped = Analog**:   a **continuous control** pedal; e.g. a Volume pedal.
>
> **Ped = Logic n.c/n.o**.:   a **switch action** pedal; e.g. a Start/Stop pedal.

With "**n.c.**" and "**n.o.**" you can select the pedal polarity. This will allow the use of pedals of other brands.

N.C. =- Normally closed (Generalmusic pedals)
N.O. = Normally open (pedals of other brands).

Functions assignable to the Pedals:

The assigned functions differ according to whether "analog" or "logic" is selected. Each track of the current Performance can also be enabled or disabled for the assigned pedal function - this is carried out "Edit Performance" environment in the "Pedals" and "Damper" functions.

When **Analog** is selected, you can assign the following functions to the relative continuous control pedal:

Off:	pedal disabled.
Pitch Bend:	provides the same effect as the Track Ball when moved in Left/ Right directions with a maximum pitch excursion of ±2 semi-tones.
Pitch +:	provides a pitch increase with an excursion from standard Pitch to +2 semitones.
Pitch -:	provides a pitch decrease with an excursion from standard Pitch to -2 semitones.
Modulation:	provides the same effect as the Track Ball when moved in Up/ Down directions.
Volume:	provides a master volume control covering the complete range of level values (0 - 127).
Pan:	moves the sounds between the Left and Right Audio channels.
Expression:	provides a general volume control with a limited excursion of level[1].
Attack:	affects the Amplitude envelope (key on) of the sounds being controlled. In this case, it controls the time taken for the sound(s) being affected to reach maximum level before entering the decay phase. In other words, it controls the Attack Rate.
Release:	affects the Amplitude envelope (key off) of the sounds being controlled. In this case, it controls the time taken for the sound(s) being affected to reach zero level after releasing the keys.
Filter 1:	affects the Filter envelopes (Key on) of the sounds being controlled, intervening on the Cut-off frequencies. In practice, this control allows you to "open" and "close" Filter 1.

NOTE 1:
The lowest point corresponds to the value of the Volume parameter in the Master Mixer page.

Filter 2:   affects the Filter envelopes (Key on) of the sounds being controlled, intervening on the Cut-off frequencies. In practice, this control allows you to "open" and "close" Filter 2.

Filter 1+2:   affects both Filter envelopes (Key on) of the sounds being controlled, intervening on the Cut-off frequencies. In practice, this control allows a simultaneous "opening" and "closing" of Filter 1 and Filter 2.

Note: The effect of the Attack, Release, Filter 1, Filter 2 and Filter 1+2 parameters depend on the sounds assigned to the enabled tracks.

When **Logic** is selected, the following functions can be assigned to the relative switch action pedal:

Off: pedal disabled.

7th: when pressed, all chords played are automatically transformed to the 7th.

Min: when pressed, all chords played are automatically transformed to the Minor.

Dim: when pressed, all chords played are automatically transformed to the Diminished.

Damper: when pressed, it sustains the notes played after release - simulates the loud pedal of a Piano.

Sostenuto: provides the Damper effect only on the notes played prior to pressing the pedal. All notes played after are not affected.

Soft: decreases the dynamic response of the keyboard by a small amount, simulating the effect of the soft pedal of a Piano.

Start/Stop: start and stop control for the Sequencer (Styles and Songs).

Var/Cont: when pressed while a Style is playing, it provides a Variation of the Basic Fill In and triggers a Variation of the Basic Rhythm and Arrangement pattern. In Song mode, pressing the pedal provides the "Continue" function which starts the song from the point it was stopped.

Intro/End: when pressed, it starts a Style with an "Introduction" - if a Style is playing, pressing the pedal provides an "Ending" of the Style.

Fill/Tap: when pressed while a Style is playing, it provides a "Fill In" of the Basic Rhythm and Arrangement pattern. It also triggers the Basic pattern if the Variation was playing before pressing the pedal. Before starting a Style or Song, the Tap function provides a start after beating time with your foot on the pedal. The Song or Style plays with the Tempo established by the beats tapped. See also "The Style and Song commands" on page 3-3.

Punch: used to insert (to "Punch in") a correction during the recording of a Prog. Style or Song. Events are recorded from the instant the pedal is pressed until is it pressed again, or until recording is stopped with Start/Stop.

Rotary S/F: switches from Rotary Slow to Fast and vice versa, provided that the Rotary Effect is assigned to the tracks being affected.

2.   The MICROTUNING Page

This page, accessed with PAGE+, provides a selection of preset intonation scales (temperaments) and four programmable ones.

```
+-----------------------------------------------+
| [+] | 1 EQUAL T.        | 7 PROG1  |          |
|     | 2 INVERSE         | 8 PROG2  |   (o)     |
|     | 3 MESOTONICO      | 9 PROG3  |           |
|     | 4 WERCKMEISTER III|10 PROG4  |           |
|     | 5 ARABIAN 1       |          |     ENT/  |
| [+] | 6 ARABIAN 2       |   |||||||     ESC   |
|  STATUS   MICROTUNING          |PAGE+/-|      |
+-----------------------------------------------+
```
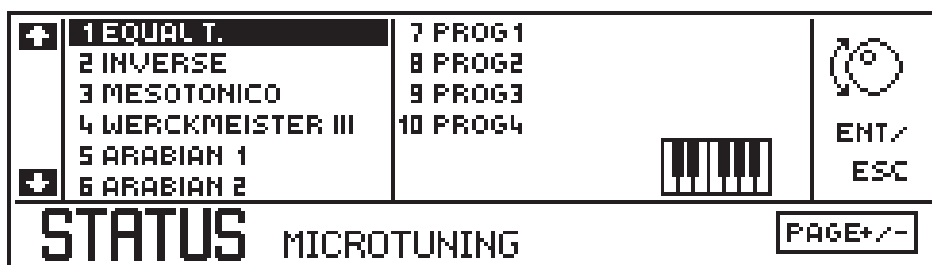
Several of the scales available are historic and are suitable for those interested in the creation of antique music.

The small keyboard in the right part of the display shows how each note of any Intonation scale differs with respect to the same note of the Equal scale.

For example, if you select the Mesotonic scale and play every note within an octave, the small keyboard will display, for every note, the difference in 64th of a semitone with respect to the same note of the Equal scale (0). The display will show the following:

Play any note C#:

```
+------------------------------------------+
| [+] | 1 EQUAL T.       | 7 PROG1 |       |
|     | 2 INVERSE        | 8 PROG2 |  (o)   |
|     | 3 MESOTONICO     | 9 PROG3 |        |
|     | 4 WERCKMEISTER III|10 PROG4| C#=-15 |
|     | 5 ARABIAN 1      |   |||||||  ENT/  |
| [+] | 6 ARABIAN 2      |           ESC    |
|  STATUS   MICROTUNING     |PAGE+/-|       |
+------------------------------------------+
```
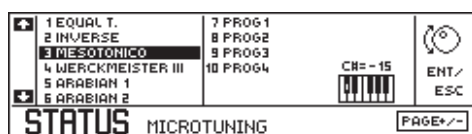
The note C# is shown to be -16 units lower than the same note of the Equal scale

Play any note D#:

```
+------------------------------------------+
| [+] | 1 EQUAL T.       | 7 PROG1 |       |
|     | 2 INVERSE        | 8 PROG2 |  (o)   |
|     | 3 MESOTONICO     | 9 PROG3 |        |
|     | 4 WERCKMEISTER III|10 PROG4| D#= 7  |
|     | 5 ARABIAN 1      |   |||||||  ENT/  |
| [+] | 6 ARABIAN 2      |           ESC    |
|  STATUS   MICROTUNING     |PAGE+/-|       |
+------------------------------------------+
```
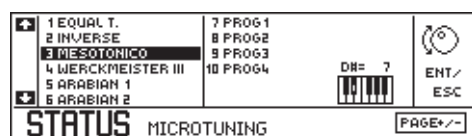
The note D# is shown to be 7 units higher than the same note of the Equal scale

The Intonation scales:

EQUAL TONE: this is the standard temperament and is the scale currently in use (since the Bach era) - it provides the standard for modern "Western" music based on the note A = 440 Hz.

INVERSE: inverts the keyboard - the higher notes on the left, the lower notes on the right.

MESOTONIC: temperament in use during the 16th and 17th centuries which favoured the perfect major third interval with respect to that of the fifth. Calculated from the note C, the chromatic scale is very irregular. The usable scales of this temperament are: C. Maj. / D Maj.. / G Maj.. / A Maj.. / Bb Maj. and the relative minors.

WERKMEISTER III: temperament suitable for the execution of the German musical repertoire between the end of the 17th and 18th century.

ARABIAN 1 & 2:   two Arabian scales based on the reduction by one quarter of a tone of one or more notes of the scale.

PROG 1, 2, 3, 4:   four positions for user-programmable scales.

How to programme an Intonation Scale

A new intonation scale can be programmed by modifying one or more notes of one of the programmable scales (Prog 1, 2, 3 & 4).

The idea is to alter the tuning of one or more notes of the scale to the level desired.

Procedure:

1. Select one of the four Programmable scales and press the note you want to change - the small scale shows the current standard patch (0):
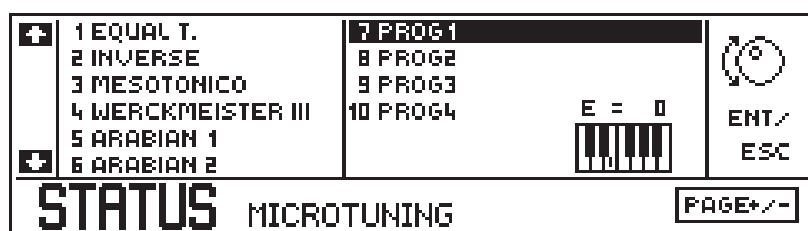
2. Rotate the Dial to set the required pitch:
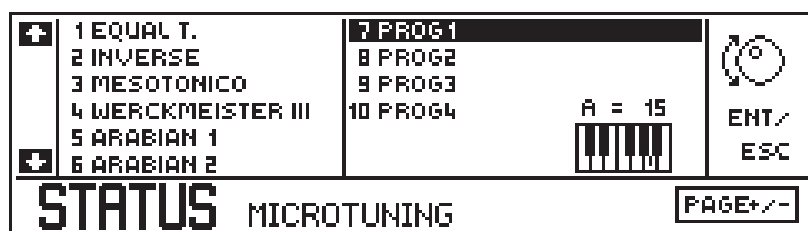
This will affect all the same notes across the entire keyboard.

3. Repeat the procedure for all other notes required.
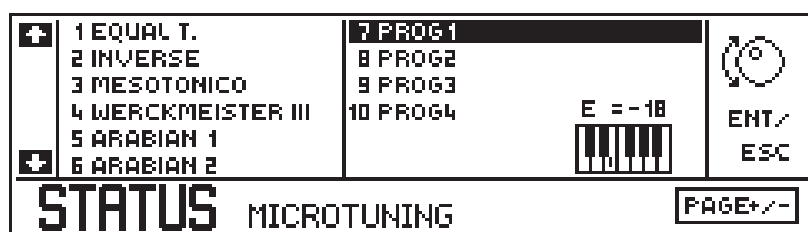
4. Memorise the new Scale by pressing ENTER:

5. Confirm the new scale by pressing ENTER again, or cancel the operation with ESC.

Now, each time you want to play with your Programmed scale, simply select it in the relative Status page.

If you want to use your programmed scale permanently, carry out the Save All to SRam operation with the programmed scale selected. Every time you power up, your scale will be recalled.

3. The VIDEO MONITOR Page

This page is where you can control the viewing possibilities of the image transmitted by the Video Outputs (RGB and TV) on an external monitor (computer type colour monitor or normal domestic TV).
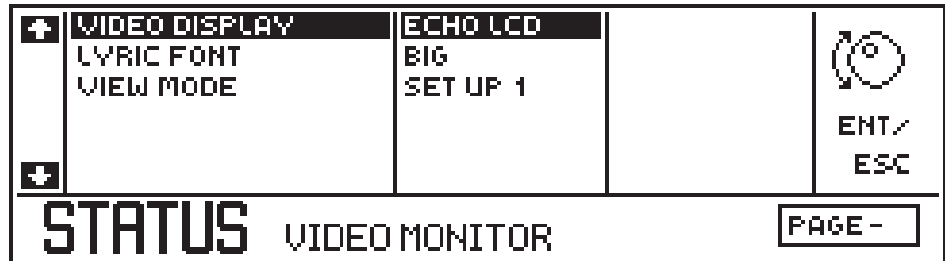
1. VIDEO DISPLAY: provides a choice of four viewing modes:

ECHO LCD, shows exactly what is displayed by the instrument.
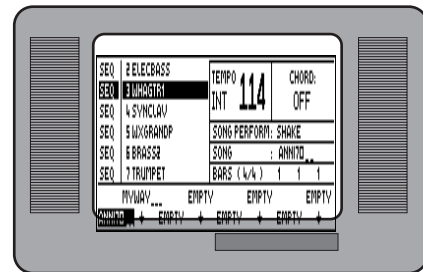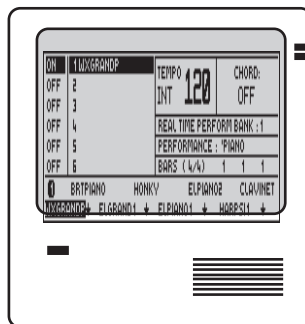
SCORE, in **SONG** mode it shows a score, complete with a melody line on a musical staff with chord symbols and lyrics.
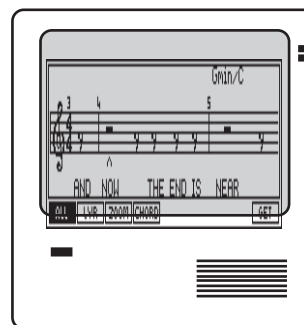
LYRICS ONLY, isolates the lyrics from the rest.
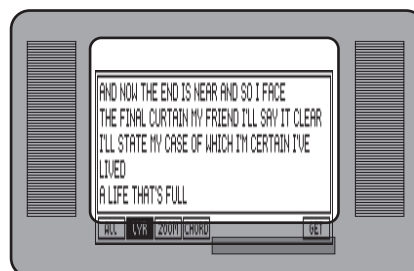
CHORDS ONLY, isolates the chord symbols on the musical staff.
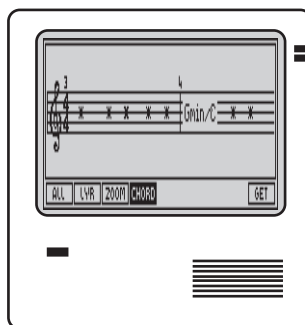
2. LYRIC FONT: allows you to select three different character sizes with which you can view the text and an option to view the lyrics on two lines:

BIG, **NORMAL, SMALL** and **TWO LINES**.

3. VIEW MODE: allows you to select up to 4 different colour combinations (SETUP 1, 2, 3 and 4).

N.B. in the SCORE and CHORDS ONLY modes, an animated graphic symbol indicates the current position of the SONG or, more precisely, the bar being played at that particular moment.
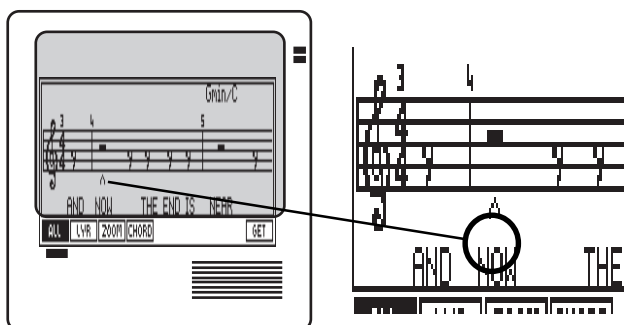
In the LYRICS ONLY mode, the synchronised change of colour of the words indicates precisely when they should be sung.

EDIT PERFORMANCE

EDIT

DISK | PERF | SOUNDS

MIXER | EFF1/2 | MIDI

STATUS | SPLITS | ARRAN
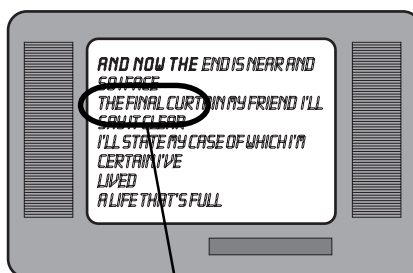
CLOCK | PAGE- | PAGE+
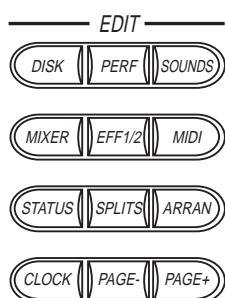
When you press the PERF button in the Edit section, you gain access to all the Performance parameters. The parameters are arranged in two pages.

If you want to edit the currently selected Performance (Real Time Perf mode, Internal Style mode, Song mode, etc.), simply press the Performance button in the Edit section.

Navigation

Select the required parameter with the relative function button F1…F8.

Use the Cursor arrows to select the section required.

Use the Dial or Toggle to modify the parameter value or status.

Change page with the Page+/- buttons.

1.   CONFIGURATION

The "Configuration" parameter determines the status of a track with respect to its reaction with the keyboard, with MIDI IN data and the destination of the events it generates.

The UP/DOWN arrows select the various tracks, while the various fields in the left part of the display are selected (highlighted) by rotating the DIAL.

```
┌──────────────────────────────────────────────────────────┐
│ ➕ 1 WXGRANDP          ┌──────┐ ┌─┐  ┌──────┐  ┌─────┐    │
│    2 RHODX            │▐▐▐▐▐▐▌│→│T│→ │  WX  │  │     │    │
│    3 CELESTA          └──────┘ │R│  │SOUNDS│  │ (◔) │    │
│    4                           │A│  └──────┘  └─────┘    │
│    5                  ┌──────┐ │C│  ┌──────┐   ENT/ESC   │
│ ➕ 6                  │ MIDI │→│K│→ │ MIDI │  ┌───────┐  │
│                       │  IN  │ └─┘  │ OUT  │  │ PAGE+ │  │
│                       └──────┘      └──────┘  └───────┘  │
│         MODE      TRANSPOSE    RANDMPAN       EFFECTS    │
│     ▐CONFIG▌ ✦  DETUNE  ✦   AFTERT.  ✦  TRACKBALL  ✦    │
└──────────────────────────────────────────────────────────┘
```

(F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8)
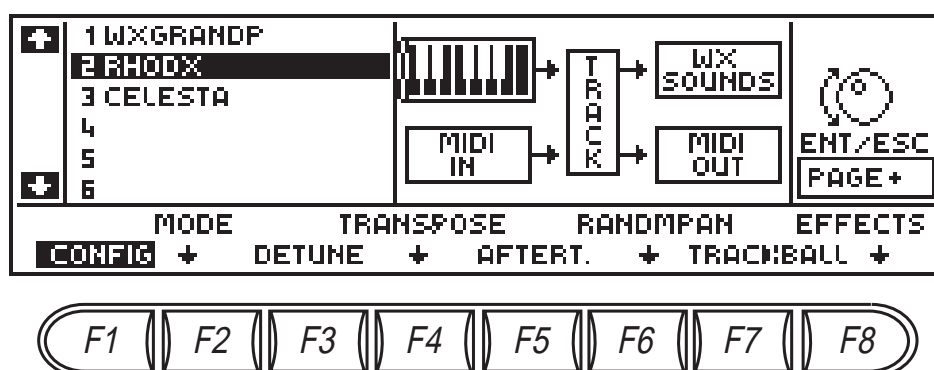
Connect/Disconnect Local (Keyboard)

The first field in the top left, displaying a keyboard, shows whether the currently selected track is connected to the WX keyboard or not. This connection is also known as the "Local" connection.

Press the Toggle to disconnect Local.

```
┌──────────────────────────────────────────────────────────┐
│ ➕ 1 WXGRANDP          ┌──────┐ ┌─┐  ┌──────┐  ┌─────┐    │
│    2 RHODX            │▐▐▐▐▐▐▌│→│T│→ │  WX  │  │     │    │
│    3 CELESTA          └──────┘ │R│  │SOUNDS│  │ (◔) │    │
│    4                           │A│  └──────┘  └─────┘    │
│    5                  ┌──────┐ │C│  ┌──────┐   ENT/ESC   │
│ ➕ 6                  │ MIDI │→│K│→ │ MIDI │  ┌───────┐  │
│                       │  IN  │ └─┘  │ OUT  │  │ PAGE+ │  │
│                       └──────┘      └──────┘  └───────┘  │
│         MODE      TRANSPOSE    RANDMPAN       EFFECTS    │
│     ▐CONFIG▌ ✦  DETUNE  ✦   AFTERT.  ✦  TRACKBALL  ✦    │
└──────────────────────────────────────────────────────────┘
```
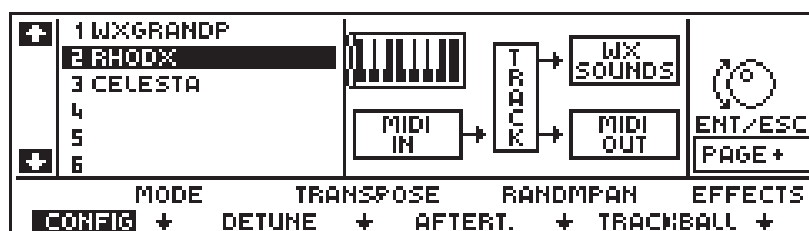
This is the classical "MIDI Controller" condition (otherwise known as "Local Off").

WX2
WX4

In this condition, the Track status is shown in the left column as "MIDI" in all playing modes.
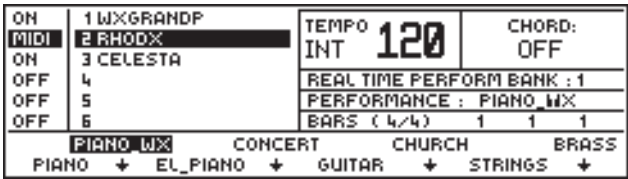
Repress the Toggle to restore the connection.

Connect/Disconnect MIDI IN events

The MIDI IN field is where the reception of MIDI events arriving on MIDI IN can be allowed to pass or can be prevented from reaching the currently selected track.
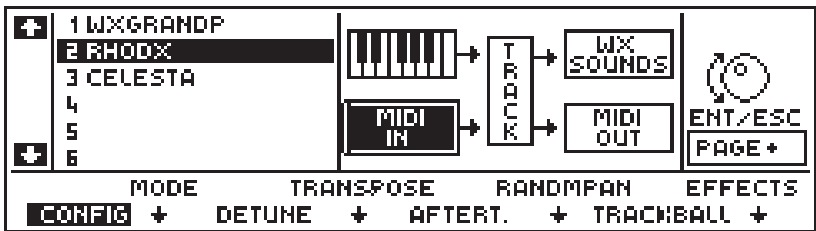
Hit the Toggle to prevent all MIDI IN events from reaching the currently selected Track:
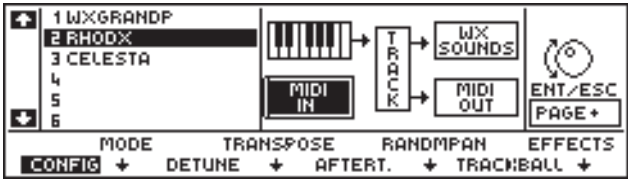
The track status relating to this condition is displayed in the left track column as "KYB" (provided that Local is not disconnected):
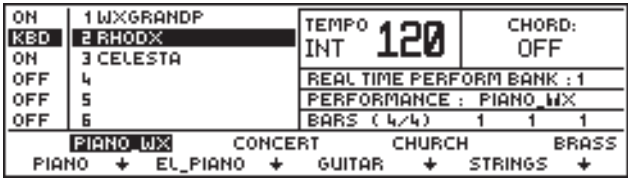
Repress the Toggle to restore the connection.

Connect/Disconnect the internal Sound generator

The WX SOUNDS field is where the events originating from the currently selected track can be sent to or prevented from reaching the WX sound generator.
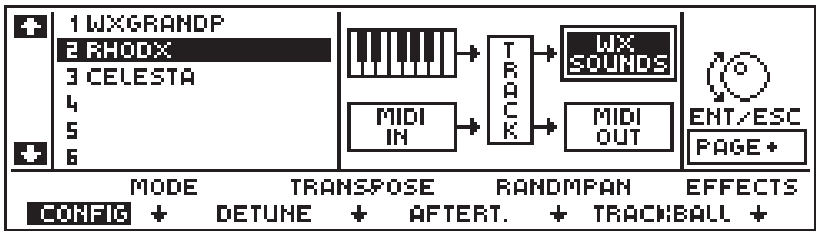
This also applies to the eventual events originating from the MIDI IN source.

Hit the Toggle to disconnect the currently selected Track from the Internal Sound engine:
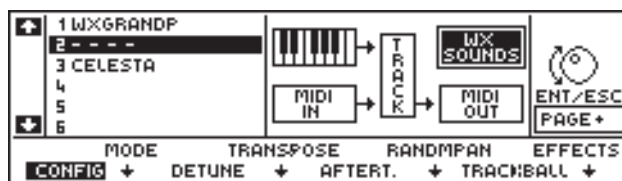
This condition is shown by a string of dashes for the currently selected track. In practice, this track can still communicate with an external sound source through MIDI OUT.

Repress the Toggle to restore the connection.

Connect/Disconnect MIDI OUT

The MIDI OUT field is where the events originating from the currently selected track can be sent to one or more external units through one of the MIDI OUT ports, or they can be prevented from being transmitted. This also applies to the events originating from MIDI IN when MIDI MERGE (in Edit MIDI) is active (ON).
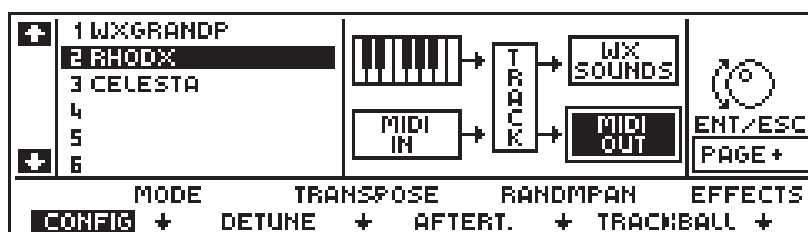
Hit the Toggle to disconnect MIDI OUT transmission:
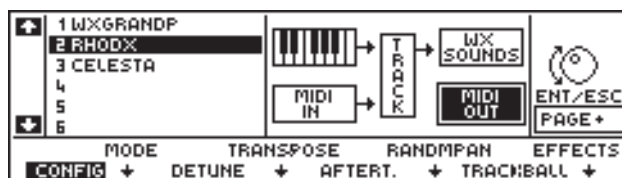
Repress the Toggle to restore the connection.

2.   MODE:

Selects the playing modes of each track.
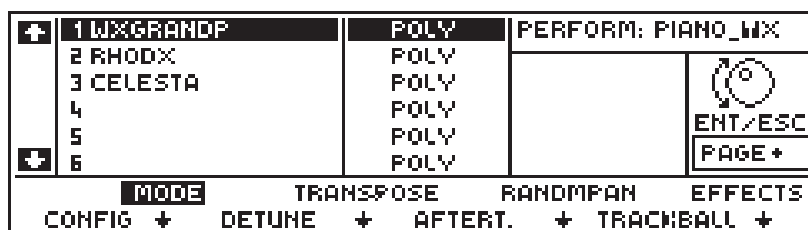
The parameters to choose from are:

POLY: polyphonic - the currently selected track can play more than two
                            or more notes simultaneously. If only one track is active to play,
                            you can obtain a polyphony of 32 notes using "Single Oscilla-
                            tor" sounds.

MONO L: mono left - gives priority to the lowest note when playing with chords. For example, if one track plays strings and a second plays bass, when you play a chord you will hear strings together with a single bass note.

MONO R: mono right - gives priority to the highest note. This it useful to provide a Solo sound for the right hand when using chords in multi-track situations.

MONO TIME: mono time - the new note will play without "cutting" the decay of the previous notes.

3.   DETUNE:

This control is a fine tune adjustment for the sound assigned to the currently selected track in steps of 1/64th of a semitone.
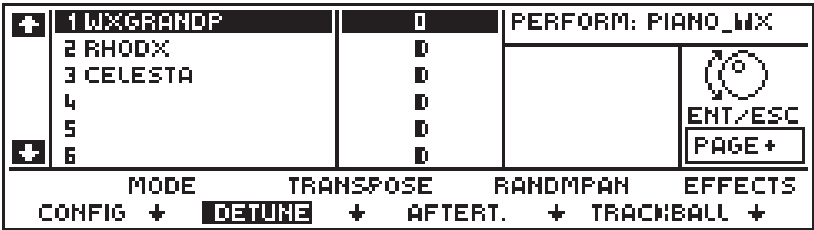
Values range from -64… 0… +64. This setting is not transmitted on MIDI OUT.

4.   TRANSPOSE:

Transpose adjusts the Pitch of the sound assigned to the currently selected track in chromatic steps, over a range of -60… 0… +60 where 0 is equivalent to standard pitch.
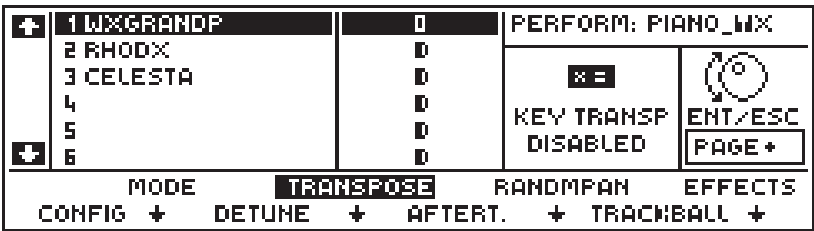
This setting affects the pitch of the Sound as well as the Note message transmitted on MIDI OUT.

Disable Key Transpose

The currently selected track can be disabled for the Key Transpose function (in Edit Status) by pressing the Toggle - the disabled track shows a small "x" after the parameter value.
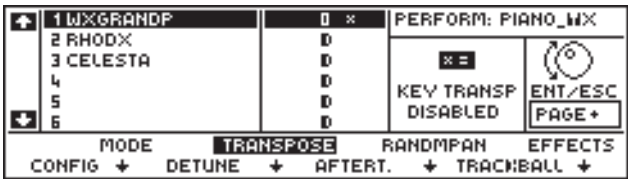
Important
It is essential to disable Key Transpose for the track dedicated to playing drumkits to avoid the transposition of the individual notes which result in a change of percussion sound.

5.   AFTER TOUCH

Enables or disables the effect of the Aftertouch control for the currently selected track.

```
┌────────────────────────────────────────────────┐
│ ⬆  1 WXGRANDP        │    ON    │PERFORM: PIANO_WX│
│    2 RHODX           │   OFF    │                 │
│    3 CELESTA         │   OFF    │      ╭─○─╮       │
│    4                 │   OFF    │     ╱    ╲      │
│    5                 │   OFF    │     ENT/ESC     │
│ ⬇  6                 │   OFF    │    │PAGE+│      │
│          MODE        TRANSPOSE   RANDMPAN   EFFECTS│
│    CONFIG  ✦   DETUNE  ✦  AFTERT.  ✦  TRACKBALL ✦ │
└────────────────────────────────────────────────┘
```

When this parameter is "ON", applying pressure to the keys after playing obtains effects that differ according to the sound assigned to the tracks. You can obtain modulation effects, pitch bend, or you can even control the opening of a filter. The sensitivity of this function can be regulated in the Edit Status page (Status Aftertouch).

6.   RANDOM PAN

By increasing the values of this parameter, it is possible to hear the sound of the currently selected track move freely between the left and right speakers.

```
┌────────────────────────────────────────────────┐
│ ⬆  1 WXGRANDP        │    0    │PERFORM: PIANO_WX │
│    2 RHODX           │    0    │                  │
│    3 CELESTA         │    7    │      ╭─○─╮       │
│    4                 │    0    │     ╱    ╲       │
│    5                 │    0    │     ENT/ESC      │
│ ⬇  6                 │    0    │    │PAGE+│       │
│          MODE        TRANSPOSE   RANDMPAN  EFFECTS│
│    CONFIG  ✦   DETUNE  ✦  AFTERT.  ✦  TRACKBALL ✦ │
└────────────────────────────────────────────────┘
```

The values range from 0… 7 where 0 is equivalent to "Off" and the higher values reflect a faster oscillation between the audio channels. At high speed, this parameter can obtain some interesting effects caused be the sound's random movement.

7.   TRACKBALL

This parameter determines how the trackball influences the sound of the currently selected track.

```
┌────────────────────────────────────────────────┐
│ ⬆  1 WXGRANDP        │PITCH+MOD│PERFORM: PIANO_WX │
│    2 RHODX           │PITCH+MOD│                  │
│    3 CELESTA         │PITCH+MOD│      ╭─○─╮       │
│    4                 │PITCH+MOD│     ╱    ╲       │
│    5                 │PITCH+MOD│     ENT/ESC      │
│ ⬇  6                 │PITCH+MOD│    │PAGE+│       │
│          MODE        TRANSPOSE   RANDMPAN  EFFECTS│
│    CONFIG  ✦   DETUNE  ✦  AFTERT.  ✦  TRACKBALL ✦ │
└────────────────────────────────────────────────┘
```

The possibilities are:

OFF: the effect of the Trackball is excluded;

PITCH: the Trackball provides Pitch Bend only by Left/Right movements of the control;

MOD: the Trackball provides Modulation only by Up/Down movements of the control;

PIT+MOD: the Trackball provides both Pitch Bend and Modulation with movements of the control in all directions.

8. EFFECTS

Here you can engage one or both Effects processors to the currently selected track or disengage both. The Effect Type for both processors is determined in the Edit Eff 1/2 section.

```
┌──┬─────────────┬─────────┬──────────────────────┐
│ ▲│ 1 WXGRANDP  │   1+2   │ PERFORM: PIANO_WX     │
│  │ 2 RHODX     │   1+2   │                       │
│  │ 3 CELESTA   │   1+2   │                  ╭◎╮  │
│  │ 4           │   1+2   │                  ╰◎╯  │
│  │ 5           │   1+2   │              ENT/ESC  │
│ ▼│ 6           │   1+2   │              │PAGE+│  │
├──┴─────────────┴─────────┴──────────────────────┤
│        MODE        TRANSPOSE    RANDMPAN  EFFECTS│
│   CONFIG  ✦    DETUNE   ✦   AFTERT.  ✦  TRACKBALL ✦│
└──────────────────────────────────────────────────┘
```

The possibilities are:

OFF: the sound is not processed by the Effects processors;

1:   the sound is processed by Effect processor 1 (reverb types);

2:   the sound is processed by Effect processor 2 (delays, chorus, etc.);

1 + 2:   the sound is processed by both Effects processors simultaneously.

Pass to the second page with PAGE+.

9. DAMPER

Enables (On) or disables (OFF) the function assigned to the damper pedal for the sound assigned to the currently selected track.

```
┌──┬─────────────┬─────────┬──────────────────────┐
│ ▲│ 1 WXGRANDP  │   ON    │ PERFORM: PIANO_WX     │
│  │ 2 RHODX     │   ON    │                       │
│  │ 3 CELESTA   │   ON    │                  ╭◎╮  │
│  │ 4           │   ON    │                  ╰◎╯  │
│  │ 5           │   ON    │              ENT/ESC  │
│ ▼│ 6           │   ON    │              │PAGE-│  │
├──┴─────────────┴─────────┴──────────────────────┤
│        VOLUMPED     PRIORITY     PERFNAME         │
│   DAMPER  ✦    PEDALS   ✦   COPY    ✦             │
└──────────────────────────────────────────────────┘
```

10. VOLUME PEDAL

Enables (ON) or disables (OFF) the volume pedal connected to the Volume pedal socket for the sound assigned to the currently selected track.

```
┌──┬─────────────┬─────────┬──────────────────────┐
│ ▲│ 1 WXGRANDP  │   ON    │ PERFORM: PIANO_WX     │
│  │ 2 RHODX     │   ON    │                       │
│  │ 3 CELESTA   │   ON    │                  ╭◎╮  │
│  │ 4           │   ON    │                  ╰◎╯  │
│  │ 5           │   ON    │              ENT/ESC  │
│ ▼│ 6           │   ON    │              │PAGE-│  │
├──┴─────────────┴─────────┴──────────────────────┤
│        VOLUMPED     PRIORITY     PERFNAME         │
│   DAMPER  ✦    PEDALS   ✦   COPY    ✦             │
└──────────────────────────────────────────────────┘
```

11. PEDALS

Engages one or both functions assigned to Pedal 1 and 2 to the currently selected track or disengages both.

```
+  1 WXGRANDP        1+2    PERFORM: PIANO_WX
   2 RHODX           1+2
   3 CELESTA         1+2
   4                 1+2              ___
   5                 1+2             ENT/ESC
+  6                 1+2             PAGE -
      VOLUMPED      PRIORITY    PERFNAME
   DAMPER +   PEDALS   +   COPY    +
```

The possibilities are:

OFF: the sound is not affected by the Pedals (1 or 2);

1:   the sound is affected by the function assigned to Pedal 1;

2:   the sound is affected by the function assigned to Pedal 2;

1 + 2:   the sound is affected by the functions assigned to Pedal 1 and Pedal 2.

12. PRIORITY

This function provides a means of assigning a "special polyphonic status" to a track in multi-timbral situations, to prevent "note stealing".

```
+  1 WXGRANDP         ON    PERFORM: PIANO_WX
   2 RHODX            ON
   3 CELESTA         OFF
   4                 OFF              ___
   5                 OFF             ENT/ESC
+  6                 OFF             PAGE -
      VOLUMPED      PRIORITY    PERFNAME
   DAMPER +   PEDALS   +   COPY    +
```

The term "note stealing" describes what occurs when the total number of notes played exceeds the maximum permitted polyphony: in such cases, on or more notes are freely "eliminated" to maintain the instrument's maximum permitted polyphony. By assigning Priority to a track, it will be protected from "note stealing" and the freely eliminated notes will be lost elsewhere.

Three different settings are available: **OFF**, **ON** and **SMART**.

N.B. If "Priority" is assigned to all the tracks, the function will be rendered inactive.

PRIORITY ON: gives the enabled track polyphonic priority over all the others. For example, if, while you are playing a Song, there are moments when the enabled track may require a polyphony higher than the maximum currently available, this track will "steal" notes from other tracks with the sole intention of playing correctly.

PRIORITY OFF: disables the effect.

PRIORITY SMART: this is a general function and cannot be applied to individual tracks. SMART guarantees a minimum polyphony for each track and protects the notes played on the left hand side of the keyboard. It is a particularly efficient system for piano sounds in general.

NOTE 1:
If you rotate the dial to the Right, Priority will be set to ON and may interfere with the correct operation of SMART. Rotating to the left does not alter the status of Priority.

It can be enabled by rotating the dial to the right[1] or to the left.

13. COPY

Copies the currently selected performance to another position within the same Bank or Banks. For example, in Real Time Perf mode, you can copy from one R. T. Perf Bank to another but, you cannot copy, for example, from a R.T. Perf Bank to a Song Bank.

For example, you can use this function to create Song Performances. This will allow you to record a Song (or Song Style) using up to 8 different Performances.

Once you have created your Song Performances, you can exploit the Performance Advance function (Perf+) assigned to one of the Footswitch control pedals (Analog). This will permit you to change Performances automatically without taking your hands off the keyboard.

Copy Performance procedure:

1.   Select COPY PERFORMANCE:
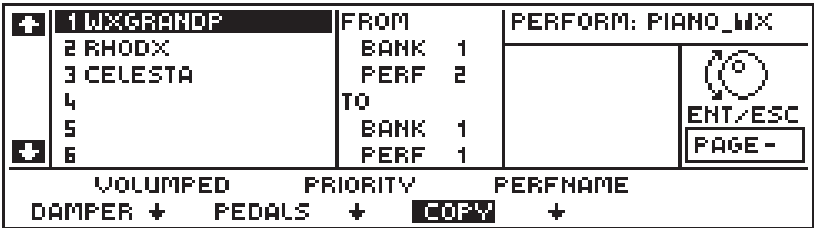
2.   Hit the Right cursor arrow to pass to the right edit zone of the display (Perf Bank) and select the Performance Bank to copy to by rotating the Dial:
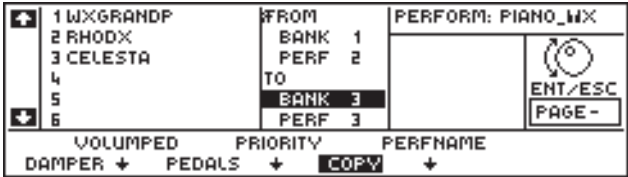
4.   Hit the Down cursor arrow to select the Performance edit zone and rotate the Dial to select the Performance:

14. PERFNAME

NOTE 1:
You can change the name of the Real Time Performances but, unless you save them to SRam or to disk, all new names will be lost when the instrument is turned off.
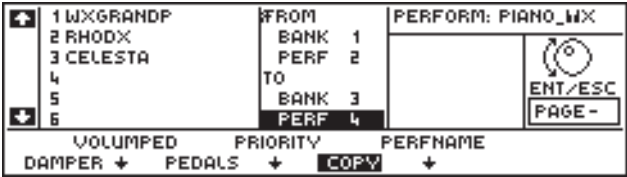
This is where you can give your Performances a name[1].
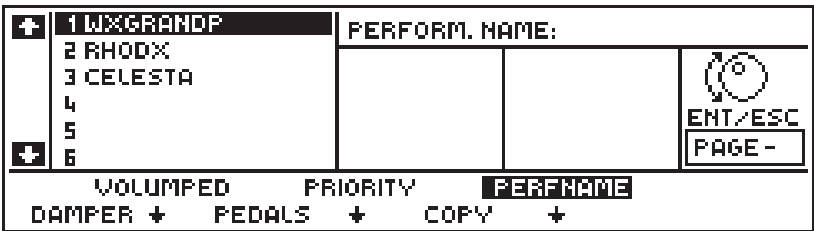
In this condition, the keyboard activates as an alphanumeric source and the Performance

name, when written, appears in the upper right part of the display after "Perform. Name".

The letters, the numbers and other symbols are silk-screened under the keyboard and they are entered into the active zone by pressing the relative keys. The flashing cursor moves one step to the right after each entry.

Several functions are provided on the extreme left side of the keyboard.

Press "**Shift**" to write capital letters;

Use "**Space**" to create a space;

Use "**Delete**" to cancel the entry at the flashing cursor position;

Use the arrow "left arrow" (<—) to cancel the last entry;

Use the "back space" (◀) to move the cursor backwards.

Other symbols (apostrophe, comma, etc.) are located on the extreme right side of the keyboard
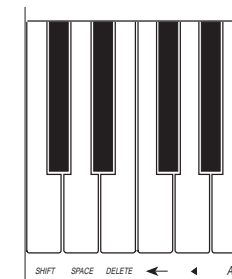
A name consisting of up to 8 characters can be written.

Press ENTER to confirm the name. Press ESC to escape the function and cancel all entries.

Note: You cannot change the name of the INTERNAL STYLE PERFORMANCES because they are permanently resident in ROM.

15. RESTORE

This parameter is only available if you access Edit Performance when you are in **ROM (Internal) STYLE MODE**.

```
┌──────────────────┬──────────┬──────────────────┐
│ ⬆ │ 1 DKWS2      │   OFF    │ PERFORM: STY_PERF│
│   │ 2 ELECBASS   │   OFF    │                  │
│   │ 3 OVERDGTR   │   OFF    │       ⬤          │
│   │ 4 JUMP       │   OFF    │      ((°         │
│   │ 5            │   OFF    │      ENT/ESC     │
│ ⬇ │ 6 ROCKORGN   │   OFF    │     ┌──────┐     │
│   │              │          │     │PAGE- │     │
├──────────────────┴──────────┴──────────────────┤
│    VOLUMPED      PRIORITY        RESTORE        │
│  ┌──────┐                                       │
│  │DAMPER│ ↓    PEDALS    ↓    COPY    ↓         │
│  └──────┘                                       │
└─────────────────────────────────────────────────┘
```
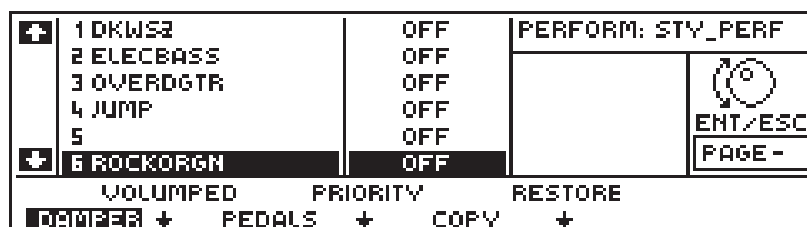
If you have modified the Performance of the currently selected Internal Style, the RESTORE function resets the Performance to its original default status.

Press RESTORE to access the function.

The "Are you sure?" window is displayed asking if you want to restore the original parameters of the current performance or not.

Press ENTER to confirm.

Press ESC to escape the edit and retain the modified parameters of the Performance.

EFFECTS
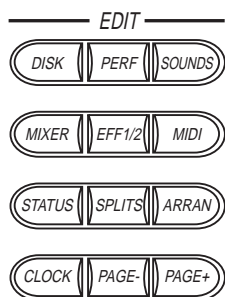
WX allows you to route your sounds through the multi-effects processors (Eff.1 & Eff. 2) or by-pass them (by-passing is carried out in Edit Performance).

In default, an Effect from one or both processors is assigned to every Performance (Real Time, Rom Styles, Prog. Styles, Songs).

Any modifications to the default status of the current Performance can be saved to the same location, or you can overwrite the Effect assigned to another Performance with the newly modified one using the Store function.

If you want to re-use the modified Effects, you must Save the relative Bank containing the Performance to Disk or SRam, otherwise they will be lost when the instrument is turned off.

The preset Effects cannot be moved, replaced or destroyed from the Effects library.

Effect 1 contains the Reverbs and Effect 2 the Delays and Modulations etc..

NOTE 1:
The Effects displayed depend on the currently selected Performance.

Press the EFF1/2 button to access the entry page[1] where the Effects can be selected:

```
┌─────────────────────────────────────────────────┐
│   EFFECT 1          EFFECT 2         (◎↻)       │
│  ███████████                                     │
│  ▓Hall_1 ▓        Delay1_1         ENT/ESC      │
│  ███████████                        PAGE+        │
│   EFFECTS  MENU                                  │
└─────────────────────────────────────────────────┘
```

IMPORTANT
If, when modifying the parameters of an Effect, you do not obtain any change, check that the tracks of the current Performance are active for the relative Effect processor (1 or 2).

```
┌─────────────────────────────────────────────────┐
│   EFFECT 1          EFFECT 2         (◎↻)       │
│                    ████████████                  │
│  Med_Room1         ▓Delay1_1▓      ENT/ESC      │
│                    ████████████      PAGE+       │
│   EFFECTS  MENU                                  │
└─────────────────────────────────────────────────┘
```

Use the LEFT/RIGHT arrows to pass from Effect 1 to Effect 2 and rotate the DIAL to select the Effect type.

The Effect types available:

EFFECT 1 (Reverb types)

NOTE † :
The Effects identified with † are pseudo-stereophonic.
If the relative Pan Pots (in Edit Mixer) of the Performance tracks that use the Effect are not set at centre, part of the Effect's efficiency will be lost.

Hall_1	Hall_2	Hall_3	
St_Hall_1†	St_Hall_2†	St_Hall_3†	
Concert_1†	Concert_2†	Church_1	
Vocal_1	Plate_1	Plate_2	
SmallRoom1	Med_Room2		
LargeRoom1†	LargeRoom2†	LargeRoom3†	
Early1_1	Early2_1	Early3_1†	
Stereo1_1†	Stereo2_1†	Stereo3_1†	Stereo4_1†

EFFECT 2 (Delays, Modulations, etc.)

Delay1_1	Delay1_2	Delay2_1	Delay2_2
Panecho1	Panecho2	Panecho3	Dubbing_1
Chorus1_1	Chorus1_2	Chorus2_1	Chorus2_2
Flanger1_1	Flanger2_1		
Phaser1_1	Phaser2_1	Phaser3_1	
Ensemble_1	Rotary1_1	Rotary2_1	
Fladel_1	PanMix_1	PanMix_2	PanMix_3

Each Performance can memorise one Effect from each processor (Eff1 & Eff 2) and different Effect types can be memorised in the same Performance Bank.

Tracks can be individually enabled or disabled for the Effects assigned to the relative Performance.

EDIT EFFECTS

Press Page + to access the editor for the currently selected Effect.

```
EFFECT 1:MED_ROOM1    -    REALA1__    -    EDIT
┌─────────────────────────────────────┐  ┌──────┐
│+│1 VOLUME    =  100  (- 8. 0 DB)     │  │ (o   │
│ │2 REV.TIME  =   10  ( 1. 0)         │  │      │
│ │3 DELAY     =    8  ( MSEC )        │  │ENT/ESC│
│+│4 H.F.DECAY =    0  (BYPASS )       │  │PAGE- │
└─────────────────────────────────────┘  └──────┘
              STORE
      RESTORE  +  COMPARE
```

```
EFFECT2:FLANGER1_1    -    REALA1__    -    EDIT
┌─────────────────────────────────────┐  ┌──────┐
│+│1 VOLUME    =  127  ( 0. 0 DB)      │  │ (o   │
│ │2 FREQ.MOD. =    2  ( 0.5  HZ)      │  │      │
│ │3 DEPTH     =  127  ( 0. 0 DB)      │  │ENT/ESC│
│+│4 FEEDBACK  =   14  ( 80 %)         │  │PAGE- │
└─────────────────────────────────────┘  └──────┘
              STORE
      RESTORE  +  COMPARE
```

Each effect consists of 4 parameters which change according to the type of effect.

How to Edit the Effects

The editing procedure is very simple. If you want to tweak an effect slightly, simply adjust the values of one or more parameters.

NOTE:
The modifications will rest in memory until they are changed again, until the instrument is turned off, or until you re-select the same Performance on a subsequent occasion.

1. Access the editor of the currently selected Effect with Page +.

2. Use the Down or Up cursor arrows to scroll to the required parameter.

3. Rotate the Dial to change the parameter value.

4. Save the edited Effect in the current Performance by pressing Ent twice, or copy it to another Performance (Songs, Real Time Performances, Program Styles, ROM Styles) using STORE.

The functions RESTORE, STORE and COMPARE are in correspondence with the F1, F2 and F3 function buttons.

RESTORE: restores the original default values to any eventually modified parameter.

STORE: allows you to copy the eventual modifications applied to the effect in any performance.

COMPARE: allows you to make a comparison between the original and the modified effect.

EFFECT 1 - REVERB

Two types of Reverb are available, each with a different parameter configuration, which can be broken down to the following:

◆ Reverberation with non-programmable Early Reflections;

◆ Reverberation with programmable Early Reflections.

The Early Reflection is the first 'Reverb wave' that reaches the hearing after sound emission; it can be very distant from the next halo that comprises all the remaining waves. You can clearly hear Early Reflections in a sports centre, for example.

The Reverbs with **non-programmable Early Reflections** are the following:

Hall_1, Hall_2, Hall_3, St_Hall_1, St_Hall_2, St_Hall_3, Concert_1, Concert_2, Church_1, Vocal_1, Plate_1, Plate_2, SmallRoom1, Med_Room2, LargeRoom1, LargeRoom2, LargeRoom3.

The above Reverbs show the following parameter configuration:

REVERBS WITH NON-PROGRAMMABLE EARLY REFLECTIONS
Hall, St_Hall, Concert:
concert halls;
Sroom, Mroom, Lroom:
recording rooms of various sizes (small, medium large);
Vocal:
recording rooms for vocal recordings with a reduced amount of reflections;
Church:
cathedral, a large quantity of reflections;
Plate:
imitates the oscillating metallic plate used in the past in recording studios.

1. VOLUME: The primary Reverb level; setting this parameter to "0" cancels the action of the Reverb.

Value range: 0[-63.50dB] ... 127[0.0dB].

2. REV. TIME: Indicates the period that elapses between the first and last 'Reverb wave' (reflection). In practice, this is the most important parameter of those that give a dimension to the environment.

Value range: 1[0.1 sec] ... 100[10 sec].

3. DELAY: Contributes to the "formation" of the dimensions of the surroundings, stabilising the period that elapses between the sound emission and the first reflection.

Value range: 0... 99 ms.

4. H.F. DECAY: Contributes to the timbric quality of the environment, stabilising the frequency of a dynamic lowpass filter, which renders the Reverb timbre notably changed with time. The filter is introduced gradually, acting progressively on all successive 'Reverb waves'; a high value filter reacts very slowly while a modest value increases the speed of the timbric change.

Value range: 0[Bypass], 1[1 khz] ... 10[16 khz].

The remaining Reverbs, with **programmable Early Reflections**, show a slight variation:

Early1_1, Early2_1, Early3_1, Stereo1_1, Stereo2_1, Stereo3_1, Stereo4_1.

```
EFFECT 1:STEREO4_1    —    PIANOWX_    —    EDIT
 ⬆ 1 VOLUME    =  127  ( 0.0 DB)           (◎)
   2 ROOM SIZE =   5
   3 DIFFUSION =  10                      ENT/ESC
 ⬇ 4 FILTER    =  13  (16.0 KHZ)          PAGE-
          STORE
  RESTORE ⬇   COMPARE
```

1. VOLUME: The primary Reverb level; setting this parameter to "0" cancels the action of the Reverb.

Value range 0[-63.50dB] ... 127[0.0dB].

2. ROOM SIZE: Establishes the dimensions of the environment.

Value range: 0..64).

3. DIFFUSION: Creates a reverberation halo in the final part of the effect.

Value range: 0... 60.

4. FILTER: Cutoff frequency of the filter.

Value range: 0[Bypass], 1[0.1 khz] ... 13[16 khz].

EFFECT 2 - DELAY, MODULATIONS

Effect 2 contains the Delay/Echo and the Modulations (Chorus, Flanger, Phaser, Rotary Speaker, etc.). These Effects provide a greater number of different parameter configurations.

The Effects listed below all provide the same edit parameters:

Delay1_1, Delay1_2, Delay2_1, Delay2_2, Panecho1, Panecho2, Panecho3, Dubbing_1.

```
EFFECT2:DELAY1_1    —    PIANO    —    EDIT
 ⬆ 1 VOLUME    =  105  (- 6.50 DB)         (◎)
   2 DELAY     =  510  ( MSEC )
   3 FEEDBACK  =    3  ( 24 % )           ENT/ESC
 ⬇ 4 FILTER    =    9  (10.0   KHZ)       PAGE-
          STORE
  RESTORE ⬇   COMPARE
```

NOTE:
PanEcho is a Delay/Echo in which the repetitions alternate between the two stereo channels.
Dubbing sends all the repetitions to only one output channel.

1. VOLUME: The primary Delay level; setting this parameter to "0" cancels the action of Delay, PanEcho or Dubbing.

Value range 0[-63.50dB] ... 127[0.0dB].

2. DELAY: Determines the time lapse between repetitions.

Value range: 0...510 ms.

3. FEEDBACK: Determines the number of Delay repetitions. With a delay time of '510ms' and this parameter set at 99%, the total duration of the effect is 11 seconds.

Value range: 0[4%] ... 14[99%].

4. FILTER: Determines the timbric quality of each repetition and progressively inserts a lowpass filter. A high value filter reacts very slowly while a modest value increases the speed of the timbric change.

Value range: 0[Bypass], 1[0.1 khz]... 12[16 khz].

The next four Effects display a variation of parameters:

Chorus1_1, Chorus1_2, Chorus2_1, Chorus2_2.

```
EFFECT2:CHORUS1_1   -   STY_PERF   -   EDIT
 ↑ 1 VOLUME    =  127 (  0.0 DB)
   2 FREQ.MOD. =   15 (  2.5  HZ)               ENT/ESC
   3 DEPTH     =   45 (-26.50 DB)
 ↓ 4 FILTER    =   12 ( 16.0  KHZ)              PAGE-
          STORE
 RESTORE ↓  COMPARE
```

1. VOLUME: The primary Chorus level; setting this parameter to "0" excludes the action of the Chorus.

Value range 0[-63.50dB] ... 127[0.0dB].

2. FREQUENCY MODULATION: Determines the velocity of the Chorus modulation (its variation is very marked).

Value range: 0[0.3 Hz] ... 28[6.0 Hz].

3. DEPTH: Determines the modulation depth of the Chorus effect.

Value range: 0[-63.50dB] ... 127[0.0dB].

4. FILTER: Determines the timbric quality of the Chorus effect.

Value range: 0[Bypass], 1[0.1 khz] ... 12[16 khz].

A third parameter variation is displayed by the next six Effects:

Flanger1_1, Flanger2_1, Phaser1_1, Phaser2_1, Phaser3_1, Ensemble_1.

```
EFFECT2:FLANGER1_1   -   STY_PERF   -   EDIT
 ↑ 1 VOLUME    =  127 (  0.0 DB)
   2 FREQ.MOD. =    2 (  0.5  HZ)               ENT/ESC
   3 DEPTH     =  127 (  0.0 DB)
 ↓ 4 FEEDBACK  =   14 ( 80 %)                   PAGE-
          STORE
 RESTORE ↓  COMPARE
```

1. VOLUME: The primary Flanger level; setting this parameter to "0" excludes the action of the Effect.

Value range 0[-63.50dB] ... 127[0.0dB].

2. FREQUENCY MODULATION: Determines the modulation speed of the Effect. Affects only the harmonic content of the sound.

Value range: 0[0.3 Hz] ... 28[6.0 Hz].

3. DEPTH: Determines the modulation depth of the Flanger effect. Affects the harmonic content of the sound.

Value range: 0[-63.50dB] ... 127[0.0dB].

4. FEEDBACK: Enriches the harmonic content of the sound - an "automodulator".

Value range: 0[0%] ... 17[96%].

The Rotary Effects provide a configuration of their own:

Rotary1_1, Rotary2_1.

```
EFFECT2:ROTARV1_1    ━    PIANO    ━    EDIT
┌─┐ 1 VOLUME   =  127 (  0.0 DB)          ╭─╮
├─┤ 2 SPEED    =    5 (  2.1  HZ)         │◉│
│ │ 3 FEEDBACK =    7 ( 40 %)             ╰─╯
├─┤ 4 FILTER   =    9 (10.0  KHZ)      ENT/ESC
└─┘                                   ┌──────┐
          STORE                       │PAGE -│
   RESTORE ↓  COMPARE                 └──────┘
```

1. VOLUME: The primary Rotary level; Setting this parameter to "0" excludes
                        the action of the effect.

                        Value range 0[-63.50dB] ... 127[0.0dB].

2. SPEED: Determines the time required to pass from Slow to Fast or vice
                        versa.

                        Value range: 0[0.6 sec] ... 30[9.6 sec].

3 FEEDBACK: Enriches the harmonic content of the sound - an "automodulator".

                        Value range: 0[0%] ... 17[96%].

4. FILTER: Sets a static lowpass filter.

                        Value range: 0[Bypass], 1[0.1 khz] ... 12[16 khz].

Finally, the remaining Effects provide another configuration:

Fladel_1, PanMix_1, PanMix_2, PanMix_3.

```
EFFECT2:FLADEL_1     ━    PIANO    ━    EDIT
┌─┐ 1 VOLUME    =  127 (  0.0 DB)         ╭─╮
├─┤ 2 DELAY     =  221 (MSEC)             │◉│
│ │ 3 FREQ. MOD.=   18 (  3.9  HZ)        ╰─╯
├─┤ 4 DEPTH     =   14 (-41.0 DB)      ENT/ESC
└─┘                                   ┌──────┐
          STORE                       │PAGE -│
   RESTORE ↓  COMPARE                 └──────┘
```

1. VOLUME: The primary Fladel level; Setting this parameter to "0" excludes
                        the action of the effect.

                        Value range 0[-65.50dB] ... 127[0.0dB].

2. DELAY: The time that elapses between one Delay repetition and another.

                        Value range 0... 510 ms.

3. FREQUENCY MODULATION: Determines the modulation speed of the
                        Flanger.

                        Value range: 0[0.3 Hz] ... 28[6.0 Hz].

4 DEPTH: Determines the modulation depth of the Flanger or PanMix
                        effect.

                        Value range: 0[-63.50dB] ... 127[0.0dB].

The RESTORE, STORE and COMPARE functions

Compare

This function provides a means of comparing the "old" Effect with the "new", keeping track of all the changes before deciding to go ahead with the saving or the cancellation of the modifications.

```
EFFECT 1:HALL_1      —    PIANO    —    EDIT
  1 VOLUME     =  126  (- 0.25 DB)
  2 REV.TIME   =    1  ( 0.1 SEC)
  3 DELAY      =   23  ( MSEC )
  4 H.F.DECAY  =    3  ( 3.0 KHZ)
            STORE
  RESTORE ↓   COMPARE
```

◆ After carrying out one or more modifications to the parameters, press the Function button F3 to access COMPARE:

```
EFFECT 1:HALL_1      —    PIANO    —    EDIT
  1 VOLUME     =   88  (- 11.75 DB)
  2 REV.TIME   =   21  ( 2.1 SEC)
  3 DELAY      =   10  ( MSEC )
  4 H.F.DECAY  =    9  (14.0 KHZ)
            STORE
  RESTORE ↓   COMPARE
```

The Effect's parameter values will be restored to their original default values to allow you to listen to the difference between the two solutions.

◆ Press COMPARE again to return to the new version and modify the parameters again if necessary.

◆ Continue in this way until you obtain the required Effect.

◆ Save to the current position with Enter only if you want to recall the modified Effect on all subsequent occasions or,

◆ Copy to a different location using Store.

If you want to cancel all modifications use Restore.

Restore

Use **Restore** to recall the original default parameter values to the modified Effect. This function is only operative on the current Performance.

◆ Press RESTORE and the display will show:

```
EFFECT 1:HALL_1      —    PIANO    —    EDIT
  1 VOLUME       ┌─────────────────┐
  2 REV.TIME     │ ARE YOU SURE ?  │
  3 DELAY        │ <enter> to confirm │
  4 H.F.DECAY    │ <esc>   to cancel  │
            STORE└─────────────────┘
  RESTORE ↓   COMPARE
```

◆ Press ENTER to confirm the operation and restore the original parameter values to the Effect currently in edit.

◆ Press ESC to cancel the operation and retain the modified parameter values.

How to Store an edited Effect

1.   Save to the current Performance using Save Performance

◆   All the variations applied to one or more parameters of the Effect will remain in memory until you turn the instrument off, or until you re-select the same Performance on a subsequent occasion. If you want the Performance to recall the modified Effect every time it is re-selected, press ENTER to save the modifications:

```
EFFECT 1:HALL_1        -    PIANO    -    EDIT
┌──────────────┐ ┌─────────────────────┐ ┌────────┐
│+ 1 VOLUME    │ │ SAVE PERFORMANCE    │ │  (O)   │
│  2 REV.TIME  │ │                     │ │        │
│  3 DELAY     │ │ ARE YOU SURE ?      │ │ ENT/ESC│
│+ 4 H.F.DECAY │ │ <enter> to confirm  │ │ PAGE - │
└──────────────┘ │ <esc>   to cancel   │ └────────┘
      STORE      └─────────────────────┘
 RESTORE +  COMPARE
```
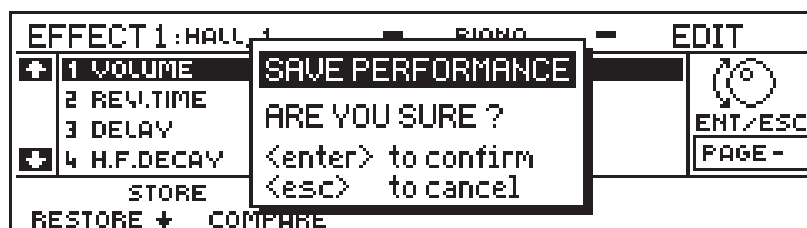
◆   Complete the operation with ENTER a second time, or cancel with Exit. Both operations will escape the edit and return to the starting display.

2.   Copy the modified Effect to another Performance using STORE

◆   Press STORE:

```
EFFECT 1:HALL_1        -    PIANO    -    STORE
┌──────────────────────────────────────────────┐
│+ BANK          = PERFORMANCES                 │
│  BANK NUMBER   =   1                          │
│+ PERFORMANCE   =   1                          │
│                                               │
└──────────────────────────────────────────────┘
 HALL_1
```
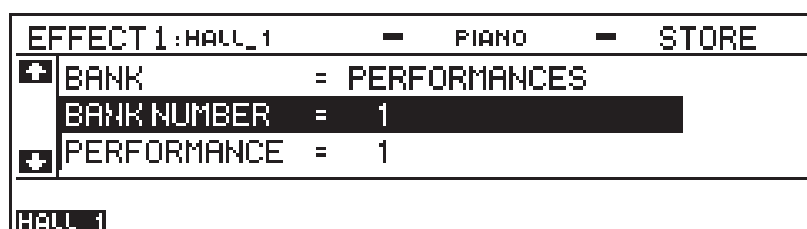
The display shows the location of the currently selected Performance and, in the bottom left hand corner, the Effect currently assigned to it.

◆   Using the Up/Down cursor arrows and the Dial, select a Bank (Performance, Song, Prog. Style, ROM Style), a Bank number (or Style) and the Performance to store the modified Effect to:

```
EFFECT 1:HALL_1        -    PIANO    -    STORE
┌──────────────────────────────────────────────┐
│+ BANK          = PERFORMANCES                 │
│  BANK NUMBER   =   3                          │
│+ PERFORMANCE   =   1                          │
│                                               │
└──────────────────────────────────────────────┘
 HALL_1
```
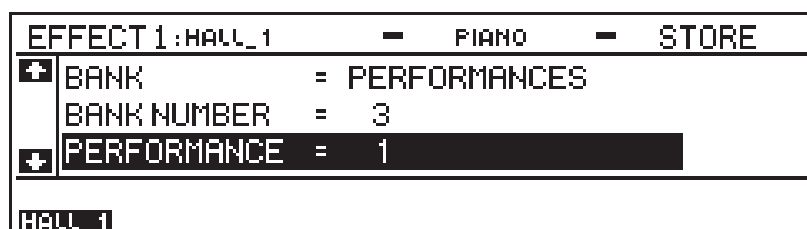
◆   Press ENTER to confirm the operation. The display will show:

```
EFFECT 1:HALL_1        -    PIANO    -    STORE
┌────────┐ ┌───────────────────────────────────┐
│+ BANK  │=│ EFFECT ALREADY EXISTS             │
│  BANK N│=│ DO YOU WANT TO OVERWRITE IT ?     │
│+ PERFOR│=│ <ENTER>  TO CONFIRM               │
│        │ │ <ESC>    TO CANCEL                │
└────────┘ └───────────────────────────────────┘
 ST_HALL_2
```
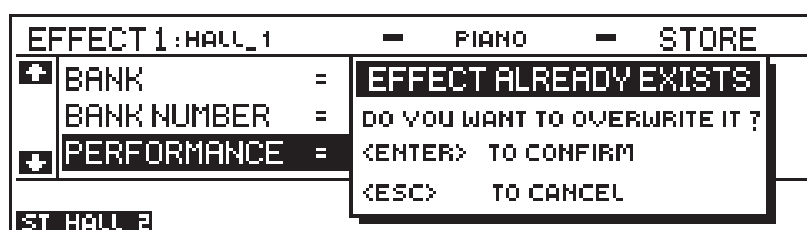
The dialogue box is informing you that an Effect is already associated to the selected Performance (the one in the bottom left hand corner).

◆   Press ENTER to confirm and the display will update to the new situation:

```
EFFECT 1 : HALL_1        -    PIANO    -    STORE
  ▲ BANK              = PERFORMANCES
    BANK NUMBER       =   3
  ▼ PERFORMANCE       =   1

  HALL_1
```

The previous Effect (in this case St_Hall_2) will be substituted by the modified one (Hall_1).

◆   Press ESC to cancel the operation and retain the original effect in the selected Performance.

Don't forget to save your modifications to disk if you want to re-use them.

EDIT SPLITS
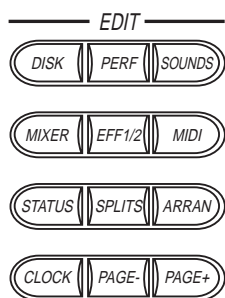
This is where you can specify a keyboard extension (a Split) for a Track between the extreme points A0 - C8.

Pressing the SPLITS button accesses the page where you can control the keyboard extensions of the various sounds assigned to the tracks.
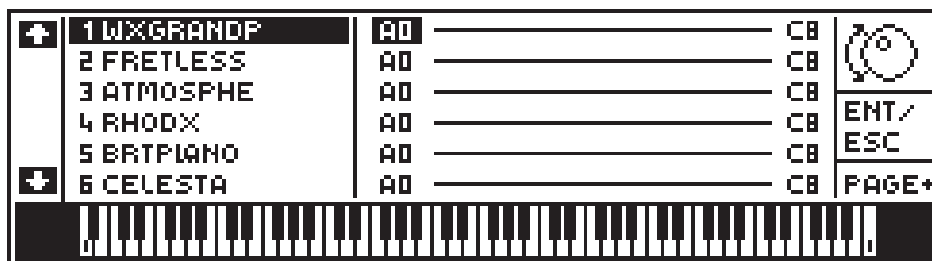
The display shows a graphical representation of the status of split each track for the current Performance (in this case a Song Performance).

How to modify the keyboard extension of a track

There are two ways of carrying out this operation:

1.   Press the keys that delimit the portion of the keyboard.

Select the track requiring the modification:
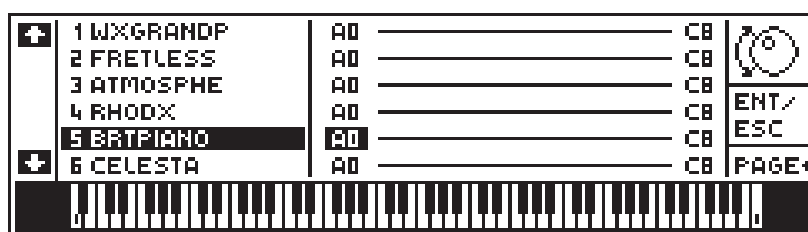
Press a key at the lower end of the keyboard to specify the left limit:
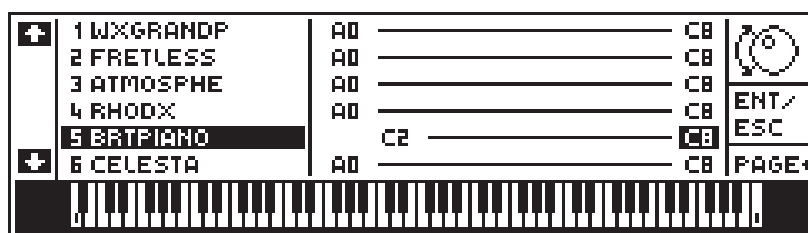
Press a key to specify the right limit:
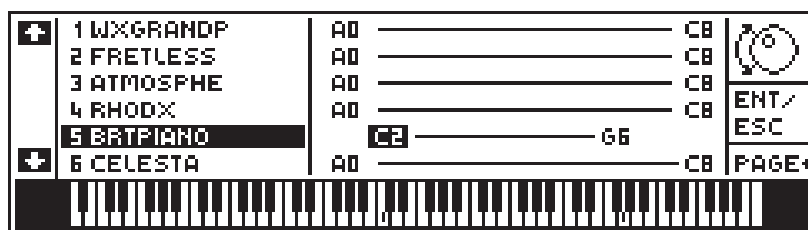
2. **Use the LEFT/RIGHT cursor arrows and the Dial**:

Select the track requiring the modification:
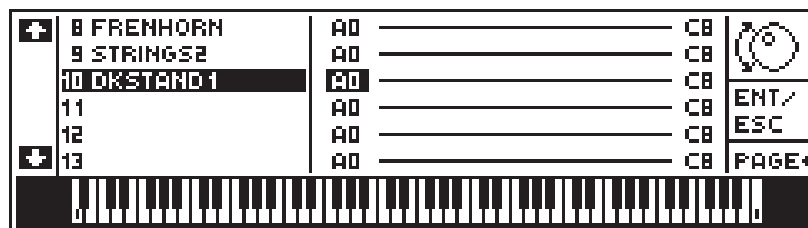
The left limit is already selected therefore, rotate the Dial:
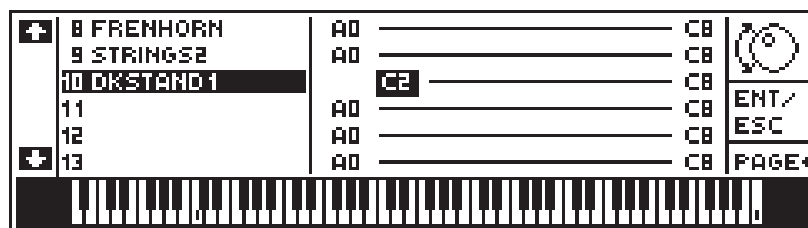
Select the right limit with the Right cursor arrow:
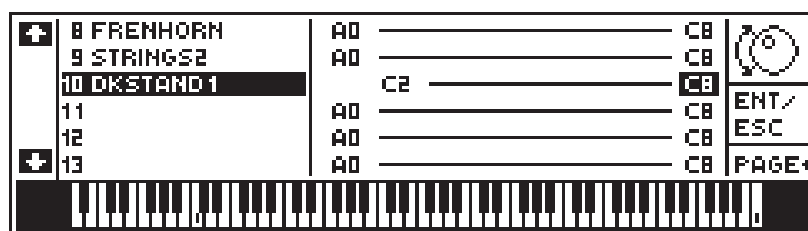
Rotate the Dial to specify the required note.
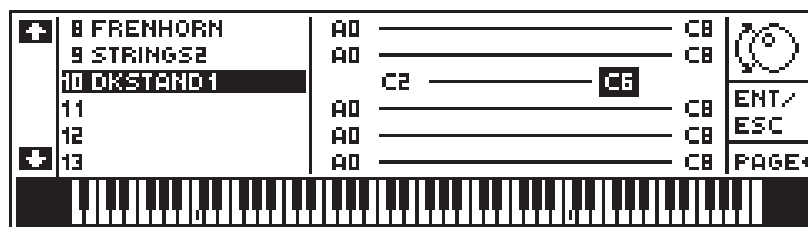
In the lower display area, an image of a keyboard is displayed that shows two small points representing the split points for the currently selected track.

Example of markings showing keyboard extension for Track 10

CHORD SPLIT

The **STYLES** (ROM and PROG) are characterised by a keyboard division which permits you to play chords on the left part of the keyboard and melody notes on the right part.

Furthermore, tracks 5 and 6 are also preset to cover specific keyboard extensions to allow Track 5 to play on the left part and Track 6 on the right.

Track 5 has the extension A0-B3 while Track 6 has C4-C8.

In default conditions, all the Styles have the CHORD SPLIT set on note C4.

Press PAGE+ to access to the display where you can control the Chord Split point.

If you play chords below this point, Styles recognise them and provide arrangements based on the chords played.

This is a general parameter and cannot be saved at different values for different performances, therefore, the selected Chord Split point is valid for all the styles.

However, there are two options: LOCK and FREE.

FREE

When FREE is selected (default condition), by pressing a key on the keyboard or by rotating the DIAL, you can change the chord recognition split point without modifying any other parameter.

Tracks 5 and 6 remain unaltered, therefore, you would have to intervene on the relative track extensions if you want to modify also their ranges.
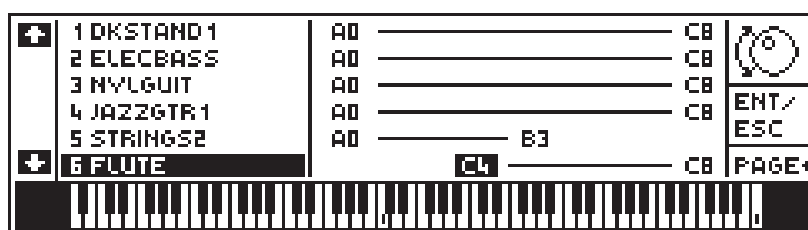
LOCK

The LOCK function couples the CHORD SPLIT to the split of tracks 5 and 6 of all the Styles.

Therefore, the value assigned will correspond to both the chord recognition split as well as the split point between these two tracks.
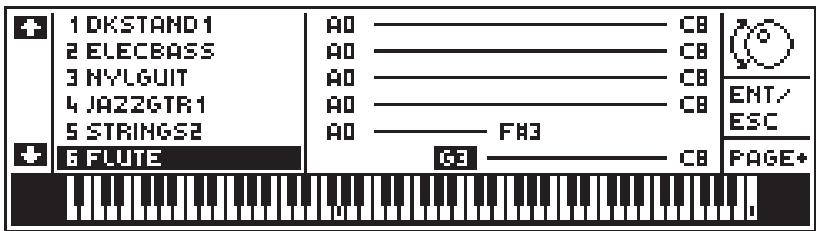
If you want to memorise the modifications, press ENT.

Pressing ESC will escape from the edit without memorising any modifications.

Transfer a Sound to the Pedalboard

Any track can be transferred to a Pedalboard (if connected to the rear-panel Pedalboard socket).

Simply press the TOGGLE and the Sound assigned to the selected track will be transferred.
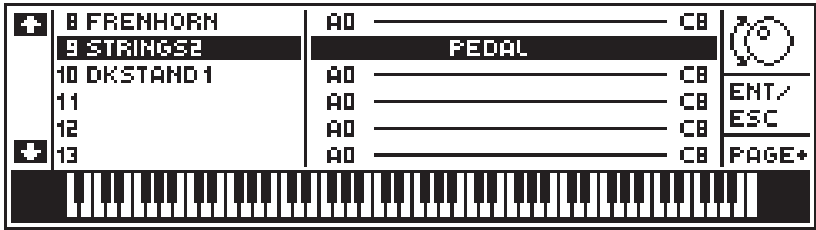
Press the TOGGLE again to restore normal playing.

EDIT SOUNDS
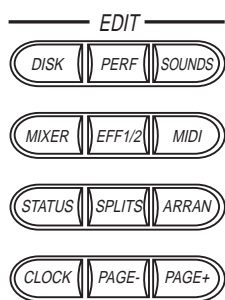
WX provides a sound editing facility that permits very quick and easy editing tasks because the edit parameters affect various elements already incorporated in the sound's waveform "header" (filters, amplitude envelopes - applied to "Single" and "Dual Oscillator" sounds).

Although permanently resident in memory, the WX ROM sounds can be edited. In practice, when you enter the Edit Sound environment, you enter with a copy of the sound assigned to the selected track of the currently active Performance.

The results obtained from the editing tasks depend a great deal on the starting sound. For example, some sounds incorporate a Lowpass Filter in the waveform header, while others have a Highpass Filter. The effect of specifying the same Cutoff parameter value for both types of sound will, therefore, differ owing to the different nature of the incorporated electronic Filter.

In other cases, vastly varied results can be obtained by using "Single Oscillator" sounds with respect to "Dual Oscillator" sounds (see ROM Sounds - chapter 3, page 3-9).

As already discussed, there are also the Drumkits (and Sound Patches) - these have a completely different editor which does not intervene on the Sound Parameters, but on Performance parameters.

The edited sound is not memorised in the instrument's Sound library; it is internally stored in a Performance and is "carried" until it is substituted with a new modification or even a different Sound. Each Performance can "carry" up to 8 modified sounds and a Drumkit.

This highly original system permits you to have the right type of sound for every situation without intervening on the Sound library of the instrument. This is also an excellent system that allows you to create several variations of the same sound and store each one in several different Performances. In other instruments, if you modify a sound, all the elements that store the sound will be affected. More about this feature later.

You can also tweak a Sound in real time using one of the Pedals to which one of the Sound editing functions has been assigned (Attack, Release, Filter 1, Filter 2, Filter 1+2). This is valid in Real Time Performance mode as well as in one of the Sequencer modes (Internal/Prog. Style, Song and Song Style mode).

For a clearer understanding of the Edit Sound section, the fundamental functions of EDITING are explained.

Afterwards, the additional functions which contribute to a perfection of the editing tasks, or which render a more sophisticated use of the Edit Sound feature are explained.

General Edit Procedure

Select the Sound (the track of the currently selected Performance) and press the SOUND button in the Edit section to access the Editor.

The display shown will depend on which type of Sound is accessed.

NOTE

When you access Edit Sound, a copy of the ROM Sound is transferred into a memory buffer which permits you to escape editing temporarily (by repressing SOUNDS) without data loss. Only one track is active in edit mode.

If a "normal" sound is selected (Single or Dual Oscillator type), such as WXGrandP, entering Sound Edit will display the following editor:

```
SOUNDS  :WXGRANDP    —    PIANO    —    EDIT
 ⬆ 1 CUTOFF 1    = 140   5 VOLUME    = 110    (◎)
   2 RESONANCE 1 =   4   6 DYNAMIC   =   5
   3 CUTOFF 2    = 118   7 ATTACK    =   0   ENT/ESC
 ⬇ 4 RESONANCE 2 =   8   8 RELEASE   =  70
            STORE     EFFECTS
     LIBRARY  +  COMPARE  +
```

The parameters intervene on various aspects of the Sound (the Filter and the Amplitude Envelope).

If a **Drumkit** is accessed, such as **DKJazz**, the following edit page will be displayed:

```
SOUNDS  :DKJAZZ      —    PIANO    —    EDIT 1
 ⬆ 1 KEY NOTE   = F#4   6 TUNE     =     0    (◎)
   2 SOUND = TAMBOURN   7 EXCLUDE  =     0
   3 VOLUME     = 127   8 EFFECT = EFF1
   4 PANPOT     =  16   9 SWITCH LEV = 127  ENT/ESC
 ⬇ 5 TRANSPOSE  =  18
         EDIT2     CATCHNOTE    STORE    EFFECTS
     EDIT1  +  EXPAND  +  LIBRARY  +  COMPARE  +
```

The Drumkit and Sound Patch parameters affect the Sound's performance parameters (volume, pan, transpose, etc.).

These sounds provide a second display which represents the second dynamic level with identical parameters to the first level.

Press F2 (Edit 2) to access the higher dynamic level of the Drumkit/Sound Patch.

Navigation

As in all display situations that show multiple sets of parameters, you can navigate with the four cursor arrows (select the parameters) and use the Dial as the main data entry source. Various display commands are also provided which are selected with the Function buttons.

The Display Commands

Both types of display situations have several commands in common:

Library, Store, Compare, Effects:

The Drumkits and Sound Patches have additional options which are related to the edit procedures:

Edit 1, Edit 2, Expand, CatchNote:

When the commands or options are selected, they are shown in reverse-highlight.

All the commands and options are discussed in the relevant section further ahead.

THE SOUND EDIT PARAMETERS

"Single" and "Dual" Oscillator editing

After selecting a track showing the sound you are interested in editing, press SOUNDS in the Edit section to show the main EDIT display:

```
SOUNDS  :WXGRANDP     -    PIANO    -    EDIT
[+] 1 CUTOFF 1     = 140   5 VOLUME    = 110   ⟨◉⟩
    2 RESONANCE 1  =   4   6 DYNAMIC   =   5
    3 CUTOFF 2     = 118   7 ATTACK    =   0   ENT/ESC
[+] 4 RESONANCE 2  =   8   8 RELEASE   =  70
        STORE        EFFECTS
    LIBRARY ✦  COMPARE   ✦
```

SOUND MAP
The SOUND MAP shown in the Appendix lists all ROM Sounds. Those indicated with an Asterisk (*) are SINGLE OSCILLATOR sounds. Those indicated with a cross (†) are Drumkits (or Sound Patch).

Generally speaking, "Single Oscillator" sounds are affected by the "Cutoff 1" and "Resonance 1" parameters on the left part of the display and all parameters on the right. "Dual Oscillator" sounds are affected by all parameters.

The Edit Menu:

CUTOFF 1 & 2: This parameter affects the Cutoff Frequency of the Filter incorporated in the Sound and determines the frequency at which the filter begins "cutting into" the band of harmonics contained in the sound's waveform.

Values range from 0 to 191.

Specifying increasingly higher values is equivalent to "opening the filter" while "closing the filter" is obtained by entering lower values.

Note: This parameter can also be regulated in real time by assigning the functions Filter 1, Filter 2 or Filter 1+2 to one of the Pedals (see Edit Status). You can "open" and "close" the Filters by operating the pedal.

RESONANCE 1 & 2: Resonance creates a peak of emphasis at the cutoff frequency specified above. This parameter determines the amount of Resonance to apply.

Values range from 0... 127

The effects obtained are varied and depend how much Resonance is applied, on the sound's waveform, on the filter type incorporated in the sound's waveform and on the cutoff frequency.

Resonance is commonly used to produce analog sounds (for example, listen to the sound Noise Res 97-1). Extremely high settings of the Resonance parameter in sounds that incorporate square or sawtooth waveforms, for example, makes the filter oscillate so that it produces a pitch of its own.

5. VOLUME: this parameter intervenes on the sound's Amplitude Envelope and regulates the sound's basic Volume (the maximum amplitude level).

Values: 0 ... 127.

Note: This parameter can also be regulated in real time by assigning "Volume" to a Pedal in the Status Edit; Pedal Function Assign option.

6. DYNAMIC: Determines how the Volume responds to Dynamic variations (key-strike velocity).

Values range from 0... 7.

"0" is equivalent to no response. The higher values give a louder sound by increasing the Dynamic force applied to the notes.

7. ATTACK: intervenes on the Amplitude Envelope's Attack rate; in other words, it controls the time taken for the sound to reach maximum Amplitude level after striking the note (Key on).

Values: 0... 127.

The "0" value provides maximum sound level at Key On. Increasing the value increases the time taken for the sound to reach its peak.

Note: This parameter can also be regulated in real time by assigning "Attack" to a Pedal in the Status Edit; Pedal Function Assign option.

8. RELEASE: intervenes on the Amplitude Envelope's Release rate, in other words, the time taken for the sound to decay to zero level after releasing the key (Key off).

Values: 0... 127.

The "0" value "cuts" the sound's envelope instantly after release. The higher values increase the time taken for the sound's volume to reach "0" level.

Note: This parameter can also be regulated in real time by assigning "Release" to a Pedal in the Status Edit; Pedal Function Assign option.

Store the modified Sound

After modifying the sound, use the **STORE** option to store it in a Performance (see STORE further ahead).

If you wish to use the sound often, you can store the relative Performance bank to **SRam** - this will ensure that your sound will be available after powering up.

Drumkits (and Sound Patch)

Although these "sounds" are recalled using the same method used for "normal" sounds, they differ in their structure.

Drumkits are constructed by assigning a different sound to each note of the keyboard. Every note is completely independent from its neighbours and the Sound assigned to each note can be programmed. The editing tasks affect the sound's performance parameters, such as transpose, panpot, tunings, and others.

Also incorporated is a **Dynamic Threshold**, above which another sound can be assigned so that playing harder (increased Dynamics) triggers the sound on the higher dynamic level.

While Drumkits are, generally, all programmed on one dynamic level, the **Sound Patch** sounds, such as Rhodx, DynGuit, DynTrumpt and others, all make extensive use of the incorporated "**Dynamic Switch**". Here, two sounds covering preset keyboard extensions are separated by the dynamic threshold. Playing harder gains access to the second dynamic level and, therefore, to the second sound or sounds.

The Drumkit Edit Menu

As already seen, these type of "sounds" show a completely different Edit display to the "normal" sounds.

For example, if you examine the **Drumkit DKJazz**, pressing SOUNDS in the Edit section shows the following display:

```
SOUNDS  :DKJAZZ        ━    PIANO     ━   EDIT 1
  ✚   1 KEY NOTE    = F3#   6 TUNE      =    0    ⟨◉⟩
      2 SOUND =   TAMBOURN  7 EXCLUDE   =    0
      3 VOLUME       = 127  8 EFFECT =     EFF1
      4 PANPOT        = 16  9 SWITCH LEV = 127  ENT/ESC
  ✚   5 TRANSPOSE     = 18
           EDIT2      CATCHNOTE      STORE     EFFECTS
      EDIT1  ✦   EXPAND   ✦   LIBRARY   ✦   COMPARE  ✦
```

This display example shows the "Tambourine" assigned the note "F3#".

The parameters available intervene on the sounds of all the notes of the drumkit.

The above display example refers to the lowest dynamic level, determined by the SWITCH LEVEL. To pass to the second dynamic level, simply press EDIT 2.

Programming Drumkits

If you are programming a Drumkit, set the Dynamic Switch Level on the first page to value 127 - this will exclude Level 2.

Programming two different Sounds for each note

If you want to program 2 different sounds in order that the second one is triggered by playing harder, set the Dynamic Switch Level on page 1 to 126 or lower.

The Drumkit Menu

1. KEY NOTE: displays the note that is associated to the currently displayed parameter values for the active layer. Whatever sound is assigned to this note will be affected by the status of the parameters. Effectively, the Keynote is where the editing takes place.

> **Value range: A0…C8.**

> If you rotate the Dial, you can scroll through all the notes of the keyboard and see the percussion sound and relative parameter status of every note.

In practice, it is easier to use the **CatchNote** option to select the note that is going to be programmed (see **CatchNote** below).

N.B. It is important to remember that the parameter modifications will only affect the sound assigned to the **Keynote**. Therefore, when you modify a parameter, make absolutely sure that you are playing the right note.

2. SOUND: determines the sound that will be played by the displayed Key Note in the active layer.

> **Value range: the entire ROM Sound map.**

> After selecting the parameter, simply rotate the Dial to obtain the required sound. You can also use the SOUND BANKS as a quick way to go to the required Sound Family, then use the Dial to scroll through the sounds.

> **N.B.** If you are assigning a sound on the second dynamic level, make sure that the Dynamic Switch in the first level is set to 126 or lower. If it is at 127, you will not hear the sound by hitting the keys hard.

In a **Drumkit**, the Sound differs for all the notes of the keyboard and in most cases, only one dynamic level is active.

In sounds such as **Rhodx**, the sound is usually the same for all the notes of the keyboard; both dynamic levels are active and the sound on the second level is different

In some sounds, however, the second level consists of several different keyboard "zones", each one providing a different sound. Listen to **DynOrch** from the Strings family. Play softly to hear Strings 1, play harder to hear "Crash" (cymbal) from A0 to F#2, "Timpani" from G2 to F#3 and "Symphony" from G3 onwards.

3. VOLUME: determines the Volume of the sound assigned to the displayed Key note of the active layer.

> **Value range: 0…127.**

> Simply select the parameter and rotate the Dial to specify the required value.

A difference in **Volume** for each note is important when programming Drumkits (even though the percussion ROM samples are already balanced and do not require adjustments of level); personal taste is very important when these types of sounds are mixed: a more intense drum roll, a more accentuated crash etc.. These are important factors which, when combined with the edited EFFECTS parameter, can be meticulously programmed to suit all needs.

4. PANPOT: determines the sound's position in the Stereo Panorama (between the internal Speakers or the Stereo outputs Left/Right).

Value range: -32… 0… +32.

"0" corresponds to the centre, -32 all to the left, +32 all to the right.

5. TRANSPOSE: determines the transposition of the Sound with respect to the note selected in the active layer.

Value range: -88… 0… +88.

This function is very important when programming Drumkits, or when programming a sound to cover a particular extension of the keyboard using the **EXPAND** option.

Why is transpose so important?

All the sample headers incorporated in the percussion ROM Sounds have an "ideal" sampling frequency. To reproduce the correct sound, therefore, you must apply a frequency "correction", or allowance, so that the sound plays correctly when you strike the relative note. The correction is achieved with the Transpose parameter.

Drumkit programming and the Transpose parameter

If you consult the PERCUSSION SAMPLE Table in the Appendix, you will see that all percussion instrument sounds provide the correct timbre if they play at the frequency corresponding to a specific note on the keyboard.

Therefore, the idea is to transpose a percussion sound to its correct "sample note" after assigning it to a particular keynote.

Example

Starting with the Drumkit DKJazz, let's suppose that you want the sound BRUSH to play at note E2 in place of the programmed SDBRUSH2. From the Percussion Sample table, you can see that the sample note for BRUSH corresponds to C5.

NOTE 1:
WX2 = lowest E,
WX400 = 2nd lowest E.

Select **CATCHNOTE** and press note E2[1].

Select the **SOUND** parameter and rotate the DIAL (clockwise) until BRUSH is selected.

Now the sound must be transposed to a value that corresponds to the "distance" in semitones from E2 to the sample note C5.

Select the **TRANSPOSE** parameter and simply count how many semitones there are from the keynote E2 to the sample note C5. The value to specify, therefore, is 32.

NB. In cases where you want to assign an instrument to a note that is higher than the corresponding sample note, the Transpose value should be negative (count the semitone distance from the higher note down to C5 and specify a negative value).

6. TUNE: fine tunes the current transpose value.

Value range: –64... 0… +64

Each step corresponds to 1/64th of a semitone.

We suggest the following uses for Tune:

1.   To fine tune an otherwise too precise transpose value assigned to drumkit instruments, in order to give a more natural effect;

2.   To fine tune each note of sounds such as Strings, again in order to simulate a natural effect to a greater degree.

7. EXCLUDE: creates a situation where notes that have been assigned the same exclude value (1, 2 or 3) cannot be played simultaneously. The value 0 = off.

Value range: 0, 1, 2, 3 (0 = no effect)

In practice, this parameter renders all the sounds that have been assigned the same value monophonic.

In a drumkit, for example, the hi-hat open and hi-hat closed can be assigned the same exclude number: in this manner, the hi-hat closed sound will interrupt the hi-hat open sound (and vice-versa).

The same applies to the sampled sounds produced by the same instrument (congas played at the centre or the borders, ride cup or ride crash, snare roll or snare rim, triangle open or closed etc.).

8. EFFECT: directs the displayed sound of the active layer to the Effects. (Eff. 1, Eff. 2, Eff.1/Eff.2) or disengages it from both (Off).

9. SWITCH LEVEL   determines the dynamic threshold that divides the two dynamic levels.

Value range: 0... 127.

This value sets the maximum dynamic limit for the 1st. level and the minimum dynamic level for the 2nd. level.

The assigned value represents the point at which the second dynamic level is triggered by hitting the note(s) harder. This parameter is only shown at the lowest level page.

NB. The second dynamic level is enabled only if the Switch Level in the first level is given a value of 126 or less.

The Drumkit Commands

As well as the menu parameters, the Drumkits and Sound Patch have several commands (in addition to those common to both types of edit display) that are activated with the relative Function buttons.

EDIT 1 & EDIT 2:   passes from one dynamic level to another.

Press **EDIT 2** to access the second level which has identical parameters, except for the Switch Level which is not present:

The lower the Switch Level, the easier it is to trigger the sound on the second dynamic level.

EXPAND: the modifications effected on a single note can be expanded across a specified note range. This avoids having to repeat the same set of editing steps for each note.

Press EXPAND and press the keys on the keyboard to delimit the required zone for the selected sound.

```
SOUNDS  :ORCHHIT      —    PIANO   —  EXPAND
┌──┐ 1 KEY NOTE     = E2  6 ┌──────────────┐  ╭──╮
│  │ 2 SOUND =   STRINGTP 7 │FROM = E2     │  │⟲ │
│  │ 3 VOLUME      = 127  8 │              │  ╰──╯
│  │ 4 PANPOT      =   0  9 │   TO = E2    │  ENT/ESC
└──┘ 5 TRANSPOSE   =   0    └──────────────┘
```
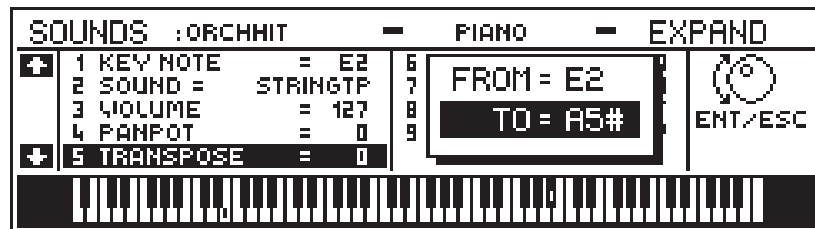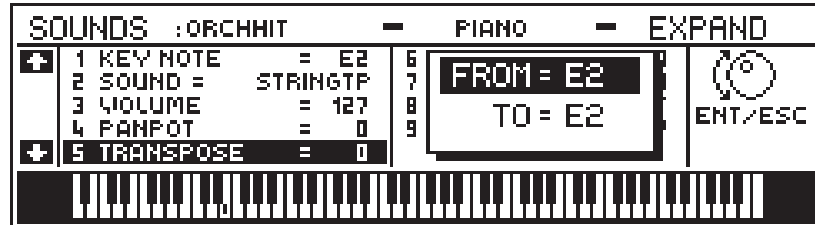
NOTE:
You can also use the
Up/Down cursor
arrows to select the edit
zone in the displayed
box and rotate the Dial
to specify the required
note.

```
SOUNDS  :ORCHHIT      —    PIANO   —  EXPAND
┌──┐ 1 KEY NOTE     = E2  6 ┌──────────────┐  ╭──╮
│  │ 2 SOUND =   STRINGTP 7 │FROM = E2     │  │⟲ │
│  │ 3 VOLUME      = 127  8 │  TO = A5#    │  ╰──╯
│  │ 4 PANPOT      =   0  9 │              │  ENT/ESC
└──┘ 5 TRANSPOSE   =   0    └──────────────┘
```

Press ENT to confirm the entry. Press ESC will cancel the command.

CATCH NOTE: assigns the note that is going to be programmed to the KeyNote.

Pressing **CatchNote** displays a message inviting you to "Press a key...".

```
SOUNDS  :ORCHHIT      —    PIANO   — CATCH NOTE
┌──┐ 1 KEY NOTE     = E2  6 ┌──────────────┐  ╭──╮
│  │ 2 SOUND =   STRINGTP 7 │  PRESS A     │  │⟲ │
│  │ 3 VOLUME      = 127  8 │              │  ╰──╯
│  │ 4 PANPOT      =   0  9 │  KEY....     │  ENT/ESC
└──┘ 5 TRANSPOSE   =   0    └──────────────┘
         EDIT2     CATCHNOTE     STORE    EFFECTS
       EDIT1  +  EXPAND  +  LIBRARY  +  COMPARE  +
```
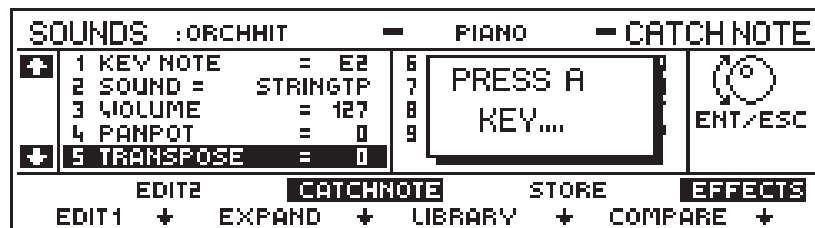
Press a note and the relative sound and parameters for the **KeyNote** will be displayed.

The Commands common to both Edit Displays

The "Normal" Sounds and Drumkits have the following commands in common.

LIBRARY, STORE, COMPARE, EFFECTS.

When the options are selected, they are shown in reverse-highlight.

EFFECTS

When the EFFECTS option is highlighted (selected) the Sound is edited "wet".

```
SOUNDS  :WXGRANDP    -    PIANO     -    EDIT
 ↑ 1 CUTOFF 1     = 140  5 VOLUME   = 110   ╱◎╲
   2 RESONANCE 1 =   4   6 DYNAMIC  =   5  (│  )
   3 CUTOFF 2     = 118  7 ATTACK   =   0   ╲  ╱
 ↓ 4 RESONANCE 2 =   8   8 RELEASE  =  70  ENT/ESC
          STORE        EFFECTS
  LIBRARY ↓   COMPARE  ↓
```

To bypass the Effects

Deactivate the EFFECTS option to bypass the Effects processor (reverse-highlighting is cancelled) and edit your sound "dry".

```
SOUNDS  :WXGRANDP    -    PIANO     -    EDIT
 ↑ 1 CUTOFF 1     = 140  5 VOLUME   = 110   ╱◎╲
   2 RESONANCE 1 =   4   6 DYNAMIC  =   5  (│  )
   3 CUTOFF 2     = 118  7 ATTACK   =   0   ╲  ╱
 ↓ 4 RESONANCE 2 =   8   8 RELEASE  =  70  ENT/ESC
          STORE        EFFECTS
  LIBRARY ↓   COMPARE  ↓
```

If you want to hear the Sound in edit with a different effect, press the EFF 1/2 button to access the EFFECTS menu then select the Effect required. If both Effects are enabled, go into Performance Edit and set the Effects parameter to the required status.

Note: when you temporarily escape the edit, you will not hear the Sound in its current edited form, but the one assigned to the track of the current performance. The Sound must be Stored to the current Performance before being heard (see Store).

Press the SOUNDS button to return to the sound in edit.

COMPARE

COMPARE is used to compare the modified sound with the original ROM sound. This is an important command which helps you to monitor even the smallest parameter changes.

Simply press COMPARE at any time while editing to recall the sound's original parameter values.

```
SOUNDS  :WXGRANDP    -    PIANO     -    EDIT
 ↑ 1 CUTOFF 1     = 140  5 VOLUME   = 110   ╱◎╲
   2 RESONANCE 1 =   4   6 DYNAMIC  =   5  (│  )
   3 CUTOFF 2     = 118  7 ATTACK   =   0   ╲  ╱
 ↓ 4 RESONANCE 2 =   8   8 RELEASE  =  70  ENT/ESC
          STORE        EFFECTS
  LIBRARY ↓   COMPARE  ↓
```

Press COMPARE again to return to the sound currently in edit and restore the modified parameter values.

If, after comparing, the sound currently in edit is not wanted, you can choose to abort the edit of the sound and select a different one.

You have two methods to choose from:

1. Press ESC to abort the editing - this will cancel all parameter modifications and escape sound edit. At this point you can enter sound edit with the same sound and start again, or you can select a different sound to edit.

2. Press LIBRARY and select a sound (rotate the Dial or use the Sound Banks to go directly to a Sound Family and rotate the Dial).

Press ENTER and the sound will be copied to the edit buffer.

Press EDIT to access the edit of the newly selected sound.

NB. When **COMPARE** is selected, all other options are disabled.

LIBRARY

Press this option to enter the instrument's Sound Library:

The sound family will also be shown.

This is where you can scroll all the sounds in ROM.

The **LIBRARY** offers several sub-options:

SEARCH: Use this option to look for a sound by specifying some (or all) of the characters that make up the name.

A typical sequence of events could be as follows:

Press **Search** (F3)

Specify some characters using the keys of the keyboard:

Press **ENT**. You will leave the Search option and the first available sound containing the sequence of specified characters will be displayed:

```
SOUNDS  :ELGRAND1  ━  PIANO  ━  LIBRARY
 ⬆ SLOWHORN    64 - 2            ┌─────────┐  ╭─╮
   ATTKHORN    64 - 3    Family:    │ (°) │
   SOPRSAX     65 - 1    Reed       ╰─╯
   SOPRSOLO    65 - 2            ENT/ESC
 ⬇ SOPRFILT    65 - 3
        STORE      RESTORE
   EDIT   ✦  SEARCH   ✦  DELETE
```

At this point, you can also rotate the DIAL or use the Up/Down cursor arrows to search for other related sounds within the same family.

Use the Sound Banks to go directly to a Family

You can go directly to a Sound Family by pressing the relative Sound Bank.

Substitution of the sound in edit with another from the Library

After accessing the **Library**, select a sound by using **Search**, by rotating the Dial, or by using the Up/Down cursor arrows.

Note that the top bar of the display continues to show the sound currently in edit.

```
SOUNDS  :SHARPBEL  ━  PIANO  ━  LIBRARY
 ⬆ DRUNKCHS    16 - 3            ┌─────────┐  ╭─╮
   THEATORG    17 - 1    Family:    │ (°) │
   ORGAN1      17 - 2    Organ      ╰─╯
   ORGAN2      17 - 3            ENT/ESC
 ⬇ JAZZORG1    18 - 1
        STORE      RESTORE
   EDIT   ✦  SEARCH   ✦  DELETE
```

Press **ENT** to substitute the sound currently in edit with the selected one:

Note the change in the top bar of the display.

```
SOUNDS  :ORGAN1  ━  PIANO  ━  LIBRARY
 ⬆ DRUNKCHS    16 - 3            ┌─────────┐  ╭─╮
   THEATORG    17 - 1    Family:    │ (°) │
   ORGAN1      17 - 2    Organ      ╰─╯
   ORGAN2      17 - 3            ENT/ESC
 ⬇ JAZZORG1    18 - 1
        STORE      RESTORE
   EDIT   ✦  SEARCH   ✦  DELETE
```

Press **EDIT** to access the Edit of the selected sound:

```
SOUNDS  :ORGAN1  ━  PIANO  ━  EDIT
 ⬆ 1 CUTOFF 1   = 117  5 VOLUME   = 120   ╭─╮
   2 RESONANCE 1 =  4   6 DYNAMIC  =   4   │(°)│
   3 CUTOFF 2   = 152  7 ATTACK   =   0   ╰─╯
 ⬇ 4 RESONANCE 2 =  0   8 RELEASE  =  15  ENT/ESC
        STORE      EFFECTS
  LIBRARY ✦  COMPARE   ✦
```

N.B. The substituted sound will also be assigned to the selected track of the current Performance.

RESTORE: use this option to restore the original parameter values of the sound currently in edit.

   NOTE: This is only valid for the Sound in edit for the current Performance. Restore does not affect other variations of the same sound stored elsewhere.

   The "Are you sure" display is shown where you can choose to confirm the "Restore" command, or refuse with ESC and retain the modifications.

STORE   used to access the STORE command as discussed further ahead.

EDIT: returns to the edit of the sound currently in edit.

DELETE: use this option to cancel **SAMPLES** loaded from DISK (including their eventual modifications). You can select the loaded Sample directly from the Sound Library or it can be currently in edit..

HOW TO DELETE A SAMPLE:

Select the loaded Sample in the Sound Library and press ENT:
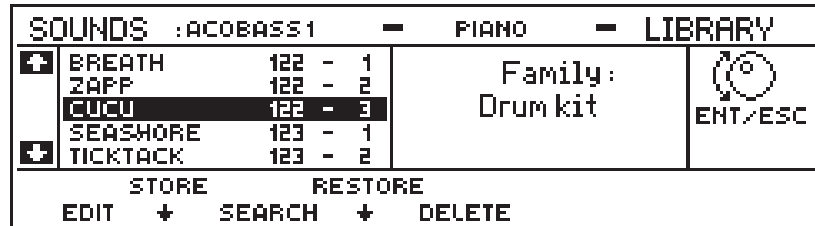
Press DELETE:

Press ENT to confirm the operation:

After a short period the Sample will be cancelled.

NOTE:

The Delete option does not apply to ROM sounds or to edited sounds.

If you attempt to delete any sound other than a Sample loaded from Disk, an appropriate warning will be displayed:

Press ESC to cancel the display.

STORE

Use **STORE** to store your edited Sound in a Performance:

```
SOUNDS  :WXGRANDP    -    PIANO    -    STORE
 ✚ BANK              = PERFORMANCES            (⊙)
   BANK NUMBER    =   1                      ENT/ESC
 ✚ PERFORMANCE   =   1
       EMPTY         EMPTY        EMPTY         EMPTY
   EMPTY  ✦   EMPTY   ✦   EMPTY   ✦   EMPTY   ✦
```

Use the Up/Down cursor arrows to select the element required and rotate the Dial to select the destination.

Confirming with ENT twice (the first time shows the "Are You Sure?" message) updates the display and the edited sound is shown in place of one of the "EMPTY" slots.

```
SOUNDS  :WXGRANDP    -    PIANO    -    STORE
 ✚ BANK              = PERFORMANCES            (⊙)
   BANK NUMBER    =   1                      ENT/ESC
 ✚ PERFORMANCE   =   1
       EMPTY         EMPTY        EMPTY         EMPTY
WXGRANDP✦   EMPTY   ✦   EMPTY   ✦   EMPTY   ✦
```

At this point, you can choose to store the modified sound in as many other Performances as required.

IMPORTANT

Only one variation of the source ROM Sound can be stored in the same Performance.

A Performance makes no distinctions between two or more variations created from the same ROM Sound.

If, after storing a modified sound, you try to store a second variation of the same sound in another position of the same Performance, you will be reminded with the following message:

```
SOUNDS  :WXGRANDP    -    PIANO    -    STORE
 ✚ BANK        THE SAME SOUND ALREADY EXISTS
   BANK NUMBE DO YOU WANT TO CHANGE ITS POSITION ?
 ✚ PERFORMAN  <ENTER>   TO CONFIRM
       EMPTY  <ESC>     TO CANCEL
WXGRANDP✦   E
```

Press ENTER to confirm.

The modified sound stored in the first position will be substituted by the second variation:

```
SOUNDS  :WXGRANDP    -    PIANO    -    STORE
 ✚ BANK              = PERFORMANCES            (⊙)
   BANK NUMBER    =   1                      ENT/ESC
 ✚ PERFORMANCE   =   1
       WXGRANDP      EMPTY        EMPTY         EMPTY
   EMPTY  ✦   EMPTY   ✦   EMPTY   ✦   EMPTY   ✦
```

If you press ESC, the previously stored sound will remain, you will leave the Store command and return to the Sound currently in edit.

If you try to Store a modified sound in a position already occupied, you will be prompted with the following message:

```
SOUNDS  :LYLE        -   ORGANWX   -    STORE
 ⊞ BANK          =  SOUND ALREADY EXISTS
   BANK NUMBER   =  DO YOU WANT TO OVERWRITE IT ? ESC
 ⊞ PERFORMANCE   =  <ENTER>  TO CONFIRM
     EMPTY        EM <ESC>     TO CANCEL        E
 PULSE ⊞  ↓   EMPTY
```
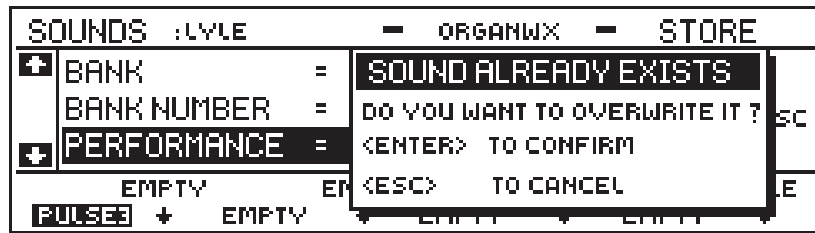
ATTENTION!!

The STORE command IS NOT the same as the SAVE PERFORMANCE command

This concept must be absolutely clear to the user.

A modified sound is NOT memorised in the Sound Library for the purpose of recalling it to save it in one of the tracks of a Performance with the Save Performance process.

Using STORE, the sound is "embedded" in a Performance and is found by recalling the relative Performance then selecting the respective Sound Family Bank which houses the type of sound.

For example, using the display above, the modified version of the Sound WXGrandP is shown to be stored in the Bank Performances, Bank N. 1, Performance 1 - this is equivalent to BANK PERF 1, Performance PIANO.

This means that every time you recall the sound WXGrandP in Performance PIANO (for any number of tracks), it will always be the modified WXGrandP previously stored in that Performance, until changed or substituted by a different sound.

The WXGrandP recalled in all other Performances that have not stored a WXGrandP variation will always recall the original ROM sound when the relative Family bank is opened.

NOTE THAT THE POSITION STORED TO IS OF NO IMPORTANCE. The modified sound will always be found in its relative Family Bank after recalling the respective Performance.

As another example, a variation of JazzGtr1 can be stored in, say, Bank Perf 2, Performance 8 which is equivalent to the Performance "LYLE" in the Perf 2 bank. If you recall Performance Lyle, you will note that the sound JazzGtr1 is not displayed. But, if you recall the relative Sound Family and select JazzGrt1, it will be the variation stored in the current Performance.

Suggestion: You are strongly advised to carry out some experiments here - going through some practical examples helps a great deal. If you want to re-use your edited sounds (particularly those that took all day to edit!), memorise the Performance Banks containing the sounds to SRam. You will be sure to find your favourite sounds after switching on. As a safety measure, always Save your edited work to DISK.

N.B. Modified Sounds can ONLY be stored using the STORE command.

If, after modifying a sound, you press **ESCAPE** (instead of Store), you will **Abort** the sound edit and loose all edited data - **NO WARNING WILL BE GIVEN.**

If, after editing a Sound, you press **ENTER** or **SOUNDS** (instead of Store), you will escape the Edit without losing the modified data.

Re-entering edit by pressing **SOUNDS** will display the parameters in exactly the same condition as they were when you left.

An attempt to return to the Edit with a different sound, however, will display the following message:

Press ENT (yes) to confirm the Abort command and to enter Edit Sound with the different Sound.

Suggestion: Use this method for a quick way of substituting the sound currently in Edit with another one if you are not satisfied with the current sound.

Press ESC (no) to refuse the option and remain in edit of the previous sound.

Preload and Edit Sound

If you escape Edit Sound temporarily (by pressing SOUNDS), WX will prevent you from performing a PRELOAD operation. An attempt to preload a Song will prompt the following message:

Press ESC to escape from the display and Abort Edit Sound if you want to Preload a Song from Disk.

EDIT MIDI

EDIT

DISK | PERF | SOUNDS

MIXER | EFF1/2 | MIDI

STATUS | SPLITS | ARRAN

CLOCK | PAGE- | PAGE+
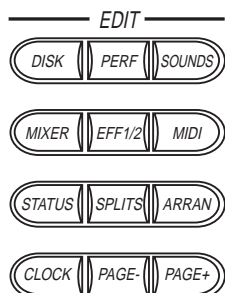
This is where you can configure WX's MIDI channels for the tracks of the current Performance, its response to incoming MIDI messages, as well as customise those that the WX sends to other MIDI devices. Some general MIDI controls are also available. For detailed information about how to use WX in MIDI setups, refer to Chapter 7, "MIDI & the WX".

Press the MIDI button in the Edit Section to enter MIDI Edit mode.

Depending on the currently selected mode (Real Time Perf, Style or Song modes), accessing the MIDI Edit mode shows the channel configuration that relates to the mode. The above display shows the default situation relating to all Real Time Performances. If you scroll the tracks and activate them, you'll see that each track number corresponds to the same channel number.

Style mode shows situations like this:

Song mode shows:

The one thing in common in all modes is the Drum track: this is assigned MIDI Channel 10 in conformity with General MIDI Standards.

Navigation

Use the cursor diamond's Left and Right arrows to pass from the left column to the right and the Up/Down arrows to move the highlighted edit zone vertically.

Rotate the Dial to specify the required value or status.

The TOGGLE can be used to switch from Out 1 to Out 2 and as an On/Off switch where applicable.

When you exit MIDI mode, WX remembers which page you were working on. The next time you enter MIDI mode, the same page appears.

Master and Slave

WX is fully implemented for MIDI operations and can act as a Master controlling unit, or a Slave device being controlled by an eternal controlling unit. In either case, the tracks or sections of both units must communicate across the same MIDI channels.

In all modes, the WX Drum track is assigned MIDI Channel 10 by default in conformity with General MIDI Standards.

If you are using WX as a Master and the Slave shows the General MIDI logo on the front panel, the "Drum" section will undoubtedly be assigned channel 10. If, however, the slave does not conform to GM, you can programme the MIDI channels of the external instrument so that they correspond with WX.

Assigning the MIDI Channels and Out port

Pressing MIDI in the Edit section for the first time gains access to the first of three MIDI pages:
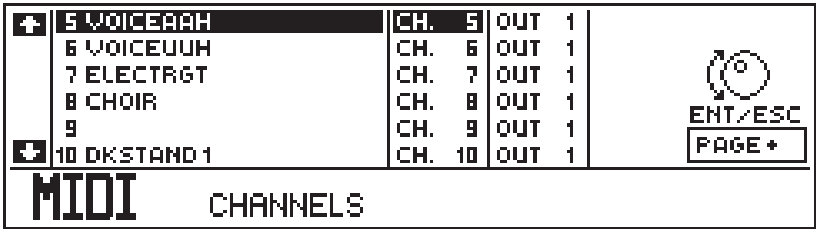
The "CHANNELS" page allows you to assign a MIDI channel and the relative Out port (Out 1 or 2) to each track of the current Performance. WX is supplied with factory settings (see margin) but they can be changed to suit any particular requirement.

Procedure:

Select the track with the Up/Down Cursor arrows and rotate the Dial to specify the required channel (1 - 16) or set the track to "Off".
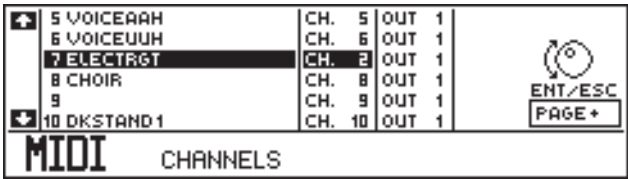
Go to the right column with the right cursor arrow to select the Out port and specify Out 1 or Out 2 with the Toggle.
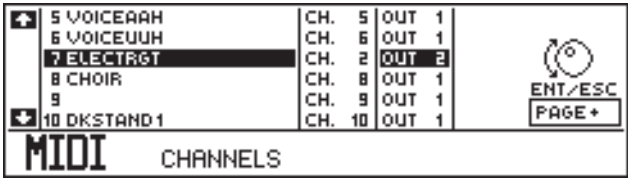
The channel settings are valid for reception as well as transmission.

Memorising the setting

The setting can be memorised for the current Performance by pressing ENT twice. You can memorise a different setting for each Performance of the currently selected mode.

The default MIDI status.
When you receive your WX, all the Tracks are enabled to transmit MIDI on OUT port 1 and the MIDI relative channels are set as follows for the various modes:

Real Time Perf mode
Track - Channel N°.

1	1
2	2
...	
...	
5	5
6	6
...	
...	
9	9
10	10
11	11
...	
15	15
16	16

Song mode
Track - Channel N°.

1	Off
2	Off
...	
...	
5	Off
6	Off
...	
...	
9	Off
10	Off
11	Off
...	
15	Off
16	16

ROM/Prog. Style mode
Track - Channel N°.

1	10
2	2
3	3
4	4
5	5
6	6
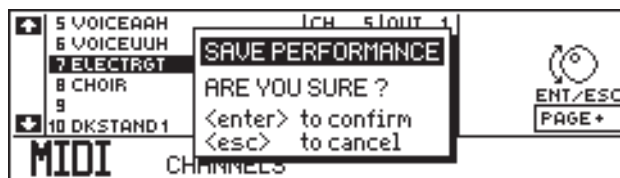
A particular setting for all Performances of all modes can be fixed by setting "MIDI Channel Lock" to "ON" (see "Other" MIDI page discussed further ahead).

What does WX transmit and receive ?

WX transmits and receives the following information:

Note On   message generated by pressing a key. Included in the message is the Note Number and the Velocity with which the Note is pressed;

Note Off   message generated by releasing a key. Included in the message is the Velocity with which the Note is released;

Program Change message generated when a sound is changed (the number of the newly selected sound is transmitted);

After Touch   message generated by key after-pressure and used to modify the notes being played. WX transmits Channel pressure and receives Channel and Poly pressure;

Channel Pressure: Pressing a key affects the entire MIDI channel. Poly Pressure: Poly affects only the note to which pressure is applied.

Pitch Bend Change   message typically generated by the movement of the wheel using left-right movements. This message alters the Pitch of the note with an excursion of ±2 semitones;

Control Change   message generated when a controller other than a key (e.g. a Wheel, Pedal, Switch, etc.) is moved in order to modify a sound of a note (modulation, sustain, volume, etc.). Also included are Bank Change data, transmitted and received on the MIDI Common. WX generates this type of data by selecting a Bank and its associated element (Real Time Performance, Int. Style, etc.).

The control change messages transmitted and received by WX:

*The control data identified with the symbol † is also shared by the Common channel. Data identified with the double symbol †† is transits **only** on the MIDI Common channel. Controller 0 transmitted on the Common channel is interpreted as Bank Change data - see Bank Change data.*

(00) Controller 0†	(20) Filter 1+2 GEM	(74) Rec†
(01) Modulation	(64) Damper	(75) <<††
(04) Foot controller	(66) Sostenuto	(76) >>††
(07) Main volume†	(67) Soft pedal	(77) Punch††
(10) Panorama	**The following are not transmitted, only received**	(78) Man. Perf.††
(11) Expression		(79) Sync††
(12) Attack GEM	(70) Start/Stop††	(80) Tempo fix††
(13) Release GEM	(71) Var/Cont††	(90) Rotary Slow/
(14) Filter 1 GEM	(72) Intro/End††	Fast††
(15) Filter 2 GEM	(73) Fill/Tap††	

WX can generate the data from 00 - 67 and 90 by assigning the relative controller to a programmable Pedal. Modulation (01) is also generated by the Wheel and the Foot command (04) is generated by a Pedal connected to the Volume socket on the rear panel.

The control data from 70 - 80 simulate the Sequencer controls.

Bank Change data transmitted and received ONLY on the MIDI Common channel:

Bank Program Change

08   0 - 23 Real Time Performances

[0 = Perf 1, Bank 1, 1 = Perf 2, Bank 1 … 8 = Perf 9, Bank 2 … 16 = Perf 17, Bank 3, 23 = Perf 24, Bank 3]

16   0 - 7 Songs

[0 = Song 1, 1 = Song 2 … 6 = Song 7, 7 = Song 8]

24   0 - 7 Current Song Performance

[0 = Song Perf 1, 1 = Song Perf 2 … 6 = Song Perf 7, 7 = Song Perf 8]

32   0 - 31 Programmable Styles

[0 = Prog Style 1, Bank 1, 1 = P. Style 2, Bank 1 … 8 = P. Style 9, Bank 2 … 16 = P. Style 17, Bank 3 … 24 = P. Style 25, Bank 4, 31 = P. Style 32, Bank 4]

32   32 - 95 Internal Styles

[32 = Int Style 1, Bank 1, 33 = Int. Style 2, Bank 1 … 40 = Int. Style 9, Bank 2 … 48 = Int. Style 17, Bank 3 … 56 = Int. Style 25, Bank 4 … 64 = Int. Style 33, Bank 5 … 72 = Int. Style 41, Bank 6 … 80 = Int. Style 49, Bank 7 … 88 = Int. Style 57, Bank 8, 95 = Int. 64, Bank 8]

48   0 - 23 Effect 1 Select (Reverb)

[0 = Hall 1, 2 = Hall 2 … 22 = Stereo3_1, 23 = Stereo4_1]

49   0 - 23 Effect 2 Select (Delay, Chorus/Modulation)

[0 = Delay1_1, 1 = Delay1_2 … 22 = PanMix_2, 23 = PanMix_3]

In addition, the WX also receives the following data ONLY on MIDI Common, generated by the "older" instruments not capable of transmitting Bank Change data. In this case, the transmission of Bank 0 (controller 0) is optional:

Bank Program Change

00   0 - 23 Real Time Performances

[0 = Perf 1, Bank 1, 1 = Perf 2, Bank 1 … 8 = Perf 9, Bank 2 … 16 = Perf 17, Bank 3, 23 = Perf 24, Bank 3]

00   24 - 31 Songs

[24 = Song 1, 25 = Song 2 … 31 = Song 8]

00   32 - 63 Programmable Styles

[32 = Prog Style 1, Bank 1, 33 = P. Style 2, Bank 1 … 40 = P. Style 9, Bank 2 … 48 = P. Style 17, Bank 3 … 56 = P. Style 25, Bank 4, 63 = P. Style 32, Bank 4]

00   64 - 127 Internal Styles

[64 = Int Style 1, Bank 1, 65 = Int. Style 2, Bank 1 … 72 = Int. Style 9, Bank 2 … 80 = Int. Style 17, Bank 3 … 88 = Int. Style 25, Bank 4 … 96 = Int. Style 33, Bank 5 … 104 = Int. Style 41, Bank 6 … 112 = Int. Style 49, Bank 7 … 120 = Int. Style 57, Bank 8 … 127 = Int. 64, Bank 8]

For more details, consult the MIDI Implementation chart in the Appendix.

MIDI Filters

Filters can be very useful in cases where particular MIDI messages are not required.

For example, if WX is slaved to an instrument that sends control messages that may cause some interference with the instrument, they can be filtered from the incoming MIDI stream. Similarly, you can filter off messages from the WX MIDI OUT data so that the receiving unit does not receive the unwanted data.

Filters prove to be particularly useful when MIDI IN data is merged with MIDI OUT data, using the MIDI MERGE function (see MIDI Merge further ahead).

Press PAGE to access the MIDI FILTERS page:

This page is entirely dedicated to the assignment of up to 6 MIDI IN filters and 6 MIDI OUT filters to each Track of the current Performance.

The display shows two columns, one for the IN stream and the other for the OUT stream.

The first four messages are fixed and can be made to pass or they can be filtered. The remaining two items are programmable and allow the specified data to be filtered.

When a Filter is set to "Off", all data passes.

When a Filter is set to "On", or in the case of the last two menu items, when specific data is specified, it is eliminated from the MIDI stream.

The Filter parameters

Poly pressure This is an Aftertouch message that WX cannot generate but it can receive through MIDI IN. Filtering this message from the MIDI IN stream prevents its reception.

In more complex situations, WX can process MIDI data by merging MIDI IN data with MIDI OUT (using MIDI Merge - discussed further ahead). In this case, if the merged data being transmitted at MIDI OUT contains POLY Pressure that might not be required by the receiving unit, it can be filtered off.

Program Change Filtering this message could be useful in certain advanced cases involving three or more instruments and exploiting the MIDI MERGE function (see MIDI Merge).

After Touch Filtering this message (Mono touch) prevents the relative data from being received or transmitted. This is particularly useful in cases where a receiving instrument could interpret Aftertouch information in a manner that could interfere with the correct operation of the instrument.

Pitch bend Pitch bend data can be filtered from both IN and OUT streams. This is particularly useful in cases where a receiving instrument could interpret Pitch Bend information in a manner that could interfere with the correct operation of the instrument.

Control ( )   Both these parameters are programmable and allow you to select an MIDI message or Controller to filter from the MIDI IN or OUT stream.

Simply select the parameter and rotate the Dial to select the data to be filtered.

For example, instruments of other manufacturers might implement one or more of the undefined controllers (e.g. 12 - 15) to transmit specific data relating to the instrument that could give rise to some problems with the WX, owing to the fact that WX implements the same controllers in a different manner.

The following table lists all the MIDI Messages and Controller numbers that can be excluded from the MIDI IN and OUT data stream (the list is valid for both MIDI FILTERS).

MIDI CONTROLLERS

Controllers marked with the symbol † transit on the MIDI Common channel.

(00) Bank Change 0†

(01) Modulation

(02) Breath Controller

(03) Controller 3

(04) Foot Controller

(05) Portamento time

(06) Data Entry MSB

(07) Main Volume†

(08) Balance

(09) Control 9

(10) Panorama

(11) Expression

(12) Attack **GEM**

(13) Release **GEM**

(14) Filter 1 **GEM**

(15) Filter 2 **GEM**

(16) Gen. purp. Contr. 1

(17) Gen. purp. Contr. 2

(18) Gen. purp. Contr. 3

(19) Gen. purp. Contr. 4

(20) Filter 1+2 **GEM**

(21... 31) Control 21... 31

(64) Damper Pedal*

(65) Portamento

(66) Sostenuto

(67) Soft Pedal

(68) Control 68

(69) Hold 2

(70...79) Controllers 70...79

*(Sustain)
**(Detune)

(80) Gen. purp. Contr. 5

(81) Gen. purp. Contr. 6

(82) Gen. purp. Contr. 7

(83) Gen. purp. Contr. 8

(84...89) Controllers 84...89

(90) Rotary Slow/Fast†

(91) Ext. Effect Depth

(92) Tremolo Depth

(93) Chorus Depth

(94) Celeste Depth**

(95) Phaser Depth

(96) Data increment

(97) Data decrement

(98) Non-Registered Parameter Number LSB

(99) Non-Registered Parameter Number MSB

(100) Registered Parameter Number LSB

(101) Registered Parameter Number MSB

(102... 120) Control 102... 120

(121) Reset control

(122) Local control

(123) All note off

(124) Omni mode off

(125) Omni mode on

(126) Mono mode on

(127) Poly mode on.

The "Special" MIDI controllers

Generalmusic have implemented some of the unused MIDI Controllers of the standard MIDI protocol as control codes for the respective Edit Sound parameters.

```
SOUNDS  :WXGRANDP      -     PIANO     -    EDIT
  [+] 1 CUTOFF 1    = 140  5 VOLUME   = 110   (O)
      2 RESONANCE 1 =   4  6 DYNAMIC  =   5  
      3 CUTOFF 2    = 118  7 ATTACK   =   0  ENT/ESC
  [+] 4 RESONANCE 2 =   8  8 RELEASE  =  70
             STORE     EFFECTS
      LIBRARY +  COMPARE  +
```

(12) Attack **GEM**   affects the Attack sound parameter.

(13) Release **GEM**   affects the Release sound parameter.

(14) Filter 1 **GEM**   affects the Cut-off 1 sound parameter.

(15) Filter 2 **GEM**   affects the Cut-off 2 sound parameter.

(20) Filter 1+2 **GEM**   affects both Cut-off 12 and 2 sound parameters.

(90) Rotary Slow/Fast change of speed slow <–> fast of the Rotary effect (this control transits on the MIDI Common channel only).

MIDI Other

Press PAGE + to pass to the "MIDI Other" page:

```
┌─┬──────────────────┬─────────┐
│✚│CLOCK             │INT      │
│ │COMMON CHANNEL    │OFF      │         ⟲
│ │MERGE             │OFF      │       (⚙)
│ │SYSTEM EXCLUSIVE  │OFF      │      ENT/ESC
│ │MIDI CHANNEL LOCK │OFF      │      ┌──────┐
│✚│GENERAL MIDI      │OFF      │      │PAGE -│
├─┴──────────────────┴─────────┴──────┴──────┘
│ MIDI      OTHER                            │
└────────────────────────────────────────────┘
```
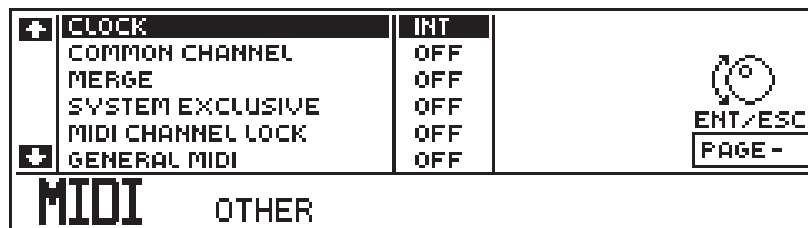
This page contains general MIDI functions that influence the instrument as a whole.

CLOCK: selects INT(ernal) or EXT(ernal) Clock.

The CLOCK is a synchronising signal, common to all MIDI equipment. It recognises START, STOP and TEMPO commands which permit the simultaneous execution of PLAY and RECORD on two Sequencers (for example, between two WX2s via MIDI).

When this parameter is set to "INT", the WX Sequencer can start, stop or play an external sequencer or drum machine by means of the Sequencer controls (START/STOP and << or >>). The external device in this case will share the Tempo specified by WX.

If the receiving equipment also receives the Song Position data, WX also transmits the Song Position Pointer which can arrest an external Sequencer at a very precise point.

When this parameter is set to EXT, the WX sequencer waits to receive a Start message from the external device.

COMMON CHANNEL: assigns a channel (1-16 or Off).

Assigning a Channel to MIDI Common overrides all Channel settings for all the Performances. The setting is valid for transmission as well as reception.

The MIDI Common is a "special" channel which transmits and receives messages such as Bank Change data (the Program changes for the Real Time Performances, the Progr. Styles, the Songs, etc.), Control Change data relating to the Sequencer functions, (Var/Cont, Fill/Tap, Rec, >>, <<, Manual Perf, Tempo Fix, etc.) and more.

When MIDI Common is "Off", WX recognises all connected external MIDI devices (Master Keyboard, Synthesizer, etc.) as normal MIDI In Sources of events which converge on the Tracks activated to receive MIDI IN data (see EDIT PERF - Configuration).

When MIDI Common is enabled, it *transmits and receives on one channel only* (Channel 1 - 16). Data is received at the MIDI IN port and transmitted on one of the specified MIDI OUT ports (OUT 1 – OUT 2).

Common at MIDI IN

The MIDI Common received at MIDI IN can be used to communicate with the instrument as a whole, overriding the individual track channel settings. The messages that transit on the Common channel are regarded by WX as if they originated from its own keyboard and respective controllers (Pedals, Wheel).

For example, an 88 note Master Keyboard can communicate with WX2 on MIDI

Common to exploit a wider keyboard range (A^0-C^8). An instrument with only one MIDI channel can communicate on MIDI Common and use the WX Keyboard programmed as several split ranges (each with a different Sound).

WX can receive Control Change data in the form of Bank Change information on the Common channel (see "Bank Change data" on page 4.77). WX recognises this type of data from sources that transmit Program Change only (Bank 0 - 127) as well as those capable of transmitting Bank Change data (e.g. Bank 08, P. Change 0-23 for Real Time Performances).

Also included is Control Change data that simulates the Sequencer functions (Start/Stop, Intro/End, Fill/Tap, Var/Cont, Rec, <<, >>, Punch, Manual Perf., Sync, Tempo fix).

Common at MIDI OUT

WX can use the MIDI COMMON to transmit general WX control information to an external compatible MIDI device or other instrument such as a Sequencer. In such a case, WX can transmit data such as Bank Change (e.g. Bank 8 P. Change 0-23: Real Time Perf) and the MIDI Controller (07) Pedal Volume and Rotary Slow/Fast (90).

MERGE: Activates (On) or deactivates (Off) the function.

When merge is "Off", messages received on MIDI IN are directed to the instrument's internal generator (WX Sounds) and redirected to the MIDI THRU in the same form as they entered. The incoming MIDI data cannot be transmitted on MIDI OUT; it can only be directed to the WX internal Sound engine.

When "On" Merge directs messages originating from MIDI IN to the MIDI OUT ports, merging them with the LOCAL source data (originating from the WX keyboard and controllers) and the Sequencer data (Songs).

Example:

An external Sequencer can be connected to the WX MIDI IN and an expander to the MIDI OUT.
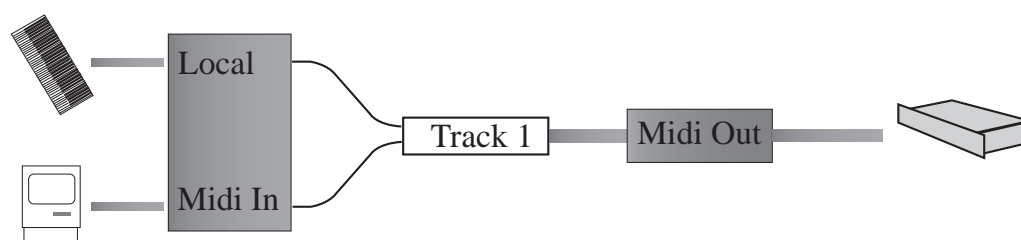
When MIDI MERGE is off, the expander can only receive messages originating from the WX keyboard (Local). The events originating from the external Sequencer communicating with Track 1 can only be directed to the WX sound generator.

If Track 1, for example, is destined to MIDI OUT, by setting Merge to "On", the messages generated by the external Sequencer and by the WX Keyboard will be merged and will then converge on the external expander connected to the WX MIDI OUT.

The MIDI MERGE function is particularly useful when combined with the MIDI filters which process messages "in transit". In all cases, this function simplifies MIDI connections and avoids having to purchase a Thru/Merge box.

SYSTEM EXCLUSIVE: enables the instrument for System Exclusive operations (On).

When this parameter is set to Off, System Exclusive operations are excluded.

System Exclusive is the term that describes the interfacing of the WX instrument with other devices (Sequencer, Host computer, etc.). System messages are not assigned to any particular MIDI Channel. They are recognised by MIDI receivers regardless of the basic channel to which they are sent. The messages are Hexadecimal codes and each instrument's System Exclusive messages have their own format according to an assigned manufacturer's ID number. System Exclusive sends data such as patch parameters, sampler data, or a sequencer memory bulk dump. A format which is appropriate to the particular type of transmitter is required.

A typical connection is a WX2 and a computer. In practice, System Exclusive can dump an entire block of data at high speed; it can be used to transfer, for example, the entire contents of a WX Bank/Song into a computer and so build a library of Songs.

Another common use of System Exclusive is to programme the instrument by accessing the Edit environment through a computer which makes use of a program specifically prepared for this task. This kind of work utilises System Exclusive as the means of communication between the computer and the instrument.

MIDI CHANNEL LOCK: locks a MIDI channel configuration for the instrument as a whole.

This function is valid for transmission and reception, fixing a Channel configuration for all Performances (Real Time, Style and Song), overriding the individual MIDI channel assignments for the instrument's Performances.

In practice, MIDI CHANNEL LOCK provides the instrument with a means of communication with all connected units across a "standard" MIDI configuration (programmed in the MIDI Channel page).

Connecting with MIDI Accordions
Some instruments may have incorrect octave transpositions when connected to a MIDI Accordion. You can correct this using one of two solutions:
1. Transpose the relative WX tracks (Edit Performance - Transpose function).
2. Transpose the Accordion section accordingly.

This function is particularly useful in cases that involve, for example, loading a song that contains complex Performances which could alter your MIDI setup. For example, you may be in concert and the Song you are about to load may have been produced in a Studio by a setup consisting of 28 external expanders and a Midi mixer, all piloted by WX - the result would be destructive to your programmed MIDI setup that may have taken hours to perfect.

A MIDI Accordion communicating with WX would also require a locked MIDI Channel configuration. For example, if the MIDI Accordion has to exploit the WX Styles, program the Styles MIDI Configuration to the required setup then set MIDI LOCK to ON. The MIDI configuration could be as follows:

WX	Accordion
Drum (Track 1) = [Ch 10] OFF or Ch.10	N/A
Bass (Track 2) = Ch 3	Bass section = Ch 3
Accompaniment (Tracks 3 & 4) = Ch. 2	Chords section = Ch 2
Track 5 = Ch 2	Chords section = Ch 2
Track 6 = Ch 1	Treble section = Ch 1

WX MIDI COMMON = Ch 2 (for the Chords)

WX Edit Split = set "Lock" (page 1) and CHORD SPLIT B7 (Page 2).

WX MIDI CHANNEL LOCK = ON.

GENERAL MIDI: Affects GS and GM MIDI Standard Files

General Midi, as a standard, stipulates that playing back a Song originating from another sequencer must bear resemblance to the original to the nearest degree. In fact, General Midi must ensure the following:

1.   Any Program Change numbers used must call up the same type of sound on the other unit.

2.   The MIDI Note numbers assigned to the drum and percussion instruments have to be the same and on the same channel (channel 10).

3.   The polyphony of the other unit must be at least as high as the original one.

4.   The other unit must respond to any MIDI Control Change that have been used, such as MIDI Volume and Modulation.

In practice, when you load a MIDI Standard File from disk into the WX memory, or receive data via MIDI, the above stipulations will be respected if the parameter GENERAL MIDI is ON. Furthermore all the Program Change numbers relating to the GS Drumkits or GM Percussion sounds received on Channel 10 will be converted and addressed to the WX Drumkits to guarantee the correct sound on the drum track.

Conversion table for GS or GM Standard transmitted to WX on MIDI Channel 10:

Drumkits	P. Change	WX P. Change
Standard (GM)	0-0 (incl 1-0 … 7-0)	112-1
Room (GS)	8-0 (incl 8-0 … 15-0)	113-1
Power (GS)	16-0 (incl 17-0 … 23-0)	114-1
Electric	24-0	115-1
TR808	25-0 (incl 26-0 … 31-0)	116-1
Jazz	32-0 (incl 33-0 … 39-0)	117-1
Brush	40-1 (incl 41-0 … 47-0)	118-1
Orch	48-0 ((incl 49 -0 … 7-0)	119-1

All Pr. Changes above 49-0 recall the Standard drumkit 112-1

In transmission, the inverse is also true for Channel 10 when General MIDI is ON. For example, if you send the WX DKStandard drumkit on channel 10, the receiving unit receives Program change 0.

Note: Generalmusic has adopted the system where program changes from 0 to 127 are displayed as 1-128, therefore, the Jazz Drumkit (117-1) displays program change 118-2.
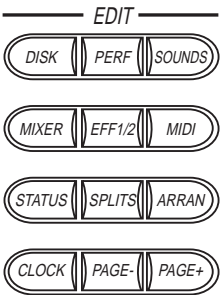
EDIT ARRANGE

The ARRANG function gains access to all the parameters which affect the Styles (Internal, Programmable and Song Styles).

```
KEY START      = OFF
CHORD MODE     = ONE FINGER
BASS FOLLOW    = OFF
AUTOBACKING    = OFF
HARMONY        = OFF
MEMORY         = ON

ENT/ESC

ARRANGER
```
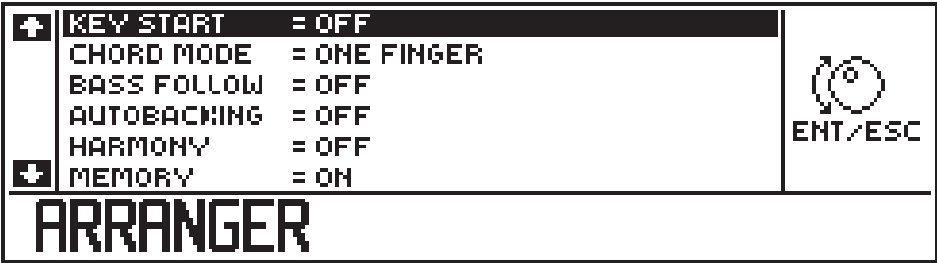
All the Arranger parameters affect the part of the keyboard dedicated to playing Rhythms and Arrangements (in Style mode).

You will find explanations of how these parameters affect the Styles in the Internal Styles Chapter 5.

The Arranger does not affect the Real Time Perfdormances or Song Mode.

The ARRANGE parameters

KEY START

Starts the Style the instant a chord is formed on the part of the keyboard dedicated to chord playing. When you release the keys, the Style stops (provided that the Memory function is Off - see below).

If Memory is active, releasing the keys has no effect - the Style continues to play (see Memory below)

In default, Key Start is "Off". If you activate "Key Start", Memory is deactivated automatically (if active).

CHORD MODE

This parameter provides three options:

ONE FINGER: recalls the principal chords in a simplified manner;

FINGERED: plays the notes effectively pressed;

FREE: allows chord to be recognised across the entire keyboard, overriding the Chord Split of the Styles.

Summing-up:

If you play note "C" with the **ONE FINGER** option active, the "C" major chord will be recognised and the major riff will be played.

With the **FINGERED** option active, the major chord is recognised and the relative riff is played. In practice, only the notes effectively pressed are played therefore, if you play only the note "C", the Riff will play with sparse accompaniment;

With the **FREE** option active, pressing the single note "C" does not provoke a reaction from the sequencer because at least three notes must be pressed at the same time to recognise a chord. The novelty lies in the fact that a chord can be recognised in any part of the keyboard overriding the currently set Chord Split.

BASS FOLLOW

Affects the automatic Bass pattern of a Style

When Bass Follow is "Off", the automatic bass line of a Style follows the recorded pattern irrespective of the chords played.

When Bass Follow is "On," you can change the course of an automatic bass pattern in real time by changing the lowest note of the chord played.

See the Internal Styles chapter for specific details.

AUTOBACKING

Affects the Style patterns in particular situations.

If Automacking is "Off", your automatic Styles will play normally with "normal" chord changes but, if you "provoke" the recorded pattern with quick chord changes, you will notice "gaps" in the patterns. This is due to the fact that there is not enough time to update to the new situation before introducing a subsequent one.

You can correct this inconvenience by setting Autobacking to "On". Each quick chord change updates the pattern instantly.

See the Internal Styles chapter for more details.

HARMONY

Provides 5 harmonising options for Track 6 in relation to the chord played.

on:	harmonises by adding three notes to each melody note, keeping in consideration the chord played and the scale position relative to the note played.
duet:	adds only two notes.
open:	adds three notes but in open position.
octave:	adds one note to the lower octave.
double octave:	adds one note two octaves below.

N.B. Harmony only affects Track 6 of all styles.

MEMORY

Allows the chord played to be maintained in memory.

Memory "on" allows you to release your left hand from the keyboard to affect control panel changes.

This function is excluded automatically when KEY START is enabled.

Three options are available:

Off	Memory not active;
Chords	Memorises only the Style Chords;
Chords+Track5:	memorises the Style Chords and the notes relating to Track 5.

Note: The Arranger settings are valid for all Styles (Rom, Prog. and Song Styles).

CHAPTER 5 - STYLES, SONGS & SEQUENCER

1. Internal Styles

General information

WX provides 64 Internal Styles, also called ROM Styles.

The ROM Styles are arranged in 8 Banks of 8 corresponding to the lower row of the "Performance & Style Banks" group (Dance, Beat, Rock'n, etc.):
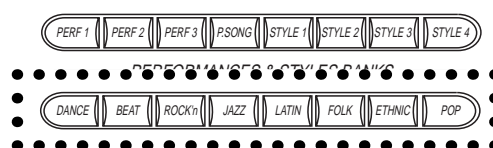
What is a Style?

Styles are Drum and Arrangement PATTERNS recorded by the WX Sequencer which are triggered by playing chords on the left split of the keyboard.

Selecting A Style recalls a Style Performance which is programmed to split the keyboard automatically.

The Internal Styles provide factory-programmed Rhythm and Arrangement patterns which cannot be edited or cancelled. Internal Styles are permanently resident in ROM and cannot be recorded[1].

The Internal Style Performances can, however, be modified and saved for future use.

A Style Performance consists of several distinct "parts" which are appropriately recorded with WX's on board Sequencer to provide a perfect simulation of several musicians playing together:

Note 1:
An attempt to record an Internal Style by pressing REC in Int./ Style mode will display the following warning:

```
FORBIDDEN
INTERNAL STYLE!
RECORDING IMPOSSIBLE.
<ESC> TO CANCEL
```

Press ESC to cancel the display.

A Drum track	a recorded sequence of percussion sounds;
A Bass track	a recorded sequence of Bass sounds;
Two "Accompaniment" tracks	two separate recorded arrangement sequences.

Also provided are two tracks not engaged by the sequencer:

Two "Free" tracks	allow you to play up to two sounds in real time, one for the right hand and one for the left (programmable).

As an example, the Style Twist from the Rock'n Style Bank shows how the 6 tracks are distributed:

Track 1	Track 2	Track 3	Track 4	Track 5	Track 6
DXStand1	Elecbass	WXGrandP	Softsax	Off	Trombon1
Drum	Bass	Arrang	Arrang	Free	Free

Note: Styles always engage Tracks 1 to 6.

Chord recognition and the Riff

All the most popular chords are recognised by the instrument's Arranger. In particular, the Major, Minor and Seventh chords are exploited to provide musical arrangements (patterns) adapted for the selected rhythm.

The various patterns generated are called RIFFS; these are musical motifs capable of repetition which vary in "length" from one to eight bars long.

Up to 18 Riffs, each providing a different pattern, can make up a Style (the Internal Styles do not exploit all - Prog. Styles are freely programmable).

The Riffs available:

Basic pattern:	Major	Minor	7th
Intro pattern:	Major	Minor	7th
Fill in pattern:	Major	Minor	7th
Ending pattern:	Major	Minor	7th
Basic Variation:	Major	Minor	7th
Fill Variation:	Major	Minor	7th

All recognised chords are displayed in the "Chord box" in the top right corner when a Style is playing and the current riff being played is monitored in the right part of the display:

The Chord box

The Riff currently playing
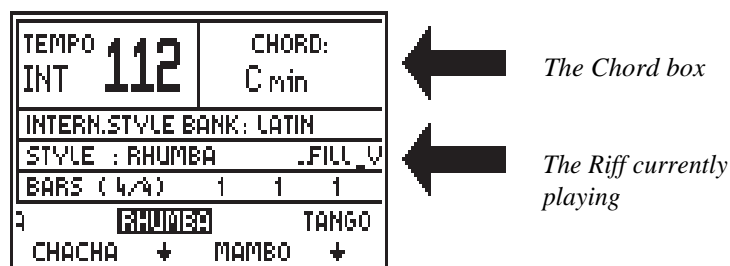
In practice, pressing only one note plays a Major chord (the "One Finger" function is active in default). Minor and Seventh chords are recognised by playing two notes (see "One Finger" further ahead).

NB. If you play a chord (or make a mistake) which the internal computer is unable to recognise, the Style plays a root bass note with sparse accompaniment to avoid discordant situations.

How to select an Internal Style

1.   Enter Internal Style mode by selecting one of the ROM Style Banks (Dance, Beat, Rock'n, etc.) and select a Style with one of the Function Buttons (F1…F8).

```
SEQ   1 DKSTAND1        TEMPO  164    CHORD:
SEQ   2 ELECBASS        INT           C ******
SEQ   3 WXGRANDP        INTERN.STYLE BANK: ROCK'N
SEQ   4 SOFTSAX         STYLE    : TWIST
OFF   5                 BARS ( 4/4)   1     1     1
ON    6 TROMBON1
      ROCKN       CHARLEST      SLROCK2      BALLAD2
   BOOGIE  +    TWIST    +   SLROCK1  +   BALLAD1  +
```

The information displayed is already discussed in chapter 3, under the section "A Rapid Tour of the Main Display" on page 3. 4.

2.   Start the Style with **Start**/Stop - the Rhythm pattern will play.

3.   Press a note on the left part of the keyboard to hear the Bass and Arrangement patterns (in default, the "One finger" function is "On" in the Arranger).

4.   If you release the keys, the automatic elements (Rhythm + Arrangements) continue playing (in default, the "Memory" function is active for "Chords" in the Arranger).

5.   Change note and listen to how the arranger changes key automatically.

6.   Play the Major, Minor and Seventh chords and listen to how the pattern changes when you change from Major to Minor to Seventh.

7.   Play with both hands. Note that the "real time" sounds provided by the free tracks will be split, one on the left and the other on the right hand (if they are both "On").

NB.   You can mute any track (1 - 6) by selecting it with the Up/Down cursor arrow and hitting the Toggle.

8.   Stop the Style with Start/**Stop**.

The Style Commands

Note 1:
The other Sequencer
controls (REC, <<, >>)
do not affect Internal
Styles.

These commands have been discussed in detail in the "Style and Song commands" section on page 3.3. To be more precise, these are all Sequencer controls[1] which affect Syles and Songs.

Start/Stop	Starts and Stops the Style or Song (Sequencer).
Fill/Tap	Press this button while a Style is playing for a **Fill In**.
	When a Style or Song in not playing, **Tap** on the button 4 times (or 3 if 3/4 Time or 6 if 6/8 time) to start the Style or Song with the playing speed established by "beating time" on the button.
Var/Cont	Press this button while the Style is playing for a **Variation** of the **Fill In** - this will also trigger a variation of the basic pattern. The basic pattern is restored by pressing **Fill**/Tap.
	"**Continue**" starts a Song from the point it was stopped.
Intro/End	Press this button when a Style is not playing for an **Intro**.
	Press this button while a Style is playing for an **Ending**.

The Style Tempo

When you select a Style, an appropriate memorised Tempo (playing speed) is recalled. It can be modified in real time while the Style is playing, by rotating the Dial.

```
SEQ  1 DKSTAND1       TEMPO   90     CHORD:
SEQ  2 ELECBASS       INT            Eb sus 4_7
SEQ  3 NYLGUIT
SEQ  4 MARIMBA1                      HK: LATIN
ON   5 STRINGS2       STYLE    : SAMBA
ON   6 JAZZGTR1       BARS (4/4)   1   1   1
       SAMBA       SALSA      RHUMBA      TANGO
   BOSSA  +    LATIN  +   CHACHA  +   MAMBO  +
```
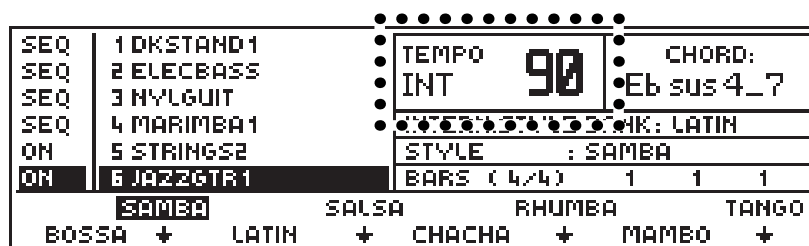
The new Tempo setting, displayed in the Tempo "box", will remain unchanged until it is modified again, or until the Style is stopped and started again; this restores the programmed Tempo.

The Tempo-fix, M. Perf. and Sync functions

The "Sequencer & Users" group of buttons below the display contain three functions that affect the Styles:

```
F1   F2   F3   F4   F5   F6   F7   F8
              SEQUENCER & USERS
REC  ◄◄   ►►   SCORE  TEMPO  SYNC  M.PERF  SONGS
```
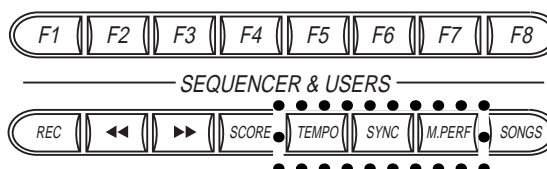
The Tempo-fix function

The Style Tempo can be "blocked" at any value by activating the "**Tempo-Fix**" button.

When this button is selected (button illuminated), the Tempo setting specified in real time will remain fixed for all subsequent Style selections. This will permit you to maintain the same playing speed while changing Styles.

The Manual Performance function

Note
The MANUAL PERF function is only operative in Style and Song Style modes.

Normally, selecting a Style recalls an appropriate sound for each Track, including those assigned to the two "free" tracks (5 and 6). When you change Style, the Sound in track 5 and 6 will also change.

If you press the **M. Perf** button (button illuminated), you can change Styles without changing the sounds assigned to tracks 5 and 6. This allows you to play in real time with the same sounds and change Style at will.

The Sync function

The **Sync** function, when active (button illuminated), permits you to start a Style (Rhythm and Arrangements) in synchronisation with a touch on the lower part of the keyboard.

This function is influenced by the status of the Memory function in the Arranger.

When Memory is active (see Edit Arrange), Sync operates as described above.

If Memory is off, Sync starts the Style (Rhythm and Arrangement) but, when you release the keys, the Arrangements stop while the Rhythm continues to play.

EDIT

DISK   PERF   SOUNDS

MIXER   EFF1/2   MIDI

STATU   SPLITS   RRAN

CLOCK   PAGE-   PAGE+

Chord Split

The Styles feature a "**Chord Split Point**" which marks the keyboard division.

Playing a note or chord below the Chord Split triggers an automatic pattern which depends on the chord played.

The "Chord Split" is common to all Styles and in default mode, it corresponds to note C4.

It can be modified on the second page of "**Edit Splits**" by rotating the Dial or pressing a key:

```
┌─── LOCK ─┐
│          ├─ CHORD SPLIT=  C4      ENT/
│          │                        ESC
└─ FREE ───┘                        PAGE-
```

Tracks 5 and 6 also have default keyboard extensions which can be modified in the first page of Edit Splits:

```
1 DKSTAND1    A0 ─────────── C8
2 ELECBASS    A0 ─────────── C8
3 NYLGUIT     A0 ─────────── C8      ENT/
4 JAZZGTR1    A0 ─────────── C8      ESC
5 STRINGS2    A0 ──── B3
6 FLUTE               C4 ──── C8    PAGE+
```
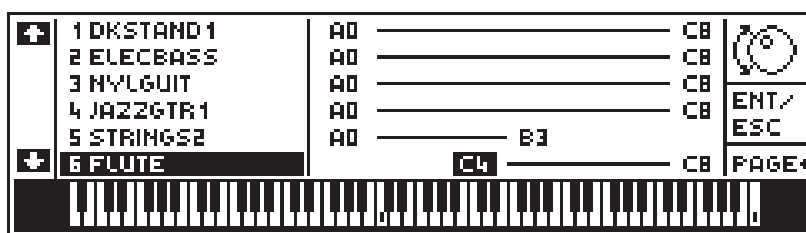
Free and Lock

When "**FREE**" is selected in the Chord Split page of Edit Splits, you can modify the Chord Split point (for all Styles) without altering the relative keyboard extensions of tracks 5 and 6.

If you select "**LOCK**", tracks 5 and 6 will be locked to the Chord Split modifications. Therefore, when you modify the Chord split, the relative track extensions will change accordingly.

WX2
WX4

Deactivating the tracks engaged by the Sequencer (SEQ)

You can deactivate a Sequencer track in two ways: by **muting** it, or by **disengaging** it from the sequencer. A disengaged track can be played in real time.

How to Mute a Sequencer track

In all Styles, Tracks 1, 2, 3 and 4 engaged by the Sequencer are displayed with the "SEQ" status in the left column:

In this condition, these tracks are disconnected from the Keyboard and from reacting with MIDI IN events - the configuration parameter in Edit Perf confirms this:
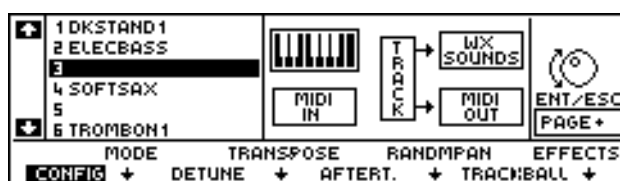
To Mute a track, select the one required and press the Toggle. The track is shown as "OFF":

For example, you can mute both accompaniment tracks (3 & 4) if you want to play the Rhythms with Bass accompaniment only.

How to disengage a track and play it in real time

◆   First mute the required track:

◆   Press the Perf button in the Edit section to access the Configuration parameter. The track is shown to be disconnected from the keyboard and from MIDI IN:

◆ Press the Toggle to assign the track to the keyboard:
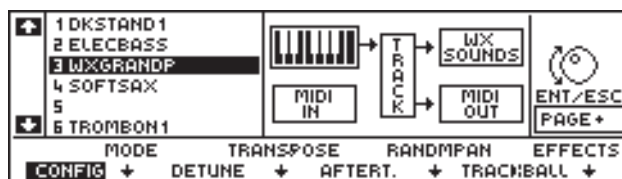
◆ Return to the Style display and the track is shown active for Local:
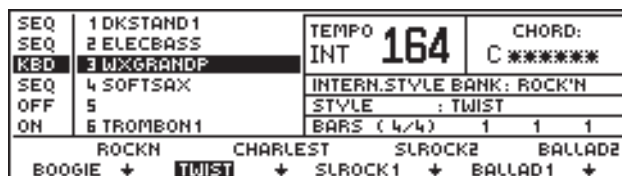
The disengaged track can now be played in real time across the entire keyboard range. Use Edit Splits if you want to modify the sound's note range.

Note: You can re-engage the disengaged tracks by pressing the Toggle twice but, you must also remember to restore the tracks original status. Return to Edit Perf and disconnect the track from the keyboard.

Save a modified Internal Style Performance

Any modification to an Internal Style Performance (such as the one explained above) can be memorised using the Save Performance operation - simply press ENTER twice:
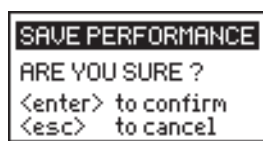
Save to SRam or Disk

If you want the modified Style to play as memorised every time you turn on your WX, you can save the modified Int. Style Performance to SRam or Disk for future loading:
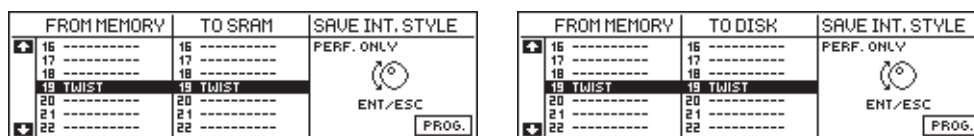
Restore Internal Style Performance

A modified Internal Style Performance can be restored to its original status with the RESTORE function in the Edit Performance section. This function appears for Internal Style Performances only:
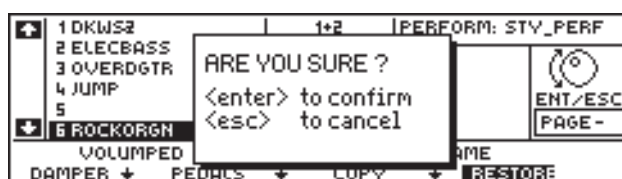
Press ENT and the Performance will be restored t its original ROM status. Press ESC to cancel the operation.
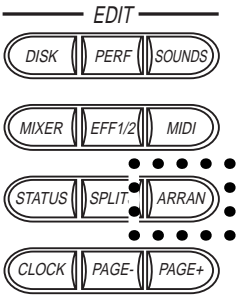
The ARRANGER options and how the Styles are affected

How a Style reacts to keyboard solicitations is also determined by the status of the parameters in the **ARRANGE** function of the Edit section.

```
┌──┬─────────────────────────────┐  ┌──────┐
│┌┐│ KEY START    = ON           │  │ (◯)  │
│└┘│ CHORD MODE   = ONE FINGER    │  │      │
│  │ BASS FOLLOW  = OFF          │  │ENT/ESC│
│  │ AUTOBACKING  = OFF          │  └──────┘
│  │ HARMONY      = OFF          │
│┌┐│ MEMORY       = ON           │
│└┘│                             │
│  ARRANGER                      │
└────────────────────────────────┘
```
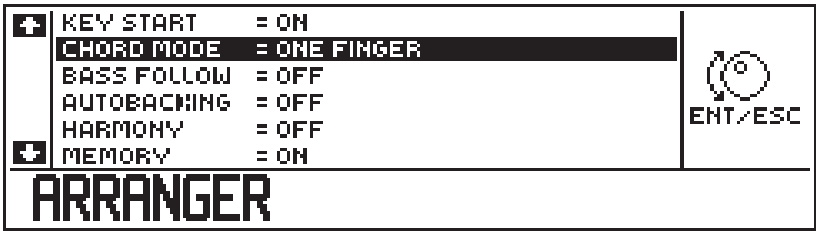
The **Arranger** parameters all relate to the left part of the keyboard in Style mode (below the Chord Split), unless otherwise stated. Explanations of how to edit the displayed parameters are found in the relevant section of the Edit Chapter.

Key Start: If "On", the Style (Rhythm and Arrangements) starts by pressing a key on the part of the manual dedicated to playing chords. If "Memory" is "Off", releasing the keys stops the Style[1].

In default, Key Start is "Off".

Chord Mode   Provides three options: One Finger, Fingered and Free.

One Finger - recalls the principal chords in a simplified manner[2]. One note plays a Major chord and other common chords (Minor, Diminished, Seventh, Major Seventh) are provided by various two finger combinations - see diagram in margin).

In default,, One Finger is "On".

Fingered - provides for normal chord playing.

Free - "overrides" the Chord Split and allows Styles to be played by forming chords anywhere on the keyboard. At least three notes must be pressed for the Styles to play.

NB. The chords played are displayed in the "Chord box" of the main Style display. Remember that in **Edit Status**, you can opt to change from English to Italian chord notation and vice versa.

Bass Follow   When "Off", the automatic bass line follows the recorded pattern irrespective of the chords played.

If Bass Follow is "On", you can change the course of an automatic bass pattern in real time by changing the lowest note of the chord played. The pattern recognises the lowest note in the first and second cycles of the Riff and resumes normal playing on all subsequent cycles.

In default, Bass Follow is "Off".

Example. Try with the Slow Waltz style: while the style is playing, hold down the chord of C and, with the little finger, change the lowest note in descending order. Listen to how the Bass pattern "follows" the lowest note of the chord.

Autobacking   Generally, in almost all electronic instruments that provide automatic arrangements, quick chord changes sometimes create "gaps" in the pre-

Note 1:
If the Sync function is "On", releasing the keys will only stop the Arrangements.

Note 2:
"One Finger" Chords are simplified versions of the principal chords, obtained by pressing one or two notes. Examples in the key of C (the second note is played above [ab] or below [bl] C as indicated):

Chord	Note
C (Maj)	C
C min	C+Eb (ab)
C dim	C+Gb (ab)
C 7	A# (bl)+C
C maj7	B (bl)+C

recorded patterns because there is a slight delay in updating the pattern after keying a chord before introducing the new one.

Autobacking (On) is an "auto corrector" which avoids this inconvenience by updating the pattern as soon as the chord change is keyed.

In default, Autobacking is "On".

NOTE: In some situations, Autobacking in an enabled status can create unwanted effects. In such conditions, simply deactivate the function (off).

Harmony   provides 5 real time automatic Harmonising options for the melody line (track 6) based on the chord played.

> **On**:   adds three notes to each melody note, taking into consideration the chord played and the level of the scale relative to the melody note played.
>
> **Duet**:   adds only two notes.
>
> **Open**:   adds three notes but in open position.
>
> **Octave**:   adds one note an octave lower.
>
> **Double octave**: adds one note two octaves below.
>
> **NB.   Harmony** only affects **Track 6** of all styles.

Memory   provides three options - "Off", "Chords" and "Chords+Tracks".

When set to "**Chords**", all chords played (including the "One Finger" type) are maintained in memory after releasing the keys. This permits you to liberate your left hand to effect control panel changes.

When set to "Chords+Tracks", releasing the keys memorises the notes of Track 5 as well as the chords.

"**Off**" disables the Memory function.

In default, Memory is set to "Chords".

NB. This function will be excluded automatically if KEY START is enabled.

2. PROGRAMMABLE STYLES

The Programmable Styles are identical in all respects to the Internal Styles with the exception that the Rhythm and Arrangement patterns are user-programmable.

You can programme completely new Rhythm and Arrangement patterns by exploiting the on-board Sequencer and, by using all its related functions in the Edit Sequencer section, you can edit your patterns to optimise them.

More information about the Sequencer appears in the Song chapter.

Riffs

All Styles are based on the Riff. A "Riff" is a musical motif capable of repetition. It can also be expressed as a "pattern", a "phrase", a "lick" or other, but it is important to understand that it must be capable of repetition. A Riff can be from one bar up to eight bars long and, together with the Performance, it is the principal element all the Styles.

When you program a Style, you record the major, minor or 7th Riffs of the basic elements that make up the Style arrangement patterns, as shown by the following table:

The Riffs available:

Basic pattern:	Major	Minor	7th
Intro pattern:	Major	Minor	7th
Fill in pattern:	Major	Minor	7th
Ending pattern:	Major	Minor	7th
Basic Variation:	Major	Minor	7th
Fill Variation:	Major	Minor	7th

You are not obliged to programme all the Riffs - you can obtain excellent results by recording, for example, the Major chord of the Basic, Intro, Fill and End Riffs.

Styles can be programmed in three ways:

Real Time recording: the notes you play on the keyboard and the velocities applied will be captured in the timing that you play. Unlike real time track recording, real time pattern recording overdubs your playing (the new data is added to the old) as the pattern repeats. The repeating patterns allow you to record drum patterns, for example, by playing each drum sound separately.

Step recording captures one note at a time, specifying the note length (minim, quaver, crotchet, etc.). The velocity applied to the keys is also recorded.

Copy from an existing Style: you can copy a pattern (entirely or partially) from an existing Programmable style to the one you are programming. You can then apply some modifications to create your new Style - this is a great time saver.

Note: the styles are more suited to record a Rhythm Track (always Track 1), a Bass track (Track 2) and two Arrangement tracks (Tracks 3 and 4).

The Prog. Style Performance

In practice, you enter Prog. Style mode with copy of the current Performance. For example, if you want to start programming a new Swing from the Jazz Style Bank, or a new Rap from the Dance Bank, simply select the required ROM Style and enter Prog. Style mode.

How to record a Style (Real Time)

Below follows all the steps to take when programming a Prog. Style in Real Time. For a clearer understanding of this section, only the fundamental functions are explained.

Afterwards, the additional functions which contribute to the perfection of your recordings or which render a more sophisticated use of the Sequencer are explained in the Edit Sequencer chapter.

1. Press one of the four STYLE buttons (Style 1, 2, 3 or 4) in the top row of the "Performance and Style Banks" and select an "empty' slot using the Function Buttons (F1…F8). You will be prompted to create a new Style.

2. Press REC.

3. Choose the Riff you want to record (Maj, Min, etc.) using the Function buttons F1, F2 and F3.

4. After selecting your Riff, press ENTER to enter "Record Pending" status.

5. Using the Cursor diamond arrows to navigate, select the first Track to record[1] (a Drumkit) and activate it for recording with the Toggle. Select also the "Length" function to set the number of bars for the Riff (ignore the "Mode" function at this stage).

6. Access the "Master" Track in Edit Sequencer to specify a Time signature (if different from the default 4/4) and set other parameters as required (Metronome volume, Tempo, etc.).

7. Press Start/Stop to start the recording[2]. The Metronome will tap a one bar "count down" (or lead) into the recording.

8. After the one bar lead, start recording the Riff for the specified number of bars.

9. When you have finished the recording the Riff, press Start/Stop to stop the recording. Repress Start/Stop to listen to the playback and, if you are satisfied press the Toggle to assign the recorded track to the Sequencer definitely (the track status column shows "REC" change to "SEQ").

If you are not satisfied, there are several operations to choose from to optimise your recording (see Edit Sequencer further ahead).

10. Select another track and repeat the procedure from point 7.

11. When you have finished recording all the Tracks for the first Riff, return to "Riff select by pressing "Riff" (F1) and repeat the procedure from point 3 (ignore point 5 and 6) to record the tracks for the different Riff.

12. When you have finished the recording, press ESC to escape Prog. Style Record mode.

13. Press Start/Stop to start your new Style and play a chord on the left part of the keyboard to listen to your recorded arrangement.

You can give the new Prog. Style a name using the NAME function in the Edit Sequencer (see Name further ahead).

Note 1:
It is advisable to assign a Drumkit to Track 1 because the Styles "carry" predisposed parameters that limit Drumkits to Track 1.

Note 2:
If nothing happens when you press Start/Stop, check the Clock in the Edit MIDI section - it could be set to EXT(ernal): set it to INT(ernal).

A detailed explanation of each step

This section goes through each step in greater detail and examines all the possibilities at your disposal when you are recording styles.

1.   **Press Style 1, 2, 3 or 4** and select an "**empty**' slot using the Function Buttons (F1…F8).

After pressing "**empty**", you will be prompted enter Record mode:

The Style Performance assigned to the Prog. Style you are about to record takes its origin from the one currently selected at the time of accessing the Prog. Style mode. This provides a very quick and easy way of programming a new Style using a copy of one of the ROM Style Performances. You can therefore programme a new Boogie, for example, using the original Boogie Style Performance. Simply select the Boogie Rom Style before entering Prog. Style mode.

What happens if you select "Style 1"

A slight exception to this rule is if you select **Bank Style1**: the display will show "STYLE 1" in correspondence with the Function button F1.

The "Style 1" is merely a means of accessing the selected Prog. Style bank directly without entering Record mode. This will permit you to create new Performances by modifying the current one and exploiting the Copy function in Edit Performance to copy them to the other Prog Style positions[1].

To record **Style 1** (or any "Style X" after being copied), simply press REC - in this case you will enter directly into record mode.

2.   **Press REC** and the display changes to:
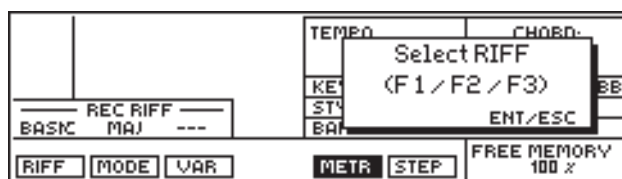
3.   **Choose the Riff to record** using the Function buttons F1, F2 and F3.

Press F1 repeatedly to scroll through the Basic, Fill, Intro and End Riffs. F2 scrolls through the Major, Minor and Seventh riffs. F3 selects the Variation.

For example, the Variation of the Maj Fill Riff will show:
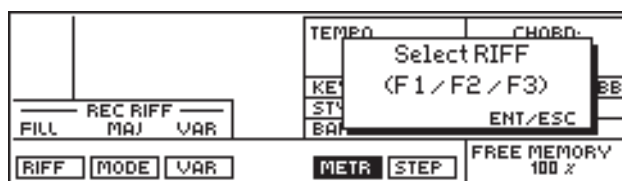
Note: when Var is selected, F1 only provides the Basic and Fill Riffs.

Note 1:
When you copy a Style Performance to another position, the new Performance will be named "Style X" automatically, where "X" refers to the relative Performance number. With the "Name" function in the Edit Sequencer section, you can give your Prog. Style a name.

4.   After selecting your Riff, press ENTER.

If you press ESC, you will escape "Record mode" and return to the Prog. Style display - the "empty" slot will be automatically named (Style 2, 3, 4, etc.) to indicate that the position has been defined. You can access a defined position at any time and record the Style by pressing REC.

5.   Use the Cursor Diamond arrows to navigate in the display.
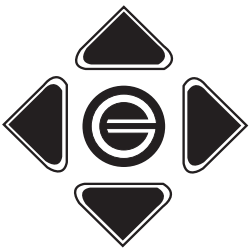
Navigating in this display allows you to select the track to record, the **key** to record in, the recording **mode** (dubb, norm, punch) and the number of bars (**length**) for the Riff (length 1-8). You can also change Sound.

The selected Track is activated for recording with the Toggle:

The Track status column on the left of the display shows "**REC**" to indicate that the track is in "Record Pending" status.

The KEY function

Note 1:
Generally it is advisable to record the following Riffs in the keys indicated:
MAJ = C,
MIN = D,
7th = G.

The KEY function allows you to record your riffs in preferred keys[1].

Your arrangements will achieve musical uniformity using this function, meaning that changing key when you play your programmed style will provide the correct transposition for the chord.

The MODE function

The recording mode provides three options: DUBB, NORM and PNCH

Dubb: refers to "**Overdubbing**" and is the default recording status. This mode permits you to add new events to those already recorded.

For example, when you reach the end of the last bar, the recorded Riff loops back to the beginning and repeats continuously until stopped. During the repeating stage, you can add new events.

Norm: refers to "**Normal**" (also called "replace"). This mode permits you to replace all the recorded events of the Riff with new events. Use this method to re-record your Riff if you make a mistake. After the first cycle, all repeating cycles of the Riff currently being recorded return to "DUBB" mode automatically.

Note: If no notes are played when the Riff plays the first cycle in "NORM" mode, all previously recorded events will be erased.

Pnch: refers to "**Punch**" - this is a typical Sequencer function that permits you to correct mistakes by "Punching in" a correct note or sequence of notes into the recorded track with the aid of one of the Pedals programmed for the relative function.

The LENGTH function

This parameter determines the number of bars for the Riff.

From 1 to 8 bars can be programmed for each Riff. You can also record two different Riffs with two different bar lengths.

Note:

You can record two different Riffs, each with different lengths.

Important: You cannot change the value of this parameter in a recorded Riff.

Once you have recorded a Riff with a certain bar length, an attempt to change this value will display the following message:

```
REC  1 DKBRUSH        TEMPO 120    CHORD:
OFF  2              FORBIDDEN
OFF  3              YOU CAN ONLY CHANGE THIS VALUE
OFF  4              WHEN THE RIFF IS EMPTY
   REC RIFF          <ESC> TO CANCEL
BASIC  MAJ  ---
RIFF
```
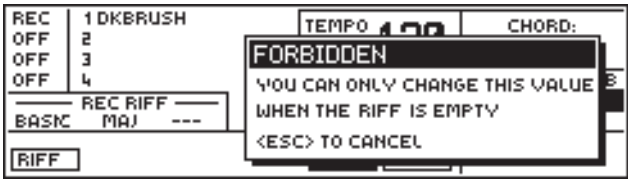
CHANGING THE SOUND ASSIGNED TO THE TRACK

Before starting the recording, you can assign a different sound to the Track in record but, unless you Save the modification (press ENT twice), the playback will recall the original sound with which you entered recording.

Note 1:

If you change the sound of a Track of the recorded Style, you must SAVE the change in the Style Performance (press ENT twice). If the modification is not saved, when you press Start, the recorded Style Performance will recall the Sound with which the Track was recorded.

You can also change sound during the recording; the Program Change will be recorded in the Track[1], but **be careful**: the relative **Performance** modification will **not** be recorded therefore, when the riff loops back to the beginning, the original starting sound will not be recalled because the last change will remain.

You can rectify this by changing back to the original sound at the very last instant, just before riff loops back to the beginning. The change will be recorded in the track and the Riff cycle will start with the original sound.

6.   **Access the Master Track** to specify your required Time Signature and to modify other parameters.

In Style Mode, the **Master Track** behaves as a "seventh track" and records general controls common to all tracks.

```
TIME SIGN   = 4/4      COUNT DOWN = ON
TEMPO       = 120      METRON VOL =   90
                       UNDO       = ON       ESC

SEQUENCER ■STYLE:'STYLE2__■ MASTER
```
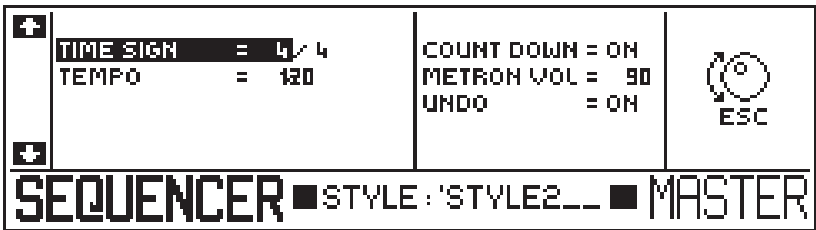
At this stage, before proceeding with your recording, you can change the status of one or more of the parameters.

Select the parameter with the Cursor Up/Down arrows and use the Dial or Toggle to change the parameter status.

── SEQ. EDIT ──

(MASTER) (COPY) (MOVE)

(ERASE) (INS/DEL) (TRANSP)

(QUANT) (MICRO) (NAME)

(OPTION) (UNDO) (DEMO)
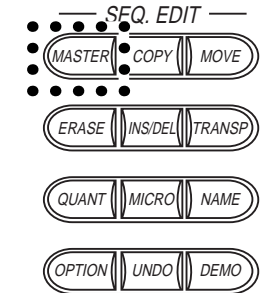
TIME SIGNATURE (default 4/4):

This parameter, which measures the number of beats in a bar (the numerator) as well as the division of a beat (the denominator) provides a selection of different Time signatures by combining the numerator (range 1…16) with the denominator (2, 4, 8, 16).

For example, you can record a Style in 3/4 time by selecting **4**/4, specifying **3**/4 with the "**3**" key on the keyboard and pressing Master or Esc to return to the record pending status.

The denominator is activated by selecting the parameter with the right arrow.

Note: The Time Signature can **only** be changed when the style is "empty". In other words, if you try to change the Time Signature of a recorded track, an appropriate warning will be displayed:

RECORDING TEMPO (default 120):

This parameter defines the recordings running speed (Metronomic Tempo), measured in beats per minute (BPM). The value memorised in the Master Track refers to the Tempo with which you start recording.

You can modify this value only before recording (the new value will be automatically memorised).

You can vary the Tempo in real time in playback or during the recording, but this will not alter the memorised value of the parameter in the Master Track.

COUNT DOWN (default On)

This parameter enables or disables the one bar "lead" into the recording after pressing Start.

When set to "On", the Count Down is executed by the Metronome, which starts to "tick" at the established running speed according to the established Time Signature.

Furthermore, the Left and Right Cursor arrows monitor the Tempo by flashing in time with the beats. The first beat of a bar is flashed on the Left Cursor arrow, while the remaining beats are flashed on the Right arrow:

| BEAT 1 | BEAT 2 | BEAT 3 | BEAT 4 |

The Count Down can be disabled[1] by setting the parameter to "Off".

Note 1:
If you are recording via MIDI with an external Sequencer, the WX Clock should be set to "EXTERNAL" in order to sync the WX with the external Sequencer. In this condition, the Count Down will be disabled automatically - WX will Start with an externally received message.

METRONOME VOLUME (default 90):

> This parameter adjusts the Metronome's sound level (valid for Record and Playback).

> The parameter value ranges from 10 to 127. The higher the value, the louder the sound. The lowest limit reduces the sound to its minimum level but does not eliminate it.

UNDO STATUS (default On):

> This parameter enables and disables the "Undo" function (in Edit Sequencer) for the Riff recording.

Undo is of immense importance because it permits you to cancel a recorded Riff or restore a recorded Riff cancelled by mistake.

For example, if you record a Riff and decide that you want to change it, you can repeat the recording in "Normal" mode - this will cancel the original Riff. Then, listening to the playback of the "Normal" recording, you may decide that you preferred the previous recording - using Undo, you can "undo" the "Normal" recording and restore to original Riff.

Undo also "undoes" an undo operation - it can be used as a means of comparing a modified Riff with the original one - it helps decide which of the two recordings you prefer.

How to use UNDO - see UNDO in the Edit Sequencer section.

If, after recording a Riff, you want to cancel it, press UNDO - the display will show the following message:

> Press ENTER to confirm the "Undo" or ESC to abort the operation.

> To restore the cancelled Riff, press UNDO again but, if you perform another operation before pressing Undo, you will cancel your Riff definitely.

7.   Press Start/Stop to start the recording.

> The Metronome will tap a one bar "count down" (or lead) into the recording.

> The one bar lead will also be indicated in the "Bars" box of the display by the numeric count down starting from bar "O" (0 1, 0 1, 0 2, 0 3, 0 4).

> You can disable the Metronome by pressing the relative Function Buttons (F5):

8. **After the one bar lead, start recording the Riff for the specified number of bars.**

After the one bar count down, the Riff starts is cycle, during which you can play your sequence. As well as the Notes, the velocity applied to the keys will also be recorded.

As the recording proceeds, the FREE MEMORY indicates the amount of memory left for the recording.

```
FREE MEMORY
    100 %
```

When the Riff reaches the end of its cycle, it loops back to the beginning and repeats.

During the repeating cycles, you can add other notes. This is a particularly useful characteristic when you are programming the Drum track because you can add a different drum sound in each cycle.

Recording Control Data

During the recording, you can record control data according to the function assigned to one of the pedals (e.g. Volume, Pitch change, Modulation, Attack, Release, Filter.). The Wheel movements and Aftertouch (mono) will also be recorded. All these events can be viewed in the Microscope - see Edit Sequencer for more details.

9. **When you have finished recording the Riff, press Start/Stop to stop the sequencer record mode**.

Listen to the playback of your Riff by re-pressing **Start**/Stop and, **if you are satisfied with the recording**, press the Toggle to assign the recorded track to the Sequencer definitely and proceed to point 10 below (the track status column shows "REC" change to "SEQ"):

Important!! Confirmation of the recorded track (from REC to SEQ) is important otherwise, if it is remains in REC mode and you proceed to record the next track, you will record new events to both tracks.

What to do if you are not satisfied with the recording

If you are not satisfied with the recording, you can choose from the following options to optimise your Riff:

A) You can repeat the recording in **NORMAL** mode.

Simply select "NORMAL" while still in REC mode and start to record the Riff. Play your new Riff - all previously recorded events will be replaced by the new ones (even if you don't play any notes, all old events will be cancelled). After the first cycle, the mode returns to DUBB which permits to add new events to those recorded.

B) You can **PUNCH IN** a correction.

For this function, it is useful if one of the programmable Pedals (Logic) is already programmed for **PUNCH** operation before starting the recording, otherwise, you must escape Record mode and enter Edit Status to programme a pedal accordingly.

If your recorded Riff contains a short sequence of wrong notes, select **PNCH** in the Mode function. Start the recording and, an instant before you reach the point where the wrong notes are about to play, press the punch pedal and play the correct sequence of notes - they will be inserted in normal (replace) mode, substituting the events present. When you have played the correct sequence of notes, release the pedal and the recording will return to DUBB mode.

C)   You can **UNDO** the recording and start again.

While still in REC mode, press UNDO. The recorded events will be cancelled. Press Start and start to record the Riff again.

Note: If you Undo the second recording, you will restore the previous one.

D)   You can **QUANTIZE** the recorded events to optimise the recorded Riff. This function is discussed in detail in the Quantize section of Edit Sequencer.

Quantize is an auto-correct function which optimises your recording by adjusting the timing of each recorded event.

Note: Several other Event Edit functions are available in the Edit Sequencer section. Refer to the relevant chapter for more details.

10.   Select the next track to record.

Use the Down cursor arrow to select the next Track.

Follow the procedures as described from point 7 and repeat them for the other tracks.

11.   When you have finished recording all the Tracks for the first Riff, select another one.

Select the required Riff (Intro, Fill, etc.) and record all the remaining Tracks as already described.

Continue in this way until you have recorded at least:

BASIC Major (or minor or 7th)

FILL Major (or minor or 7th)

INTRO Major (or minor or 7th)

END Major (or minor or 7th)

With these four Riffs, you will at least guarantee a pattern for every chord change. If you exploit the Minor and Seventh Riffs as well as the Variation option, you can obtain up to 18 different patterns.

12.   When you have completed the recording, press ESC to escape Record mode.

Press F1 to return to the Riff select mode as shown on the right

The display will show all the recorded Tracks with "SEQ" in the left status column, indicating that they are engaged by the Sequencer. Tracks 5 & 6 will be "OFF". These can be activated with the Toggle to play them in real time.

For example, your four recorded tracks will look like something like this:

```
SEQ | 1 DKBRUSH       TEMPO 120      CHORD:
SEQ | 2 ACOBASS 1     INT             OFF
SEQ | 3 WXGRANDP
SEQ | 4 SOFTSAX       KEY:   C       MODE:DUBB
OFF | 5               STYLE2__       LENGTH:    2
OFF | 6               BARS  (4/4)   1    1    1
        STYLE2__      EMPTY         EMPTY        EMPTY
  STYLE1__ ↓   EMPTY   ↓   EMPTY    ↓   EMPTY    ↓
```

13.   Press <u>Start</u>/Stop to playback your new Style.

Play a chord on the left part of the keyboard to listen to your recorded arrangement.

Activate the Tracks shown OFF and play them in real time.

You can also mute (Off) the Tracks engaged by the Sequencer (SEQ) with the Toggle:

```
SEQ | 1 DKBRUSH       TEMPO 120      CHORD:
SEQ | 2 ACOBASS 1     INT             OFF
OFF | 3
SEQ | 4 SOFTSAX       KEY:   C       MODE:DUBB
ON  | 5 NYLGUIT       STYLE2__       LENGTH:    2
ON  | 6 HONKY         BARS  (4/4)   1    1    1
        STYLE2__      EMPTY         EMPTY        EMPTY
  STYLE1__ ↓   EMPTY   ↓   EMPTY    ↓   EMPTY    ↓
```

Name your Prog. Style

Give the new Prog. Style a name by pressing the NAME button in Edit Sequencer.

The display changes to:

```
┌─┐
│↑│ FILE NAME =      [ STYLE3__ ]           (◎)
│ │                                        ENT/ESC
│↓│
SEQUENCER ■■ STYLE: 'STYLE3__ ■■ NAME
```

Write your new name in the appropriate space using the keys of the keyboard.

Confirm the new name with ENT or cancel the operation with ESC:

```
SEQ | 1 DKROOM1       TEMPO 120      CHORD:
SEQ | 2 ACOBASS1      INT             C ******
SEQ | 3 WXGRANDP
SEQ | 4 JAZZGTR1      PROGRAM.STYLE   BANK:1
ON  | 5 STRINGS2      STYLE : NEWSTYLE
ON  | 6 VIBES1        BARS (4/4)    1    4    160
        STYLE2__      EMPTY         EMPTY        EMPTY
  STYLE1__ ↓  NEWSTYLE ↓  EMPTY     ↓  EMPTY     ↓
```

Save your new Prog. Style to SRam or to Disk

If you want to re-use your Programmed Style, you can save it to SRam - when you switch your WX on again, the Style will be loaded to the Prog. Style banks automatically.

On the other hand, you can save the Style to Disk and load it back to memory any time you wish.

If you don't mind losing the Style, when you turn on your WX on a subsequent occasion, the default status of the Prog. Styles will be restored and the relative Banks will be Empty.

Programming Styles using STEP recording

STEP RECORDING allows you to record notes one by one from the keyboard.

This is useful means inserting a fast sequence of notes in a bar (such as an arpeggio) that would otherwise be difficult to record in real time.

Step recording can also be used to copy a musical phrase note by note directly from sheet music, but it is a very laborious way of working.

You can specify the note length and, depending on how hard you strike the keys, the velocity will also be recorded for each note. If you step record over a bar that already contains data, the new step events will cancel the old.

Procedure

Note 1:
You can enter into record mode directly with a selected track by selecting STEP. This eliminates the activation of the track (REC) with the Toggle.

1. Select a track to record after accessing Prog. Style record mode and activate it with the Toggle[1]. The display example shows Track 3 (WXGrandP) activated:
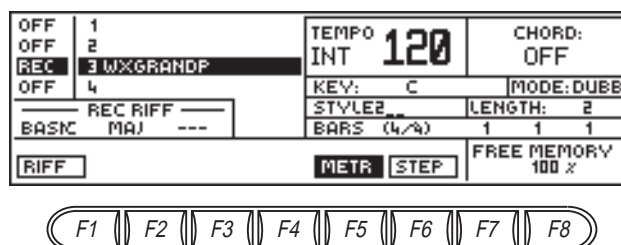
2. After specifying the bar length (and any other parameter settings in the Master Track), access Step Record mode by pressing F6 (STEP):
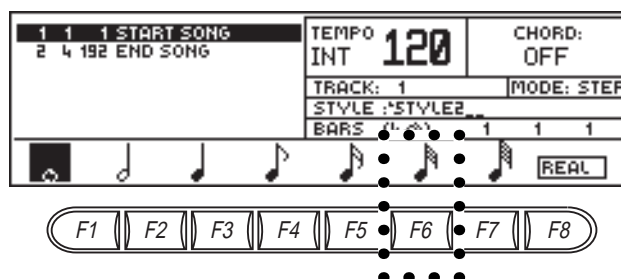
The lower display area shows the type of notes which can be input.

The main display area shows the starting position of the recording (1 1 1 = Start Song). This is otherwise known as the "Song Pointer" and the three numbers reflect the first bar, the first beat and the sequencer resolution or "tick" (192 ppq).

Note: If your Riff has already been recorded, the display will show a string of recorded notes. You can specify the starting point for your recording by selecting the Song Pointer - more about this later.

3. Use the Function buttons the specify the required note:

If you press the Function button of the selected note a second time, you will obtain the dotted note:
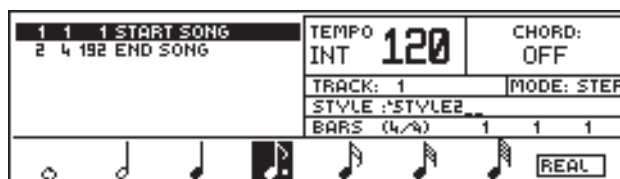
Pressing the same button a third time obtains the triplet:
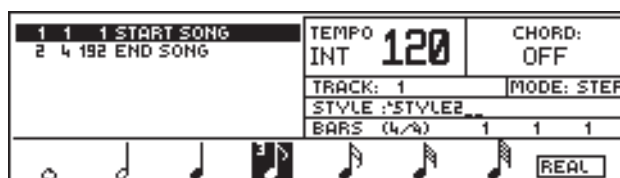
4.   Now play on the keyboard and enter the first note. If you want to enter a chord, simply press the required chord.

If your second note has the same value, press a second key on the keyboard.

Select another note type and enter your third note.

Continue in this way until you have entered all your notes for the Riff, for the number of bars required or all those specified. When you reach "END SONG", you will not be able to proceed further.

Regardless of the timing with which they are pressed and for how long they are kept pressed, each note will be recorded for its actual value in terms of length.

Pressing each note on the keyboard will show a string of values across the display which relate to the song position, pitch name, velocity and, on the extreme right, the note length, otherwise knows as the "Gate Time". You can alter the value of all the recorded parameters in the Microscope (see Microscope in Edit Sequencer for more details). The display example below shows what you will see after recording some notes:
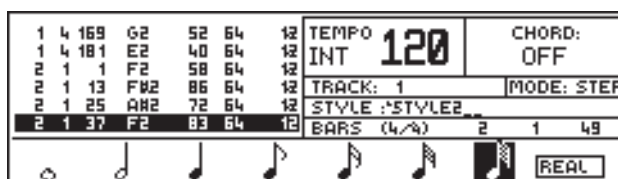
Entering a rest

A rest can be entered by pressing ENTER during the Step recording - the rest will take the value of the note selected. The presence of a rest is deduced by the Song Pointer values.

For example, if two consecutive notes have been recorded with a rest in between, each with the same step time of 96, and the relative Song Pointers show: "1 1 96" and "1 3 96". The rest will occupy Song position "1 2 96".

5.   At this point, you can listen to the playback of your recording by returning to real time mode - press F8 (= REAL) - and press Start.

Modifying the Step recordings

If you make a mistake, you can replace the old events with new ones from any position. Simply return to the Step recording and use the Up/Down cursor arrows to select the song pointer.

Position the horizontal reverse-highlight cursor to one note before the starting point and record the note or sequence of notes required. The new note will substitute the note after the starting point and all subsequent new notes will follow, replacing all old events.

Use the Toggle to specify a starting point

In cases where there are many events, you can go directly to the beginning of a bar by hitting the Toggle:
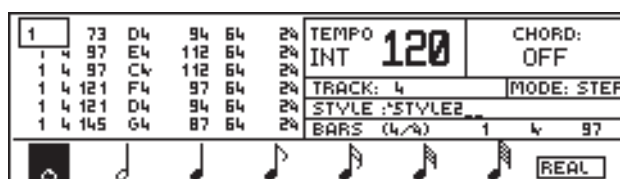
The first value of the Song pointer activates and opens a box where you can specify the bar required.

Use the black keys corresponding to the numbers 0 - 9 to enter the required value and confirm with Enter.

NOTE: Step recordings only record notes, **not** Control data.

If necessary, you can record Control data in Real Time.

Simply return to Real Time record mode (F8) and start the recording (make sure the track is in REC mode).

Regulate the Track Ball or the Pedal to which a control has been assigned (Volume, Modulation, Pitch, Filter, etc.). The relative events will be recorded in the Master Track or the Tracks, depending on the type of data.

Another method makes use of the INSERT function in the Microscope. See "EDIT SEQUENCER" for more details.

Use COPY to copy a recorded Riff to another

The COPY function in EDIT SEQUENCER allows you to copy a recorded Riff to another Riff of the same Style (partial copy).

This is a great time saver because you can copy, for example, a recorded Maj Riff to the Minor and 7th Riffs and then apply slight modifications to both.

The Partial Copy operation is particularly useful when programming the Rhythm track.

You can also copy all the recorded Riffs from one Style to another.

The operation is performed in Style mode - an attempt to Copy in Record mode displays the following warning:

```
SORRY
THIS OPERATION IS
NOT ALLOWED IN RECORD!
<ESC> TO CANCEL
```
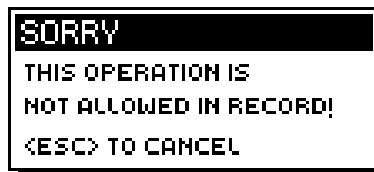
For details on how to use COPY, refer to the EDIT SEQUENCER chapter.

Other operations available in Prog Style mode

You can perform several other operations in Prog. Style mode by exploiting the **Sequencer Edit section**. All the functions in this section are discussed in detail in the relevant chapter further ahead but, as a small anticipation of what is available:
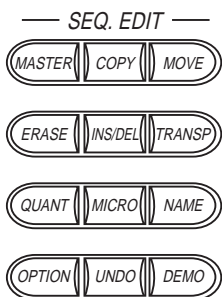
QUANTIZE: Use this operation to correct your recordings. Quantize is an auto-correcting function which "shifts" your recorded events to the nearest correct "position", determined by the Quantize value specified. In practice, you can achieve perfect timing with this function.

MICROSCOPE: This is where you can view all the recorded events of your recorded Track and intervene by adding or removing a note, changing it, moving it from one point to another in a bar, changing the volume, gate time, insert individual control data events and more.

INSERT: With this function you can extend the length of your recorded Riff by inserting one or more additional empty bars which can be recorded with new events.

DELETE: This operation can cancel any number of bars from recorded tracks of a Riff.

MOVE: Here you can move a recorded bar or event (from a specified beat) to a new position.

ERASE: Allows you to cancel a specified set of events from a recorded Riff or the entire Style.

TRANSPOSE: This function allows you to transpose a specific note or a sequence of notes that fall within a specified range.

The Edit Sequencer chapter takes you through all the functions that make up the section and discusses all the relative applications for Prog. Styles, Song Styles and Songs.

—— SEQ. EDIT ——

MASTER | COPY | MOVE

ERASE | INS/DEL | TRANSP

QUANT | MICRO | NAME

OPTION | UNDO | DEMO

Programmable Styles compared with Internal Styles

The Programmable Styles are identical in all respects to the Internal Styles.

They are influenced by the Arranger as already discussed in the Internal Style Chapter.

The tracks engaged by the Sequencer can be muted or they can be disengaged and played in real time. See the Internal Styles chapter, "Disengaging tracks".

The Programmable Style can be saved to SRam if you want to use it each time you power up, or it can be saved to Disk for future loading.

SONG STYLES

The Internal Styles and your Programmed Styles can be recorded to create SONG STYLES. These exploit the existing patterns (ROM and Programmed) resident in memory and allow the Tracks 5 and 6 to be recorded to create a 6-track Song.

One useful application of the Song Styles is to record a backing of a Song (recording also Track 5) and leaving Track 6 to play in real time.

See Song Styles in the next chapter for more details.

3. SONG STYLES

Song Styles exploit existing structures (Internal and Programmable Styles), permitting you to record a Chord track as well as the two "free" tracks (5 and 6). The final result is a Song consisting of 5 or 6 Tracks. The Song Style Performance is identical to the Internal and Programmable Styles (6 tracks).

Real Time Recording

In practice, when you enter REC mode with a Song Style, you are free to select any Internal or Programmed Style to record with.

You can choose to record one or both "free" tracks according to your requirements. For example, you can choose to record Track 5 using the patterns of an Internal Style (including the Intros, Fills, Variations, etc.) and, in playback mode, play Track 6 in Real Time.

The advantage of the Song Style lies in the fact that, by exploit existing Rhythm and Arrangement patterns, you have a very quick and easy way of producing professionally sounding executions.

Unlike the Programmable Styles where you record the actual patterns (Riffs), Song Styles record the CHORDS that trigger the patterns. These are recorded in the "CHORD Track", provided that the "CHORD" option is selected before starting to record. The Chord track is shown if you select STEP when both tracks 5 and 6 are OFF, or if they are engaged by the Sequencer (SEQ). The patterns provide the automatic backing while you record one or both "free" tracks (5 & 6).

In addition to the notes and respective velocities, the Tracks 5 and 6 record Program Changes, Controller data, Pitch Bend changes and Aftertouch changes.

You can also choose the record Tempo and/or Volume Changes by activating the relative TEMPO or VOLUME options. These events are recorded in the Master Track, together with any Style or Performance changes and use of the style controls (Fill, Fill Var and Ending) effected during the recording.

The Master Track, regarded as a "ghost" track that records elements common to all tracks, also permits the recording (by manual insertion) of Effects and Effects Volume changes.

Step recording

Song Styles can also be Step Recorded.

For example, you can step record all the chords for the backing of a Song, following the music of a favourite piece, then record Tracks 5 and 6 in real time record mode.

Copying from an existing Song Style

You can exploit the Copy function in the Edit Sequencer section to copy an existing Song Style (wholly or partially) to a new Song Style. You can then apply some modifications to the copy to save time.

Copy in Song Style mode gives several options which differ to those in Prog. Style mode. In practice, you can copy the Master Track, the Chords track, Track 5 & 6 and All Style.

See COPY in the Edit Sequencer function for more explicit details.

How to record a Song Style (real time)

The recording operations are very similar to those used when recording Prog. Styles.

1.   Song Styles reside in the Song Banks: they are accessed by pressing the SONGS button in the SEQUENCER & USERS section:

2.   Press and "empty"' position to access the relative Song Bank and the display shows:

3.   Confirm with REC (Yes):

4.   Use the Down Cursor arrow to select "Song Style" and confirm with ENT.

5.   Select an Internal Style or Prog. Style. e.g. : Blues from the POP Style bank:

The display changes to:

6.   Activate the **Master Track** to select a preferred Time Signature and configure the other parameters as required (if necessary):

Refer to the Master Track in Edit Sequencer for specific details.

7.   At this point, enter into "record-pending" status by choosing one of the following options:

a)   you can record tracks 5 and 6 (separately or simultaneously).

```
SEQ  1DKSTAND1       TEMPO  80      CHORD:
SEQ  2ELECBASS       INT            C ******
SEQ  3WXGRANDP       BLUES        MODE:DUBB
SEQ  4JAZZGTR1       SONG STYLE  : B_SONG_3
OFF  5               BARS (4/4)    1   1   1
REC  6OVERDGTR
                              FREE MEMORY
TEMPO  VOL  CHORD    METR STEP      100 %
```

When you start recording, the Rhythms and Arrangements play but the chords that trigger the patterns are not recorded.

b)   you can record only the Chord track:

```
SEQ  1DKSTAND1       TEMPO  80      CHORD:
SEQ  2ELECBASS       INT            C ******
SEQ  3WXGRANDP       BLUES        MODE:DUBB
SEQ  4JAZZGTR1       SONG STYLE  : B_SONG_3
OFF  5               BARS (4/4)    1   1   1
REC  6OVERDGTR
                              FREE MEMORY
TEMPO  VOL  CHORD    METR STEP      100 %
```

In this case, simply activate the "CHORDS" function (F3) and start recording. The Chord sequence that you play will be recorded in the CHORDS track.

Use this method if you want to record a song backing, paying Tracks 5 and 6 in real time with the song backing in playback mode.

c)   you can record Tracks 5 and 6 together with the Chords track. Use this method if you want to record the complete song in one step.

d)   you can choose to step record, following exactly the same steps as explained in the Programmable Styles chapter.

If you want to record any Tempo changes and Master Volume variations, activate the relative Tempo Record (F1) and Volume Record (F2) options.

8.   Press **Start**/Stop and start to record your Song Style. You can also start with the Intro function.

During the recording, you can use the Fill and Fill Variations at will. These events will be recorded in the Master Track.

Record Program Changes

You can change Sound (Program Change) in the selected Track by selecting a Sound Bank followed by the required Sound. The Program Change is recorded in the relative Track (the relative events can be seen in the Microscope).

Record Style Changes

If you want to change Style Performance, simply select a Style Bank followed by the relative Style. The Style Change is recorded in the Master Track.

Record Performance Changes

Note 1:
Only if the M.PERF function is "ON" in the Master Track.

If you have created some Song Style Performances, press the S.PERF button to access the Performance Bank and select a different Performance. This will be recorded in the Master Track[1].

Record Control Data

This type of data is generated by appropriately programmed Pedals, by the Track Ball (Modulation, Pitch Bend) and the Keyboard (Aftertouch). The relative events are recorded in the Master Track and the Tracks, according to the type of event.

A recorded Master Track looks something like this:

The Master Track is discussed in detail in the Edit Sequencer section.

9. If you have recorded only one track and wish to record the remaining one, confirm the recorded track with the Toggle, select the other track and press Start to start recording it.

10. When you have finished your Song, press Start/**Stop** or Intro/**End** to stop the recording.

Note 1:
If you use Ending to stop the recording, the metronome will not stop unless you use Stop.

If you use the Ending to stop your song, press Start/**Stop** to stop the recording when the Ending completes its cycle[1].

The Ending function is programmed not to stop the recording process when the pattern cycle ends. This feature can be exploited when recording a chain of songs (a medley) - see "Recording a Medley" further ahead).

11. Press ESC to escape Record mode and press Start/Stop to listen to the Song Style playback.

How to see the Chord track events

When you have finished recording the Chords track, press STEP (F6). The display will shows something like this:

You can add new Chords in Step mode by selecting the required note lengths and playing the Chords.

Recording a Medley

You can record a medley (chain song) by changing Style while you are in Song Style record mode. The Style change will be recorded in the Master track.

If you want each Style to finish with an Ending before proceeding to the next Style, you can use the Ending and change Style during the Ending's first cycle. This allows you to continue recording with the new style without stopping.

If you change style after the ending's first cycle, the Style stops playing but the record mode will still be active. Press Start/Stop to stop the recording.

Give your Song Style a name

Use the NAME function in the EDIT SEQUENCER section to give your Song Style a name.

Use the same operations as those used to name the Programmable Styles (see page 5-19).

Muting or disengaging recorded tracks

If you have recorded both tracks 5 and 6, your Song Style can only be used as backing in playback mode. You will not be able to play any tracks engaged by the Sequencer in real time.

The tracks engaged by the Sequencer (shown as "SEQ") can be muted ("Off") or disengaged from the Sequencer and played in real time.

Use the operations explained to disengage the Internal Style tracks (see page 5-6).

Song Style Performances

Song Styles depend on Internal and Prog. Style Performances. Owing to the fact that each Style (Int or Prog.) is associated to only one Performance, this limits Song Styles to only one Performance for each Style change. The M. Perf function in the Master Track overcomes this limitation.

If the M. Perf function is enabled (ON) in the Master Track of the Song Style, the relative Song Style Performance is rendered programmable (only tracks 5 and 6) and it can be copied up to 7 times to create other Song Style Performances. Each copy can then be modified at will by assigning different sounds to track 5 and 6 for each Performance.

In practice, the M .Perf function in Song Style mode allows the selection of other Song Style Performances in the Song Bank because the Song Style's dependence on the Style Performance is overridden.

If the M. Perf function is Off, any modifications made to the Performance will be cancelled when you start the Playback.

How to create up to 8 Song Style Performances

Each Song Style can be associated to up to 8 Song Style Performances by exploiting the M. Perf function.

These are shown by selecting P.SONG and selected by pressing the relative Function buttons.

Unless you load a Song or Song Style from disk that is associated to more than one Song Style Performance, you will have to create them. Normally, pressing the P. SONG button shows one Performance and all other slots "empty".

The Song Style Performance can only be modified in the two tracks 5 and 6 - the remaining tracks (1, 2, 3 & 4) rest unchanged. In practice, changing Song Style Performance changes the sounds of one or both tracks 5 and 6.

Procedure

It's best to create the Song Style at first without recording any events.

1.   First create the Song Style by entering record mode as already explained.

2. Press ESC without recording and the relative Bank Song will be created:

```
SEQ   1 DKSTAND1        TEMPO 108    CHORD:
SEQ   2 ELECBASS        INT          C ******
SEQ   3 NYLGUIT         PROG.STYLE : SAMBA
SEQ   4 MARIMBA1        SONGSTYLE :   B_SONG_3
OFF   5                 BARS (4/4)    1   3   32
SEQ   6 JAZZGTR1
         MYWAY___      EMPTY        EMPTY       EMPTY
DEMOWX__+  B_SONG_3  +  EMPTY   +   EMPTY   +
```

3. Give your Song Style a Name using NAME in the Edit Sequencer section.

4. Select MASTER TRACK and set the **M. PERF** function to "ON".

5. With your Bank Song Style selected, press **P. SONG** to enter the Song Performance bank associated to the current Song Style.

```
SEQ   1 DKSTAND1        TEMPO 108    CHORD:
SEQ   2 ELECBASS        INT          C ******
SEQ   3 NYLGUIT         PROG.STYLE : SAMBA
SEQ   4 MARIMBA1        SONGSTYLE :   MYSONG__
OFF   5                 BARS (4/4)    1   3   32
SEQ   6 JAZZGTR1
         EMPTY         EMPTY        EMPTY       EMPTY
PERF_01 +  EMPTY   +   EMPTY   +   EMPTY   +
```

6. Press PERF in the Edit section.

7. Select COPY (on page 2).

8. Set the "From" and "To" parameters to copy the Perf 1 to Perf 2:

```
  1 WXGRANDP    FROM       PERFORM: PERF_01_
  2 RHODX        BANK  3
  3 CELESTA      PERF  1
  4            TO
  5              BANK  3              ENT/ESC
  6              PERF  2              PAGE-
     VOLUMPED     PRIORITY    PERFNAME
  DAMPER +  PEDALS   +   COPY   +
```

9. Confirm with ENT. The display returns to the Song Performance Bank.

10. Press PERF in the Edit section and repeat the same operation for as many other Performance destinations required.

11. Give each Performance a name using the Name function in Edit Performance. Confirm each new name with ENT.

When you have finished creating your Performances, you might have something like this:

```
OFF   1 DKSTAND1        TEMPO 108    CHORD:
OFF   2 ELECBASS        INT          C ******
OFF   3 NYLGUIT         PROG.STYLE :'MYPERF7
OFF   4 MARIMBA1        SONGSTYLE : 'MYSONG__
OFF   5                 BARS (4/4)    1   3   32
SEQ   6 JAZZGTR1
         MYPERF1       MYPERF3      MYPERF5     MYPERF7
MYPERF__+  MYPERF2  +  MYPERF4  +  MYPERF6  +
```

12. Start to modify the tracks 5 and 6 of each Performance as required, not forgetting to Save each modification with ENT twice.

11. Press the SONGS button to enter Song Mode.

12. With your Bank Song selected, press REC to enter record mode and select Song Style.

13. Set the recording parameters to those required and press Start to start the recording.

14. While you are recording, press **P.SONG** to access the Song Performance Bank and select a different Performance. The change will be recorded in the Master Track.

You can also change Performance by assigning the Performance Advance function to one of the Pedals in Edit Status.

15. Continue as already described to record your Song Style.

Editing Song Styles

Your recorded Song Styles can be edited using all the Event Edit functions available in the Edit Sequencer section.

Refer to the relevant chapter for detailed explanations of each function.

Save your Song Style to SRam or Disk

To save your Song Styles to Disk or SRam, use the SAVE ALL SONG or SAVE SINGLE SONG operations.

Saving Song Styles also saves the associated Song Performances, if present.

N.B. Song Styles cannot be saved as MIDI Standard Files. The recorded patterns are not recognised.

Load Song Styles from WS Songs Disks

The Generalmusic WS Disk library, consisting of over 500 Songs, are all Song Styles which can be loaded into your WX.

Use the Load WS Song operation in the Disk Utility page (page 4-24).

4. SONGS & THE SEQUENCER

About the Sequencer

The principal function of the WX Sequencer is to record and play back multi-track Songs. Therefore, this section takes a look at the on-board Sequencer before discussing Song Mode.

The WX Sequencer is a MIDI data recorder; it memorises all the events necessary to produce the sounds, unlike an audio tape recorder which records the actual sounds. The principal use of the WX Sequencer is to record Songs, but it is also used to record Song Styles and Programmable Styles (these are discussed in the relevant chapters).

If you are acquainted with the use of a Computer or hardware Sequencers, you will find many things in common with these and WX Sequencer.

The ability of being able to capture MIDI events rather than sounds is a great advantage over the more traditional methods on tape; it permits you to review the same Song an infinite number of times to change instruments and modify entire parts, without deteriorating the overall sound quality.

The WX Sequencer also loads MIDI Standard files and saves in the same data format.

The WX Sequencer permits you to record up to 16 tracks and has a total capacity of approximately 250,000 events.

The Sequencer controls

The principal Sequencer controls are the Start/Stop button and several buttons located in the Sequencer & Users group below the display:
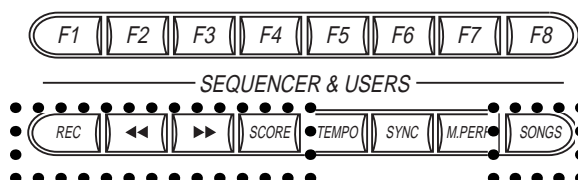
REC: Accesses the Sequencer record mode (when you are in Prog Style or Song mode). After confirming the Song record mode with Enter, you enter the "record pending" status.

>> (Fast forward) << (Fast rewind):   These controls advance the playback of a Song or rewind it for as long as the respective buttons are pressed; holding them pressed increases the velocity of the action considerably.

These commands can operate in Stop status or Play, but in the latter, the song in playback will be interrupted for as long as the button is pressed. In Stop status, the Song can be made to start from the specified Song Pointer (shown in the playback display as 1 1 1) by pressing Continue.

SCORE   If the Song in play has been recorded with the Score function, activating this button will activate a facility which permits you to see the lyrics and chords of the Song. More about this in the relevant section further ahead.
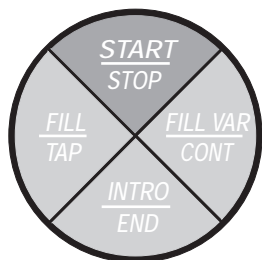
> **SONG**: Gains access to the Bank Songs. Each one can memorise one Song and up to 8 Song Performances

The Sequencer also makes use of the following commands:

> **START**: Starts the playback of a Song (or Style), or starts the recording when the sequencer is in record pending status.
>
> **STOP**: Interrupts the playback or recording of a Song (or Style); pressed a second time it "rewinds" the song to its starting point.
>
> **CONT**. This button (Var/**Cont**) starts a Song from a specified Song pointer, or from any point after being stopped.

The Sequencer operating modes

The Sequencer has three distinct operating modes:

> **PLAYBACK (Start)**: playback of a Song, Song Style, Prog. Style or Internal Style. Each mode is discussed in the relevant chapters.
>
> **RECORD**: registration of a Song, Song Style or Prog. Style. Song Styles and Prog. Styles are discussed in the relevant chapters.
>
> Recordings are carried out in Real Time or Step Time.

About Real Time Recording

There are three ways to real time record:

• **Over Dub recording**: If you overdub record into a track which already contains recorded events, the newly recorded data will be combined with the previous data.

• **Normal (replace) recording**: If you replace record into a track which already contains recorded events, the data will be rewritten and the data following the point at which you begin recording will be erased.

• **Punch recording**

This method of recording allows you to "punch in" a correction into a previously recorded track in record mode with the PNCH function set in the Mode function. An instant before reaching the point where the new notes are to be inserted, press the appropriately programmed Pedal and play the correct notes. The pedal activates the replace recording mode and allows previously recorded events to be replaced by the new ones. Release the pedal to deactivate the function and return to Dubb recording.

About Step Recording

Step Recording allows you to record events into a track note by note from the keyboard, specifying the length of each note. If you Step Record over a bar which already contains recorded events, they will be replaced by the newly recorded ones.

> **EDIT**: modification of a recorded Song, Song Style or Prog. Style. The Edit Sequencer functions allow you to intervene on every track of your recordings and modify the status of the recorded data. As well as note events, you can also manually insert and edit control data.
>
> See the Edit Sequencer chapter 6.

SONGS

Something about the Songs and their structure

The WX Sequencer permits you to record up to 16 tracks to create a SONG.

A Song is a complete piece of music consisting of one or more tracks, each with a different sound. Unlike the Prog. Styles and Song Styles which exploit short patterns that loop continuously and consist of only 6 tracks, Songs are recordings of 16 polytimbric parts, or tracks, and the length of all the tracks can vary (unlimited number of bars tied to the amount of memory available).

The diagram below illustrates the basic structure of a Song.

	TEMPO	PEDAL VOLUME	EFFECTS CHANGE	
Master Track	PERF. CHANGE	PERF. CHANGE	PERF. CHANGE	PERF. CHANGE
Track 1	SYNFRETL	LYLE	OBX2	CHOPPER
Track 2	KANOUN	LYLE	PICCOLO	LYLE
Track 3	SYNBASS 1	WXGRANDP	ELPIANO1	JUMP
Track 4	STRINGS2	JAZZGTR1	JAZZGTR1	STRINGS1
Track 5	FANTASY 3	SOUNDTRK	PCKBASS1	OVERDGTR
Track 6	STOPBASS	ACOBASS2	ELECBASS	BRASSTRPT
Track 7	TIMPANI	WARMPAD	SYNORG2	VIBES 1
Track 8	FILTRES1	BRASSTRPT	FLUGEHOR	DYNTRUMP
Track 9	PULSEHARP	BRASS1	FLUGEHOR	ELECBASS
Track 10	DKHOUSE1	DKJAZZ	DKROOM1	DKSTAND1
Track 11	JUMP	SOFTSAX	FRENHORN	BRTPIANO
Track 12	DYNFLUT1	DYNFLUT1	DYNFLUT1	PULSHARP
Track 13	AZIMUT	AZIMUT	AZIMUT	JUMP
Track 14	CHOPPER	CHOPPER	CHOPPER	ANALOGIC
Track 15	FANTASY1	FANTASY1	FANTASY1	JUMP
Track 16	PULSE 1	LYLE	WXGRANDP	OVERDGTR

- Each Track "carries" its individually programmed parameters (Program change, volume, MIDI channel, etc.).
- Each Track can be recorded up to 999 bars long.
- Each Song Performance associated to a Song has its own Effects setting (each Track can be individually configured to play with or without the Effect assigned to the Song Performance).
- Each Track can be configured to be controlled by an external controlling device.
- Each Track can be configured to control an external MIDI device.
- A "Ghost Track", called the Master Track, contains information relating to the Time Signature, recording Tempo, Performance changes, Effects and Tempo changes, as well as the interventions of the Volume Pedal and Rotary.
- The 16 Multi-timbric tracks contain information pertaining to the notes, the Program Changes, the application of controller data, Pitch Bend and After Touch data.

Where are the Songs stored?

The recorded SONGS reside in the Song Banks which are accessed by pressing the SONGS button.

The WX is supplied with two Songs loaded into the instrument's SRam. Turning on the instrument loads both Songs into RAM and if you press the SONGS button in the Sequencer & Users section, the display shows the following:

```
SEQ  | 11 JUMP                 TEMPO 104    CHORD:
SEQ  | 12 DYNFLUT1             INT          OFF
SEQ  | 13 AZIMUT
SEQ  | 14 CHOPPER              SONG PERFORM: VANGELIS
SEQ  | 15 FANTASY1             SONG       : DEMOWX__
ON   | 16 PULSE1               BARS (4/4)  1   1   1
        MYWAV___     EMPTY        EMPTY         EMPTY
       DEMOWX__ +    EMPTY  +   EMPTY   +    EMPTY   +
```

Each Function button can select a Song Bank consisting of 1 Song and up to **8 Song Performances**.

The Song Performances

The Song Performances; if present, are accessed by pressing the **P. SONG** button in the Performance & Style Banks in Song Mode. All Song Performances can be configured with up to 16 tracks.

Examine, for example, the "DEMOWX" Song - press P.SONG and the display shows 8 Song Performances, 4 of which are used to record the Song.

```
SEQ  | 11 JUMP                 TEMPO 104    CHORD:
SEQ  | 12 DYNFLUT1             INT          OFF
SEQ  | 13 AZIMUT
SEQ  | 14 CHOPPER              SONG PERFORM: VANGELIS
SEQ  | 15 FANTASY1             SONG       : DEMOWX__
ON   | 16 PULSE1               BARS (4/4)  1   1   1
        METHENY_    TOTO____    5__SPATIAL  BIG_BRASS_
       VANGELIS +  FAGEN___ + GUITAR_EFX + ORGAN_PRC +
```

Every Song Performance can configure each Track independently (see *Edit Perf*);

>   it memorises a track's MIDI channel and Out port;

>   its destination (internal sound engine and/or MIDI Out);

>   it's association with the instrument's physical controllers;

>   with the Effects processors;

>   its Transpose and Tuning status;

>   and other parameters, as already explained in the previous chapters.

Exploiting the Real Time Performances

To record a Song you can exploit the default Real Time Performances by entering Song record mode with the currently selected R. T. Performance.

You can also customise the Performances according to your needs and save any modifications with Enter.

Up to 8 recorded Songs can be stored in the 8 Songs Banks (one in each) and at any time,

you can save them to disk for reloading at a later time.

You can also save one or more Songs to SRam in order to have some Songs available after powering up.

Loading Songs from disk

Before playing a Song from a disk, it must be loaded into the instrument's internal memory.

You can load your Songs from Disk using one of the Disk functions (Load operations):

```
  ┌──┬───────┬─────────┬─────────────┬──────────┐
  │▲ │ ALL   │ DISK    │             │   ↻      │
  │  │       │ SONG    │             │          │
  │  │ BANK  │ STYLE   │             │          │
  │  │       │ PERFORM │             │ ENT/ESC  │
  │  │ SINGLE│ SAMPLE  │             │ ┌──────┐ │
  │▼ │PRELOAD│ MIDI FILE│            │ │PAGE +│ │
  ├──┴───────┴─────────┴──────┬──────┴──────────┤
  │ DISK OPERATIONS   │ SRAM │      LOAD        │
  └───────────────────┴──────┴──────────────────┘
```
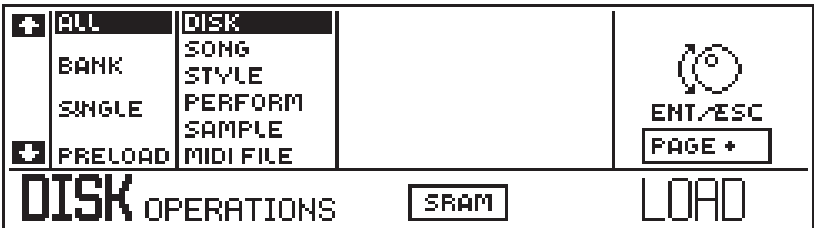
Load all Disk loads all the data present on disk.

Load All Song loads all Bank Songs present on disk.

Load Single Song loads only one Bank Song which you can select and direct to any Bank Song location of your choice.

MIDI Files
Bear in mind that WX
can also load Standard
MIDI Files from disk.

Preload

You can also choose to load a Song in background using Preload.

```
  ┌──┬───────┬─────────┬─────────────┬──────────┐
  │▲ │ ALL   │ DISK    │             │   ↻      │
  │  │       │ SONG    │             │          │
  │  │ BANK  │ STYLE   │             │          │
  │  │       │ PERFORM │             │ ENT/ESC  │
  │  │ SINGLE│ SAMPLE  │             │ ┌──────┐ │
  │▼ │PRELOAD│ MIDI FILE│            │ │PAGE +│ │
  ├──┴───────┴─────────┴──────┴──────┴──────────┤
  │  NIGHTAND    SEPTMBR_   EMPTY___    ANNI70__ │
  │ MYWAY___ ✦ NEWYORK_ ✦ DEMOWX__ ✦  EMPTY   ✦ │
  └─────────────────────────────────────────────┘
```
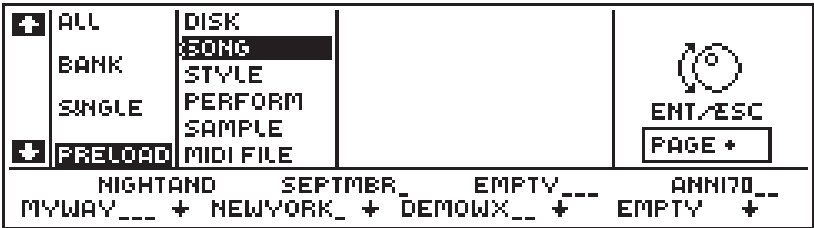
This function reduces the amount of operations required for the loading procedure and is particularly recommended when playing back Songs.

Note: Preload is only
operative when the
instrument is in Song
mode.
An attempt to Preload a
song in any other mode
will display the
following message:

```
┌─────────────────────────────┐
│ FILE ERROR!                 │
│ FILE ACCESS ERROR NR. 13    │
│ OPERATION HAS BEEN ABORTED!!│
│ <ESC> TO CANCEL             │
└─────────────────────────────┘
```

Press ESC to cancel the
display and select Song
mode to Preload a
Song.

Song Playback Mode

◆   If a Song is present in RAM, you can select it by pressing the SONGS buttons followed by the relative Function button (F1…F8).

```
SEQ │ 1 SYNFRETL        TEMPO          CHORD:
SEQ │ 2 KANOUN      INT  104            OFF
SEQ │ 3 SYNBASS1
SEQ │ 4 STRINGS2       SONG PERFORM: VANGELIS
SEQ │ 5 FANTASY3       SONG        :  DEMOWX__
SEQ │ 6 STOPBASS       BARS ( 4/4 )   1    1    1
      MYWAV___    EMPTY        EMPTY        EMPTY
DEMOWX__+    EMPTY   +   EMPTY   +   EMPTY   +
```

◆   Press the START button to start the playback.

The display shows the Song name, the current Song Performance, the starting Tempo and the Time signature.

Before playback, you can modify;

the Sounds assigned to the Tracks;

the Tempo;

the Track volumes, etc.,

HOWEVER, unless you save the modifications in the Performance (press Edit twice), starting the song will cancel the modifications and recall the original Performance.

You can disengage tracks used by the Sequencer to play them in real time. The procedure to use is explained in detail in the Internal Styles chapter, page 5-6.

You can also change the Song name by using the NAME function in the Edit Sequencer section.

Start a Song from any point

You can start your Song from any position by using the >> or << keys to specify a different value for the Song Position Pointer.

◆   For example, with the song in the above display example, set the Song Pointer to a value 16 1 1:

```
TEMPO          CHORD:
INT  104        OFF

SONG PERFORM: VANGELIS
SONG        :  DEMOWX__
BARS ( 4/4 )   16    1    1
```

◆   Now press the "**CONT**inue" button to start the Song from the specified position.
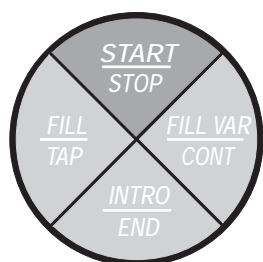
Playing along with a Song in playback

When you press Start in Song mode, the selected Song starts to play.

Normally, at least one track will be active to play while others are engaged by the Sequencer (shown by "SEQ" in the track status column).

The above display shows a Song in playback and one track (track 1) active in *Local (shown by "KYB" in the track column).*

In Playback mode you can:

> choose to mute tracks (hit the Toggle);
>
> change the sound assigned to tracks[1];
>
> modify the Sound parameters (Volume, Attack, Release, Filter 1 & 2) in real time using the pedals programmed with the relative functions;
>
> change Performance (if present).

Tracks shown "OFF" in Song Mode

Normally, a track showing an "OFF" status can be activated by hitting the Toggle.

In Song Mode, this is not always the case because most songs are recorded with almost all tracks disconnected for "LOCAL" and "MIDI IN" reactions. You can verify the status of all tracks shown "OFF" by checking the Configuration parameter in Edit Perf:
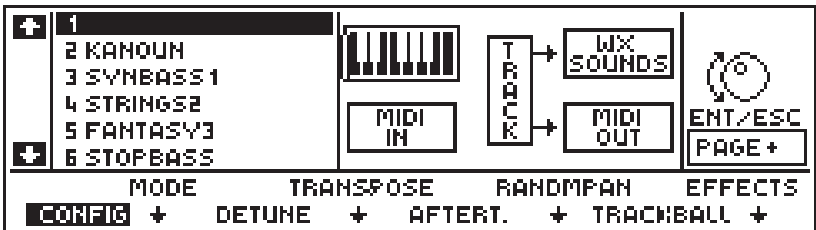
The display example shows that track 1 in Song Mode is disconnected for Local and MIDI IN.

If a track is shown to be disconnected for Local, you can connect it by hitting the Toggle and returning to Song Mode, where the track will now play in real time.

Sing along with a Song using the SCORE function

The SCORE function is one of the great WX novelties. In fact, selecting SCORE when an appropriate song is playing permits you to see the lyrics of a song across the display in synchronisation with the music being played (see also page 3-8).
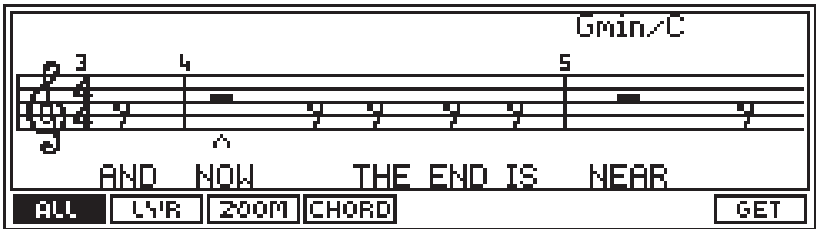
The display shows several viewing options: All, Lyric, Zoom, Chord.

The option "ALL" shows the Song lyrics, the chords and the music on the staff.

*Note 1:
if you modify the
Sounds assigned to the
tracks in playback
mode, the new situation
rests unchanged until a
recorded change is
encountered, or until
the song ends. When
you start the Song
again, the modifications
will be lost if not saved.*

Selecting **Lyrics** shows the lyrics of the Song in small type:

```
AND NOW THE END IS NEAR AND SO I FACE
THE FINAL CURTAIN MY FRIEND I'LL SAY IT CLEAR
I'LL STATE MY CASE OF WHICH I'M CERTAIN I'VE
LIVED
A LIFE THAT'S FULL
```
`ALL   LYR  ZOOM CHORD                GET`
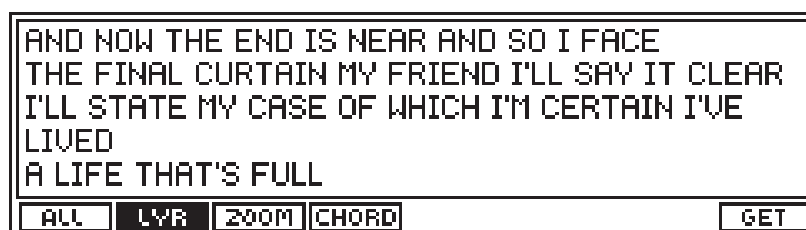
Selecting **Zoom** shows the Lyrics in large type:

```
NOW
THE END IS NEAR
AND SO I FACE
```
`ALL   LYR  ZOOM CHORD                GET`
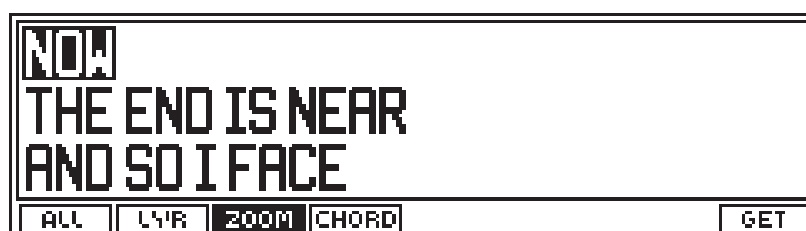
Selecting **Chords** shows the chord notation:

`ALL   LYR  ZOOM CHORD                GET`
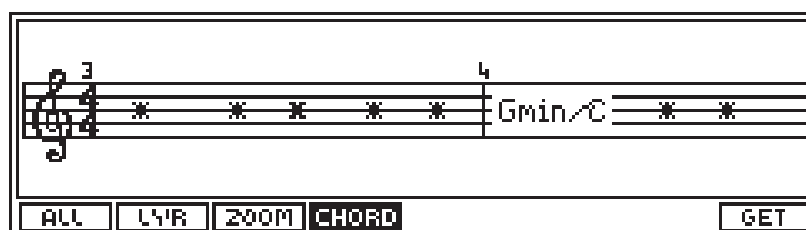
The GET function

The GET function transfers the recorded notes onto the musical staff.

The operation is discussed in the section dealing with song recording on page 5-46.

Connecting to a domestic TV or colour computer monitor.

WX can interface with a computer monitor or domestic TV, provided both a fitted with a SCART socket. The cable supplied with the WX is connected to the RGB Video Out socket on the instrument's rear panel and the other end (SCART) to the receiving monitor.

Other connecting possibilities via the Composite Video socket are possible - these are discussed in the GETTING STARTED chapter 1, on page 1-10.

The images projected by WX can also be controlled in the EDIT STATUS - VIDEO MONITOR page, discussed in the relative chapter on page 4-33.

Using the SCORE function, you can project the Lyrics of your WX Songs to an external viewing device and sing along with your friends.

SONG RECORD mode

Songs can be recorded in two ways:

Real Time Recording: what you play on the keyboard will be recorded exactly as you play it, including the keystrike velocity.

Generally, you create a Song by recording one track at a time (first the Drum track followed by the Bass track and so on...) but you can also record more that one track simultaneously.

Step Recording: This method allows you to record notes one at a time from the keyboard, specifying the length of each note. The track also records the velocity of the notes played.

This method is particularly useful to insert, for example, a fast arpeggio, otherwise difficult to record in real time without flaws.

Before entering Record mode, prepare your Performance

When you access Song Record mode, the currently selected Performance is "carried" together with all the memorised track and Performance parameters.

Furthermore, each track you select to record is automatically configured to react only with the Sequencer. The Local and MIDI IN connections are disconnected when you confirm Song record.

It is advisable, therefore, to prepare your Performances before recording.

You can configure your Performances using all the functions available in the EDIT Performance section, as already explained in the relevant chapters.

HOW TO REALTIME RECORD A SONG

1.   Access Song Record mode by pressing an "Empty" location in Song mode:

2.   Press REC (yes):

3.   Confirm SONG with ENTER:

```
┌──────────────────────────────────────────────────┐
│ OFF │ 1                │ TEMPO          CHORD:     │
│ OFF │ 2                │ INT  120       OFF        │
│ OFF │ 3                │                           │
│ OFF │ 4                │ PERF: PERF_01_  MODE: DUBB│
│ OFF │ 5                │ SONG        : B_SONG_3    │
│ OFF │ 6                │ BARS  (4/4)   1   1   1   │
│                        │           FREE MEMORY     │
│ TEMPO  VOL             │ METR STEP    100 %        │
└──────────────────────────────────────────────────┘
```

If you want to record changes in TEMPO and VOLUME during the recording, select the relative functions (F1 & F2). The events will be recorded in the Master Track.

4.   Select the Master Track to configure the relative parameters as required Time signature, recording Tempo, etc..

```
┌──────────────────────────────────────────────────┐
│ ◆ │ TIME SIGN   =  4/4   COUNT DOWN = ON          │
│   │ TEMPO       =   106  METRON VOL =   90    ⟳   │
│   │ START PERF. =PERF_01_ UNDO      = ON          │
│   │ KEY         =  C     STOP BAR   = OFF    ESC   │
│ ◆ │ MINOR       =  OFF   SONG LOOP  = OFF   PAGE + │
│ SEQUENCER ■ SONG:'B_SONG_3 ■ MASTER               │
└──────────────────────────────────────────────────┘
```

These operations are discussed in the Edit Sequencer chapter.

Press MASTER or ESC to close the Master Track.

5.   Select a Track to record.

If your Song includes a Drum Track, it is better to record this first - it helps you record the remaining tracks in time with the beat.

If you want to comply to GENERAL MIDI standards, assign a Drumkit to track 10 (assigned MIDI channel 10 by default).

```
┌──────────────────────────────────────────────────┐
│ OFF │ 6                │ TEMPO          CHORD:     │
│ OFF │ 7                │ INT  120       OFF        │
│ OFF │ 8                │                           │
│ OFF │ 9                │ PERF:'PERF_01_  MODE: DUBB│
│ REC │ 10 DKROOM1       │ SONG        : B_SONG_3    │
│ OFF │ 11               │ BARS  (4/4)   1   1   1   │
│                        │           FREE MEMORY     │
│ TEMPO  VOL             │ METR STEP    100 %        │
└──────────────────────────────────────────────────┘
```

6.   Press START and start to record your Drum track for the Song.

7.   When you have finished recording the Track, you can pass to the Edit Sequencer section to optimise your recording (Quantize, Insert, Delete, etc.).

8.   If you are satisfied with the recording, press the Toggle to confirm the Track, select another one to record and repeat the operations from point 5:

```
┌──────────────────────────────────────────────────┐
│ REC │ 6 DYNBASS1       │ TEMPO          CHORD:     │
│ OFF │ 7                │ INT  120       OFF        │
│ OFF │ 8                │                           │
│ OFF │ 9                │ PERF:'PERF_01_  MODE: DUBB│
│ SEQ │ 10 DKROOM1       │ SONG        : B_SONG_3    │
│ OFF │ 11               │ BARS  (4/4)   1   1   1   │
│                        │           FREE MEMORY     │
│ TEMPO  VOL             │ METR STEP    100 %        │
└──────────────────────────────────────────────────┘
```

9.   When you have finished recording your Song, press ESC to escape REC mode and, if you haven't already done so, give the song a name using the NAME function in the Edit Sequencer section.

Realtime Record options

The record mode display shows several options in the lower area that you can select with the relative Function buttons.

METR: (F5) determines the status of the Metronome.

The Metronome is active when selected (reverse-highlight). You can deactivate it at any moment by pressing the respective Function button.

TEMPO: (F1) permits the recording of Tempo variations in record mode.

Rotate the Dial while you are recording the song. All Tempo data is recorded in the Master Track, together with the starting tempo.

The Tempo events are shown as TEMPO-SET data.

Tempo recordings are always in replace (normal) mode, irrespective of the status of the normal or overdub options (new events cancel the old).

If you activate the TEMPO-FIX button during the recording, the events will be recorded in the Master Track as Tempo Fix data.

VOLUME: (F2) permits you to record Volume variations in record mode.

Use the Master Volume slider, a pedal connected to the Volume real panel socket or a pedal programmed for the Volume control.

These events are always recorded in Replace mode in the relative Track or the Master Track and are of the Fade In/Fade Out type.

◆   **Recorded in the tracks (Microscope)**:

If you use a pedal connected to the rear panel Volume socket, the track records Controller 04 events.

If you use one of the pedals programmed to regulate Volume, the track records Controller 07 events.

The display example above shows what the Microscope looks like after recording Controller 04 and 07 events.

◆   **Recorded in the Master track**:

If you use the Master Volume slider, the events will be recorded as Mast. Vol events in the Master Track.

The display example above shows what the Master Track looks like after recording Tempo and Master Volume events.

You will observe that "note events" are not recorded in the Master Track.

The Mask option

By using the Mask option, you can choose to mask certain events to reduce the amount of information displayed.

The Master track and Microscope functions both have the **Insert** function with which you can manually insert data, and the **Delete** function, which can cancel selected events.

See Edit Sequencer - Master Track and Microscope for information about the Mask option and Insert and Delete.

HOW TO STEP RECORD A SONG

After entering Song Record mode, the display shows the STEP option corresponding to Function button F6:

Step recording allows you to enter notes into your track one by one from the keyboard, selecting the length of each note.

1.   Select the track to record when you are in "record-pending" status.

2.   Press STEP.

The display will show the Start Song position (first bar) and, if other tracks have already been recorded, the bar corresponding to the effective End Song.

3.   Select the note required using the corresponding Function button.

A dotted note is obtained by pressing the selected note a second time.

A triplet is obtained by pressing the selected note a third time.

Return to the normal note by pressing the note once more.

A dotted note changes the step time by 3/2.

A triplet changes a note by 2/3.

4.   Enter the note using the keyboard. To enter a Chord, simply press the chord.

Regardless of the timing with which each they are pressed, each note played until released will be recorded at the same step.

Pressing a note on the keyboard shows the key on position (the song pointer), the note name, the note on velocity, key off velocity (standard value 64) and the note length.

5.   When you release the note or notes, you advance to the next step.

Repeat steps 3 & 4 as many times as necessary.

To enter a Rest, simply press the ENT button. The rest will take the value of the selected note.

If you make a mistake, use the Up/Down cursor arrows to select the entry one step before the one to replace and enter the correct note. The note immediately after the one selected will be deleted.

6.   When you have finished recording, press REAL (F8) to return to realtime record mode and press Start to listen to the playback of the recording.

NOTE: Step recording does not allow you to record control data. This type of data can be introduced in real time into the recorded track, or by inserting it manually in the Microscope and Master Track using the "Insert" function.

Step Recording is also discussed in the Programmable Style chapter, page 5-20.

Recording Pitch Bend, After Touch and Controller data

Pitch Bend and Aftertouch data are generated by the Track Ball and keyboard respectively. Controller data is generated by appropriately programmed Pedals.

All three types of events are recorded into tracks in realtime record mode and can be seen in the Microscope. They can also be inserted manually.

NOTE:
Aftertouch data consume large amounts of memory.

Multi-track recording

Multi-track recording (recording several tracks simultaneously) follows exactly the same steps as described for single track recording, with the difference that you can select two or more tracks to record in "'record-pending" status.

Tracks not recorded can be activated and played in real time with the Song in playback .

Recording MIDI IN events simultaneously with Track events.

You can record events received on MIDI IN simultaneously with events generated by the keyboard (Local).

For example, you can program the Configuration parameter of your Performance so that two or three tracks receive MIDI IN data only (MIDI status), while several other tracks can be exploited by the sequencer (SEQ). The remaining tracks can be set to Local (KYB) or mute (OFF).

> The following messages received at MIDI IN can be recorded:
> note on/off;
> pitch bend;
> program change;
> channel pressure;
> poly key pressure;
> control change (0 - 101).

Synchronisation with external MIDI devices

External MIDI devices (keyboards, sequencers, accordions, etc.) can be connected via MIDI to playback in synchronisation with the WX.

External Sequencer controlled by the WX

For example, if you want WX to control an external Sequencer which is going to record what you play on the keyboard, you must connect the WX MIDI OUT (the Master) to the Sequencer MIDI IN (the Slave), direct the WX tracks that are going to be recorded to MIDI OUT and set the WX MIDI CLOCK to INTERNAL. The external Sequencer will wait to receive the start command from the WX. To stop the recording, press Start/Stop. WX can also transmit the Song Pointer, therefore, if the external sequencer is able to recognise the message, you can start it at a precise point.

WX controlled by an external Sequencer

Connect the external Sequencer MIDI OUT (the Master) to the WX MIDI IN (the Slave), set the Master's clock source to INTernal (transmit MIDI clock messages) and the Slave's (WX) clock to EXTernal (receive MIDI Clock - see MIDI "Other" page) to synchronise to incoming MIDI clock messages.

All Start and Stop operations are executed on the Master unit.

Create a Performance to communicate with Computers/Sequencers

When you use your WX with a COMPUTER or MIDI SEQUENCER, connect the WX MIDI OUT to the Computer/Sequencer MIDI IN and the Computer/Sequencer MIDI OUT to WX MIDI IN. You'll require at least one Track to send data to the Computer/Sequencer (to prevent MIDI data from looping) and another Track to receive the Computer/Sequencer data and direct it to the WX internal Generation.

For this purpose, you should create a Performance with the following characteristics:

Tracks 1 to 14 (for example) connected to receive MIDI IN data only (Local off) and all directed to the WX SOUNDS internal generation (see Edit Performance - Configuration parameter).

As well as being configured as Tracks 1-14, Track 15 should also be connected to receive LOCAL data to allow you to hear a sound when you play on the keyboard.

Track 16 should be connected for LOCAL data and the resulting messages directed to MIDI OUT on OUT port 1 , Channel 1 - MIDI IN must be disconnected and no messages sent to the WX SOUND generation. This condition is otherwise known as MIDI Local off. Track 16 can therefore be used to send data to a Computer or Sequencer and prevent the WX MIDI signal from looping on itself.

The GET function - Create a score of your recording

You can transfer the recorded notes of a track to a musical staff with the GET option of the SCORE function.

1.   For example, after recording a Track, confirm the recorded Track (SEQ) and escape Record mode.

2.   Press SCORE and select GET:
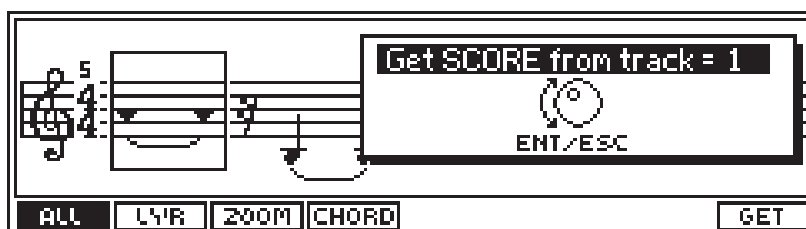
3.   Select the track from which the Score is going to be taken and confirm with YES:
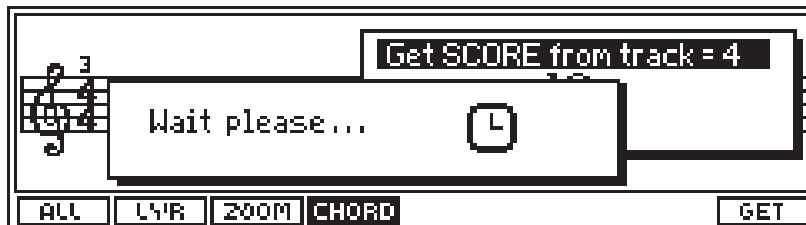
4.   After a short while, the display shows:
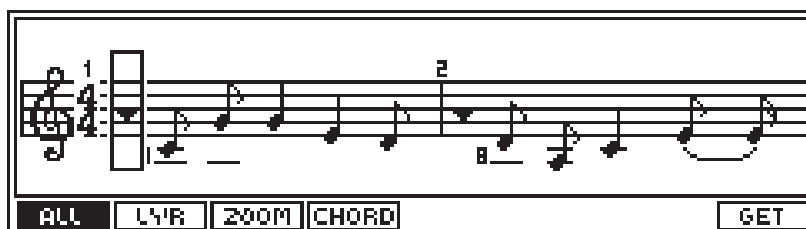
Repeat the same operations for all the recorded Tracks of your Song.

The Edit Status section provides several options to control the viewing possibilities on an external screen (TV, computer colour monitor). See page 4-33.

GENERAL INSTRUCTIONS TO FOLLOW WHEN PROGRAMMING THE LYRICS AND CHORDS TRACKS USING A COMPUTER

Programming the Lyrics and Chords track using a computer (or sequencer) requires special attention in order to ensure good results.

LYRICS TRACK

1.	The event recognised by WX to create the track containing texts is the LYRIC event. Therefore, all sequencer software or score writing programs which control this type of event are suitable for the purpose of creating the LYRICS track.

	(example: ATARI: Notator / MAC: Notator Logic and others).

2.	All ASCII Standard characters that fall between 33 and 127 are recognised. All letters already accented are excluded. To create a letter with an accent, use the symbol normally used to obtain an apostrophe (').

3.	The character used to syllabize a word is the "under-score" (_). Therefore, to syllabize a word with the scope of Synchronising it with the corresponding notes, the word "instrument" for example, should be written as: "in_stru_ment".

4.	A free space inserted between two syllables is recognised as "end-word" (simply use the space bar).

5.	Up to eight characters can be used for each note of a melody. All characters that exceed the limit will not be seen.

6.	The "pipe" symbol (¶) is used to indicate the end of a paragraph.

	WX is capable of displaying a maximum of 20 characters per line when using the "BIG" font. It is not permitted to start a new paragraph (insertion of the "pipe" symbol "¶") between two syllables positioned under the same note (example: ra¶an_).

CHORDS TRACK

1.	To programme the CHORDS track, in other words the chord symbols, you must use TEXT type events.

2.	Chord symbols are written using the international notation (A, B, C, etc.).

3.	Insert a space between the letter corresponding to the chord symbol and the abbreviation of the same chord. For example, C minor seventh = C(space)min7.

	N.B. In order that WX can recognise and, therefore, display all the various chords, they must be written as shown in point 5 below.

4.	It is also possible to add an extension to a chord symbol (divided chord: for example C Major with bass G).

	In this case, use the "slash" symbol (/) after the chord symbol and the note: example C / G.

5.	Chords recognised by WX:

C (major)	C min	C 7	C min7	C aug	C dim	C min7_5b	C sus4
C min_7#	C maj7	C add9	C 5b	C 7_5b	C maj7_5b	C 7_5#	C sus4_7
C 6	C min6	C 7_9	C maj7_9	C min7_9	C 7_9b	C min_ad9	C 6_9

Working with Standard MIDI Files

Create Standard MIDI Files

The Songs you record on your WX can be saved in MIDI Standard File format, making it possible to play your WX sequence data on other equipment regardless of the manufacturer (provided that the equipment conforms to this MIDI standard).

The conversion is performed through the Save Single MIDI File option in the DISK operations.

Refer to the DISK chapter (4), page 4-16 for information on how to Save Standard MIDI Files.

Load Standard MIDI Files

WX can load sequence data from floppy disks regardless of the source equipment or manufacturer (provided it conforms to this MIDI standard).

Refer to the DISK chapter 4 page 4-11 for information on how to Load Single MIDI Files.

General MIDI and Standard MIDI Files

If you want your saved Standard MIDI files to be converted in conformity with General MIDI, you should set the GENERAL MIDI option to ON in the MIDI OTHER page.

This will convert all program changes on MIDI Channel 10 to GS or GM Standard Drumkits.

The relative conversion table appears in the MIDI chapter on page 4-83.

If the GENERAL MIDI option remains OFF, your converted Standard MIDI File will retain the original program changes on MIDI channel 10.

If you load a Standard MIDI File from floppy disk, the GENERAL MIDI option should be ON if the file conforms to GENERAL MIDI, or to GS.

This will direct all program changes on MIDI Channel 10 to the WX Drumkits, as per the conversion table referred to above.

In same cases, Standard MIDI Files "carry" a GM "Flag". In such cases, the status of the WX General MIDI option in the MIDI Other page will be irrelevant.

NOTE:
IMPORTANT
The Songs supplied by Generalmusic with Scores (Lyrics tracks) are protected from being converted to MIDI Standard Files.

CHAPTER 6 - SEQUENCER EDIT MODE

The EDIT SEQUENCER section groups all the Event Edit functions that allow you to edit your musical data and Song parameters.

All the functions are valid for Songs, Song Styles and Prog. Styles, therefore, reference is made to Songs throughout this chapter, unless otherwise indicated.

In this mode, the keyboard will play the selected track of the current Song or Style.

MASTER TRACK

This is where information common to all tracks is stored. The Master Track can be considered as a "ghost" track which records events common to all tracks, such as Tempo variations, Performance changes, Master Volume changes, etc..

Pressing MASTER in Song mode shows:

The Song Styles show a slight variation:

The Prog. Styles show:

Songs and Song Styles also show a second Master Track page which records the events common to all tracks. See "Master Track Event Edit" further ahead.

The Master Track parameters - First page

The following parameters are common to all modes (Styles and Song).

TIME SIGNATURE   The Master Track allows you to specify the Time Signature for the Song, but it is not possible to set two different Time Signatures for two different Tracks of the same Song.

The Time Signature determines the number of beats in a bar (the upper number) as well as the division of a beat (the lower number).

Rotate the Dial to specify the first value, select the second part and specify the required value. **Value range: 1/2.... 15/16**.

You can program all common and not so common Time signatures because both parameters (numerator and denominator) are programmable.

Important

The Time Signature can *only* be changed if the Song is empty (before Record). It cannot be altered if a song has been recorded, nor during playback.

An attempt to change the Time Signature of a recorded song will provoke the following warning:

```
FORBIDDEN
YOU CAN ONLY CHANGE THIS VALUE
WHEN THE SONG IS EMPTY
<ESC> TO CANCEL
```
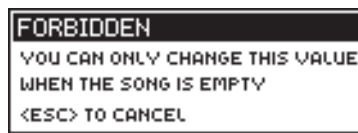
TEMPO   This parameter determines the song's running speed (Metronomic time), measured in beats per minute (BPM).

The value shown refers to the starting tempo of the Song. **Value range: 20... 250**.

You can modify this parameter only before record start.

The Song's speed can also be varied in real time by rotating the Dial but this will not alter the Master Track's Tempo parameter value.

Songs and Song Styles record real time Tempo variations in the Master Track, provided the **TEMPO Record** function is selected before record start. The relative data are shown as **Tempo Set** events.

Song Styles also record the activation of the **Tempo-Fix** button, shown as TEMPO-FIX events.

Programmable Styles cannot record real time Tempo changes.

COUNTDOWN   Enables (On) or disables (OFF) the one bar lead into the recording after pressing Start.

Deactivating the Metronome does not eliminate the countdown bar.

NB: If the EXTernal clock is selected (in the "MIDI Other" page), the countdown will be excluded.

METRONOME VOL   Adjusts the Metronome sound level (valid for Playback and Record mode). **Value range: 40... 127**.

The higher the value, the louder the sound. The lowest limit softens the sound but does not eliminate it.

UNDO   Enables (On) or disables (Off) the Undo function for the Edit Song and Song Record modes.

Undo permits you to cancel a recorded sequence or restore portions of a cancelled Song. Undo also restores an Edit Sequencer operation to the status prior to confirmation. See "UNDO" further ahead.

For Song Styles only:

```
TIME SIGN    =  4/4
TEMPO        =   138
START STYLE =ROCK1
START PERF  =PERF_01_
START M.PERF=  OFF
SEQUENCER ISONG ST
```

START STYLE   determines the Style with which you start your recording. You can scroll through all the Internal and Programmable Styles present in memory. The Prog. Styles will appear with the user-programmed name.

START PERF   determines the starting Performance. If you have programmed some Song Style Performances, you can select the one to start recording with here.

START M. PERF   determines the status of the Manual Performance button at record start.

If this parameter is On, you will be able to select your Song Style Performances, provided that there are any present in the Song Style Bank.

If this parameter is Off, you will only be able to record your Song Style with the specified Performance in "Start Perf".

For Songs only:

```
TIME SIGN    =  4/4
TEMPO        =   106
START PERF. =PERF_01_
KEY          =  C
MINOR        =  OFF
SEQUENCER SONG
```

START PERF   determines the starting Performance. If you have programmed some Song Performances, you can select the one to start recording with.

KEY   this parameter is associated to the SCORE function and determines the key (sharp [#] or flat [*b*]) of the Score captured when you use the GET function.

You can play your Song in the key of C and capture the relative Score on the staff in the specified key. Clockwise rotation of the Dial obtains Sharps, anticlockwise rotation provides flats. For example, if you specify the key of C#, the relative Score captured with GET will show:
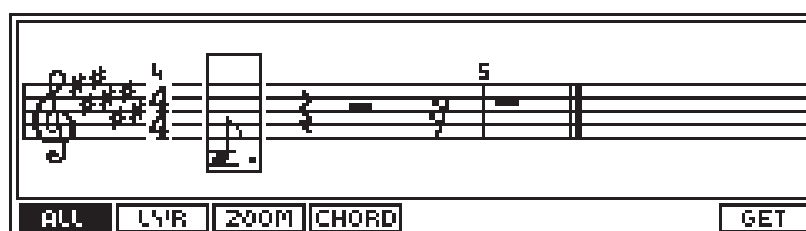
MINOR   operates in conjunction with the Key function above, also associated to the SCORE function. It determines the minor key of the Score captured when you use the GET function.

For example, if you specify the key of C Minor, the relative Score captured with GET will show:

```
COUNT DOWN = ON
METRON VOL =  90      (◎)
UNDO      = ON         ESC
STOP BAR  = OFF   ┌─────┐
SONG LOOP = OFF   │PAGE +│
                  └─────┘
:'B_SONG_3■ MASTER
```

For Songs and Song Styles:

STOP BAR specifies any bar of the current song to act as the effective song end. The song will stop at the end of the specified bar.

You can use this function to stop a recording at a precise point without "dirtying" the following bar.

SONG LOOP When it is "on", the Song in will **play back** repeatedly.

The currently selected song will play through to the end, loop back to the starting point and repeat. The song will continue repeating until the Stop button is pressed.

Looped songs do not interfere with sustained notes; if sustained notes are present when the song goes into loop, these notes continue decaying without being "chopped".

SONG LOOP
This function finds its use in Song with a repetitive Chord cycle. You can record a sequence of Chords for the first cycle then, with the song in playback and Song Loop set to ON, play other tracks in real time while the playback repeats continuously.

Navigation

◆ Scroll through all the events recorded with the Up/Down cursor arrows.

◆ Select each part of the recorded events with the Left/Right cursor arrows.

◆ Use the Dial to change the value of a selected parameter or to move a selected Song Pointer to any other location.

◆ If you press the Toggle at the Song Pointer position, you will activate a small window where you can specify a required Song position.

NOTE:
The MASTER TRACK does NOT record note events.

```
SEQUENCER■■SONG■■ B_SONG_4__ ■■■■MASTER
┌─┐BAR      STATUS      VAL   ┌ INSERT ┐
│+│                          │ PERF CH.│    (◎)
│1│  3 128 MAST. VOL.    48  │         │
│ │  3 137 MAST. VOL.    47  │         │  ENT/ESC
│ │  1 3 145 MAST. VOL.  46  │┌───────┐│
│ │  1 3 128 PERF CH.     2  ││PAGE - ││
│ │  1 4 114 TEMPO SET   119 │└───────┘│
│+│  1 4 137 TEMPO SET   118 │  MASK   │
└─┘                          │INSERT + DELETE
```
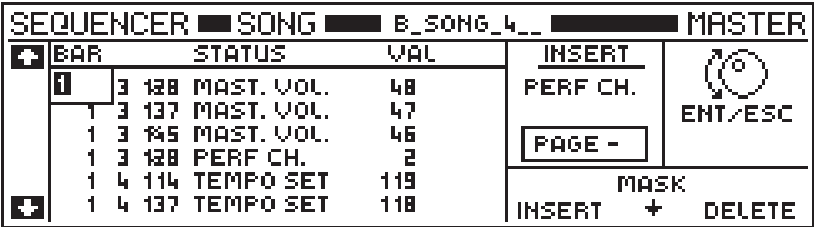
◆ Press ENT to go directly to the position required.

Master Track Event Edit

Master Track Event Edit allows you to modify, insert or delete individual events from the data in the Master Track.

The operation is available for Songs and Song Styles which show a second Master Track page where the events common to all tracks are recorded.

A typical example of a recorded Master Track is shown below:

```
SEQUENCER■SONG■ B_SONG_4__ ■■■■■MASTER
┌─┐BAR      STATUS      VAL   ┌ INSERT ┐
│+│                          │ PERF CH.│    (◎)
│ │  1  3 128 MAST. VOL.  48 │         │
│ │  1  3 137 MAST. VOL.  47 │         │  ENT/ESC
│ │  1  3 145 MAST. VOL.  46 │┌───────┐│
│ │  1  3 128 PERF CH.     2 ││PAGE - ││
│ │  1  4 114 TEMPO SET   119│└───────┘│
│+│  1  4 137 TEMPO SET   118│  MASK   │
└─┘                          │INSERT + DELETE
```
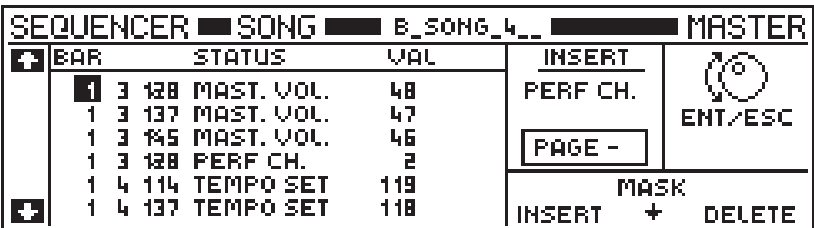
Here you can see some Master Volume events, a Program Change and some Tempo Set events in the left part of the display.

The events show the Song position (Bar, Beat and Sequencer resolution), the name of the recorded parameter and its relative value.

The right part of the display is where you can specify data to insert or delete.

This function is not available for Programmable Styles.

How to edit Master Track events

Use the following procedure to edit the events shown, including those inserted manually with the INSERT function explained below.

1.   Move an event from one Song position (bar) to another by rotating the Dial.

Example: You can move from 1 3 128 to 4 1 192.

2.   Move an event from one beat to another within the same bar by selecting the second pointer value with the Right cursor arrow and rotate the Dial.

Example: You can move from 1 3 128 to 1 2 128.

3.   Move an event from one defined point to another within the same beat by changing the sequencer resolution value with the Dial.

Example: if you have three events recorded at positions 1 3 128, 1 3 135 and 1 3 137, you can move the first event to position: 1 3 140.

4.   You can change the value of the parameter listed under "STATUS" by selecting its relative value (listed under "VAL") and rotating the Dial.

Create an event with INSERT

The **INSERT** function allows you to create an event at the cursor location.

1.   With the Right cursor arrow, select the "INSERT" parameter field.

2.   Rotate the Dial to select the required parameter.

3.   Return to the first value of the Song Point with the Left cursor arrow.

4.   Press the Function button corresponding to INSERT (F6) to enter the selected event at the specified position.

For **SONGS**, you can choose from the following events to insert:

Performance change   Inserts a Performance change event with a default value of 0. Value range 0 - 7.

Tempo Set	Inserts a single Tempo event, shown as Tempo Set, with a default value of 120. Value range 0 - 250.
Master Volume	Inserts a single Master Volume event with a default value of 64. Value range 0 - 127.
Effect 1	Inserts a single Effect 1 event from the corresponding Eff 1 processor with a default value of 0. Value range 0 - 63. Each value corresponds to an Effect Type from the respective Effect Processor.
Effect 2	Inserts a single Effect 2 event from the corresponding Eff 1 processor with a default value of 0.. Value range 0 - 63. Each value corresponds to an Effect Type from the respective Effect Processor.
Effect 1 Vol.	Inserts a single event of Effect 1 Volume with a default value of 0. Value range 0 - 127.
Effect 2 Vol.	Inserts a single event of Effect 2 Volume with a default value of 0. Value range 0 - 127.
Rotary	Inserts a single event of the Rotary effect with a default status set to "OFF". Value range: ON/OFF. Activates the passing from Slow to Fast or vice versa.

For **SONG STYLES**, you can insert the following events in addition to those shown above:

Select Style	Inserts a Style change event with a default value corresponding to the first Style in the Prog Style Bank 1.
Fill Base	Inserts an event corresponding to the activation of the Fill In, shown as ON. The inserted event is immediately followed by the OFF event to correspond with the end of the Fill pattern.
Fill Var	Inserts an event corresponding to the activation of the Fill Variation, shown as ON. The inserted event is immediately followed by the OFF event to correspond with the end of the Fill Var pattern.
Ending	Inserts an event corresponding to the activation of the Ending.
M. Perf	Inserts an event corresponding to the activation of the Manual Performance button (ON). This is useful if you want to start recording any Song Style Performances present in the Song Style Bank, otherwise not possible if M. Perf is Off.
Tempo Fix	Inserts an event corresponding to the activation of the Tempo Fix button, important if you want to introduce the event in order to fix your playing Tempo to a preferred setting.

NOTE
You cannot erase indispensable information from the Master Track. The Master Track always records the initial Tempo, the starting Performance and other vital information as song point 1-1-1. You can modify these parameters but cannot erase them at the starting position because they relate to indispensable information that defines the song.

DELETE EVENTS

1. Select the corresponding Song pointer of the event you wish to cancel.

2. Press the Function button corresponding to DELETE (F8) to cancel the event at the specified position.

The Master Track MASK function

The **MASK** option allows you to isolate events of the same type in situations where a large amount of data is present. This helps you to select the position of the event required much faster. The Song Mask shows a shorter list of events.

1.   Press MASK (F7).

The display shows that all events recorded will be displayed:
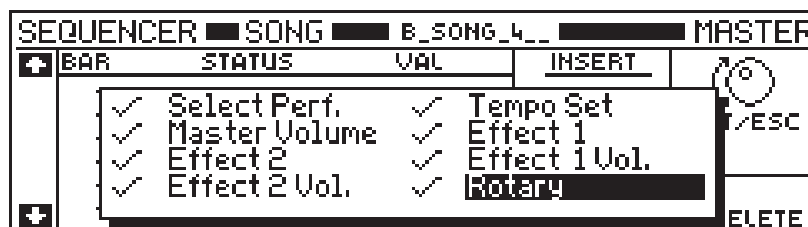
```
SEQUENCER ■■ SONG ■■■ B_SONG_4__ ■■■■ MASTER
┌─┐ BAR      STATUS      VAL    ┌─ INSERT ─┐   ⟋◉
│+│                              │          │  ⟍
│ │      ✓ Select Perf.    ✓ Tempo Set       T/ESC
│ │      ✓ Master Volume   ✓ Effect 1
│ │      ✓ Effect 2        ✓ Effect 1 Vol.
│+│      ✓ Effect 2 Vol.   ✓ Rotary          ELETE
```

2.   With the Cursor arrows, select an event to mask.

3.   Hit the Toggle to mask the selected event:

```
SEQUENCER ■■ SONG ■■■ B_SONG_4__ ■■■■ MASTER
┌─┐ BAR      STATUS      VAL    ┌─ INSERT ─┐   ⟋◉
│+│                              │          │  ⟍
│ │      ✓ Select Perf.    ✓ Tempo Set       T/ESC
│ │      ✓ Master Volume   ✓ Effect 1
│ │      ✓ Effect 2        ✓ Effect 1 Vol.
│+│      ✓ Effect 2 Vol.   ✓ Rotary          ELETE
```
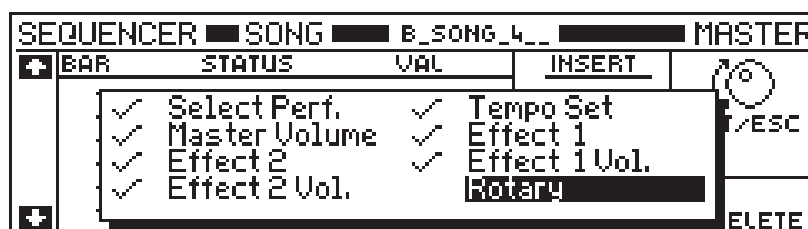
The disappearance of the symbol "√" shows which event is masked. Press the Toggle again to make the symbol re-appear.

4.   Repeat for all the other events that you wish to mask.

5.   Press ENT to return to the Master Track. If you press ESC, your Mask setting will be ignored.

Note: Song Style show a Mask with a greater number of parameters.

```
SEQU ┌ ✓ Select Perf.    ✓ Tempo Set      ASTER
┌─┐ BA │ ✓ Master Volume   ✓ Effect 1        ◉
│+│    │ ✓ Effect 2        ✓ Effect 1 Vol.   ⟍
│ │    │ ✓ Effect 2 Vol.   ✓ Rotary          T/ESC
│ │    │ ✓ Select Style    ✓ Fill Base
│ │    │ ✓ Fill Var        ✓ Ending
│+│    │ ✓ Manual Perf.    ✓ Tempo Fix       ELETE
```
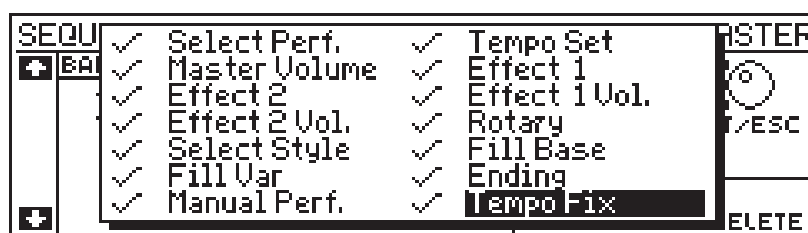
Press MASTER or ESC to escape from the Master Track.

COPY

This function allows you to copy a Track, a specified bar or range or bars, or an entire Song to the same Song or to another one.

This operation is also valid for Prog. Styles and Song Styles, although the elements in the display relate to the respective modes.

From Song   selects the source Song to copy from.

From Track   selects the source Track to copy from.

If you are in Song mode, you can select the following elements to copy to a recorded song:

◆   From tracks 1 - 16 (depending on which have been recorded)

◆   Master Track

◆   Chords Track

◆   Lyrics Track

◆   Score Track

◆   All Tracks

If you are in Song Style mode, you can select:

◆   Tracks 5 and 6

◆   Master Track

◆   Chords Track

◆   All tracks

If you are in Prog. Style mode, you can also select the recorded Riffs and copy one to any Track from 1 to 4.

To **Copy an entire Song**, specify "ALL". This allows you to copy all the tracks of the Song to another destination song.

From Bar   specifies the area of the source Song to copy from. You can specify the start bar and end bar.

◆   If you are copying to another recorded Song, you can only copy all the bars of the selected Track.

◆   You cannot specify the bars to copy if you are copying to an "empty" Song.

You can also copy to the same Song: for example, you can copy a repeating sequence to a destination bar of the same song to save time. You can also specify how many times the copy is to be copied.

To Song	selects the destination Song (the Song to which the track will be copied to). You can choose to copy to the same Song, to another recorded Song or to an "empty" one.
To Track	selects the destination track (the track into which the data will be copied).
To Bar	specifies the destination start bar (only if you are copying within the same Song).
Copy mode.	selects the manner in which the data will be copied.

Replace: the copied data substitutes the data already present at destination.

Merge: the copied data is combined with the data already present at destination. You can use this application to copy, for example, a pattern of bongo drums from one track to a pattern of toms and snare on another track.

If you are copying to the same track, you can only select Replace mode.

Copy Time.	specifies the number of source copies which will be copied to the destination track.

To effect the Copy, press ENT.

The display will show a message that relates to the operation being performed.

If you are copying an entire Song to a recorded Song:
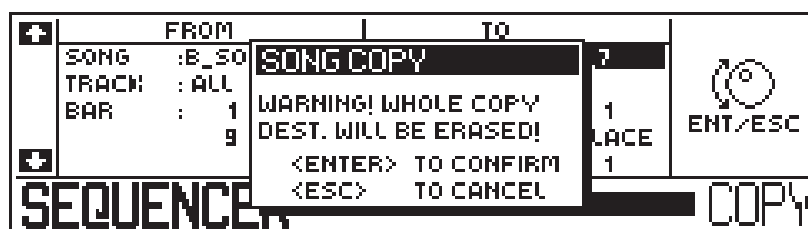
If you copy an entire Song to an empty Song:
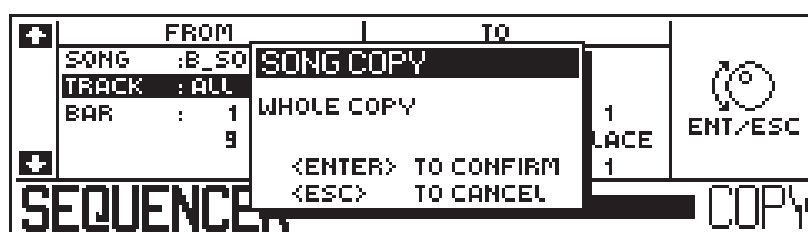
If you copy a Track to a another:
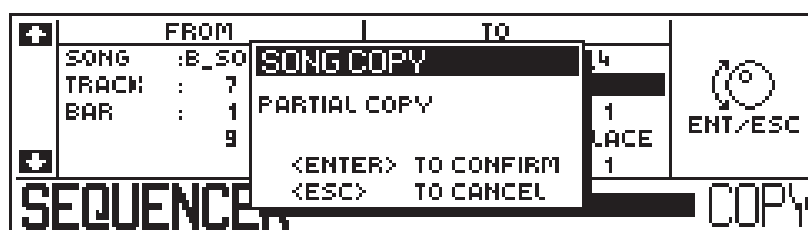
If you press ESC, or COPY, you will return to the main display without effecting the operation.

MOVE

This function allows you to move all the events within a specified range of bars of a track to another position within the same track:

```
┌──┬────────────────┬──────────────────────┬──────────┐
│ ✛│     FROM       │                      │   (◠)    │
│  │ SONG   :B_SONG_3│                     │          │
│  │ TRACK  :  11   │    START BAR         │  ENT/ESC │
│  │ BAR    :   1  1  1│    ▊4▋  1    1     │          │
│ ✛│           3  5  192│                   │          │
├──┴────────────────┴──────────────────────┴──────────┤
│ SEQUENCER ■■■■■EDIT■■■■■■■■        MOVE              │
└─────────────────────────────────────────────────────┘
```

Song   specifies the Song in which you wish to move events.

Track   determines which track to work on.

Bar   selects a range of data by specifying the bars within which the data lies. You can also specify a single event.

Start Bar   selects the destination bar which will receive the moved data.

Press ENT to confirm the operation. "Are you sure?" appears, asking you to confirm the operation definitely:

```
┌────────────────┐
│ ARE YOU SURE ? │
│ <enter> to confirm│
│ <esc>   to cancel │
└────────────────┘
```

Press Esc if you want to abort the operation.

Use UNDO to restore the original status if you make a mistake.

If the recorded song does not contain a sufficient number or bars to accept the move, the display will shows the following:

```
┌──┬────────────────┬──────────────────────┐
│ ✛│     FROM       │                      │
│  │ STYLE  :STYLE2__│ ┌──────────────────┐│
│  │ RIFF   :BASIC MAJ│ │ FORBIDDEN        ││
│  │ TRACK  :   1   │ │                   ││
│  │ BAR    :   2  1 192│OPERATION NOT POSSIBLE││
│ ✛│           3  4 192│ EXTEND MASTER TRACK││
├──┴────────────────┤ │ <ESC> TO CANCEL  ││
│ SEQUENCER ■■■■ E  └──────────────────┘│
└───────────────────────────────────────┘
```

In such a case, use INSERT BARS to extend the number of bars and repeat the operation.

MOVE can be effective when you use it to compensate for sounds that have a slow attack. For example, Strings often play with a slower attack rate than other sounds, such as Piano, and will appear to be lagging behind even if the note on messages are simultaneous. In such a case, use Move to "shift" the Strings Song pointer a little earlier in time so that the Strings sound begins to play slightly before other sounds, giving the impression of perfect timing. This application requires that you select your range of events and anticipate their entry with the Start Bar.

ERASE

This operation erases all events of a specified type from a specified range of bars. You can perform this operation on a Track, on the Master Track or you can Erase all the Song:

```
┌─────────────────────────────────────────────────┐
│ ✚        FROM                                     │
│  SONG   :B_SONG_3                            ╭○╮  │
│  TRACK  :   10                                    │
│  BAR    :    1    1    1    ERASE EVENTS          │
│              3    5  192         All        ENT/ESC│
│ ✚                                                 │
│ SEQUENCER ████ EDIT ████████        ERASE        │
└─────────────────────────────────────────────────┘
```

Song   specifies the Song from which events are being erased.

Track   selects the track to erase from.

You can choose from:

◆   1 - 16

◆   Master track (Songs and Song Styles)

◆   Chords Track (Songs and Song Styles)

◆   Lyrics (Song only)

◆   Score (Song only)

◆   All (the entire song)

Bar   determines the range of bars (start and end) from which the specified events will be erased.

ERASE EVENTS   this edit zone allows you to specify a particular event to erase.

◆   If you are erasing from a Track, you can erase Note events, Pitch Bend data, Mono Touch and Poly Touch data, Dynamic release data, Program Change data and control data (from 0 to 127).

◆   If you are erasing from the Master Track (specified in the Track parameter), you can specify a particular event or All.

◆   If you are erasing from the Chords track, you can only erase Chords.

◆   If you are erasing from the Lyrics track, you can only erase Lyrics.

◆   If you are erasing from the Score track, you can only erase the Score.

Press ENT to execute the operation.

Use UNDO to restore the original status if you make a mistake.

Press ESC or ERASE to leave the function without performing the operation.

NOTE:

You cannot erase indispensable information from the Master Track. The Master Track always records the initial Tempo, the starting Performance and other vital data at song point 1-1-1. You can modify these parameters but cannot erase them at the starting position because they relate to indispensable information that defines the song.

NOTE:
ERASE ALL provides
two options:
to Erase the Song only,
leaving intact the Song
Performance (or
Performances if others
are present),

```
┌─────────────────────────┐
│        ERASE            │
│ ✚ ALL SONG              │
│ ✚ BANK (SONG & PERFS)   │
│  <ENTER> TO CONFIRM     │
│  <ESC>   TO CANCEL      │
└─────────────────────────┘
```

OR,
to Erase the entire
Bank/Song - the Song
and all Performances -
leaving an EMPTY
BANK:

```
┌─────────────────────────┐
│        ERASE            │
│ ✚ ALL SONG              │
│ ✚ BANK (SONG & PERFS)   │
│  <ENTER> TO CONFIRM     │
│  <ESC>   TO CANCEL      │
└─────────────────────────┘
```

INSERT/DELETE

INSERT

Insert allows you to insert as many "empty" bars into your Song from any starting point (bar). You can also insert bars with a different Time signature.
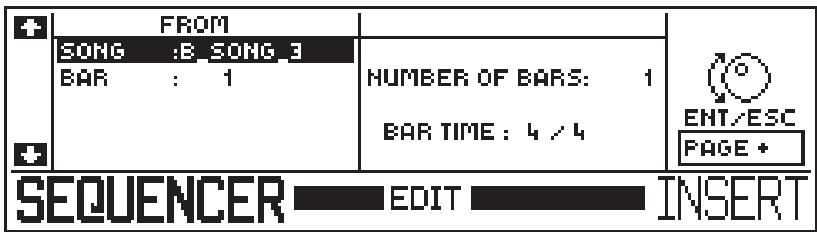
Song   selects the Song to work on.

Bar   specifies the insertion point (the start bar).

Number of Bars   specifies the number of bars to insert.

Bar Time   specifies the Time Signature of the bars to be inserted. You can use Insert to create a song with two (or more) different time signatures.

Press ENT to confirm the operation.

Use UNDO to restore the original status if you make a mistake.

Press ESC or INS/DEL to leave the function without performing the operation.

Once inserted, you can record the inserted bars with the different time signature. Go into Rec mode, specify the starting point and start recording with "Cont". Record the inserted bars and stop when you reach the end. You can also indicate the last bar to avoid recording more than those specified using "Stop bar" in the Master Track.

DELETE

Press Page + to go to the Delete page.

The Delete operation cancels a specified number of bars from all the recorded tracks of a Song starting at a specified point. All the bars that follow will move to fill the gap.
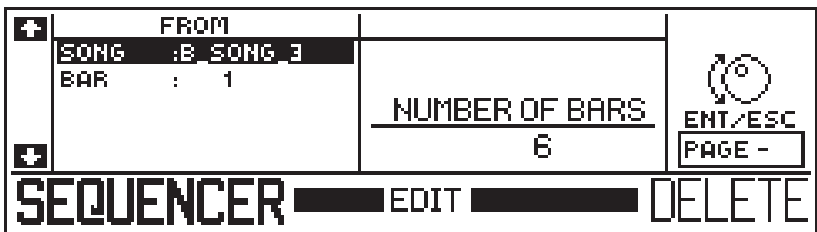
Song   selects the Song to work on.

Bar   specifies the point to delete from.

Number of Bars   specifies the number of bars to delete.

Press ENT to confirm the operation.

Use UNDO to restore the original status if you make a mistake.

Press ESC or INS/DEL to leave the function without performing the operation.

DYNAMIC

Press PAGE + to go to the Dynamic page.

This operation modifies the velocity values (note on) in the specified area by the specified intensity.
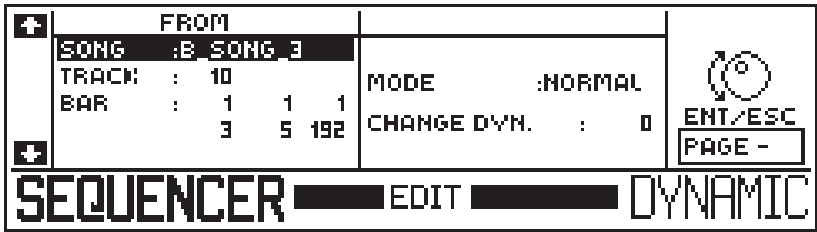
Song	Selects the Song to work on.
Track	Specifies the track in which to modify the velocities.
Bar	Specifies the first and last bar where the velocity modification will take place.
Mode	Specifies the mode in which the velocity modifications will be effected.

Two options are available:

1. **Normal** - adds or subtracts the specified value from the recorded values.

2. **Fixed** - modifies all the recorded velocities to the specified value.

Change Dynamic	Specifies the amount by which the velocity values will change.

Press ENT to confirm the operation.

Use UNDO to restore the original status if you make a mistake.

Press ESC or TRANSP to leave the function without performing the operation.

This is a great option if, for example, you want to open the Filters of a sound that is sensitive to dynamic variations, otherwise not possible unless you repeat the recording with the modified Sound.

QUANTIZE

This operation corrects the timing of each event in the specified range to the nearest interval (quantization) of the specified value.

```
┌──────────────────────────────────────────────┐
│ ➕│     FROM                          │  ⟲     │
│   │ SONG   :B_SONG_3 │               │ (◯)    │
│   │ TRACK  :  10     │               │ ENT/ESC│
│   │ BAR    :   1     │ NOTE QUANTIZE │        │
│ ➕│            3     │     1/4       │        │
│ ──────────────────────────────────────────── │
│  SEQUENCER ▬▬ EDIT ▬▬ QUANTIZE                │
└──────────────────────────────────────────────┘
```
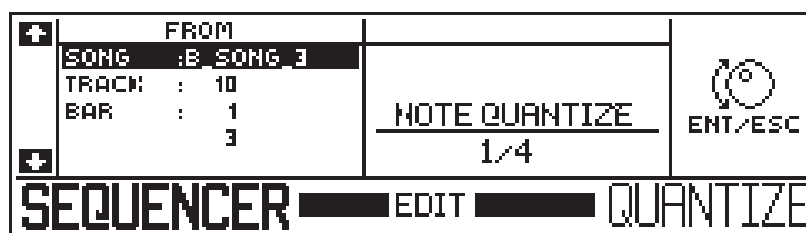
How does Quantize work?
The following diagram shows how a track recorded in real time and played with incorrect timing can be corrected by quantizing with the values 1/4 and 1/8.

Song   Selects the Song to work on.

Track   Specifies the track in which to Quantize the events.

Bar   Specifies the first and last bar to be quantized.

Note Quantize Specifies the Quantize value.

This parameter determines the timing interval to which the notes will be quantized.

You can select the values 1/4, 1/8, 1/12, 1/16, 1/12, 1/32, 1/48, 1/64, 1/96 and Free.
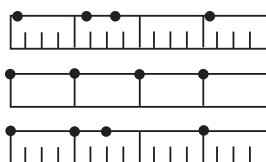
The top line represents an unquantized real time recording of one bar, showing events out of time with respect to the "grid" resolution of 1/16.
The second line shows the same events quantized with a value of 1/4. The events are shifted to the nearest values.
The third line shows the same events quantized with a value of 1/8.
Note: Quantize does not destroy recorded note data.

Free returns tracks precisely to their real time recorded status, cancelling the Quantize value used (if any).

Quantize "shifts" the notes to the nearest specified interval. For example, if the shortest note value should be a 16th note, specify 1/16. Music that contains Triplets requires Quantize values such as 1/12, 1/24 or 1/48.

Press ENT to confirm the operation.

Use UNDO to restore the original status if you make a mistake.

Press ESC or QUANT to leave the function without performing the operation.

Note: Quantize corrects Note On positions but the note lengths remain the same. Other type of data is not affected by Quantize (e.g. control data, pitch bend, etc.).

Quantize Procedure in Record mode

**1.**   After recording a Track, press Quant.

2.   Select a quantize value and press ENT to execute the operation.

3.   Start the playback of the track and listen to the result.

4.   If the recording is not satisfactory, select a different Quantize value and confirm again with ENT.

5.   Listen to the playback and continue confirming different values until the recording is satisfactory.

MICROSCOPE (Event Edit)

A single step of musical data is called an "event". The Microscope Event Edit operations permit you to modify, insert or delete individual events from the data in a Track. Insert also allows you to insert Control Data not otherwise possible in Realtime record mode.

Since event edit allows direct access to sequence data, careless editing can modify your recorded data so that it can no longer be restored to its original state. You are advised, therefore, to use caution.

```
SEQUENCER■SONG■'B_SONG_3 ⁄ TRK 10■MICRO
⬆ BAR        STATUS  1V  2V  3V   GT │ INSERT   ⌒
   1  4 174 NOTE  C2   127  19  119 │  NOTE    (⟲)
   1  4 176 NOTE  GH2  127  14   52 │          ESC
   1  5 174 NOTE  D2   127  34  238 │
   1  5 177 NOTE  GH2  127   3   58 │
   2  1 177 NOTE  GH2  112  34   32 │     MASK
⬇  2  2  79 NOTE  C2   100  30   34 │INSERT  ✦  DELETE
```

A description of the display elements shown:

Bar	song pointer which defines the position of the event.
Status	indicates the type of event recorded:

- ◆ Note
- ◆ Program Change
- ◆ Pitch Bend
- ◆ Controllers
- ◆ Mono Touch
- ◆ Poly Aftertouch

1V, 2V, 3V	these parameters assume values according to the type of event shown in Status.
GT	indicates the note length (gate time). This parameter only applies to the notes and is ignored by all other events.

Navigation

- ◆ Use the Cursor arrows to move up down and across the display.

- ◆ If you scroll with the Up/Down arrows, each note will be played.

- ◆ Use the Dial to modify the selected parameter

- ◆ Use the Toggle to access a parameter value and specify a new value using the keys on the keyboard corresponding to the numbers 0 - 9.

When Status = Note:

1V specifies the note number with values C-1...G9.

If you rotate the Dial when the cursor is at the song pointer's Bar location, you can hear all the recorded notes in order of appearance.

If you rotate the Dial when the note number is selected, you can hear all the notes selected.

2V specifies the Key On velocity of the note in 1V with values 0... 127.

Perhaps you discover that you didn't place enough emphasis one or two notes of your recording. You can increase their respective Dynamic values to raise their loudness.

If the sound of a track incorporates a dynamic switch, by modifying the dynamic value you can switch from one sound level to the other.

3V specifies the Key Off velocity of the note in 1V with values 0... 127.

Some sounds have an incorporated sensitivity to variations in the Key Off Envelope rate. Modifying this parameter affects this sound parameter *only* in cases where the sound has a non-zero value for the Key off rate dynamic sensitivity parameter.

GATE specifies the note length and takes the values 0... 65535.

The Gate parameter only applies to the notes.

In order to make it possible for a note to be held almost indefinitely WX has a very high Gate time, equivalent to the possibility of holding down a note for approximately 85 bars (for a time signature of 4/4).

Considering that a quarter note has a sequencer resolution of 1/192, a whole note consists of 192 x 4 = 768 units; 65535 ÷ 768 = 85,33 bars.

To move a note event:

1.   Select the Bar pointer and rotate the Dial to move the event to any song position.

2.   Select the Beat pointer and rotate the Dial to move an event within a bar.

3.   Select the sequencer resolution and rotate the Dial to move an event from one beat resolution to another.

When Status = Program change:

1V specifies the first number of a Program change with values 1... 128 (normal or extended Bank Select format).

Modify this value to specify a new Program change. You will most probably have to modify the 2V value if you are working with Bank Select numbers.

2V specifies the second number of a Program change with values 1... 128 - second program change number of the Bank Select format.

You can emit any value up to 127 for the second Program change number, particularly useful if the track also transmits to an external MIDI device capable of receiving Bank Select data.

For example, the external device could contain a sound with Program Change number 6-46, unlike the WX Generation which has a maximum capacity of 6-3 for the standard value 6.

3V does not apply.

When Status = Control Change:

1V specifies a MIDI Controller number with values 0... 127.

> 1 = Modulation, 7 = Main Volume etc. - see Table III, MIDI CONTROLLERS, Appendix B.

> You can create Controller data at any point of the track using the **Insert** function (see below) - you would then have to give a value for the 2V parameter to render the controller effective.

2V specifies the data value of the Controller number with values 0... 127.

> If, for example, the Controller events relate to Panorama changes (Controller 10) carried out with a programmed Pedal, by adjusting the 2V value, you can alter the Pan position of the track.

3V does not apply.

When Status = Bend:

1V specifies Pitch Bend data with values 0... 127 (LSB).

> However, varying this first value of a Pitch Bend event will not affect the track. You must intervene on the second value (2V) to produce a pitch variation. For the Pitch Bend event, this first value corresponds to the Least Significant Byte and normally takes the value "0".

2V specifies the Pitch Bend excursion with values 0... 127 (MSB).

> Adjusting this value modifies the Pitch Bend excursion; the "normal" value for Pitch Bend (without effect) is 64, values above correspond to "positive" pitch variations while those below relate to "negative" ones.

3V does not apply.

When Status = Mono Touch:

1V specifies the Mono Touch intensity with values 0... 127.

> You could introduce this event to apply vibrato, for example, to all the notes played at the specified song position.

> Introduce the value 0 to deactivate the Mono Touch effect.

2V does not apply.

3V does not apply.

When Status = Poly Touch:

1V specifies the note to which Poly Aftertouch is applied with values A0... C8.

> Here you can specify which note will be affected by a variation in the Aftertouch value (effected in the 2V parameter). Introducing this event is very useful when you want to apply an Aftertouch modification to a single note to "polish up" your recording.

2V specifies the value of the Aftertouch event applied to the note in 1V with values 0... 127.

> For example, Aftertouch can add more or less Tremolo effect (if enabled) to a sound.
>
> Introduce the value 0 to deactivate the Poly Touch effect.

Note: WX does not create Poly Aftertouch events from the Keyboard. You can create them manually with Insert or the events can be received at MIDI IN.

3V does not apply.

The Microscope functions

Three functions are available in the Microscope: MASK, INSERT and DELETE.

MASK   Hides specified events in order to simplify the process of searching for particular data in order to modify it.

```
SEQUENCER ■■SONG ■■■ B_DOMENI / TRK 2 ■■■■MICRO
┌──┐┌BAR      S│  ✓ │Note    │    │NSERT │    ╭──╮
│ ⬥│        │  ✓ │Prog. change│  │ONTROL│   ╭│(◦)│
│  │   2  1  1 N│  ✓ │Controller │   │      │   ╰╰──╯
│  │   2  1  1 N│  ✓ │Pitch bend │   │      │     ESC
│  │   2  1  1 C│  ✓ │Mono after touch│ │      │
│  │   2  1  1 N│  ✓ │Poly after touch│ │      │  MASK
│  │   2  1 10 C│                      │          │
└──┘└  2  3 197 C                        ─RT   ✦   DELETE
```
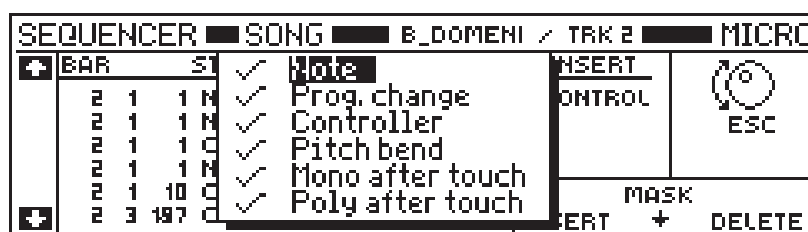
1. Select the event to mask with the Up/Down cursor arrows.

2. Press the Toggle to mask the event, shown by the disappearance of the symbol "√". Press the Toggle again to make the symbol re-appear.

3. Press ENT to confirm the operation or ESC to escape the function.

INSERT   Selects a type of MIDI event to insert. The event selected will be created at the selected song pointer. You can use this function to create Control data otherwise not possible with the keyboard's physical controllers.

Note: you cannot insert events in an "empty" song.
If, for example, you activate Song Edit and access the Microscope without at first recording some events in one or more tracks, the insert option will not allow you to insert the displayed event. An attempt to insert the available event will display the following message:

```
FORBIDDEN
THE SONG IS EMPTY
PLEASE INSERT BAR BEFORE
<ESC> TO CANCEL
```

1. With the Right cursor arrow, select the Insert edit zone.

2. Rotate the Dial to select the required event.

3. Return to the Song pointer.

4. Press INSERT (F6) to execute the event insertion.

5. Modify the event according to your requirements.

DELETE   Cancels the data at the selected song position. The cancellation is immediate without the need to confirm with Enter.

In case you delete data accidentally, restore it with UNDO.

NAME

This function allows you to give your recorded songs a name:

```
┌─┬─────────────────────────┬──────────┐
│+│FILE : B_SONG_3          │    ╭○╮   │
│ │TITLE:█                  │   (  ↻)  │
│ │BY:   :                  │   ╰──╯   │
│+│ED.   :                  │  ENT/ESC │
├─┴─────────────────────────┴──────────┤
│SEQUENCER ■■ SONG:'B_SONG_3 ■■ NAME    │
└───────────────────────────────────────┘
```

In the above display situation, the keyboard activates as an alphanumeric source.

Song mode allows you to specify:

Song File name	here you can enter an abbreviated name - this is the name that will appear in the display and disk files;
Song Title	here you can enter the Song's full title;
By	here you can specify the Song's composer;
Ed	here you can specify the name of the group or body who own the rights of the lyrics and Song.

Use the Up/Down cursor arrows to move from zone to zone.

Song Styles and Programmable Styles allow you to specify the Song File name only.

How to use the keyboard

The letters, the numbers and other symbols are silk-screened under the keyboard and they are entered into the active zone by pressing the relative keys. The flashing cursor moves one step to the right after each entry.

Several functions are provided on the extreme left side of the keyboard.

◆   Press "**Shift**" to write capital letters;

◆   Use "**Space**" to create a space;

◆   Use "**Delete**" to cancel the entry at the flashing cursor position;

◆   Use the arrow "left arrow" (<—) to cancel the last entry;

◆   Use the "back space" (◀) to move the cursor backwards.

◆   Other symbols (apostrophe, comma, etc.) are located on the extreme right side of the keyboard.

A File name consisting of up to 8 characters can be written.

All other name writing zones in Song mode allows up to 24 characters.

Press ENTER to confirm the name.

Press ESC to escape the function and cancel all entries.

UNDO

Undo is of immense importance because it permits you to cancel a recorded sequence, restore portions of a cancelled Song, restore a modified event setting before being modified, etc..

It can be considered as a "note book" that follows you while you work, conserving data that you might not want to throw away.

How to use UNDO

1.   If you want to cancel a recorded track or an event edit, press UNDO.

      The following dialogue window is shown:
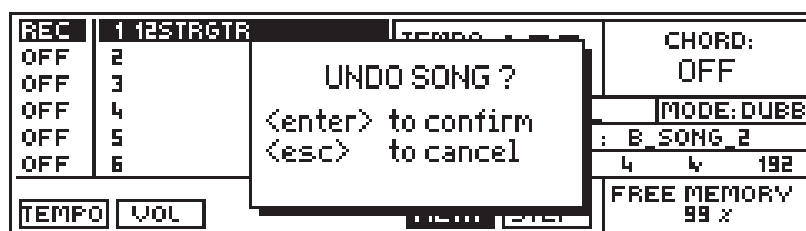
2.   Press ENTER to confirm UNDO or Exit to annul the operation.

3.   If you want to restore the Song cancelled by Undo, or the event modification, press UNDO again.

4.   You can continue "undoing" your last Undo indefinitely, and so use this system as a means of comparing one recorded situation with another.

UNDO and FREE MEMORY

With Undo "on" in Record mode, a memory buffer is activated which acts as a "ghost copy" of the song memory - it occupies the same amount of RAM as the recorded sequence.

You might also find that, while you are recording, you run out of memory, even though the Free memory indicates the availability of RAM.

In such a case, you can deactivate Undo in order to reclaim the "ghost memory" used up by this function.

OPTION

This function gains access to User Program software loaded from floppy disks.

Generalmusic will implement new functions in the future which, not being able to exploit the software of the machine, will require a special software the can be loaded with a User Program.

For the moment, no user programs are available and your display will show the following message when you press OPTION:

```
┌─────────────────────────────────────┬─────────┐
│                                      │         │
│   ▐ OPTION  NOT  LOADED ▌            │ ENT/ESC │
│                                      │         │
└─────────────────────────────────────┴─────────┘
```

Press ESC to escape from the display.

APPENDIX

The WX ROM Drumkits, resident in Banks 2 and 3 of the Drums family, have keymaps which place the various percussion sounds according to GENERAL MIDI Standard, as well as other standards now in common use. This will facilitate the passing of a Song from one instrument to another without laborious remappings. The following tables list the sounds that correspond to each note, shown every octave as the Note name (C2, C3, etc.) as well as the MIDI Note Number (36, 48, etc.). Where applicable, the same percussion sounds with different tunings are shown with H (high), M (middle) and L (low).

WX ROM SOUND MAP (Families)

Piano

WXGrandP*	1-1
BrtPiano	2-1
OctPiano	2-3
ElGrand1	3-1
ElGrand2	3-2
ElGrand3	3-3
Honky	4-1
DetPiano	4-2
Western	4-3
ElPiano1*	5-1
Rhodx†	5-2
ElPiano4*	5-3
ElPiano2*	6-1
ElPiano3	6-2
ElPiano5	6-3
Harpsi1*	7-1
Harpsi2*	7-2
Harpsi3*	7-3
Clavinet	8-1
SynClav	8-2
WowClav	8-3

Chrom Percussion

Celesta	9-1
CelestPlk*	9-2
CeleSynt	9-3
Glocken	10-1
SweepGlk	10-2
SweepPg	10-3
MusicBox	11-1
WineGls1	11-2
WineGls2	11-3
Vibes1*	12-1
Vibes2	12-2
SynVibes	12-3
Marimba1*	13-1
Marimba2	13-2
KissVibe	13-3
Xylophn1*	14-1
Xylophn2*	14-2
XyloPerc	14-3
TubBells*	15-1
SharpBell*	15-2
OohLalaa	15-3
Dulcimer	16-1
BarChime*	16-2
DrunkChs	16-3

Organ

TheatOrg	17-1
Organ1	17-2
Organ2	17-3
JazzOrg1	18-1
JazzOrg2	18-2
JazzOrg3	18-3
RockOrgn	19-1
SynOrg1	19-2
SynOrg2	19-3
PipeOrg1	20-1
PipeOrg3	20-2
Organ3	20-3
PipeOrg2	21-1
Organ4	21-2
Organ5	21-3
Accord1*	22-1
Accord2*	22-2
Accord3*	22-3
Harmon1*	23-1
Harmon2*	23-2
Harmon3*	23-3
Bandneo1	24-1
Bandneo2	24-2
OrganFlo	24-3

Guitar

NylGuit	25-1
SoloGtr	25-2
VocalGtr	25-3
SteelGtr	26-1
12StrGtr	26-2
HawaiGtr	26-3
JazzGtr1	27-1
JazzGtr2	27-2
OctGuit	27-3
ElectrGt	28-1
ChorusGt	28-2
BrightGt	28-3
MuteGtr1*	29-1
MuteGtr2*	29-2
DynGuit†	29-3
OverdGtr	30-1
WhaGtr1	30-2
WhaGtr2	30-3
DistGtr1	31-1
DistGtr2	31-2
HeavyGt	31-3
HarmGtr1	32-1
HarmGtr2	32-2
HarmGtr3	32-3

Bass

AcoBass1	33-1
AcoBass2	33-2
AcoBass3	33-3
ElecBass	34-1
DynBass1†	34-2
FmBass	34-3
PckBass1*	35-1
DynBass2†	35-2
PckBass2	35-3
Fretless	36-1
SynFrtl*	36-2
AcidBas1	36-3
SlapBas1	37-1
DynBass3†	37-2
AcidBas2	37-3
SlapBas2	38-1
WxBass	38-2
StoBass	38-3
SynBas1	39-1
SynBas3	39-2
SynBas5	39-3
SynBas2	40-1
SynBas4	40-2
SynBas6	40-3

String

Violin1*	41-1
Violin2*	41-2
Violin3*	41-3
Viola1	42-1
Viola2	42-2
ViolaPad	42-3
Cello1*	43-1
Cello2*	43-2
Cello3*	43-3
ContrBas*	44-1
ContrWha*	44-2
Staccato	44-3
Tremolo1	45-1
Tremolo2	45-2
SynTrem	45-3
PizzStr1*	46-1
PizzStr2	46-2
EchoPizz*	46-3
Harp	47-1
PulsHarp	47-2
SpaceHar	47-3
Timpani*	48-1
TalkTimp*	48-2
DynOrch†	48-3

Ensemble

Strings1	49-1
StrGlock	49-2
PanGlock	49-3
Strings2	50-1
OrchStrg	50-2
SynStrg	50-3
SynStrg1	51-1
SynStrg3	51-2
SynStrg5	51-3
SynStrg2	52-1
SynStrg4	52-2
Strings3	53-3
Choir	53-1
VoiceUuh	53-2
SlowUuh	53-3
VoiceOoh	54-1
VoiceAah	54-2
SlowAah	54-3
SyntVox1	55-1
SyntVox2	55-2
Vocoder	55-3
OrchHit†	56-1
Symphony	56-2
SymphOrc	56-3

Brass

Trumpet*	57-1
FlugeHor*	57-2
MuteHorn	57-3
Trombon1*	58-1
Trombon2	58-2
WowTromb	58-3
Tuba	59-1
ShorTuba	59-2
WowTuba	59-3
MuteTrp1*	60-1
MuteTrp2	60-2
DynTrump†	60-3
FrenHorn*	61-1
BrassRip*	61-2
BrassTrp	61-3
Brass1	62-1
Brass2	62-2
Brass3	62-3
SynBras1	63-1
SynBras2	63-2
SyntHorn	63-3
TotoHorn	64-1
SlowHorn	64-2
AttkHorn	64-3

Reed

SoprSax*	65-1
SoprSolo*	65-2
SoprFilt*	65-3
SoftSax*	66-1
SoftSolo*	66-2
SoftFilt*	66-3
TenorSax*	67-1
TenSolo*	67-2
TenFilt*	67-3
BaritSax*	68-1
BaritDet	68-2
BaritFilt*	68-3
Oboe*	69-1
OboeSolo*	69-2
OboeFilt*	69-3
EnglHorn*	70-1
EnglSolo	70-2
HornFilt	70-3
Bassoon*	71-1
BassnSol*	71-2
Bassooft*	71-3
Clarinet*	72-1
ClarSolo*	72-2
ClarFilt*	72-3

Pipe

Piccolo	73-1
HardFlt1	73-2
HardFlt2	73-3
Flute*	74-1
DynFlut1†	74-2
DynFlut2†	74-3
Record1	75-1
Record 2	75-2
Bubbler	75-3
PanFlut1*	76-1
PanFlut2	76-2
DynPan†	76-3
Bottle1*	77-1
Bottle2	77-2
Tube*	77-3
Shakuhac	78-1
ShakuPad	78-2
ShakuOoo	78-3
Whistle1*	79-1
Whistle2	79-2
Whistle3	79-3
Ocarina	80-1
OcaPan	80-2
OcaSynth	80-3

Synth Lead

Pulse1	81-1
Pulse2	81-2
Pulse3*	81-3
OBFilter	82-1
Sinus	82-2
Lyle	82-3
Arp26000	83-1
Azimut	83-2
SynLead1	83-3
Chopper	84-1
Digital	84-2
SynLead2	84-3
Jump	85-1
SoundTrk	85-2
Analogic	85-3
FiltRes1	86-1
FiltRes2	86-2
Slope	86-3
Decay1	87-1
Decay2	87-2
Decay3	87-3
OBX1	88-1
OBX2	88-2
OBX3	88-3

Synth Pad

NewAge	89-1
PPG	89-2
Machiner	89-3
WarmPad	90-1
WaveAura	90-2
AnlgPad	90-3
Fantasy1	91-1
Fantasy2	91-2
Fantasy3	91-3
VocBells	92-1
OcBreat	92-2
Angels	92-3
Prophet1	93-1
Prophet2	93-2
Prophet3	93-3
Bright1	94-1
Bright2	94-2
Bright3	94-3
Slave	95-1
Atmosphe	95-2
Airline	95-3
Waiting	96-1
BudWeis	96-2
Tibet	96-3

NOTE: All Sounds marked with an asterisk (*) correspond to "SINGLE OSCILLATOR" Sounds with 32 note polyphony. Drumkits and Sound Patch sounds are marked with a cross (†).

THE WX ROM DRUMKITS

DKStand1

Left labels	Key	Right labels
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty		Empty
	C7	BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triangle Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
		Woodblock Hi
Claves		Guiro Low
Guiro Hi	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		China
CrashHi		Tom Hi
	C3	Grand Timp Hi
HiHat Open1		Tom Med
HiHat Closed 2		Grand Timp Med
HiHat Closed 1		Tom Low
		Grand Timp Low
HouseClap		Snare Drum Rim1
RimShot		Snare Drum 1
	C2	Bass Drum 1
BabyVox		Bass Drum2
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

DKStand2

Left labels	Key	Right labels
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty		Empty
	C7	BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triang Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
		Woodblock Hi
Claves		Guiro Low
Guiro Hi	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		China
CrashHi		Tom Solo
	C3	Tom Solo
HiHat Open 2		Tom Solo
HiHat Pedal		Tom Solo
HiHat Closed 2		Tom Solo
		Tom Solo
HouseClap		SnareDrRim1
RimShot		Concert SnareDr 1
	C2	Bass Drum 1
BabyVox		Bass Drum 1
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

☐ WX2 Extension 61 keys
▒ WX400 Extension 88 keys

WX2
WX400

DKRoom1

Left labels	Key	Right labels
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty	C7	BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triang Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
Claves		Woodblock Hi
Guiro Hi		Guiro Low
	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		China
CrashHi		Tom Solo
	C3	Tom Solo
HiHat Open 1		Tom Solo
HiHat Closed 2		Tom Solo
HiHat Closed 1		Tom Solo
		Tom Solo
HouseClap		Snare Drum Rim 2
RimShot		SnareDrum Rim 1
	C2	Bass Drum 2
BabyVox		Bass Drum 1
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

DKRoom2

Left labels	Key	Right labels
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty	C7	BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triang Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
Claves		Woodblock Hi
Guiro Hi		Guiro Low
	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		China
CrashHi		Tom Solo
	C3	Tom Solo
HiHat Open 2		Tom Solo
HiHat Pedal		Tom Solo
HiHat Closed 2		Grand Timpani
		Grand Timpani
HouseClap		Snare Drum Gate
RimShot		Concert Snare Drum
	C2	Bass Drum Hard
BabyVox		Bass Drum 1
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

DKPower1

Empty
Empty
Empty

Empty
Empty

Door
Vox Tip
Voice 1

Darbuklo
Castanet

Vox HiHat Closed
Triang Short
Quica Hi

Claves
Guiro Hi

Snap 1
Agogo Low
Timbale Low

Conga Hi
Bongos Low

Vibraslap
Cowbell
Tambourine

RideHi
CrashHi

HiHat Open1
HiHat Closed 2
HiHat Closed 1

HouseClap
RimShot

BabyVox
Bass Drum Elec
Scratch1Hi

ZappHi
ZappLow

China

C8	Empty
	Empty
	Empty
	Empty
	Empty
	Empty
	Empty
C7	BabyVox
	Raspyride
	Carhorn
	Vox Tap
	Water
	Drop
	Darbukhi
C6	Barchime
	Celesta
	Triangle Long
	Quica Low
	Woodblock Low
	Woodblock Hi
	Guiro Low
C5	Whistle 1 Low
	Whistle 1 Hi
	Cabasa
	Agogo Hi
	Timbale Hi
	Conga Low
	Conga Accnt
C4	Bongos Hi
	Ride Low
	Crash Low
	Splash
	Ride Cup
	China
	Gated Tom
C3	Gated Tom
	Gated Tom
	Gated Tom
	Gated Tom
	Gated Tom
	Concert SnareDrum
	SnareDrum Gate
C2	Hard Kick
	Bass Drum 2
	RimShot
	Stick
	Scratch1Low
	Kitchen
	ZappMed
C1	Roll
	Crash
A0	Applause

DKPower2

Empty
Empty
Empty

Empty
Empty

Door
Vox Tip
Voice 1

Darbuklo
Castanet

Vox HiHat Closed
Triang Short
Quica Hi

Claves
Guiro Hi

Snap 1
Agogo Low
Timbale Low

Conga Hi
Bongos Low

Vibraslap
Cowbell
Tambourine

RideHi
CrashHi

HiHat Open2
HiHat Pedal
HiHat Closed 2

HouseClap
RimShot

BabyVox
Bass Drum Elec
Scratch1Hi

ZappHi
ZappLow

China

C8	Empty
	Empty
	Empty
	Empty
	Empty
	Empty
	Empty
C7	BabyVox
	Raspyride
	Carhorn
	Vox Tap
	Water
	Drop
	Darbukhi
C6	Barchime
	Celesta
	Triangle Long
	Quica Low
	Woodblock Low
	Woodblock Hi
	Guiro Low
C5	Whistle 1 Low
	Whistle 1 Hi
	Cabasa
	Agogo Hi
	Timbale Hi
	Conga Low
	Conga Accnt
C4	Bongos Hi
	Ride Low
	Crash Low
	Splash
	Ride Cup
	China
	Gated Tom
C3	Gated Tom
	Gated Tom
	Gated Tom
	Gated Tom
	Gated Tom
	Snare Drum Elect 2
	Snare Drum Elect 1
C2	Bass Drum Gate
	Bass Drum 2
	RimShot
	Stick
	Scratch1Low
	Kitchen
	ZappMed
C1	Roll
	Crash
A0	Applause

DKElectric1

Left	Note	Right
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty	C7	Empty
		BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triang Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
Claves		Woodblock Hi
Guiro Hi		Guiro Low
	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		Reverse Cymbal
CrashHi		Synthetic Drum
	C3	Synthetic Drum
HiHat Open 1		Synthetic Drum
HiHat Closed 2		Synthetic Drum
HiHat Closed 1		Synthetic Drum
		Synthetic Drum
HouseClap		Snare Drum Gate
RimShot		Snare Drum Elect 1
	C2	Hard Kick
BabyVox		Bass Drum 1
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

DKElectric2

Left	Note	Right
	C8	Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty	C7	Empty
		BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Drop
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triang Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
Claves		Woodblock Hi
Guiro Hi		Guiro Low
	C5	Whistle 1 Low
Snap 1		Whistle 1 Hi
Agogo Low		Cabasa
Timbale Low		Agogo Hi
		Timbale Hi
Conga Hi		Conga Low
Bongos Low		Conga Accnt
	C4	Bongos Hi
Vibraslap		Ride Low
Cowbell		Crash Low
Tambourine		Splash
		Ride Cup
RideHi		China
CrashHi		Synthetic Drum
	C3	Synthetic Drum
House Ride		Synthetic Drum
House Hat		Synthetic Drum
House Hat		Synthetic Drum
		Synthetic Drum
HouseClap		Synthetic Snare Drum
RimShot		Snare Drum 1
	C2	Bass Drum Electric
BabyVox		Bass Drum 1
Bass Drum Elec		RimShot
Scratch1Hi		Stick
		Scratch1Low
ZappHi		Kitchen
ZappLow		ZappMed
	C1	Roll
China		Crash
	A0	Applause

WX2
WX4

DKHouse1

Note	Left label	Right label
C8		Empty
	Empty	Empty
	Empty	Empty
	Empty	Empty
		Empty
	Empty	Empty
	Empty	Empty
C7		BabyVox
	Door	Raspyride
	Vox Tip	Carhorn
	Voice 1	Vox Tap
		Water
	Darbuklo	Drop
	Castanet	Darbukhi
C6		Barchime
	Vox HiHat Closed	Celesta
	Triang Short	Triangle Long
	Quica Hi	Quica Low
		Woodblock Low
	Claves	Woodblock Hi
	Guiro Hi	Guiro Low
C5		Whistle 1 Low
	Snap 1	Whistle 1 Hi
	Agogo Low	Cabasa
	Timbale Low	Agogo Hi
		Timbale Hi
	Conga Hi	Conga Low
	Bongos Low	Conga Accnt
C4		Bongos Hi
	Vibraslap	Ride Low
	Cowbell	Crash Low
	Tambourine	Splash
		Ride Cup
	RideHi	China
	CrashHi	House Bass Drum
C3		House Bass Drum
	House Ride	House Bass Drum
	House Hat	House Bass Drum
	House Hat	House Bass Drum
		House Bass Drum
	HouseClap	Concert Snare Drum
	Snare Drum Elect 1	House Snare Drum
C2		House Bass Drum
	BabyVox	Bass Drum 2
	Bass Drum Elec	RimShot
	Scratch1Hi	Stick
		Scratch1Low
	ZappHi	Kitchen
	ZappLow	ZappMed
C1		Roll
	China	Crash
A0		Applause

DKHouse2

Note	Left label	Right label
C8		Empty
	Empty	Empty
	Empty	Empty
	Empty	Empty
		Empty
	Empty	Empty
	Empty	Empty
C7		BabyVox
	Door	Raspyride
	Vox Tip	Carhorn
	Voice 1	Vox Tap
		Water
	Darbuklo	Drop
	Castanet	Darbukhi
C6		Barchime
	Vox HiHat Closed	Celesta
	Triang Short	Triangle Long
	Quica Hi	Quica Low
		Woodblock Low
	Claves	Woodblock Hi
	Guiro Hi	Guiro Low
C5		Whistle 1 Low
	Snap 1	Whistle 1 Hi
	Agogo Low	Cabasa
	Timbale Low	Agogo Hi
		Timbale Hi
	Conga Hi	Conga Low
	Bongos Low	Conga Accnt
C4		Bongos Hi
	Vibraslap	Ride Low
	Cowbell	Crash Low
	Tambourine	Splash
		Ride Cup
	RideHi	China
	CrashHi	Synthetic Drum
C3		Synthetic Drum
	HiHat Open 1	Synthetic Drum
	HiHat Closed 2	Synthetic Drum
	HiHat Closed 1	Synthetic Drum
		Synthetic Drum
	HouseClap	Snare Drum Rim 1
	RimShot	Snare Drum Brush 2
C2		Bass Drum Electric
	BabyVox	Bass Drum 1
	Bass Drum Elec	RimShot
	Scratch1Hi	Stick
		Scratch1Low
	ZappHi	Kitchen
	ZappLow	ZappMed
C1		Roll
	China	Crash
A0		Applause

DKJazz

Left of keyboard	Right of keyboard	Octave
	Empty	C8
Empty	Empty	
Empty	Empty	
Empty	Empty	
	Empty	
Empty	Empty	
Empty	Empty	
	BabyVox	C7
Door	Raspyride	
Vox Tip	Carhorn	
Voice 1	Vox Tap	
	Water	
Darbuklo	Drop	
Castanet	Darbukhi	
	Barchime	C6
Vox HiHat Closed	Celesta	
Triang Short	Triangle Long	
Quica Hi	Quica Low	
	Woodblock Low	
	Woodblock Hi	
Claves	Guiro Low	
Guiro Hi	Whistle 1 Low	C5
	Whistle 1 Hi	
Snap 1	Cabasa	
Agogo Low	Agogo Hi	
Timbale Low	Timbale Hi	
	Conga Low	
Conga Hi	Conga Accnt	
Bongos Low	Bongos Hi	C4
	Ride Low	
Vibraslap	Crash Low	
Cowbell	Splash	
Tambourine	Ride Cup	
	China	
RideHi	Tom	
CrashHi	Grand Timpani	C3
	Tom	
HiHat Open 2	Grand Timpani	
HiHat Pedal	Tom	
HiHat Closed 2	Grand Timpani	
	Snare Drum Brush 2	
HouseClap	Snare Drum Brush 1	
RimShot	Bass Drum Jazz	C2
	Bass Drum2	
BabyVox	RimShot	
Bass Drum Elec	Stick	
Scratch1Hi	Scratch1Low	
	Kitchen	
ZappHi	ZappMed	
ZappLow	Roll	C1
	Crash	
China	Applause	A0

DKM1

Left of keyboard	Right of keyboard	Octave
	Empty	C8
Empty	Empty	
Empty	Empty	
Empty	Empty	
	Empty	
Empty	Empty	
Empty	Empty	
	Empty	C7
	Empty	
Empty	Empty	
Empty	Empty	
Empty	Empty	
	Empty	
Empty	Empty	
Empty	Empty	C6
Roll	Concert Snare Drum	
Raspy Ride	Snare Drum Rim 2	
Niose Percussion	Door	
	Noise Percussion	
Timbales	Triangle Long	
Timbales	Triangle Short	
	Conga	C5
	Conga	
Darbukhi	Darbuklo	
Bongos	Bongos	
House Clap	Vox Hi Hat Closed	
	Cabasa	
Ride Cup	Ride	
China	Crash	C4
	House Hat	
Tambourine	Hi Hat Open 1	
House Ride	Hi Hat Pedal	
House Hat	Hi Hat Closed 1	
	Tom	
Gated Tom	Tom	
Gated Tom	Tom	C3
	Snare Drum Gate	
RimShot	Snare Drum Electric 1	
House Snare Drum	Snare Drum Rim 1	
Snare Drum 1	Snare Drum 2	
	Bass Drum Gate	
House Bass Drum	Bass Drum Electric	
Bass Drum Hard	Bass Drum 1	C2
	Empty	
Empty	Empty	
Empty	Empty	
Empty	Empty	
	Empty	
Empty	Empty	
Empty	Empty	C1
	Empty	
Empty	Empty	A0

DKBrush

	C8 — Empty
Empty	Empty
Empty	Empty
Empty	Empty
	Empty
Empty	Empty
Empty	Empty
	C7 — BabyVox
Door	Raspyride
Vox Tip	Carhorn
Voice 1	Vox Tap
	Water
Darbuklo	Drop
Castanet	Darbukhi
	C6 — Barchime
Vox HiHat Closed	Celesta
Triang Short	Triangle Long
Quica Hi	Quica Low
	Woodblock Low
Claves	Woodblock Hi
Guiro Hi	Guiro Low
	C5 — Whistle 1 Low
Snap 1	Whistle 1 Hi
Agogo Low	Cabasa
Timbale Low	Agogo Hi
	Timbale Hi
Conga Hi	Conga Low
Bongos Low	Conga Accnt
	C4 — Bongos Hi
Vibraslap	Ride Low
Cowbell	Crash Low
Tambourine	Splash
	Ride Cup
RideHi	China
CrashHi	Tom
	C3 — Grand Timpani
HiHat Open 1	Tom
HiHat Closed 2	Grand Timpani
HiHat Closed 1	Tom
	Grand Timpani
Snare Drum Brush 1	Brush Long
RimShot	Brush
	C2 — Bass Drum 1
BabyVox	Bass Drum2
Bass Drum Elec	RimShot
Scratch1Hi	Stick
	Scratch1Low
ZappHi	Kitchen
ZappLow	ZappMed
	C1 — Roll
China	Crash
	A0 — Applause

DKSY77

	C8 — Empty
Empty	Empty
Empty	Empty
Empty	Empty
	Empty
Empty	Empty
Empty	Empty
	C7 — Empty
Voice 1	Voice 1
Voice 1	Voice 1
Voice 1	Voice 1
	Voice 1
Voice 1	Voice 1
Voice 1	Voice 1
	C6 — Voice 1
Voice 1	Voice 1
Voice 1	Voice 1
Voice 1	Voice 1
	Voice 1
Voice 1	Voice 1
Vibraslap	Voice 1
	C5 — Bottle 1
Darbukhi	Bottle 1
Kitchen	Darbuklo
Tubular Bells	Kitchen
	Tubular Bells
Ride Cup	Tubular Bells
Roll	Ride
	C4 — Crash
Tambourine	Hi Hat Open 1
Cabasa	Hi Hat Closed 1
House Clap	Cow Bell
	Gated Tom
RimShot	Snare Drum Electric 1
Snare Drum Rim 1	Gated Tom
	C3 — Gated Tom
Snare Drum 2	Gated Tom
House Bass Drum	Bass Drum 2
Tom	Tom
	Tom
Bass Drum Gate	Tom
Bass Drum Hard	Bass Drum Electric
	C2 — Bass Drum 1
Empty	Empty
Empty	Empty
Empty	Empty
	Empty
Empty	Empty
Empty	Empty
	C1 — Empty
Empty	Empty
	A0 — Empty

DKOrch

Left labels	Key	Right labels
	C8	Empty
		Empty
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty	C7	BabyVox
Door		Raspyride
Vox Tip		Carhorn
Voice 1		Vox Tap
		Water
Darbuklo		Applause
Castanet		Darbukhi
	C6	Barchime
Vox HiHat Closed		Celesta
Triangle Short		Triangle Long
Quica Hi		Quica Low
		Woodblock Low
		Woodblock Hi
Claves		Guiro Low
Guiro Hi	C5	Whistle 1 Low
		Whistle 1 Hi
Snap 1		Cabasa
Agogo Low		Agogo Hi
Timbale Low		Timbale Hi
		Conga Low
Conga Hi		Conga Accnt
Bongos Low	C4	Bongos Hi
		Ride Low
Vibraslap		Crash Low
Cowbell		Splash
Tambourine		Timpani
		Timpani
Timpani		Timpani
Timpani	C3	Timpani
		Timpani
Timpani		Timpani
Timpani		Timpani
Timpani		Timpani
		Snare Drum Rim1
Castanet		Snare Drum Rim1
RimShot	C2	Timpani
		Bass Drum2
BabyVox		RimShot
Bass Drum Elec		Stick
Scratch1Hi		Scratch1Low
		Kitchen
ZappHi		ZappMed
ZappLow	C1	Roll
		Crash
China	A0	Applause

DKWS2

Left labels	Key	Right labels
	C8	
	C7	DollyVox
Vox Tap		Carhorn
Vox HiHat Closed2		Vox Tip
Vox HiHat Closed1		Voice 2 Hi
		Voice 2 Low
Voice 1		Voice 3
Noise Perc		House Side Drum
	C6	House Bass Drum
		Whistle 1
Triangle Long		Agogo
Timbale Low		Timbale Hi
Quica Low		Guiro
		Conga Low
Conga Accent		Conga Slap
Bongo Low	C5	Bongo Hi
		Snap 1
China		Vibraslap
Crash		Gated Tom Low
Splash		Gated Tom Med
		Gated Tom Hi
Ride Cup		Snare Drum 2
Ride	C4	Bass Drum 1
		House Clap
HiHat Open		Woodblock
HiHat Pedal		Tom Low
HiHat Closed1		Tom Med
		Tom Hi
Brush		Snare Drum Brush1
Brush Long	C3	Bass Drum Jazz
		Rimshot
Cowbell		Tom Solo Low
Tambourine		Tom Solo Med2
Cabasa		Tom Solo Med1
		Tom Solo Hi
Snare Drum Rim2		SnareDr Elet1
SnareDr Elet2	C2	Bass Drum Gate
Empty		Empty
Empty		Empty
Empty		Empty
		Empty
Empty		Empty
Empty		Empty
	C1	Empty
		Empty
Empty	A0	Empty

PERCUSSION SAMPLES

This Table lists the note or notes that provide the most optimum timbres of the percussion Samples memorised in ROM.

Each Percussion Sample was sampled on a definite note, and on that particular note, the percussion sound will appear to sound more realistic. As you move away from the sample note, the Sample will assume different characteristics and the quality will gradually decay.

The use of some Samples on different notes can be useful in cases where certain instruments, such as Toms and Cymbals, require tuning, or with percussion sounds of synthetic origin (Door, Logdrum, Noise_Perc and others).

In a Drumkit, Samples are transposed until they arrive at the optimum Sample note, or the most suitable note to obtain a particular effect.

Timpani	E4	Bass_Drum2	C4
Whistle_1	E4	Woodblock	C4
Drop	G4	Claves	C4
Water	E4	Fingersnap	E5
Voice_1	E4	Stick	E4
Voice_2	E4	Snr_Drum1	E5
Voice_3	E4	Snr_Drum2	E5
Vox_HH_Cl	E5	Sdrum_Rim1	C5
Vox_Tap	C4	Sdrum_Rim2	E5
Vox_Tip	C4	Concert_Sd	B4
Car_Horn	C4	Rimshot	C4
Door	G4	Snare_El_1	G4
Raspy_Ride	G4	Snare_El_2	G4
Baby_Vox	E4	Sd_Brush_1	E4
Dolly_Vox	C4	Sd_Brush_2	E4
Kitchen	E4	Brush_Long	C4
Logdrum	C4	Brush	C5
Noise_Perc	C5	Roll	E4
Agogo	G4-C5	SynthSnare	E4
Conga_Acc	E4	Tom	E4
Conga	C4	Gated_Tom	G4
Conga_Slap	E4	Tom_Room	E4
Cowbell	G4	HouseBdrum	C4
Bongos	G4-C5	HouseSdrum	E4
Darbuka_Hi	E4	House_Hhat	E5
DarbukaLow	C4	House_Ride	E5
Guiro	E4	House_Clap	C4
Quica_High)	C4	Hh_Closed1	E5
Quica_Low	C4	Hh_Open_1	E5
Vibraslap	E4	Hh_Closed_2	E5
Castanets	E4	Hh_Open_2	E5
Tambourine	C5	Hh_Pedal	E5
Timbales	E4	Ride	E5
Cabasa	E5	Ride_Cup	E5
Bdrum_Elet	B4	Crash	E5
Bdrum_Gate	E4	China	E5
Bdrum_Hard	E4	Splash	E5
Bdrum_Jazz	E4	Trian_Long	E5
Bass_Drum1	E4	TrianShort	E5

MIDI Implementation Chart

MANUFACTURER:
Generalmusic Spa

MODEL: WX2/WX400

DATE: 15/09/1993
Version 1.00

FUNCTION		Transmitted	Recognised	Remarks
Basic Channel	Default Changed	1-16 1-16	1-16 1-16	1 MIDI IN, 1 THRU, 2 OUT EXTRA COMMON CHANNEL
Mode	Default Messages Altered	Mode 3 X **********	Mode 3 X X	
Note Number	True Voice	0-127 **********	0-127	
Velocity	Note ON Note OFF	O O	O O	true voice depends on selected sound
After Touch	Key's Ch	X O	O O	
Pitch Bender		O	O	
Control Change		0 Bank Change 1 Modulation 4 Foot Controller 7 Volume 10 Pan 11 Expression controller 12 Attack time 13 Release time 14 Filter 1 cutoff freq. 15 Filter 2 cutoff freq. 20 Filter 1+2 cutoff freq. 64 Damper pedal 66 Sostenuto 67 Soft pedal	0 Bank Change 1 Modulation 4 Foot Controller 7 Volume 10 Pan 11 Expression controller 12 Attack time 13 Release time 14 Filter 1 cutoff freq. 15 Filter 2 cutoff freq. 20 Filter 1+2 cutoff freq. 64 Damper pedal 66 Sostenuto 67 Soft pedal 70† Start/Stop 71† Var/Cont 72† Intro/End 73† Fill/Tap 74† Rec 75† << 76† >> 77† Punch 78† Manual Perf 79† Sync 80† Tempo-Fix 90† Rotary Slow/Fast	Bank change recognised on common channel: Bank P.Change 00† 0-23 Real Time Perf 00† 24-31 Songs 00† 32-63 Prog. Styles 00† 64-127 Int. Styles 08† 0-23 Real Time Perf 16† 0-7 Songs 24† 0-7 Song Perf 32† 0-31 Int. Styles 32† 32-95 Prog. Styles 48† 0-23 Effect 1 select 49† 0-23 Effect 2 select
Program Change	True Number	0-127 **********	0-127	On common channel change: 0-23 Real Time Perf 24-31 Songs 32-63 Prog. Styles 64-127 Int. Styles
System Exclusive		O	O	
System Common	Song Position Song Select Tune	O X X	X X X	
System Real Time	Clock Commands	O O	O O	
Aux Messages	Local On/Off All notes Off Active Sensing Reset	X O O X	X O O X	
NOTES		†: This information travels on the Common channel only		

O: Yes   X: No

Owner's Manual

Appendix

MIDI CONTROLLERS

WX recognises the MIDI Controllers shown below. Those listed from 00 to 67 are transmitted and received on all MIDI Channels, while those from 70 to 90 are transmitted on MIDI Common only.

The data from 00 - 15 are continuous controls which affect parameters for the duration that the controllers are applied. The data from 64 - 67 and 90 are "switch" controls which remain active until they are switched off by the same Controller.

Modulation (01) is also generated by the Track Ball using Up/Down movements.

Main Volume (07) is generated by the Master Volume slider and only travels on MIDI Common.

Pitch Bend data is generated by the Track Ball using Left/Right movements.

(00)   Bank Select†
(01)   Modulation
(04)   Foot controller
(07)   Main volume†
(10)   Panorama
(11)   Expression
(12)   Attack GEM
(13)   Release GEM
(14)   Filter 1 GEM
(15)   Filter 2 GEM
(20)   Filter 1+2 GEM
(64)   Damper
(66)   Sostenuto
(67)   Soft pedal

The following are not, transmitted,

only recevied on MIDI Common

(70)   Start/Stop††
(71)   Var/Cont††
(72)   Intro/End††
(73)   Fill/Tap††
(74   Rec†
(75)   <<††
(76)   >>††
(77)   Punch††
(78)   Man. Perf.††
(79)   Sync††
(80)   Tempo fix††
(90)   Rotary Slow/Fast††

WX SPECIFICATIONS

Keyboard
WX2 - 61 Keys (C2-C7)

WX400 - 88 Weighted Keys (A0 - C8)

Both with Dynamics and Aftertouch sensitivity (channel)

Sound Generation method PCM, Wavetables, Multiloop, Crossfade Multiwave and Subtractive Synthesis

Polyphony
32 Notes, 32 Oscillators (single mode); 16 Notes, 32 Oscillators (double mode)

Memory
6 Megabytes ROM, 256 KByte Static RAM (Ni/Cd battery-backed)

2 Megabyte RAM DISP (optional) for PCM Samples

Effects
Two digital multi-effects processors with Effects editor for custom effects

Sounds
472 ROM Sounds arranged in 16 Families (344 Sounds, 112 Percussion sounds, 16 Drumkits), up to 1472 user-programmable Performance Sounds and 184 user-programmable Performance Drumkits

48 additional PCM Samples with optional Sample RAM DISP

Performances
184 Performances (24 Real-Time in 3 Banks, 64 Internal Style in 8 Banks, 32 Programmable Style in 4 Banks, 64 Song/Song Style in 8 Banks)

Sequencer section
16 Tracks, 16 timbres (dynamic voice allocation),1/192 quarter note resolution, 250,000 events, 8 Songs, 64 Internal Styles + Variation, 32 Programmable Styles + Variation, Background Song Loading, Realtime and Step record modes, full Event Edit facilities (Master Track, Copy, Move, Erase, Insert/Delete, Transpose/Dynamic, Quantize, Microscope, Name, Undo)

Style/Sequencer controls
Start/Stop, Intro/End, Fill/Tap, Var/Cont, REC, >> (fast forward); << (fast rewind), Tempo-Fix, Sync

Score
Possibility of displaying Melody-Chords-Lyrics, Chords only, Lyrics only (Zoom edit), Get from Track function

Panel controls
Master Volume slider, Dial, Function Keys (F1…F8), Cursor Diamond (Up/Down/Left/Right arrows) with Toggle (On/Off key), Track Ball (Modulation and Pitch Bend)

Display
Graphic, Liquid Crystal, neon-backlit, 240x64 pixel resolution, Contrast control

Edit section
Disk, Performance, Sound, Mixer, Effect 1/2, MIDI, Status, Splits, Arrange, Clock

Floppy Disk Drive
3.5" 2DD/2HD Disk/SRam operations (for Sound/Drumkit/Effects/Performance parameters/Sequence data/MIDI data, and for Standard MIDI Files), Load User program, Preload, Load WS songs (WS SOFTWARE COMPATIBLE)

Miscellaneous
Backlit panel keys, resident Demo Song, Option facility for use with User Programs

Connections
Volume Pedal (fixed), Damper Pedal, Pedal 1, Pedal 2 (all programmable and polarity reversible), Audio In Left-Right/Mono (mic-line), Output Left/Right, External Send/Return, MIDI (In, Thru, Out 1 - Out 2), Pedalboard, Headphones, Video Out (RGB/TV)

Amplification
WX2: 20W+20W Stereo

WX400: 40W+40W Stereo, 3 way, 6 Speakers

Dimensions
WX2: (HxLxW) 120x1090x370 mm - 4.7x42.9x14.5 inches

WX400: (HxLxW) 842x1440x470 mm - 33.2x56.7x18.5 inches

Weight
WX2: 13 kg (28.6 lbs)

WX400: 76 kg (167.5 lbs)

GLOSSARY

After Touch: MIDI message activated by applying pressure after a note on event. Its action is graduated (128 steps), and is directly proportional to the pressure applied. WX generates Mono Aftertouch - pressing a note affects all notes of the same MIDI channel.

Bypass: To ignore, "go around".

Common: *See* MIDI Common.

Controllers: Sound controlling devices (Wheels, Pedals, Function Controllers).

Cutoff Frequency: Central Frequency of the intervention band of a Filter. Around the vicinity of the Cutoff Frequency, the action of a Filter gradually becomes less marked, creating a "bell" in the audio band.

Destination: Refers to all that to which a MIDI message generated by a Track can be directed. WX can direct MIDI messages to the internal Sound Generation, to MIDI Out and to the Sequencer.

Dial: The Data Entry wheel to the right of the Display. Increases or decreases Data value by large amounts (continuously). Also used to move the reverse-highlighted Edit zone in almost all applications.

Dynamics: MIDI message always coupled to the activation of a note. Dynamics controls the sound's intensity, proportionally to the keystrike velocity.

Directory: "Catalogue" of the contents of a floppy disk. WX allows you to see the directory of a disk inserted in the driver, the data contained in the RAM or SRam.

Display: The "small" Liquid Crystal Display incorporated in the front panel of WX. The Display permits you monitor all information relating to the instrument's means of control (sound generation, commands, connections). Its high resolution permits you to communicate with the musical instrument through pages rich with graphics which are easily understood.

Disk Drive: Device that "reads" a floppy disk. The disk drive is built-in and has a capacity of 1.44 Megabytes. It uses 3.5" HD and 3.5" DD disks (the latter in MS-DOS format for Standard MIDI Files).

Drum Kit: Refers to the layout of the percussion sounds across the keyboard. A Drum Kit permits you to use only one Track for all the drum sounds, or for a part of them. Each note of the scale corresponds to a percussion instrument sound. The WX Drum Kits can be freely user-configured, by means of the Sound Patch. A series of Drum Kits are available as ROM Sounds.

DSP: (Digital Signal Processor). An integrated circuit contained in WX which modifies the sound produced by the Oscillators, adding Reverb, Delay/Echo, and Modulations. Many different types of DSP units are commercially available, also known as *Multi Effects units.*

Edit: Modify. Refers to the entire Operating System of the WX User Interface, and includes Edit Performance, Edit Sound, Edit Sequencer, Edit Effect, and others.

Envelope: Term that graphically represents the change in the characteristics and quality of a Sound with time.

Erase: Cancel, Eliminate. A command found within the Disk, Edit Performance and Edit Sequencer environments. Destroys a set of data permanently (a Disk file, a Track, a part of a Song).

Floppy Disk: A magnetic Data support. It consists of a disk, protected by a plastic container, in which data can be memorised - as in any other computer - in numeric form. The data can be created, restored, cancelled or updated at any moment.

Headphones: Set of Stereo sound propagating devices that can be used for private listening. These are connected to WX by means of the appropriate socket located underneath the Trackball panel.

Load: A command found in the Disk environment. Copies data from a floppy disk into the Ram, and becomes available to be modified or used for other purposes (a Song, a Style, a Standard MIDI File, a User Program...).

Loop: Cyclic repetition. A function found in the Edit Sequencer environment, to repeat a specified number of bars of a Song.

Master Keyboard: A controlling device (keyboard). Usually, a MK is a generator of MIDI events, incapable of generating Sounds. It is connected to the MIDI IN port of an external Sound generating device (an Expander), or another MIDI compatible musical instrument. The Master Keyboard's utility is its capacity of supplying advanced control functions, centralised in a single system of controllers. WX can also operate as an advanced Master Keyboard, with functions such as Split, Merge and the generation of the MIDI Controllers. WX400 is also supplied with a larger keyboard (88 keys).

Menu: List of items. In Edit situations, you can access single functions or proceed to others from a list (menu) of different items, by moving the reverse-highlighted zone with the Dial.

Merge: The act of "fusing" events together, use in Edit Sequencer to "mix" recorded events from one track with those in another track. *See also* MIDI Merge.

Microscope: Refers to a particular function of the WX Sequencer, in which every recorded MIDI event can be individually modified in terms of Song position as well as value.

MIDI: (Musical Instrument Digital Interface). A system of communication between different digital musical instruments. MIDI is based on the connection via three types of ports: IN, OUT, THRU. The MIDI system renders all electronic digital instruments completely programmable at a distance (e.g. from a computer).

The MIDI data provides the receiving instrument with all information necessary to produce sounds.

MIDI Common: A programmed MIDI channel to, (1) simulate the WX keyboard on a connected Master Keyboard, (2) send control messages (Bank change, Performance change, Style Change, Effect Change...) from an WX-Series instrument to another instrument of the same series.

MIDI Controllers: MIDI messages which transmit information relating to performance parameters (Modulation, Main Volume, Damper Pedal...).

MIDI Merge: The function which "mixes" MIDI signals originating from different Sources, sent by the WX MIDI processor to the MIDI OUT. In cases relating to signals arriving from a MIDI In Source, the MIDI processor acts as a redirecting device, given that a MIDI signal is usually directed to the MIDI THRU and not MIDI OUT.

MIOS: (Musical Instrument Operating System). Refers to the WX Operating System, that is, the program that

makes the instrument work. MIOS is resident in ROM and cannot be modified, but it can be expanded by means of User Programs.

Modulation: Dynamic modification over time. Modulation can affect Amplitude (Tremolo), Pitch (Vibrato) and the Filter. It is activated by the TrackBall using Up/Down movements or by a MIDI message.

Move: A function of the Edit Sequencer environment, allowing you to move recorded events from one position to another.

Operating System: This is the programme – called MIOS – which makes WX work. It is resident in ROM and cannot be modified; it is, however, expandable by means of User Programs.

Option: A space predisposed for the User Programs.

Oscillator: The chip which produces the sound. WX utilises one or two oscillators per polyphonic voice. The oscillator reads a Waveform resident in the sound, which can be modified with the Sound Edit parameters.

Pan: Abbreviation for Panorama. The Pan is the position of the Sound between two Stereo audio outputs.

Pedal: Programmable continuous physical controlling devices that can be connected to the appropriate sockets on the back panel of WX.

Performance: The configuration of Tracks and all memorised parameter settings that, when selected, configure the instrument automatically for any playing mode (Real Time, Style or Song modes).

Pitch: Intonation, frequency.

Pitch Bend: Dynamic modification of the intonation. It is activated by the TrackBall (left/right movements) or by a MIDI Message.

Playback: The term that describes the Sequencer's capability of reproducing a Song. Also the name given to the display which is seen when you press the Song button in the Edit section.

Preload: "Background" Song loading while the Sequencer in playing another Song (the machine is not blocked by Preload).

Program Change: A MIDI Message which changes the Sound in a Track. The Program Change can be sent by the Data Entry section to the Internal Sound Generation, or sent via MIDI OUT to an external musical instrument. It can also be recorded in a Song.

Quantize: Correction of imperfect timing errors committed during Song recordings (including Rhythm patterns).

RAM: (Random Access Memory). A part of the WX Memory which can be updated and in which new data can be loaded. WX is provided with 2 Megabytes of RAM dedicated to all user-programmed data (Styles, Songs, Performances, Sounds, etc.). An optional 2 Megabytes of Sample RAM are available for the specific purpose of storing Samples loaded from Disk as well as user-programmed ones. RAM is cancelled when the instrument is turned off.

RGB: (Red, Green, Blue) The signal emitted by the output of the same name and generated by WX for the purpose of projecting the display images and Song lyrics to an external monitor (a colour computer or domestic TV).

ROM: (Read Only Memory). A part of the WX memory which cannot be modified, and in which factory programmed data is conserved, such as the 472 ROM Sounds and the Operating System MIOS. ROM memory is not cancelled when the instrument is switched off.

Sample: Refers to a portion of the sound recorded in numeric form. In WX it is also called the Waveform. The WX Sounds have a waveform "header" which can be edited with the Sound Edit parameters.

Save: Memorise. This is a command found in the Disk environment as well as the Normal (Save Performance). Save renders all the modifications carried out to particular data permanent, or renders a set of data available for future use. The same command is also used to create a Standard MIDI File for use by other equipment capable of reading Sequencer data generated by the WX sequencer.

Scart: The connector through which a domestic TV or colour computer monitor can receive the WX display data, including the Lyrics and Music Score of the WX Songs.

Score: The WX function which permits you to see the Lyrics and Music Score across the display. WX can also transmit the data to an externally connected domestic TV or colour computer monitor, both fitted with the SCART connector.

Search: The function found in the Sound Library which permits you to "look for" a Sound by specifying two or more letters that are contained in the Sounds name.

Sequencer: A system of recording MIDI data. The Sequencer permits you to record a polyphonic song sound by sound, and so reproduce the song after carrying out any necessary corrections. The quality of a recording made with a Sequencer is maintained and does not decay, even after recording a large quantity of data and after many recordings: the Sequencer does not record sound, it records MIDI data.

Song: A piece of music, recorded or reproduced (played back) by the Sequencer. WX can store 8 Songs in RAM, each one with its own Bank of 8 Performances.

Sound: In WX, the Sound is the final part of the Sample (Waveform) on which modifications of the Envelopes, Filters, Pan, etc. have been performed, in order to render the sound musically useful.

The Sounds are controlled by the Sound Library. 472 Sounds are in ROM, other Samples can be loaded from floppy disk, provided that WX is fitted with the optional Sample RAM.

Sound Map: The configuration of the Sound in the Sound Library. Each Sound corresponds to a Program Change.

Sound Patch: A layout of different sounds for each key, or two different sounds separated by a dynamic threshold. In the first case, sounds are assigned to various zones of the keyboard (maximum of 128 zones) and a typical use is a Drumkit. In the second case, two different Sounds can be assigned on two different dynamic levels, so that the second sound is triggered by varying the velocity (dynamics) with which a note is struck.

Source: A provider of MIDI events that can be directed to the WX Tracks. The sources of MIDI events are; the keyboard (local), the MIDI In and the Sequencer.

Static RAM: The part of WX memory which is backed by a small Nickel/Cadmium rechargeable battery and which can contain user-programmed data that re-

quires frequent use. Each time the WX is turned on, the SRam data is automatically loaded into RAM for immediate use. The battery recharging takes place when the instrument is on.

Store: Memorise. A command associated to the Edit Sound and Edit Effects environments which store the user-programmed elements in the current Performance.

Track: A multitimbric part of a Song. A Track has its own programming and timbric characteristics. In WX, the Track is also the "elaborating centre" for MIDI data originating from the Sources (keyboard, MIDI In, Sequencer): this data is then redistributed to the destinations (internal Sound Generation, MIDI Out and Sequencer).

TrackBall: The physical controller on the extreme left of the WX control panel which is permanently programmed for Modulation and Pitch Bend. Modulation is produced by Up/Down movements and Pitch Bend by left/right movements. Each track of every Performance can be individually programmed for TrackBall interventions.

Transpose: The change in pitch of a note with respect to a standard value. Transpositions of the entire keyboard above or below a note can be effected in the Status Edit, or individual Track transpositions can be carried out within the Edit Performance environment. The Key Transpose can be enabled or disabled for each Track. The Edit Sequencer also has the Transpose function to shift events from one note to another.

Tweak: A term that describes the slight modification of one or more of a Sound's parameters. You can tweak a sound in real time, for example, using the programmable pedals to which the Edit Sound parameters have been assigned (Filter, Attack, Release, etc.).

User Interface: All that which appears within the Display. The means with which the user communicates with the musical instrument - that is, the availability of information relating to the status of the data - and in general with all computers. The WX User Interface is a graphic system of superimposable windows containing parameters in graphical and text form.

Undo: Annul. A command available within the Edit Sequencer environment that cancels the last recording. Undo can also cancel an undo operation, restoring an annulled track to its original status.

User: Generally, this term indicates all that can be programmed by the operator.

User Programs: software programs that are loaded into the WX from a disk. These types of programs expand the WX Operating System and are commercially available through the normal Generalmusic channels of distribution. They are produced both by Generalmusic as well as external developers.

Waveform: In WX the Waveform is always the Sample; a portion of the sound recorded in numerical form and incorporated in the sound's "header". The Edit Sound parameters intervene on the Sample "header" of the Sounds.

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