

# **MS100**

## **OWNER'S MANUAL**

**SOLTON**  
— by KETRON lab —

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# 1. SAFETY INSTRUCTIONS

## SAFETY PRECAUTIONS AND INSTRUCTIONS



### EXPLANATION OF GRAPHIC SYMBOLS:



The arrowheaded lightning flash symbol, inside an equilateral triangle, is intended to alert the user to the presence of “dangerous voltages” inside the product. They may be of sufficient level to constitute a risk of electric shock to persons coming into contact with these.



The exclamation mark inside an equilateral triangle indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

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



**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.



### - EARTHING (GROUNDING) INSTRUCTIONS -

This product must be earthed (grounded). If it should function badly or breakdown, earthing (grounding) provides the lowest resistance path to reduce the risk of electric shock. This product is supplied with a mains lead (power cord) containing an equipment-earthing (grounding) conductor and an earthing (grounding) plug (for Great Britain see the special instructions at the top of page 1.3). The plug must be inserted into an appropriate AC voltage wall socket that is properly installed and earthed (grounded) in accordance with all local safety rules and regulations.

**DANGER** - Improper connection of the equipment earthing (grounding) conductor can result in a risk of electric shock. Check with a qualified electrician if you have any doubts as to whether the product is properly earthed (grounded) or not.



## IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

**WARNING** - When using electrical products, basic precautions must be followed, including the following:

1. Read all the instructions before using the product and refer to the instructions on pages 1.1, 1.2, 1.3 and 1.4 to ensure a correct and safe installation.
2. When the instrument is used by children, supervision by an adult is advised.
3. Do not use the instrument near water, for example near a bath tub, washbowl, kitchen sink, or near a swimming pool etc., or in a wet or damp basement.
4. The instrument should only be used with the support approved by the manufacturer.
5. This instrument, when connected to an external amplifier and headphones or speakers, is capable of producing sound levels that can cause damage to hearing. Do not operate it for a long period of time at high volume levels or in any case at an uncomfortable volume level.
6. The instrument should be placed in a position that will provide adequate ventilation.
7. The instrument should never be positioned in direct sunlight and should always be kept away from heat sources such as radiators, heaters or other products that produce heat.
8. Do not use the instrument in extremely hot or damp locations or in dusty or dirty conditions.
9. Do not position the instrument where excessive vibrations can occur.
10. This instrument should only be connected to an AC power supply of the voltage corresponding to that shown on the label on the instrument. This label, containing all electrical data, relevant warning messages and the instrument identification data, can be found on the underside of the instrument.
11. This product may be equipped with a polarized plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the wall socket, contact an electrician to replace your obsolete wall socket. Do not defeat the safety purpose of the plug.
12. The instrument should be connected to the AC power supply only with the mains lead (power cord) supplied.
13. The mains lead (power cord) should be unplugged from the wall socket when the instrument is not used for long periods. Do not pull the mains lead (power cord) but hold the plug when unplugging.
14. Follow the procedure outlined in this manual when setting up this instrument with other equipment.
15. Care should be taken to avoid foreign objects falling into or liquid being spilt into the inside of the instrument through any of the slots or openings in the case.
16. This instrument should be referred to an approved service centre when:
  - a. The mains lead (power cord) or plug has been damaged.
  - b. Objects have fallen into the instrument or liquid has been spilt into or over it.
  - c. It has been exposed to rain.
  - d. It appears to operate incorrectly or shows a marked change in performance.
  - e. It has been dropped or if the case has been damaged.
17. Never attempt to repair the instrument yourself. Any operation should be referred to authorized personnel, otherwise the guarantee will be declared void.
18. **WARNING** - Do not place objects on the product's mains lead (power cord) or place the lead (cable) in a position where anyone could trip over, walk on or roll something over it. Do not allow the product, its bench, pedalboard or control pedals to rest on or to be installed over mains leads (power cords) of any type. Improper installations of this type create the possibility of fire hazard and/or personal injury.

**SAVE THESE INSTRUCTIONS**



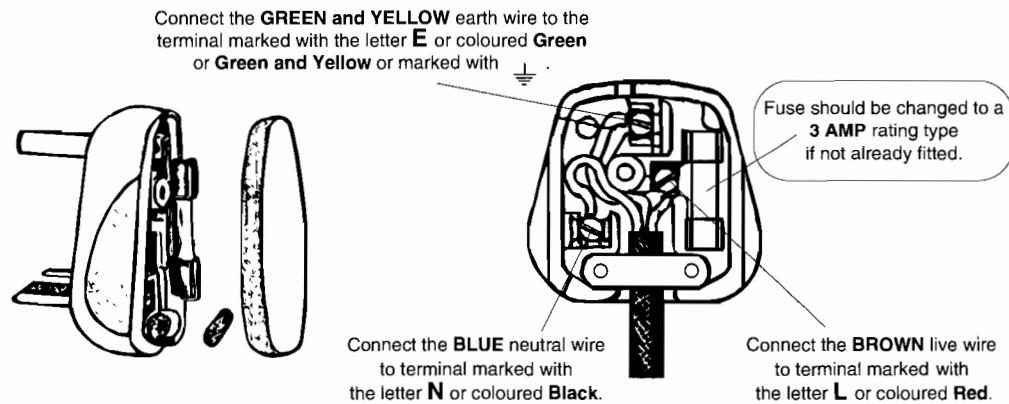
## SPECIAL INSTRUCTIONS FOR USE IN GREAT BRITAIN

### IMPORTANT

The wires in the mains lead are coloured according to the following code:

Green-and-Yellow	—	Earth
Blue	—	Neutral
Brown	—	Live

The wires in the mains lead of this instrument may not correspond with the coloured markings, you should therefore refer to this diagram to identify the terminals in your plug:



**WARNING: THIS INSTRUMENT MUST BE EARTHED**

## RADIO/TV INTERFERENCE AVOIDANCE

This instrument operates at radio frequencies. Unless it is correctly installed and used properly - that is in strict accordance with the manufacturer's instructions - it may interfere with radio and television reception.

It has been carefully designed according to the rules and regulations in force at the time, and has been equipped with various types of screening designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in any particular installation.

If this equipment does appear to cause interference with radio and TV, which can be determined by switching it off to see if the interference disappears and then switching it on again to see if it reappears, the user is encouraged to try to correct the interference by carrying out one or more of the following measures:

1. Turn the radio or TV aerial (antenna) to face in a different direction.
2. Change the instrument's position with respect to the receiver.
3. Move the instrument away from the receiver.
4. Plug the instrument into another power socket, which is part of a different branch circuit.
5. If necessary, the user should contact the dealer or an experienced Radio/TV technician for additional advice.

### FOR USERS IN THE UNITED STATES OF AMERICA:

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to identify and resolve Radio/TV interference problems". This book is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock No. 004-000-00345-4.

## SPECIAL NOTES

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In addition to the Safety Precautions and Instructions outlined on pages 1.1, 1.2 and 1.3, the following notes should be read and adhered to.

### POWER SUPPLY

- When connecting the MS100 to other equipment, always carry out the operations with the power to all the equipment turned 'Off'; this will help to avoid damage and malfunction.
- Read the advice on Radio and TV Interference in the special section on page 1.3.

### MAINTENANCE

- The outside surfaces of the instrument should be cleaned only with a soft, dry cloth (or one that has been slightly moistened with water). If further cleaning is required, never use petrol, alcohol, thinners or other solvents, as these will cause damage to the surface finish and silk screening of the panels and outside of the instrument.

### FURTHER PRECAUTIONS

- If you need to use the instrument in a foreign country, you should first consult a qualified service technician if you have any doubts regarding the power supply suitability etc.
- The instrument should never be subjected to hard impact.
- Never exert excessive pressure on the control keys or knobs.
- Never place any object on the central display, as this may break or damage the protective transparent cover or make the reading of the display more difficult should it become scratched.
- The instrument cover may become slightly warm after a period of operation; this is a normal effect due to the radiation of heat from some of the internal components and is not a reason for concern, although the instrument should preferably be placed in a ventilated area where possible.

### MEMORY BACKUP KEYBOARD SPLIT

- This instrument contains a lithium battery which maintains the contents of the memory when the mains A.C. power is switched off. The expected life of this battery is about 5 years and to avoid unexpected loss of memory data, it is recommended that you change it within this period.
- The actual life will depend on the environmental conditions (especially temperature) in which the instrument is used or stored. When the battery becomes weak there is a danger that the memory data will suddenly be lost.
- The battery should only be substituted by a qualified service technician when this is necessary (see warning note below regarding lithium batteries).  
You should also be aware that the memory data can at times be lost due to a malfunction or when the instrument is sent to a service technician for repair, therefore always save important data on disk when possible.

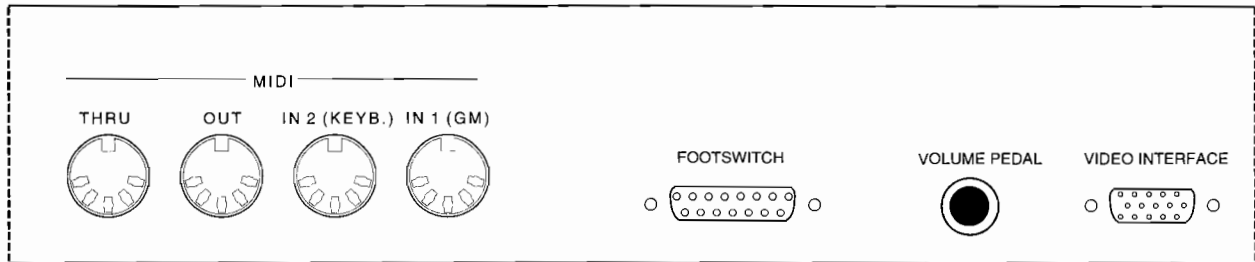
#### **APPARATUS CONTAINING LITHIUM BATTERIES**

##### **WARNING!!!**

***Danger of explosion if the battery is incorrectly replaced.*** Replace only with the same or equivalent type as recommended by the instrument's manufacturer. Discard used batteries according to manufacturer's instructions.

## 2. CONNECTIONS

### REAR PANEL



#### MIDI CONNECTION SOCKETS

**MIDI IN 2 ( KEYB)** should be used when connecting a Master Keyboard or MIDI Accordion.

**MIDI IN 1** is for use with a computer or for normal GENERAL MIDI Standard use.

The **THRU** socket functions exclusively in conjunction with the MIDI IN 1 (GM) socket.

#### FOOTSWITCH

Multi-pin connector for the FS 13 or FS 6 Programmable Footswitch units with 13 or 6 switches respectively (both optional).

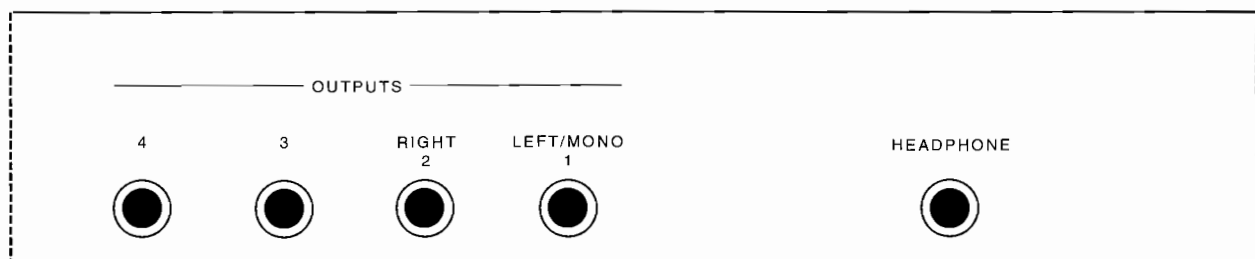
#### VIDEO INTERFACE

Multi-pin connector for the VI 1 - Video Interface (Optional). (*Instructions and advice on the connection of the VI 1 Interface to the MS100 can be found in the Owner's Manual supplied with the VI 1*).

#### VOLUME PEDAL

Volume Pedal connecting socket (optional).

### AUDIO OUTPUT CONNECTION SOCKETS



The MS100 has 4 Audio Outputs.

The 2 **LEFT/ MONO (1)** and **RIGHT (2)** are the 2 normal stereo outputs of the instrument.

Just connect the 2 outputs to a Stereo Mixer or Stereo Amplifier for a normal amplification of the instrument.

It is important to remember that the tone controls of the amplifier or mixer should be set to a linear (central) position, that is without any boost of the Bass, Middle or Treble tones, as this will alter the natural balance of the MS100's sound.

Furthermore the quality of the speaker columns is fundamental, as these must be capable of assuring a correct audio response throughout the frequency range, without any excessive privilege to the Bass or Treble bands.

The MS100 can also be connected to a normal domestic Hi-Fi system, taking care to check the compatibility with regards to the input sensitivity of the input channel used (mV).

It could be that the Output Signal from the MS100 (about 1V) is too high for the AUX IN

inputs of your Hi-Fi system's amplifier or pre-amplifier. This would cause unpleasant distortion of the sound. In this case it will be necessary to reduce the output level of the MS100 by means of the **MASTER VOLUME** control.



## HEADPHONE

This socket is for the connection of Stereo Headphones. You are advised to use a pair of good quality Hi-Fi Stereo Headphones so as not to lose the definition of the extreme high and low frequencies of the MS100.

## 3. ARRANGER

### ARRANGER

The MS100 has 99 Internal Styles (The list can be found on the left of the control panel). The Styles are selected by means of the numerical Style Select keypad under the display. Each Style is made up of 4 different Arrangements: A, B, C, D and each of these is composed of 5 sections; Drums, Bass, Chord 1, Chord 2 and Chord 3.

The length of each Arrangement is mostly 4 bars (see Style List on page 26.4), whereas the length of the Intro and Ending parts vary from Style to Style. The Fill Ins are programmable only with a one bar length.

Each time a new Arrangement is selected this becomes effective at the end of the bar that is currently playing.

### KEYBOARD SPLIT

The Split function is used to establish the keyboard sections that will be used to play the Arrangement and Solo.

As the MS100 is set up by the manufacturer, this Split point will be at C<sup>4</sup>. This means that all the keys to the left of C<sup>4</sup> will play the Arrangement whereas those from C<sup>4</sup> to the right end of the keyboard will play the Solo or Melody line.

**To modify the Split point, do as follows:**

1. Press and hold down the **SPLIT** key.  
While still holding the **SPLIT** key down, press the key on the keyboard that you want to use as the lowest key in the solo (right hand) section of the keyboard. The display will change immediately to show the new 'Split Point' selected.
2. Release the **SPLIT** key. The new setting will remain in the memory until changed.

### HOW TO CHANGE THE SOUNDS OF A STYLE

The Style is originally memorized with certain parameters of Sound, Volume, Tempo, Reverb, Chorus and Pan Pot etc.

These parameters are recalled each time a Style is changed.

**How to modify the pre-programmed sounds of a Style:**

Select the section to be modified (Bass or Chords) with the **F5 to F8** keys.

The relative sound in the section will flash for 3 seconds. During this time it is possible to select the new sound with the **keys in the VOICE BANK** section.

**It is also possible to change the Drum Set of the current Style**, by simply pressing the **DRUM SET** key and selecting the new set with the **VALUE** key.

Furthermore, access to the effects of the Style to carry out a fast change is very easy.

**To change the Reverb.:**

1. Press **F2**.
2. Re-press **F2** and use the **VALUE** keys to select the type.
3. Press **F3** and use the **VALUE** keys to set the amount of effect.
4. Press **F4** for access to the single amounts of the Arranger sections.

**To change the Chorus:**

1. Press **F2**.
2. Press **F6** and use the **VALUE** keys to select the type.
3. Press **F8** for access to the single amounts of the Arranger sections.

**NOTE: The changes in the sounds, the Drum Set and the Effects thus made are momentaneous and have a temporary validity only for the Arrangement that is**

**playing. If these are not saved in a Registration (see Registration section of manual) they will be lost the moment another Style is selected.**

**Precise changes to all the parameters of the Style can be made in the Pattern section, where it is possible to copy a standard Style and then completely change the composition. (see Pattern).**

## ARRANGE BALANCE

This useful function enables the total volume of the Arranger section to be adequately balanced against the volume of the Right Hand Solo section.

By pressing **VALUE**, the "ARRANGE/RIGHT BALANCE" display opens for about 2 seconds. During this time it is possible to modify the normal balance setting of 46 by means of the **VALUE** keys.

This value remains in the memory until the instrument is switched 'Off'.

## ARRANGE MODES

Pressing the **MODES** key opens a display with a series of particular functions, expressly dedicated to the Arranger:

```
P i a n i s t   S u s t .   : O f f   D Y N . A R R .           R E T R I G .
L o w e r : O f f   B a s s   t o   L o w e s t : O f f   S u s t a i n :  Ø
```

**1. PIANIST SUST.:** Pressing **F2** activates or deactivates the Sustain on the Sustain Pedal when the Pianist function is enabled. In fact when the Pianist function is enabled (see PIANIST) the Sustain Pedal is used both for blocking the Chord Recognition and for activating the normal Sustain effect, which is not always required.

**2. DYNAMIC ARRANGEMENT:** Pressing **F 3** - DYN ARR access to the DYNAMIC ARRANGEMENT is obtained:

```
D Y N A M I C   A R R A N G E M E N T :                       D r u m : Ø
B a s s : Ø       C h r d 1 : Ø   C h r d 2 : Ø   C h r d 3 : Ø
```

It is possible to set the values of each of the sections of the Dynamic Arrangement by means of the **F4 to F8** and **VALUE** keys.

The higher the value, the greater the dynamic range of the relative section will be, in relation to the speed at which the keys are pressed. With a value of 63 the Dynamic range is at its maximum.

The Dynamic Arranger can be an interesting way to give more expression to the automatic accompaniment.

**3. RETRIGGER:** Press **F4** to activate the Retrigger function in the Four Bass, Chord 1, Chord 2 and Chord 3 sections :

```
R E T R I G G E R   A R R A N G E M E N T :
B a s s : O f f   C h r d 1 : O f f   C h r d 2 : O f f   C h r d 3 : O f f
```

The Retrigger function ensures that every time a key is played on the keyboard, the Bass will play the fundamental of the Chord and the chords repeat the notes played. These notes will be immediately replaced by the successive notes programmed in the Arrangement.

**4. LOWER:** If this parameter is set to 'On' with **F5**, the Bass and Chord 3 sections are

automatically set in the manual mode as soon as the Arrangement stops, enabling the harmony to be played *manually* by the left hand.

**5. BSLCK:** The Bass Lock function enables the Program Change of the Bass to be blocked in all the Styles, meaning that when passing from one Rhythm to another the Bass sound will remain the same.

**6. P.BOARD:** This function enables the Automatic Accompaniment to be played with only one pedal of the MIDI Pedalboard. The key variations can be made on the keyboard or by means of the pedal controls provided by the FOOTSWITCH function.

When the Pedalboard is in the 'On' setting, each time the Automatic Accompaniment is stopped the Bass and Chords are automatically set in the Manual mode.

If the SOLTON Mod. K8 MIDI Pedalboard, which transmits on MIDI channel 02 when switched 'On', is connected to the MS100, the Left and Bass parts of the MS100 in MIDI RX must be set as follows:

LEFT: Off  
BASS: 02

**7. SUSTAIN:** The Sustain value of the Bass can be set by pressing **F8**. With the value flashing, press **the VALUE keys** to set a value from 0 to 63.

The Bass Sustain is a very useful function above all when connections to a MIDI Accordion are made or when using the MIDI Pedalboard for the basses.

## OCTAVE/HOLD

Press **OCTAVE/HOLD** to open the following Display :

B a s s ( 1 6 )	C h r d 1 ( 4 )	C h r d 2 ( 4 )	C h r d 3 ( 4 )
H o l d : O f f	H o l d : O f f	H o l d : O f f	H o l d : O n

The OCTAVE function enables the selection of the octave for the Arrangement Voices when these are played manually.

The Octave is selected by first pressing the **F1** to **F4** keys and then modifying the value with the **VALUE** keys.

The settings available are: 16, 8, 4, 2.

The HOLD function is used to activate or deactivate the memory in the 4 sections of the Arrangement when these are played manually.

## MANUAL BASS - MANUAL CHORDS

The 4 Bassist, Chord 1, Chord 2 and Chord 3 keys enable the Arrangement sections to be played manually, that is independent of the Automatic Arrangement tables.

With the led 'On' the corresponding section no longer plays in the Arrangement but can be played manually.

The manually played Bass and Chord notes are automatically released from the Memory (HOLD) when STOP is pressed or at the end of an Ending, that is if the notes are not kept pressed also after the Stop.

The BASSIST key, if pressed with the PIANIST function, gives a special function similar to that of the PIANIST called BASSIST.

This consists of the possibility to manually play the Bass with the Left Hand while at the same time controlling the Automatic Chord by playing the Chords with the Right Hand.

In this case the Chord is interpreted by summing the total number of notes played on

the entire keyboard.

Each time the Sustain Pedal is pressed, the Chord Recognition is blocked (see PIANIST) allowing the Bass line to be freely played by the Left Hand without causing any out of tune effects or wrong chords in the Arrangement.

When the BASSIST key is pressed, the Bass volume is automatically set to its maximum (63).

## DRUM SET

The Drum Set key enables the selection of the 12 available Drum Sets in the MS100.

```

DRUM SET SELECT:  - [ F U S I O N ]
Drum Key Shift:  Ø                                USER EDIT
    
```

The name of the current Drum Set is shown flashing between brackets in the top line of the Display. The selection can be made by means of the **VALUE** keys.

In the lower line, the DRUM KEY SHIFT parameter enables the Drum Set to be shifted on the keyboard within a range of ± 12 semitones.

## USER DRUM SET

The User Drum Set is used to programme a custom Drum Set.

It can be directly selected by pressing **F8** (User Edit).

```

USER DRUM SET:      [ USER_DS ]
INSTRUMENT SELECT  Key: 24 [Syn tom6]
    
```

To assign the various percussion instruments to the keys:

1. Press **F7** and select the key number with the **VALUE** keys. The key numbers from 24 to 96 will scroll with the name of the assigned instrument at its side (F 8).
2. Having selected the key, press **F8** and choose the instrument with the **VALUE** keys.
3. Once all the instruments have been selected, press the **SAVE/NAME** key to save the new Drum Set.

The display will now ask for a name to be assigned:

```

SAVE USER DRUM SET - NEW NAME  USER_DS
<< Down           Up >>      Cancel  Save
    
```

4. To assign a name, press **F5** (Down) and **F6** (Up) to select the character position, then insert the new characters with the grey keys in the VOICE BANK section. The available characters are silk screened on the panel in blue and can be viewed by repeatedly pressing the same grey key.
5. Once the name has been written, press **F8** to save (or **F7** to exit).

## DRUM CONTROLS

The Drum Controls control the Volume, Reverb. and Pan levels of the 7 Percussion sections of the Drum section.

**DRUMS VOL:** This page controls the Volumes of the percussion sections:

```

DRUMS_VOL Bass:63   Snare:63   Hi Hat:63
Cymbal:63  Tom :63   L.Lat:63   H.Lat.:63
    
```

Select the part with **F2** to **F8** and then set the value with the **VALUE** keys (0 - 63).



**DRUMS REV:** By pressing **PAGE >>**, access to the Drum Reverb. page that controls the Reverberation level is obtained:

DRUMS_REV	Bass : 8	Snare : 8	Hi Hat : 8
Cymbal : 8	Tom : 8	L.Lat : 8	H.Lat. : 8

The values from 0 to 8 are modified as for the Volume.

**DRUMS PAN:** Repeating **PAGE >>** gains access to the control of the assignment of the Pan position of the single sections :

DRUMS_PAN	Bass : - -	Snare : - -	Hi Hat : - -
Cymbal : - -	Tom : - -	L.Lat : - -	H.Lat. : - -

The values can be from Left 63 to Right 63 corresponding to the extreme left and extreme right positions respectively in the stereophonic spectrum and these are modified as for the Volumes described previously.

The central position can set by simultaneously pressing both **VALUE** keys and this will be indicated by two dashes (- -) in the relative position.

All the values of the Drum Controls that are modified, remain in the memory even after switching the instrument 'Off' and can be saved in a Registration (*see Registration Mode: Advanced*).

## DRUMS ON/OFF

This function enables the 7 Percussion sections of the MS100 to be inserted or removed.

Pressing **On/Off** in the DRUMS section, the following display is opened:

DRUMS_OFF	Bass : On	Snare : On	Hi Hat : On
Cymbal : On	Tom : On	L.Lat : On	H.Lat. : On

The Percussion section can be directly set to 'On' or 'Off' by means of the **F2** to **F8** keys. The changes can also be saved in a Registration.

The On/Off settings for the Bass Drum, Snare, Hi Hat and Hi Latin sections can be controlled by means of the Footswitch (*See Footswitch - FS 13 or Fs 6*).

**NOTE:** *The grouping of the percussion sounds into 7 families is carried out by putting the codes of the various instruments together. In some cases, as in some Drum Sets from key 86 up, there is a different assignment for particular percussion effects, it can happen that an instrument that does not belong to the same category might be assigned to a certain family (for example, as in the case of the TECNO Drum Set).*

## BASS TO LOWEST

The BASS TO LOWEST function ensures that the Automatic Bass of the MS100 carries out its harmonic run starting always from the lowest note of those in the Chord played, instead of the fundamental of the recognized chord.

The TO LOWEST function works even when the *Lower* parameter is active, which automatically sets the Chord 3 and Bass sections in the manual mode each time STOP is pressed (*see Lower*).

## SWELL (TO RIGHT)

When this function is activated the Volume Pedal will only have effect in the Right part of the keyboard, leaving the left hand section volume constant.

To obtain the best equilibrium between the Accompaniment and the Solo sections with the SWELL function activated, it is a good idea to adequately set the balance between the Arranger and the Right Hand (see *ARRANGER/RIGHT BALANCE*).

## EASY CHORD

When the EASY CHORD is activated, the Arranger carries out the complete Accompaniment even when just one key is played.

When EASY CHORD is deactivated, the Arranger plays a complete Accompaniment only if at least 3 notes are played, otherwise it will perform a reduced Accompaniment, taking into account the notes that are actually pressed.

## PIANIST

The PIANIST function automatically modifies the normal condition of the keyboard Split, transforming it into a total length keyboard like a Piano.

In this condition however it is still possible to control the Arranger when playing with two hands with normal chord positions, not possible with the Split function 'On'.

The PIANIST effect is obtained by pressing the **Sustain Pedal** (optional) immediately after forming the Chord on the keyboard.

The Arrangement will remain blocked in the memory with the last recognized Chord for as long as the Sustain Pedal is held down.

This gives the player the possibility to harmonise at will, above all with Piano type effects, while the Automatic Accompaniment faithfully follows the variations of the Chords.

Also provided in the Arrange Mode menu is the possibility to insert and remove the Sustain effect while playing with the PIANIST function (see *Arrange Modes*).

## KEY START / KEY STOP

With only **KEY START** pressed, the Style starts playing as soon as the keys are played and carries on playing after the keys are released.

With only **KEY STOP** pressed, the Style starts playing as soon as the keys are pressed and carries on playing *only* if the keys are pressed for more than a quarter of a second (250 milliseconds) otherwise it will cease.

With both **KEY START** and **KEY STOP** pressed, the Style starts or stops in relation to when the keys are pressed or released.

If the HOLD (Memory) key is pressed with the Key Stop function also active, it is possible to play "staccato" in the Arranger part of the keyboard if the keys are not held down for more than a quarter of a second.

If this limit is exceeded, the Style will continue to play even after releasing the keys.

## COUNT IN / RESTART / PAUSE

This key controls three functions.

**COUNT IN:** Consists of an empty bar which beats time with drumsticks (Count In), after which the Style will start. This is activated by pressing the key in the **STOP** condition.

If the Dump function is inserted, it is possible to press COUNT IN and then INTRO straight afterwards so as to obtain the COUNT IN and INTRO one after the other.

**RESTART:** If this key is pressed after the Style has started playing, the RESTART effect will be activated, that is the Arrangement will start from the beginning again.

**PAUSE:** The PAUSE function is activated when the key is pressed while a Song is playing or in the SONG PLAY mode.

## MEASURE COUNT

This is a led indicator that shows the beats in a bar. The first beat in the bar being shown by the green led.

## TEMPO SLOW - FAST

The two **SLOW** and **FAST** keys are used to control the Time (Tempo). The TEMPO value is shown in the centre of the lower part of the display and extends from 40 to 250. Pressing the **SLOW** and **FAST** keys together will block the TEMPO at the value shown at that moment, meaning that the time will not change when changing Styles. This condition is shown by an asterisk to the right of the Tempo value in the display.

## START / STOP

This key is the START/STOP control for the Arrangement, the reproduction of MIDI files and the Song Recording.

## HOLD

This key activates the memory for the Arrangement (*see also Octave / Hold*).

## FILL IN 1, 2, 3

The three FILL IN keys enable the selection of three short variations of the Style with a length of 1 or 2 bars and can be used to give a lease of life to the rhythms. FILL 3 is also frequently programmed as ending roll.

## JUMP

The JUMP function is used to obtain certain particular effects in conjunction with the FILL INS and INTRO / ENDING.

1. With **JUMP** pressed and the Style playing, each time **FILL IN 1** is pressed, the Arrangements will move in a cyclic manner from A towards D. On the contrary, each time **FILL IN 2** is pressed, the Arrangements will move in the opposite direction from D towards A.  
If **FILL IN 3** is pressed, no variations of the Arrangement are made.
2. With **JUMP** pressed and the Style playing, each time **INTRO/ENDING** is pressed, INTRO 1 or 2 will be played again according to which is selected.  
If on the other hand, **INTRO/ENDING** is pressed with the Style in the **STOP** position, ENDING 1 or 2 will be played according to which is selected.
3. With **JUMP** pressed and the Style in the **STOP** position, pressing **COUNT IN** and then **INTRO** immediately afterwards, the COUNT IN and then the INTRO will play.

## INTRO / ENDING

Each Style of the MS100 is provided with 2 INTROS and 2 ENDINGS.

INTRO 1 and ENDING 1 carry out an introduction programmed *only in the key of C Major*. This is to enable the player a more personal control over the various key changes in the introductions and endings, changing the chords freely as necessary. INTRO 2 and ENDING 2 on the other hand are programmed with variations in the harmony 'built in', and therefore it is not advisable to change chords while they are playing, to obviate unpleasant situations due to erroneous musical superimpositions.

## 4. KEYBOARD CONTROLS

The MS100 has been designed to meet the most demanding needs of a live performance and for this reason it has been implemented with a large number of keyboard control keys which can be activated by the player while playing.

### TRANSPOSER

The TRANSPOSER enables the tuning of the MS100 to be changed within an range of  $\pm 24$  semitoni.

To carry out a Transposition just press + and - . The display will indicate "GLOBAL TRANSPOSER".

Each time either key is pressed the tuning will be raised or lowered by 1 semitone according to whether + or - is pressed.

This value will be visible in the display in the F3 Function Key position.

Pressing both + and - together will annull any transposition and the tuning will return to its normal pitch (440 Hz).

### ROTOR SLOW / FAST

These two keys control the 2 speeds of the ROTOR effect.

The passage from SLOW to FAST takes place with gradual acceleration. The ROTOR effect functions on all the Organ voices except Leslies, Church, Gospel and Pipe.

### FULL CHORD

FULL CHORD is an automatic harmony effect obtained by associating all the notes played in the Left Hand section of the keyboard with those played in the Solo (Right Hand) section.

In this way a complete Chord is obtained in the Solo section (Right Hand) even when playing a single note.

### PORTAMENTO

The PORTAMENTO effect is monophonic, that is it works on only one note, and consists of the gradual sliding of one note to another.

The speed at which this slides can be controlled with the PORTAMENTO SPEED function:

1. Press **EDIT**.
2. Press **F3** (PITCH).
3. The value of the speed can be set by first pressing **F8** and then using the **VALUE** keys to select a value of between 1 and 63.

The higher the value, the longer the notes will take to slide from one to another.

### OCTAVE DOWN

The OCTAVE DOWN function enables the Right Hand part of the keyboard to be lowered by 1 octave. This can prove to be very useful when using instruments with a notably wide extension of notes (for example, Piano or Strings).

## VOLUME CONTROLS

These keys control the Volume of the entire keyboard.

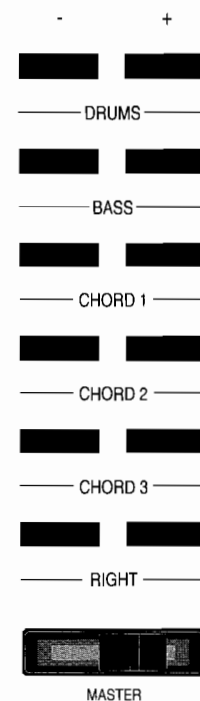
To increase or decrease the Volume, just press the + or - key to select a value between 0 and 63.

*Pressing both keys together will zero the Volume in the relative section; pressing the + key will restore the previous value.* This is very useful when you want to rapidly exclude and then reinstate a single section of the Arrangement.

The Volume changes can be seen in the display.

The MASTER VOLUME slider controls the total volume output of the instrument.

The 2 DRUMS controls are used during the playing of MIDI Files (in SONG PLAY mode) to balance the accompaniment with what is played live (see SONG/RIGHT BALANCE in the DISK functions).



## FADE OUT

The FADE OUT function cause a gradual decrease in the Volume down to zero.

When the Volume reaches zero, if the FADE OUT key is repressed, a reverse process is obtained, that is the Volume will gradually increase again up to the previous set level.

## PITCH

For access to all the PITCH parameters of the MS100, comprising the 2 PITCH and MODULATION WHEELS:

1. Press **EDIT**.
2. Press **F3**. The display will show:

MODULATION : 63	Bend : + / - 2
Vibrato : On	Portam. Speed : 3

The various Modulation, Bend, Vibrato and Portamento Speed can be modified as follows:

**MODULATION:** This parameter controls the Modulation Intensity assigned to the MODULATION WHEEL. To set the value, press **F2** and then use the **VALUE** keys. When the MODULATION WHEEL is not used it should be set at its minimum position to obviate the unwanted possibility that an undesired Vibrato effect might be heard on the Right Hand.

**BEND:** The BEND parameter controls the amount of Transposition assigned to the PITCH WHEEL.

Rotating the wheel **forwards** (towards UP) sharpens the notes, while rotating it **backwards** (towards DOWN) flattens them. The PITCH WHEEL has no influence on the Arrangement and is spring loaded to automatically return to the central position.

To set the range of the Pitch Bend press **F4** and then use the **VALUE** keys.

**VIBRATO:** This function is used to activate and deactivate the VIBRATO effect on the MS100's Voices where this is provided for. In the '*OFF*' position the VIBRATO is excluded.

This function has no influence on the Voices that have been sampled with a natural vibrato within their structure.

**PORTAMENTO SPEED:** The PORTAMENTO speed can be varied by means of this function (see *Portamento*).

## AFTERTOUC

AFTERTOUC is the pressure exerted on the keys after that which is normally needed to play the note. This enables various parameters to be controlled from the keys.

For access to the AFTERTOUC controls:

1. Press **EDIT**.
2. Press **F4**. The display will show:

```
AFTER TOUCH Threshold:0 Sensitivity:96
Bend:Off Vol.:Off Lfo:On
```

The functions of the various parameters shown above are as follows:

**THRESHOLD:** This parameter determines the level of pressure above which the Aftertouch will begin to have effect.

Values from 0 to 63 can be set by pressing **F3** and using the **VALUE** keys.

To zero the value of this parameter, press both **VALUE** keys at the same time.

The higher the set value, the less will be the effect of the Aftertouch on the keys.

**SENSITIVITY:** This parameter sets the amount of Aftertouch within a range of values from 0 to 127. To set the values, press **F4** and then use the **VALUE** keys. Pressing both **VALUE** keys will zero the setting of this parameter.

**BEND\*:** The Pitch Bend can also be controlled by the Aftertouch with an appropriate setting of this parameter. The amount of the change in pitch depends on the value set in the PITCH menu (see page 4.2 - BEND).

**VOLUME\*:** Sets the amount of change in the Volume that will be made by the Aftertouch. Press **F6** to select **On** or **Off**. If the Volume of the Right Hand section (RIGHT) is set to its maximum, that is at 63, this function will not have an appreciable effect. You are therefore advised to set the RIGHT Volume control (see page 4.2) at a more attenuated level ( max. 40 - 45) if you want to have a more effective control of the Volume by means of the Aftertouch.

**LFO\*:** The LFO enables the Aftertouch modulation control.

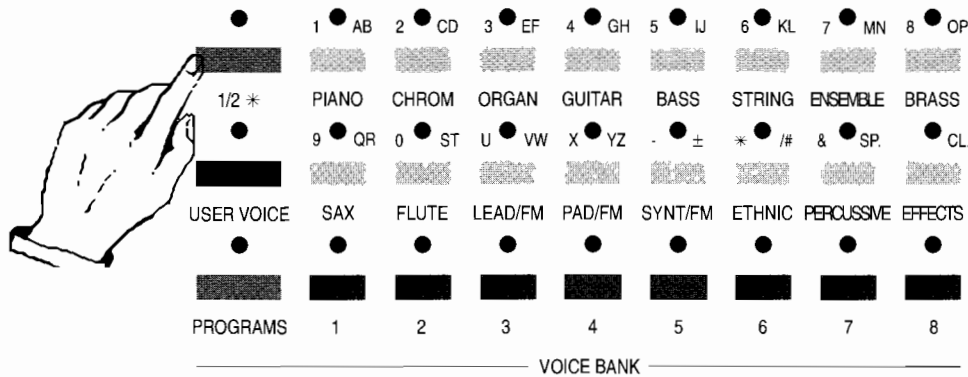
Press **F7** to activate the function and show 'On' in the display in the LFO position in the lower line of the display. The amount of Modulation will depend on the value of the Sensitivity setting (see above).

\* **NOTE:** See also page 6.2, F8 in the **EDIT VOICE display** (AFTER T.) for information on how to set the BEND, VOLUME and LFO parameters in that display for Aftertouch control of these in the User Voice.

# 5. VOICE BANK

The MS100 is provided with 256 Voices sub-divided into 2 Banks of 128 Voices each. The Voices are grouped into 16 families according to GENERAL MIDI standards. Each family is made up of 8 Voices.

Bank selection can be made by means of the **1/2\*** key. When the led indicator of the key is 'Off', BANK 1 is in use, when it is 'On', BANK 2 is in use.



To select a Voice, first press the **family key** and then select the required Voice with the keys from **1 - 8**.

The selected Voice is shown in the top right hand corner of the display.

The last Voice selected in each Bank remains in the memory, so that when you change Bank the previously selected Voice is easily found.

All BANK 1 Voices rigorously respect the sub-divisions according to GENERAL MIDI standards.

The BANK 2 Voices, on the other hand, are of a different structure in order to use the sound module's Timbral possibilities in the best possible manner.

The list of the two VOICE BANKS 1 and 2 can be found on pages 26.1 and 26.2.

## EDIT / PAGE / VALUE

The **EDIT** key gives access to several important functions not directly accessible externally.

Pressing **EDIT** will make these immediately visible in the display:

MIDI	PROGRAM	PITCH	AFTERTOUCH
UTILITIES	OUTASSIGN	ACCORD.	ARABIC

For all information on each section, refer to the specific section in this manual.

## PAGE <> / VALUE +/-

These are multi-function keys, used after having gained access to each menu to select the various parameters and modify their values.

The two **PAGE<<** and **PAGE>>** keys allow access to the DIRECTORY OF THE FOLDERS on the Hard Disk when pressed together.

When in the EDIT functions, pressing the two **VALUE** keys together zeroes the value; when pressed together when not in the EDIT functions, the situation of the Volume Balance between Arrangement and Right Hand is shown on the display (Arranger/Right Balance).

## 6. USER VOICE

The User Voice section enables the sounds of the MS100 to be modified and customized. There are 128 User locations but the first 4 locations (from 1 to 4) cannot be used as they are needed for the loading of PCM Sounds and Grooves from Disk. If nothing is loaded into these locations, they will be shown in the display with the word "Empty".

If on the other hand the PCM Sound or the Groove is present and you try to edit the sound by pressing **F3** (EDIT VOICE), the display will advise you that this is not possible by showing the message:

**"PCM Sounds are not editable"**

The User Voices cannot be selected if the PROGRAMS key is pressed.

### To programme the User Voices:

1. Select the Voice to be modified. (The Bank selection cannot be made after you have entered into the EDIT VOICE mode).
2. Press **F3**. The display will show as follows, indicating all the parts that can intervene in the Sound Edit:

V . EDIT :	[ Grand ]	Reverb : 15
Chor . : 0	PITCH	DCA / DCF AFTER T .

Proceed with the programming of the User Voices by pressing the following keys:

**F4 or F5:** By pressing one or the other of these keys and then using the **VALUE** keys, the **REVERB.** and **CHORUS** levels of the Voice can be set. The values can be from 0 to 15.

**F6:** The **PITCH** parameter enables the Vibrato and the Tuning of the Voice to be modified. Pressing **F6** shows the following display:

LFO -->	Rate : 0	Depth : 0	Delay : 0
Tune : 0	Shift : 0		

The RATE, DEPTH, DELAY, TUNE and SHIFT values can be set by pressing the function keys from **F2** to **F6** and then using the **VALUE** keys.

For LFO and PITCH the values can be between  $\pm 63$ ; for SHIFT between  $\pm 24$ .

The value can be zeroed by pressing the two **VALUE** keys together.

Press **PAGE** << to return to the VOICE EDIT menu.

**F7:** The **DCA** and **DCF** functions are both very important in the formation of characteristics of the sound, in that they control the Envelope and Filter.

Pressing **F7** will open the following display:



DCA	-->	Att. : 0	Decay : 0	Rel. : 0
DCF	-->	C.Off : 0	Res. : 0	

First press the corresponding **Function Keys** to select ATTACK, DECAY, RELEASE, CUT OFF and RESONANCE and then use the **VALUE** keys to set the value.

**F8:** Pressing this key in the main User Voice display, you can set the values of the various parameters of the User Voice that are controlled by the Aftertouch:

AFTER TOUCH		
Bend : Off	Vol. : Off	Lfo : Off

The parameters are BEND, that can be set to UP or DOWN by repeatedly pressing **F5**, VOLUME by pressing **F6** and VIBRATO by pressing **F7**.  
(For further information on Aftertouch, refer to the relative section on page 4.3).

To save the User Voice, press **SAVE/NAME**. The display will show:

SAVE USER VOICE	[ GRAND ]	to	[ GRAND ]
<< Down	Up >>	Cancel	Save

To write the name move to the letter position with **F6** (>>Up) and **F5** (<<Down) and select the letters with the keys in the VOICE BANK section (silk screened in blue). Finally press **F8** (SAVE) to confirm.

## 7. PROGRAMS

The Programs menu enables the combination of a maximum of 4 different Voices, which can be used in three different ways (Patch, Duet, Trio) and treated individually with various effects.

**For access to the memorizing of the Program:**

1. Press **EDIT**.
2. Press **F2** (Program). The following display appears:

```

EDIT PROGRAM: [ P I A N O - 1 - ]
P A T C H ←      D U E T      T R I O      E F F E C T

```

The display will show the name of the last selected Program, which can be changed with the **VALUE** keys.

### PATCH

All the functions that intervene in the creation of a Program are contained in the PATCH Menu.

Pressing **F5** gives access to the main Program menu, which shows the Voices and their respective Volumes.

```

G R A N D      C O N C E R T      O F F      O F F
V o l . : 6 3   V o l . : 3 0     V o l . : 6 3   V o l . : 6 3

```

The Voice can be selected by means of the Function keys from **F1** to **F4** or by selecting it directly in the VOICE BANK section (User Voices included).

To exclude a Voice **press its corresponding Function Key twice**.

Access to the VOLUME, SHIFT and DETUNE controls can be obtained by **consecutively pressing the Function Keys from F5 to F8 three times**.

The settings can be varied by means of the **VALUE** keys (Pressing these together will zero the value).

### DUET / TRIO:

The DUET and TRIO modes consist of a priority assigned to the Program Voices.

#### DUET:

The first Voice of the Program always plays exclusively only the highest note of those pressed on the keyboard, while the second Voice plays only the second highest note played.

#### TRIO:

Same as DUET, except for the addition of a third Voice which will play on the third highest note played on the keyboard.

The selected mode, whether PATCH, DUET or TRIO is indicated in the display with an arrow on the right.

The Voices that are added when in the DUET or TRIO modes will behave normally without any assignment of priority.

## KEYBOARD ZONE

From this position, press **PAGE >>** to move to the following display:

GRAND	CONCERT	OFF	OFF
OFF - OFF	OFF - OFF	OFF - OFF	OFF - OFF

This page enables you to assign the keyboard playing zone to the 4 Voices. In the 'Off' condition the Voice is activated to play over the entire keyboard. To set a different zone you must **press the Function Key corresponding to the Voice** (from **F5** to **F8**) and play the lowest and then the highest note that you want to assign to the Voice. The 2 selected notes will be seen in the display in the corresponding Voice position.

## KEY VELOCITY SWITCH

After setting the keyboard zones in which the Voices will play, by pressing **PAGE >>** again you can proceed to the Key Velocity Switch function, which enables the control of the Voices in the Program by means of the Keyboard Dynamics.

GRAND	↔	CONCERT	↔	OFF	↔	OFF	↔
KEY VELOCITY SWITCH THRESHOLD							64

In practise this permits you to move from one Voice to another when a specific dynamic threshold or Key Velocity is exceeded. This threshold can be set with values from 0 to 127 by first pressing **F8** and then using the **VALUE** keys.

To establish in which manner the Voice will behave with regard to the key dynamics, press the corresponding Function Key from **F1** to **F4** and then select one of the arrow positions with the **VALUE** keys.

← The left pointing arrow signifies that the Voice will play with a low dynamic value (up to the threshold value).

→ The right pointing arrow signifies that the Voice will play with a high dynamic value (above the threshold value).

← — > With both arrows, the condition obtained by pressing both **VALUE** keys together, when playing with high dynamics, the two Voices will play in unison. Here are two examples:

PIANO1	←	STRINGS	→	OFF	↔	OFF	
KEY VELOCITY SWITCH THRESHOLD							64

**Fig. 1 Two Voices - Piano and Strings and a threshold of 64.**

Playing with low dynamics, only the Piano will play; playing hard, only the Strings will play.

PIANO1	→	STRINGS	↔	OFF	↔	OFF	
KEY VELOCITY SWITCH THRESHOLD							100

**Fig. 2 Two Voices - Piano and Strings and a threshold of 100.**

Playing softly with low dynamics, only the Strings will play; playing hard (above the threshold of 100, the Strings and Piano will play together.

## EFFECT

The EFFECT function enables you to set the various effects for the Voices in the Program in the way you prefer.

1. Press **F8** to enter into the EFFECTS section.
2. By pressing **F5** to **F8** repeatedly it is possible to scroll through the various effects available: REVERBERATION, CHORUS, ROTOR, SUSTAIN and PAN.

The SUSTAIN control is used to establish which of the 4 Program's Voices will be effected by the Sustain effect when the Sustain Pedal is pressed. When Sustain is 'On', the relative Voice remains in the HOLD position, that is memorized, each time the Sustain Pedal is pressed.

## SAVE PROGRAM

Once the Voices have been programmed and the various parameters set in the desired manner, the Program can be memorized in the INTERNAL MEMORY as follows:

1. Press **SAVE/NAME**. In this phase you can also assign a new name, by moving the cursor with the **Up-Down** keys and inserting the various characters with the **keys in the VOICE BANK**.
2. Press **F 8** (SAVE) to confirm.

**NOTE: If you leave the Program without first saving the settings with the SAVE PROGRAM procedure above, all these settings will be lost.**

The Program can also be saved on DISK (HARD or FLOPPY) with the following procedure:

1. Press **SAVE** in the DISK section on the right of the panel.
2. Press **F6** (Program). Assign a new name if you desire.
3. Press **F8** (SAVE) to confirm. This operation saves the complete block of 128 Programs existing in the Internal Memory of the keyboard.

## 8. REGISTRATION

The Registration is a global memorization of the status of the instrument which includes all the main functions and almost all the panel control settings.

The 128 Registrations available are selected by means of the keys in the VOICE BANK section.

**There are two operational modes:**

### BASIC

This enables all the most important functions of the instrument to be memorized in a Registration in order to speed up the control of the operations.

### ADVANCED

In the Advanced mode, on the other hand, apart from the functions foreseen by the Basic mode, many others are added to enable a really sophisticated control of the keyboard.

The selection of the Basic and Advanced modes is carried out as follows:

1. Press **EDIT**.
2. Press **F5** (UTILITIES).
3. Press **F2** (REGISTR). The display will show:

REGISTRATION TAB OFF	: NO
REGISTRATION MODE	: BASIC

4. Select Basic or Advanced with the **F8** Function Key.

### REGISTRATION TAB OFF

This very useful function, in the YES position, turns the REGISTRATION key 'Off' about 1 second after the last Registration has been selected, enabling changes to be made to the panel setup without unvoluntarily changing the Registration.

Press **F4** (YES) to activate this function.

Below is the list of functions that can be memorized in a Registration.

Those shown with an asterisk are the functions that concern the Basic mode.

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>* Program</li> <li>* Arranger A, B, C, D</li> <li>* Voci Right Bank 1 e Bank 2</li> <li>* Jump</li> <li>* Pattern e Style</li> <li>* Voci Basso e Accordi</li> <li>* Split</li> <li>* Global Transpose</li> <li>* Easy Chord</li> <li>* Key Start / Key Stop</li> <li>Portamento</li> <li>User Voice</li> <li>Pianist</li> <li>Full Chord</li> <li>Swell to Right</li> <li>Aftertouch</li> </ul> | <ul style="list-style-type: none"> <li>* Bass to Lowest</li> <li>* Hold</li> <li>* Octave Down</li> <li>* Tempo</li> <li>* Volumi</li> <li>* Octave / Hold</li> <li>* Effects</li> <li>* Bass Sustain</li> <li>* Lower</li> <li>Rotor</li> <li>MIDI RX</li> <li>Autocrash</li> <li>Drum Controls</li> <li>Chord Name</li> <li>Footswitch</li> </ul> |
|---|---|

## SAVE REGISTRATION

Suppose you have set the instrument up in the way you want. To memorize the Registration in the Internal Memory, proceed as follows:

1. Press **SAVE/NAME**. The display will show:

SAVE REGISTR.	REG_001	TO	REG_001
< < Down	Up > >	Cancel	Save

It is possible to give it a name in this display.

3. Use the **F5** (Down) and **F6** (UP) keys to move to the position required and then write the name with the **Voice Bank keys** indicated in blue. The various letters are obtained by repeatedly pressing the same key: each key providing 3 letters in a cyclic manner.  
**Sp** means space, while **Cl.** means Clear and is used to cancel.
4. Once the name has been written, press **F8** (SAVE) to memorize the Registration.
5. If you want to copy this Registration into another location, press **F4** (the name flashes) and select the new location with **Voice Bank keys**. Then press **SAVE** to copy the Registration in the new location.

A function called MIDI LOCK for REGISTRATION (situated in the MIDI Utilities menu) is provided for the Registrations; this will ensure that all the MIDI functions in the various parts will be unaltered when going from one Registration to another (see MIDI Utilities).

### To save the Registrations on DISK (Hard or Floppy) proceed as follows:

1. Press **SAVE** in the DISK section on the right of the panel.
2. Press **F7** (Registration). Write a new name if desired (using the method described above).
3. Press **F8** (SAVE) to save. In this way the entire block of 128 Registrations in the keyboard's internal memory will be saved on Disk.

## 9. UTILITIES

Some special functions, very different from each other, are grouped in the UTILITIES MENU.

To open this menu and therefore gain access to the various functions, do as follows:

1. Press **EDIT**.
2. Press **F5** (UTILITIES). The display will list the functions:

RELOAD	REGISTR.	CHRD.NAME	FOOTSW.
TUNE	Crash: On	SONGS	525 video

### RELOAD

Used to automatically reload the original User Drum set, User Voices, Programs and Registrations, that is those programmed by the manufacturer, the RELOAD function can be individual or Global.

#### To Reload the original DRUM SET:

- Press **F4** and then confirm the operation with **F8**. The new User Drum Set will be collocated in location N° 12.

**To Reload the USER VOICES, PROGRAMS and REGISTRATIONS**, just carry out the following procedure, in this example for the User Voices, although it is identical for all the sections:

- Press **F5**. If you intend loading all the original User Voices, just press **F3** (GLOBAL) and then **F8** to confirm this. If on the other hand, you want to Reload a single original User Voice, press **F4** (SINGLE) and then select the Voice with the **VALUE keys**. Now press **F8** to confirm.

This operation can be repeated several times to reload other single User Voices.

### REGISTRATION TAB OFF (see Registration)

### CHORD NAME

The CHORD NAME enables the display to show the Chord Name that is being played in the Arrangement section. To activate, press **F3** (CHORD TONALITY DISPLAY) and set **F4** to YES. The other function (BASS TO CHORD RECOGNITION) is used to establish if the BASS has to be part of the Chord or not, in the case of connection to a MIDI Accordion.

### FOOTSWITCH

The FOOTSWITCH Menu controls the assignment of the various effects to the Footswitch (FS 13 with 13 switches or FS 6 with 6 switches). There are 32 controllable effects:

Sustain	Start/Stop	Tempo +
Soft	Restart	Tempo -
Sostenuto	Key Start	Minor
Arr. A	Key Stop	7 th
Arr. B	Bass Drum	Minor 7 th
Arr. C	Snare Drum	5 +
Arr. D	Hi Hat	Diminished
Intro/Ending 1	Hi Latin	Glide
Intro/Ending 2	Rotor Slow	
Fill In 1	Rotor Fast	
Fill In 2	Voice Up	
Fill In 3	Voice Down	

### To enter the programming mode:

1. Press **F4** and then **PAGE >>** to proceed to the following display page.
2. Press the **FUNCTION KEY** relative to the number of the Footswitch to assign the 32 effects to the various footswitches. With the previously assigned effect flashing, it is possible to select the new effect with the **VALUE** keys.

Once the assignment of the 13 effects has been completed, it is possible to block the Footswitch configuration by means of the LOCK function (F3) so that they are no longer affected by Registration changes.

The Footswitch functions can be memorized in a Registration with the ADVANCED mode (see Registration).

## TUNE

The TUNE function controls the tuning of the MS100, within a range of  $\pm 1$  semitone with respect to the standard 440 Hz tuning.

### To change the tuning:

1. Press **F5**. The display will show "GLOBAL TUNE VALUE : 440 Hz."
2. Vary the tuning with the **VALUE** keys.

The TUNE function will prove to be extremely useful when having to play the MS100 with another instrument of which the tuning cannot be modified, for example, an Acoustic Piano, an Electric Piano, an Electro-magnetic Organ or an Accordion etc.

## CRASH

This function enables you to activate and deactivate, by means of **F6**, an automatic Crash Cymbal that will be played at the end of Fill Ins and Intros of the Styles.

## SONGS

This sub menu comprises two very useful functions regarding the MIDI Songs; that is the playing of MIDI Files.

### TRANPOSE KEYBOARD ONLY

With this function 'On', it is possible, with the Global Transposer, to transpose only the tuning of the keyboard, that is the part played manually, leaving the Song in its original key.

### SONG LEAD CHANNEL

This function enables you to set the MIDI channel on which the MIDI File will play the Lead Line of the Song. In the Backings of the SOLTON Disk Library this channel is 04, but with other MIDI Files it may be 01 or another channel.

In this case, to be able exclude the Lead Line in these MIDI Files with the LEAD On/Off function of the MS100, it is necessary to change the Lead Line MIDI Channel. This can be done by first pressing **F7** and then selecting the channel number with the **VALUE** keys.

## VIDEO

This function is used to select two different video standards in the case of connection of the MS100 to a television set by means of the VI 1 Interface (optional).

By pressing **F8** with the UTILITIES MENU showing, it is possible to alternate between the values of 525 VIDEO (European PAL or SECAM systems with 525 lines) or 625 VIDEO (American NTSC system with 625 lines).

The Owner's Manual supplied with the VI 1 Video Interface contains further information regarding the connections to the TV for use in the KARAOKE mode.



## 10. OUT ASSIGN

The OUT ASSIGN menu controls the assignment of the various keyboard sections to the 4 audio output jacks.

### For access to the function:

1. Press **EDIT**.
2. Press **F6**. The display will then show:

```

OUT ASSIGN :                L & R STANDARD ←
L & R + OUT 3   L & R + OUT 3 & 4   4 SEPARATE OUT
  
```

### L&R STANDARD

The standard mode. The amplification of the instrument is done by connecting only to the 2 Stereo Outputs LEFT/MONO and RIGHT.

### L&R + OUT 3

This function enables you to use the 2 Stereo Outputs and at the same time to send a single part of the instrument to Output 3 (Mono).

Press **F5** to enter this function and open the following display:

```

L & R + OUT 3                DRUM
                             ( VOICE 1 )   PART 1                : L & R
  
```

If you select DRUM by pressing **F3**, the display will show the 7 Percussion sections, each of which can be separately assigned to OUT 3 by pressing the corresponding Function Keys from **F2** to **F8**.

**NOTE: When OUT 3 is selected, the internal Reverberation is deactivated.** Therefore it is advised to elaborate the signals sent to OUT 3 with an external Effects Processor. The sections assigned to OUT 3 are no longer connected to the two Stereo L & R outputs.

To return to the above display, press **PAGE <<** and then **F5**.

It is possible to direct each of the 16 MIDI parts of the keyboard via OUT 3. The name of the part is indicated in the display above **F7** and is changed with the **VALUE** keys.

Naturally the MIDI parts will be assigned very differently according to whether the MS100 is being used in the Arranger mode with its internal sections and the Right Hand or as a player of MIDI Files.

For this reason the corresponding Arrangement, Right Hand and Program sections are indicated on the left of the MIDI parts.

For example Part 1 (Voice 1) corresponds to the Right Hand section of the keyboard when the Program is not being used.

If on the other hand the Program is in use, as well as Part 1, it is also necessary to assign to OUT 3, the other parts that make up the Program, that is Voice 2, Voice 3, Voice 4, in order to ensure that all the Program is sent to OUT 3.

Likewise, part 5 corresponds to the Bass, part 6 to Chord 1, 7 to Chord 2 and 8 to Chord 3.

Part 10 is always assigned to the DRUM section.

The assignment of the parts to OUT 3 can be carried out by pressing **F 8**.

The L&R +OUT 3 mode remains memorized and can be saved in a Registration.

**To return to the L & R STANDARD two output stereo mode:**

1. Press **EDIT**.
2. Press **F6** (OUT ASSIGN).
3. Press **F3** (L&R STANDARD).

## **L&R+ OUT 3&4**

This mode is the same as L&R +OUT 3 but with the addition of OUT 4 (Mono). In this case 2 Stereo Outputs L&R, which continue to perform normally, and 2 Mono Outputs (3 and 4) are available. The assignment of the parts can be made indifferently to OUT 3 or OUT 4.

**NOTE: If the OUT 4 socket is used, the internal Chorus, Ensemble Rotor, Delay and Echo Repeat effects are automatically excluded.**

## **4 SEPARATE OUT**

This function transforms the outputs of the keyboard into 4 separate MONO outputs, to which the various parts of the instrument can be assigned indifferently.

The assignment procedure is identical to that of the L&R + OUT 3 mode.

**NOTE: If the 4 separate MONO Outputs are used, all the internal effects are excluded.**

## 11. ACCORDION

This function enables the MS100 to be used with a MIDI Accordion in the best possible way, thanks to a series of implementations that adapt the functions of the keyboard to the particular necessities of the Accordionist.

The MIDI socket to use for the connection of a MIDI Accordion is MIDI IN 2 (KEYB).

### To select the Accordion mode:

1. Press **EDIT**.
2. Press **F7** (ACCORD).

The display will show the message "SELECT ACCORDION MODE".

By pressing **F4** repeatedly, International, Belgian or 'Off' (Accordion function excluded) can be selected.

Let's suppose that the International mode has been selected.

If the accordion transmits the Right Hand on Channel 01, CHORDS on 02 and BASS on 03, the keyboard should immediately work perfectly.

If the MIDI Transmission Channels of the accordion are different, consult the MIDI RX section of this manual to modify the reception channels of the keyboard.

With the ACCORDION mode 'On', the keyboard becomes modified as follows:

1. The Dynamic Curve of the keyboard is set to No Velocity, that is excluded. (see MIDI - UTILITIES). In the case of a MIDI Accordion with Key Velocity, the Dynamic Curve can be reset again with the SOFT, MEDIUM or HARD values.
2. The Bass Sustain is automatically set to a value of 12 when the Arrangement is stopped, enabling it to be played with a certain amount of Sustain. When the Start is given, this value is reset to zero.
3. The Bass octave played manually is set to 8'.

Another function called BASS TO CHORD RECOGNITION is provided for the MIDI Accordion. This gives the possibility to choose whether the Bass should take part in the Automatic Chord Recognition or not.

For access to the function:

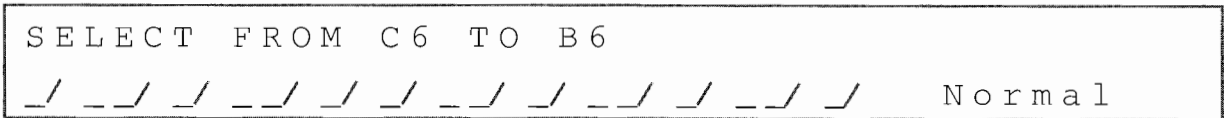
1. Press **EDIT**.
2. Press **F5** (UTILITIES).
3. Press **F3** (Chord Name).

# 12. ARABIC SCALE

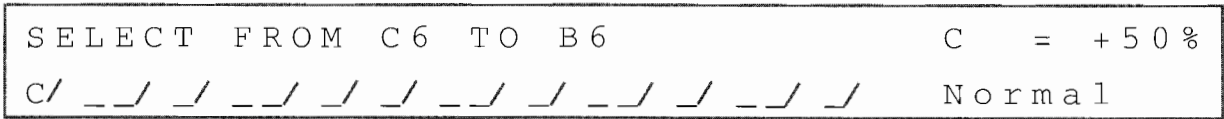
The ARABIC SCALE menu enables the individual tuning of the notes of the MS100 to be adapted to the most common scales used in Arab countries.

## To programme the ARABIC SCALE:

Press **F8** (ARABIC) with the EDIT MENU showing.  
The following display will open:



As indicated in the display, if one of the keys from C<sup>6</sup> to B<sup>6</sup> is pressed (the highest octave of the MS 100), for example C<sup>6</sup>, the display will show:



This is showing that all the C notes have a tuning 50% sharp with respect to the standard tuning. This is the default value for each note that is selected by pressing a key from C<sup>6</sup> to B<sup>6</sup>. The tuning of each note pressed (shown in the top right hand corner of the display), can be modified by first pressing **F4** to make the value flash in the display and then using the **VALUE keys** - or + to modify the value between - 99% and + 99% with a central 0 position (no detuning).

The various notes to be played by the Arabic Scale can be memorized in a Registration. The 'Pitch Shift' of each note is memorized until **F8** (Normal) is pressed again to re-establish the standard tuning.

## 13. MIDI

MIDI (**M**usical **I**nstrument **D**igital **I**nterface) is a standard communications protocol used for the transmission and reception of data between musical instruments.

**To gain access to the MIDI Menu:**

1. Press EDIT.
2. Press **F1** (MIDI). The following display will be shown:

MIDITX	MIDIRX	C.CHANGE	EX.MESS
UTILITIES	CLOCK	SOFTTHRU	DUMP

This page enables access to the main MIDI menus, which in turn enable you to open various sub menus, also made up of several pages. The passage between the pages is always obtained by means of the **PAGE <<** and **PAGE >>** keys.

### MIDI TX (MIDI Transmission)

#### SECTION TRANSMISSION CHANNELS

Press **F1** (MIDITX) to open the following display:

CHAN_TX	Right:1	Drum :10	Left :2
Bass:3	Chrd1:4	Chrd2:5	Chrd3:6

The CHAN TX page refers to the MIDI Transmission channels of the various sections of the MS100, that is RIGHT, DRUM, LEFT, BASS, CHORD 1, CHORD 2 and CHORD 3.

To select the section use the **Function Keys from F2 to F8**.

Use the **VALUE keys** to select the channel number of each section from 1 to 16.

#### PROGRAM TRANSMISSION CHANNELS

From the previous page CHAN TX, pressing **PAGE >>** the next page will be opened:

PROGRAM TRANSMISSION CHANNELS :			
Voice1:11	Voice2:12	Voice3:13	Voice4:14

This page is used to select the MIDI Transmission channels of the 4 Voices in the Program in the RIGHT section.

Select the Voice with the Function Keys **F5 to F8** and then set the channel number from 1 to 16 with the **VALUE keys**.

**IMPORTANT:** As Voice 1 of the Program, which corresponds to the RIGHT section, is set to Channel 11 by default, it may be necessary to set Voice 1 to 'OFF' in order to avoid simultaneous transmission of the Right Hand on 2 MIDI channels.

## TRANSPOSER TX (Transposer Transmission)

This page controls the transmission of the MIDI Transposer for the various sections.

TRANSPOSER_TX	Left : --	Right : --
Bass : --	Chrd1 : --	Chrd2 : --
	Chrd3 : --	

The Transposition can be set within a range of  $\pm 2$  octaves, that is 24 semitones. The MIDI Transposer refers only to the notes transmitted via MIDI and not those actually played internally on the keyboard.

The sections are selected by means of the Function Keys **F3** to **F8** and then the Transposition setting is made with the **VALUE -** and **+ keys**.

Pressing both **VALUE** keys will zero the Transposition setting and the display will show -- in its place.

The Transposer messages for the Bass and Chord 1, 2, 3 sections are transmitted when these sections are played either manually or automatically.

## PROGRAM CHANGE TX (Program Change Transmission)

PR.CN_TX	Voice : On	Drum : On	Right : On
Bass : On	Chrd1 : On	Chrd2 : On	Chrd3 : On

The transmission of the Program Change commands for the various sections can be activated or deactivated in this page.

In the 'OFF' setting, these commands are not transmitted.

The ON/OFF setting is imposed by pressing the relative Function Keys from **F2** to **F8**.

## REGISTRATION TX (Transmission Channel of Registration)

REGISTRATION TX CHANNEL	Ch : Off
-------------------------	----------

This function enables the MIDI Transmission Channel of the Registration to be set, by means of which the Registration's relative Program Change channel number will be transmitted.

Press **F4** and select the MIDI Channel from 1 to 16 with the **VALUE keys**.

## MIDI RX (MIDI Reception)

### SECTION RECEPTION CHANNELS

Pressing **F2** (MIDI RX) the CHAN RX display is opened:

CHAN_RX	Right : 1	Drum : 10	Left : 2
Bass : 3	Chrd1 : 4	Chrd2 : 5	Chrd3 : 6

This page controls the MIDI Reception Channels of the various sections of the MS100. Select the section by means of **F2** to **F8** and then set the channel number between 1 and 16 with the **VALUE** keys.

### PROGRAM RECEPTION CHANNEL

From the previous page CHAN RX, by pressing **PAGE >>** the next page will be opened:

PROGRAM RECEPTION CHANNELS :			
Voice1 : 11	Voice2 : 12	Voice3 : 13	Voice4 : 14

This page is used to select the MIDI Reception channels of the 4 Voices in the Program in the RIGHT section.

Select the Voice with the Function Keys **F5** to **F8** and then set the channel number from 1 to 16 with the **VALUE** keys.

### TRANSPOSER RX (Transposer Reception)

TRANSPOSER_RX	Left : --	Right : --	
Bass : --	Chrd1 : --	Chrd2 : --	Chrd3 : --

This function enables the MIDI Transposition of the messages received from the various sections. The accepted Transposition range is  $\pm 24$  semitoni.

The Transposition refers only to the notes received via MIDI and not those controlled and played internally by the MS100.

Select the section in which you want the Transposition to have effect by means of the Function Keys from **F3** to **F8** and then set the value between -24 and +24 with the **VALUE** keys.

Pressing both **VALUE** keys will zero the Transposition setting and the display will show -- in its place.

### PROGRAM CHANGE RX (Program Change Reception)

PR.CN_RX	Voice : On	Drum : On	Right : On
Bass : On	Chrd1 : On	Chrd2 : On	Chrd3 : On

This page controls the MIDI Reception of the Program Change commands for each section.

In the 'ON' position the Program Changes are received; when 'OFF' they are ignored.

## REGISTRATION RX (Registration Reception Channel)

REGISTRATION RX CHANNEL	Ch : 1 5
LEFT & RIGHT GLOBAL CHANNEL	Ch : 1 6

This page controls the MIDI Reception Channel for the Registration and the Left & Right Global function.

The Program Change relative to the Registration will be received on the Registration RX channel.

The Registration key indicator led must be 'On' on the panel.

To select the reception channel, press **F4** and use the **VALUE keys** to set the number.

The LEFT & RIGHT GLOBAL CHANNEL function enables both the Arrangement and the Right part of the keyboard to be controlled by a single MIDI Channel.

This is very useful in the case of a Master Keyboard or keyboard that has only one MIDI Transmission Channel.

Press **F8** and then use the **VALUE keys** to select the Channel.

## CONTROL CHANGE

Pressing **F3** (C. CHANGE) while in the Main page of the MIDI Menu, will open the following display:

C . CHANGE: - VOLUME	Transmission: On
	Reception: On

This page controls the MIDI Transmission and Reception of the various Control Changes of the instrument: Volume, Pan, Chorus, Reverberation, Modulation, Expression, RPN and NRPN.

The type of Control is selected with the **VALUE keys** and the Transmission and Reception are activated and deactivated with **F4** and **F8** respectively.

## EXCLUSIVE MESSAGE

EXCLUSIVE MESSAGE :	Tx : On	Rx : On
TABS :	Tx : Off	Rx : Off

The Reception and Transmission of the Exclusive Messages of the MS100 and also the Reception and Transmission of the TABS, that is the keys on the Control Panel are controlled in this page.

A complete list of the Exclusive Messages and their codes can be found on page 26.1.

The Exclusive Messages are different from instrument to instrument as they refer to specific internal commands of the keyboard (for example, Rotor Slow/Fast or the type of DSP Effect).

To activate the Transmission or Reception of the Exclusive Messages, press **F3** or **F4**; For the Transmission or Reception of the TABS, press **F7** or **F8**.



## 14. MIDI UTILITIES

Several particular MIDI functions of the MS100 are grouped in the MIDI UTILITIES Menu.

For access to this Menu:

1. Press **EDIT**.
2. Press **F1** (MIDI).
3. Press **F5** (UTILITIES).

```
Key Velocity Curve      : MEDIUM
Bass to Pedal:Off Local Control  : On  >
```

### KEY VELOCITY CURVE

This part enables the selection of the various SOFT, MEDIUM and HARD Dynamic Curves provided for the MS100. Press **F3** for access to the page and use the **VALUE keys** to change the type of curve. In the NO VELOCITY mode, the Keyboard Dynamics are deactivated.

### BASS TO PEDAL

When a MIDI Bass Pedalboard is connected to the MS100, the manual Bass only can be transferred from the keyboard to the Pedalboard by means of this function.

This enables the Bass to be played on the Pedalboard and the Chords on the keyboard in real organist's style. Press **F6** to activate the function.

### LOCAL CONTROL

The LOCAL CONTROL function is used to deactivate the functioning of the internal sections of the MS100 that are set to receive via MIDI. If all the internal sections are set to receive via MIDI with the Local Control activated, the keyboard can be used only as Sound Module.

In effect, the Local Control separates the keyboard of the MS100 from its internal Sound Module.

Press **F8** to activate the function.

### MIDI DEFAULT - MIDI LOCK FOR REGISTRATION

With the above display showing, pressing **PAGE >>** will give access to these two MIDI functions.

```
MIDI DEFAULT                Confirm
MIDI LOCK FOR REGISTRATION  Off
```

### MIDI DEFAULT

The MIDI DEFAULT enables a rapid return to all the MIDI settings originally imposed by the manufacturer. This is activated by pressing the **F4** (Confirm) Function Key.

The default values are those that the keyboard assumes when it is switched 'On' for the first time or after a Hard Reset (for further information about the initialisation of the MS100, see the HARD RESET section on page 25.1). Activating Midi Default will cancel all the MIDI settings previously programmed.

### MIDI LOCK FOR REGISTRATION

The LOCK FOR REGISTRATION is used to freeze the actual MIDI setup so that it will not alter when changing Registrations.

In fact a Registration can memorize the status of various MIDI settings and could contain some MIDI settings different to those needed at the moment.

Press **F8** to activate or deactivate the function (ON/OFF).

## 15. OTHER MIDI FUNCTIONS

### CLOCK

The MIDI CLOCK controls the synchronization of the MIDI in the MS100 both in Reception and Transmission.

**For access to the function:**

1. Press **EDIT**.
2. Press **F1** (MIDI).
3. Press **F6** (CLOCK).

**MIDI CLOCK IN:** With the MIDI CLOCK IN set to **Active**, the MS100 waits for MIDI Clock messages in arrival from external units; when **Inactive**, they are ignored.

**MIDI CLOCK OUT:** With the MIDI CLOCK OUT set to **Active**, the MS100 transmits MIDI Clock messages to connected units; these are then automatically synchronized. When set to **Inactive**, the MIDI Clock will not be transmitted.

### SOFT MIDI THRU

**For access to the function:**

1. Press **EDIT**.
2. Press **F1** (MIDI).
3. Press **SOFT THRU**.

```
SOFT MIDI THRU
```

```
Midi1:Off
```

```
Midi2:Off
```

This function enables the direct transmission from the MIDI OUT socket of all the messages received via the MIDI IN 1 and MIDI IN 2 sockets.

When MIDI 1, corresponding to **F4**, or MIDI 2 (**F8**) are set to 'Off', this means that the messages received by these sockets will not be re-transmitted via MIDI OUT.

### DUMP

The DUMP function enables all the information regarding the Internal Memory of the MS100 ( Programs, Registrations etc.) to be transmitted via MIDI.

The function will prove to be very useful when you want to externally save the keyboard's memory data in a Computer, Sequencer etc.

**To carry out a DUMP operation:**

1. Press **F8** (DUMP) and select the section that you intend dumping via MIDI by pressing the relative Function Key from **F4** to **F8**. The display will show:

MIDI DUMP	Pattern
UserD.Set UserVoice Program	Registr.

A global DUMP can be made by first pressing **F3** and then **F8** (SEND), or a single Dump, by pressing **F4**.

In the second case (Single Dump), the single Pattern, User Voice, Program or Registration can be selected by means of the **VALUE keys** after which you should press **F8** (SEND) as confirmation.

The procedure is the same for the Patterns, User Voice, Program and Registration, but in the case of the User Drum Set, the operation can only be global.

## 16. GENERAL MIDI - 16 MIDI PARTS

This section of the keyboard enables the setting of all the 16 MIDI Parts provided by the GENERAL MIDI Standard.

For access to the function, press **F1** (GM PART-Mute).

This will give access to Part 01:

01 Part	001 Grand	Vol : 63	Pan : - -
Rev : 8	Chor. : 8	K. Shf : - -	MidCh : 1

**To modify the internal parameters of the 16 Parts, use the following procedure:**

1. Select the Part by means of the **PAGE <<** and **PAGE >>** keys.
2. Select the parameter to be modified by means of the corresponding Function keys **F2** to **F8** (see below). When the parameter flashes, modify the setting by means of the **VALUE -** and **+** keys.

**F2 (Voice):** Selection of the Program Change. Apart from with the **VALUE** keys, the Program Change can be selected more directly by means of the **keys in the VOICE BANK** section.

**F3 (Volume):** Volume settings from 0 to 63.

**F4 (Pan ):** Pan/Pot settings of  $\pm 63$ . The central position is obtained by pressing **both VALUE** keys.

**F5 (Reverb):** Reverberation settings from 0 to 8.

**F6 (Chorus):** Chorus settings from 0 to 8.

**F7 (Key Shift):** Shift settings of  $\pm 36$  semitones.

**F8 (MIDI Channel):** MIDI Channels from 1 to 16.

The MIDI socket provided for the correct functioning of the GENERAL MIDI is the MIDI IN 1 (GM) socket.

The 16 Parts are used for the playing of Songs programmed according to the GENERAL MIDI protocol.

In the original SOLTON Disk Library Songs, Part 01 is left free for live playing, while Part 04 is assigned to the Lead Line.

### MUTE

After access to GENERAL MIDI by pressing **F1**, repressing **F1** gives access to the MUTE function controls.

MUTE is used to rapidly include or exclude the 16 MIDI Parts.

Pressing **PAGE >>** enables you to proceed from the first page of 8 Parts to the next 8.

To exclude the Part, just press the corresponding Function Key from **F1** to **F8**.

Of particular interest to the GENERAL MIDI Parts is the Remapping of the Initial Setup of the Song (see the relative section on page 23.3)

## 17. EFFECTS

Press **F2** (EFFECTS) for access to the EFFECTS Menu. The display will show:

```

REVERBER: Hall_2      Level: 9      AMOUNT
CHORUS   : Chorus_1      DEPTH
  
```

### REVERBERATION

By pressing **F2** and then using the **VALUE keys**, selection from the 15 types of Reverberation can be made: these are Hall 1, Hall 2, Hall 3, Hall 4, Stage 1, Stage 2, Stage 3, Stage 4, Room 1, Room 2, Room 3, Room 4, Arena, Cathedral and Square.

The Overall Volume of the Reverberation effect can be set by first pressing **F3** (LEVEL) and then setting the level from 1 to 16 with the **VALUE keys**.

It is possible to set the Reverberation level for each section of the MS 100, by pressing **F4** (AMOUNT). The display will change to show:

```

REVERBER AMOUNT:      Drums: 7      Right : 8
Bass: 4      Chrd1: 7      Chrd2: 7      Chrd3 : 7
  
```

The Reverberation level for each section can now be varied by pressing the corresponding Function Keys from **F3** to **F8** and then using the **VALUE keys** to set the value from 1 to 8. A further Reverberation control is provided for the Drum's 7 Percussion sections (see DRUM CONTROLS in the ARRANGER section of the manual).

### CHORUS

From the page regarding Reverberation, pressing **PAGE <<** will enable you to return to the first Effects page (shown at the top of the page).

Now, by pressing **F6**, access to the various Chorus effects can be obtained: these are Chorus 1, Chorus 2, Ensemble, Rotos, Delay, Chorus Delay, EchoRepeat 1 and EchoRepeat 2.

The effects can be made to scroll in this position by means of the **VALUE keys**.

To set the amount of Chorus (Depth) for each section on the other hand, press **F8** (DEPTH):

```

CHORUS DEPTH;      Right : 8
Bass: 0      Chrd1; 0      Chrd2: 0      Chrd3 : 0
  
```

After selecting the section by means of the corresponding **F4** to **F8** Function Keys, use the **VALUE keys** to make the Chorus Depth setting.

# 18. PATTERN

The Pattern section of the MS100 enables a Style to be programmed, by completely re-programming it or by means of a copy or modification of a pre-existing Style.

The MS100 can contain about 20/24 complete Styles in its internal memory. (If the Styles are partial or made up of very simple Arrangements, it can contain a greater number).

A Memory Expansion (Mod. EM 1 640Kbytes) is also available as an optional, for internal assembly. This enables a further 40/48 Patterns to be memorized in addition to those already resident.

**For access to the PATTERN functions, press the Function Key F4 (EDIT PATTERN).**

The display will show:

```

Ø1 [ EMPTY ]      VALUE      VOICE
VOL / EFF   RECORD   DELETE   COPY
    
```

This page shows the Main Pattern Menu, with the 6 basic functions assigned to the positions corresponding to the Function Keys from **F3** to **F8**.

If no Pattern is present in the location, the word "Empty" will be shown in the brackets. The various menus of the Edit Pattern will now be analysed.

## VALUE

Pressing **F3** (VALUE) with the Edit Pattern menu showing as above gives access to the VALUE functions:

```

FREE 100%  CHRD MODE  TEMPO_PATTERN : 120
AUTO CR .   LOCK : Off  TIME_SIGNATURE : 4 / 4
    
```

### FREE

This percentage value indicates the amount of memory still available for the programming of a Pattern.

### CHORD MODE

Press **F2** to open the Chord Mode function:

```

SELECT CHORD MODE (Parallel or Close)
          Chrd1 : Pl   Chrd2 : Pl   Chrd3 : Pl
    
```

In this menu it is possible to establish in which mode the Automatic Chords will be played:

**PL (PARALLEL)** = means that changing key will cause a parallel transposition of the notes.

**CL (CLOSE)** = means that when changing key, the chord notes will play closer inversions, taking into account the rules of musical harmony.

Select the condition for each of the 3 chords by means of the **Function keys F6, F7 and F8**.

Press **PAGE <<** to return to the display of the other VALUE functions.

## PATTERN TEMPO

This function controls the Tempo of the Pattern. By pressing **F4** the value will flash. The Tempo can now be varied by the **VALUE keys** within a range of between 40 and 250.

## AUTOCR

This function activates and deactivates the automatic Cymbal Crash at the end of the Intros and Fill Ins. Press **F5** for access to the function.

To activate or deactivate the Autocrash, press the Function key **F4**.

In the lower line of the display it is also possible to vary the Volume of the Autocrash, pressing first **F8** and then setting the level with the **VALUE keys** with a value of between 0 and 63.

## LOCK

This is a Protection Function for the Pattern that you are editing or one that is already memorized against accidental cancellation or copying. To block or unblock the Pattern, just press **F6**.

## TIME SIGNATURE

This function controls the Time Signature, that is the musical sub-division of the bars in the Pattern. Access to the function is by pressing **F8**.

The first and second figure of the Time Signature can be changed in two consecutive phases, by means of the **VALUE keys**. The range of values is from  $1/4$  to  $16/8$ .

**NOTE: The Time Signature must be set before beginning the recording of a Pattern, as it is not possible to change the Time of an existing Pattern.**

Press **PAGE <<** to return to the EDIT PATTERN Menu.

## VOICE

Pressing **F4** in the Main Edit Menu gives access to the sub menu VOICE, which enables the selection and the assignment of the Sounds to the various Parts of the Arrangement.

INTRO_1	INTRO_2	ARR . A	ARR . B
ARR . C	ARR . D	END_1	END_2

This page shows the 8 sections of the Pattern. Each section can operate with different Voices. Let's try changing the Voices in Intro 1, as an example.

Pressing **F1** opens the following display:

VOICE :	INTRO_1	STANDARD
Fingered	Electric	Folk
		Score

The display shows the Drum Set (F4), the Bass sound (F5), Chord 1 (F6), Chord 2 (F7) and Chord 3 (F8).

The sound can be changed in each section by first pressing the corresponding **Function Key** from **F4** to **F8** and then selecting the new sound by means of the **keys in the VOICE BANK**. The procedure is the same for all 8 sections.

## MANUAL VOICE TO LEFT

With the VOICE Menu showing, pressing **PAGE >>** gives access to the MANUAL VOICE TO LEFT function, which enables the assignment of a different Voice to the Left section. The LEFT section corresponds to Chord 3 played manually when the Rhythm is in the 'Stop' condition. The Voice selected will be active only when the LOWER function of the ARRANGER is set to 'ON' (see ARRANGER).

Press **PAGE <<** *twice* to return to the main Edit Pattern Menu.

## VOLUME / EFFECT

It is possible to set the Volume, Reverb., Chorus and Pan Pot for each of the 5 Arrangement sections of the Pattern with this function.

By pressing **F5** the display will show the VOLUME page.

Repeated pressing of Function Key **F1** gives access to the Reverb, Chorus and Pan pages.

The values can be set by using the **VALUE keys**.

The Volume values are from 0 to 63, while those of the Reverb. and Chorus are from 1 to 8.

The values of the stereo spectrum of the Pan Pot are 9, 18, 27, 36, 45, 54 and 63 both for Left and Right. The Pan Pot values for the Drums are already individually assigned to the various percussions.

Pressing both **VALUE keys** zeroes the Pan Pot setting, giving a central position setting.

Press **PAGE <<** to return to the main Edit Pattern Menu.

## RECORD - Recording the Pattern

For access to the Pattern recording, press **F4** (EDIT PATTERN) and then **F6** (RECORD).

INTRO_1	INTRO_2	ARR.A	ARR.B
ARR.C	ARR.D	FILL_1	FILL_2

This page shows the first 8 sections of the Style; pressing **Page >>** shows the other 3.

<	FILL_3	END_1	END_2
---	--------	-------	-------

Select the part to be recorded, for example, INTRO 1, by pressing the corresponding Function Key, in this case **F1**. The display will show:

INTRO_1	-	Drum	- - -	Quant. : 16
CLEAR		(M, m, 7th)	Bar: 2	Metron.: On

This page shows the various functions provided for the recording of the Pattern, corresponding to the positions of the Function Keys as follows.



**F 1:** The Part of the Arrangement to be recorded. Can be changed by first pressing **F1** and then using the **VALUE keys** to select the Part.

**F 2:** This position enables you to select which section of the current part is to be recorded: Drum, Bass, Chord 1, 2, 3. Press **F1** and then use the **VALUE keys** to select the section.

The value indicated beside the section is the Tempo, which can be varied by means of the Slow/Fast keys.

**F 3:** This parameter allows the octave of the instrument that is being recorded to be transposed within a range of  $\pm 2$  octaves, that is 24 semitones.

**F 4:** With **F4** the quantize values, the automatic correction of the notes played in the recording, can be set. The Quantize range extends from  $1/4$  to  $1/96$ . The display will show only the numbers 4, 8, 12, etc.).

**It is very important to select an appropriate quantize value for each programming.**

Here is some advice:

1. When writing the DRUM and BASS parts for Samba, Polka, Tango etc., for example, a Quantize of 16 is alright. For times in which triplets occur (for example Waltz, Slow Rock, Swing, Shuffle etc.) a Quantize of 12 should be used.
2. For the writing of the CHORDS, the same indications given for the Quantize of the Rhythm and Bass apply, with exception to the cases where Pitch bend and Modulation control is used in the recording.

In these cases it is **ALWAYS** necessary to use a Quantize value of 96.

**F5:** The CLEAR function enables the cancellation of a single note, an entire Part or even just the various controls of the Bend, Modulation, Sustain etc.

### CANCELLATION OF AN ENTIRE PART

To completely cancel the Part that you have recorded, press and hold down **F5** then simultaneously press **F8** (GLOBAL).

### CANCELLATION OF A SINGLE NOTE

The cancellation of a single note can be achieved in two ways:

1. While recording the Part, you should press and hold down the **F5** (CLEAR) key and then play the key of the note that you want to cancel at the precise moment it occurs.

In this way the note is cancelled exclusively in the place desired.

2. When the recording of the Part is not playing, you should press and hold down the **F5** (CLEAR) key and then play the key relative to the note that you want to cancel on the keyboard, which will then be eliminated from the entire recording of the Part.

### CANCELLING THE CONTROLS

After doing the recording, if you hold down the **F5** (CLEAR) key a new page will appear in the display, showing all the controls.

To cancel the controls, press and hold down the **F5** (CLEAR) key. Then select the control to be cancelled by pressing the **Function Key** corresponding to Bend, Sustain, Modulation, Tempo, Expression and Program Change.

**F6:** M, m, 7th. This parameter is used to decide if the Part that you record will be common to the three Major, Minor and Seventh keys or if you want to record in a single key. When M, m, 7th is shown this signifies that you are recording a table that is valid for all the Chords.

If on the other hand, only Major, Minor or 7th is shown this means that you are recording only the Major, Minor or 7th keys and consequently you will have to record the other keys.

It is however possible to record a Part common to all three keys, for example the Bass, and then record the Chords with three different keys.

**F7: BAR** This function determines the number of bars in the Part to be recorded. The number of bars must be set before beginning the recording of the Pattern. To modify the number of bars in an already existing Pattern, it is necessary to completely cancel all the Parts common to that number of bars.

Intro 1 and 2	from 1 to 16
Ending 1 and 2	from 1 to 16
Arranger A,B,C,D	from 1 to 16
Fill In	1

The Intro 2 of the Major and Minor keys must have the same length, as must the 4 Arrangement tables and the Ending 2 in Major and Minor.

**F8: METRONOME** With the **F8** key it is possible to activate or deactivate the Metronome function during the recording.

### HOW TO MODIFY THE KEY VELOCITY

By pressing **PAGE >>** you can proceed to the next display:

BASS	VELOCITY	+ 1 6
( M , m , 7 t h )	OCTAVE	+ 1 2

This page enables modifications to the values of the Key Velocity and Octave of the recorded instrument.

Press **F3** to select the Velocity function, use the **VALUE keys** to change the value and then press **F8** to confirm.

This function can be used to modify the level of the Parts already recorded in order to obtain a better balance between the Parts in the Arrangement.

In the case of the DRUM section, this page will be shown slightly differently:

DRUM	VELOCITY	Ø	< CANCEL >
( M , m , 7 t h )	DRUM NOTE	ALL	< CONFIRM >

In fact it is possible to modify the overall Key Velocity of a single Percussion Instrument recorded in the Part of the Pattern.

This is obtained by setting the Velocity value with the **VALUE keys** and then playing the key corresponding to the Percussion Instrument on the keyboard (the name of the note will be shown in the F 7 position of the display).

Then press **F8** to confirm.

## HOW TO RECORD A PATTERN

---

1. Press **F4** (EDIT PATTERN).
2. If the Pattern is empty, "Empty" will be shown.
3. Press **F6** (RECORD).
4. As an example let's try to record the Arrangement A. Press **F3**.
5. Press **START** to start the recording of the DRUM track. The metronome will carry out an empty bar after which you can start to record by pressing the keys corresponding to the relative Percussion Instruments. In case of an error, use the CLEAR functions (see Clear).
6. Having finished the DRUM Part, to record the BASS, press **F2** and use the **VALUE keys** to select BASS. Then press **START** and play the BASS.
7. Proceed like this also for the CHORD 1, 2 and 3 Parts.

The Parts will play the Voices preset by the manufacturer, which can be modified by means of the VOICE menu of the Pattern (see VOICE - page 18.2).

**IMPORTANT:** *The recording of all the parts must be carried out in the key of C Major in the case of a recording done in the M, m, 7th or Major conditions. In the Minor or 7th conditions they must be recorded respectively in C Minor and C 7th. The Intro 2 and Ending 2 can be recorded freely with any harmonizing. Intro 1 and Ending 1 on the other hand should be preferably recorded in C Major as they are needed to carry out an Intro and Ending manually controlled by the player with all the preferred chord variations.*

## SOME USEFUL ADVICE IN PATTERN PROGRAMMING

---

- A. If you want to work intensively in the programming of a Pattern, do one Style at a time, that is with the Pattern memory practically empty. This greatly facilitates all the editing operations.  
Once the programming is completed, save the Pattern on the Hard Disk (or Floppy), then cancel it from the internal memory and proceed with the programming of new Styles.
- B. Instead of writing an entire Pattern from the beginning, it can be very useful to copy some Parts of existing Styles (with the Pattern COPY function) and then modify the contents accordingly

## REPLAYING THE PATTERN

Once the recording of the Pattern has been completed, to replay it you must first leave the EDIT mode and then press **START**.

The Pattern behaves exactly like an internal Style when being replayed.

## DELETE

The DELETE function enables the complete cancellation of one of the Arrangement Parts or a complete Pattern.

Press **F7**. The display shows:

INTRO_1	INTRO_2	ARR.A	ARR.B	
ARR.C	ARR.D	FILL_1	FILL_2	>

To open the second page of the DELETE menu, press **PAGE >>**:

<	FILL_3	END_1	END_2	
GLOBAL				

No cancelling operation can be carried out if the Pattern is protected by the LOCK function in the VALUE menu. If you try to cancel with this function 'On', the display will show 'Pattern Protected'.

### CANCELLATION OF AN ENTIRE PATTERN

1. With the second page display of DELETE showing, as above, press **F5** (GLOBAL).
2. Press **F8** to confirm.

### CANCELLATION OF A PART

1. Select the Part to be cancelled by means of the Function Keys (Intro, Arr.A etc.).
2. Press **F3** (GLOBAL) and then confirm with **F8**.

### CANCELLATION OF AN INSTRUMENT

1. Select the Arrangement Part that contains the instrument to be cancelled.
2. Select the single instrument with the function Keys (Drum, Bass, Chord 1 etc.)
3. Press **F8** to confirm the cancellation.

## COPY

This important function of the Pattern Edit enables a complete Style or a single Part to be copied into a Pattern.

Press **F8** (COPY) for access to the function:

PRESET	[16BEAT_1]	TO	PATT..01	Global
Intro	Arrange	Fill		Ending

The upper line in the display indicates the name of the Style to be copied in the F2 position and the position into which it can be copied in the F3 position. Whether an entire Style or only a single Part of it is to be copied, you should:

1. Press the Function key **F1** to establish whether it is a preset Style or a Pattern that is to be copied.
2. Press **F2** and then use the **VALUE keys** to select the Style or Pattern that is to be copied.
3. Press **F3** and then use the **VALUE keys** to select the Pattern into which it is to be copied.

## GLOBAL COPY OF A STYLE

To carry out a Global Copy of a Style (or Pattern) you should do as follows:

1. Press **F4** (Global). The display will ask you to confirm the procedure, showing the Style (or Pattern) to be copied in the F2 position and the Pattern into which it has to be copied in the F4 position.

```
GLOBAL [ROCK_1] -> GLOBAL [PATT..Ø1]
                        <Cancel> <Confirm>
```

2. Press **F8** to confirm the copy of the entire Style (or Pattern).

## PARTIAL COPY OF A STYLE

1. With the display as at the foot of page 18.7, and after defining the Style (or Pattern) to be copied and the Pattern into which it has to be copied (as indicated at the top of the page), press the Function Key **F5** to **F8** corresponding to the Part to be copied, that is Intro, Arrange, Fill etc. The display will ask for confirmation:

```
INTRO 1 [ROCK_1] -> INTRO 1 [PATT..Ø1]
                        <Cancel> <Confirm>
```

If Intro (or Ending) is selected you can choose between Intro 1 or Intro 2 (Ending 1 or Ending 2) with the usual method of selection (**Function Keys** and then **Value keys**).

Likewise you can choose between Intro 1 and Intro 2 (Ending 1 and Ending 2) of the Pattern into which the copy will be done.

2. Press **F8** (Confirm) to confirm.

## COPY OF A SINGLE INSTRUMENT

Suppose, for example, that you want to copy a single instrument into Arrangement A. Press **F6**. The display will show:

```
ARR.A -> GLOBAL ARR.A <
16BEAT_1 -> 16BEAT_1 <Confirm>
```

1. At this point by pressing **F1** and using the **VALUE keys**, select from which Arrangement you want to copy from ( A, B, C or D ).
2. Then with **F2** and the **VALUE keys** choose which instrument you want to copy from the Arrangement selected (Drum, Bass, Chord etc. ).

3. With **F3** and the **VALUE KEYS** select into which Arrangement you want to copy.
4. Once you have made the selection, press **F8** to confirm.

This useful part of the Copy function enables you to interchange the Arrangements and the Instruments of the various Styles in a very creative manner.

For example, you can copy the Drums of Arrangement A to Arrangement C, or the Bass of A to C and so on.

The possibilities and the combinations are infinite and the results that can be obtained depend only on your imagination.

**IMPORTANT:** *The Arrangement parts or single instruments that you want to copy must be part of two Styles having the same number of bars and the same Time Signature. On the contrary, in fact, the display shows the message "Measures not equal" indicating that the operation is not possible.*

*To avoid this problem, a List of Styles of the MS100, containing all information regarding the Bars and Time Signatures, can be found on pages 27.4 and 27.5 of this manual.*

*Before copying the various Parts you are advised to consult the table and check that the number of Bars and the Time Signatures are compatible.*

## **PATTERN CHAIN**

---

It is possible to create Chains of Patterns. The PATTERN CHAIN function can be very useful because, in a single operation, it enables you carry out the loading of a lot of Patterns (see CHAINS in the HARD DISK FOLDERS section on page 23.2).

## **PATTERN MEMORY EXPANSION**

---

A Memory Expansion for the Patterns is available on request. It is called EM 1 and consists of a small 640 Kbyte RAM Memory board that can be installed inside the MS100 and enables you to add a further 40/48 Patterns to the 20/24 already available as standard implementation.

For more detailed instructions regarding the assembly, consult the technical information supplied with the EM1 Memory Expansion.

## **HOW TO RECORD A PATTERN FROM A COMPUTER**

---

You can also record a Pattern in the MS100 by transferring MIDI Files from a Computer.

**For this operation do as follows:**

- A. Connect a MIDI cable from the MIDI Out of the Computer to the MIDI In 2 (Keyb) of the MS100 (The MIDI In 1 socket is not qualified for this type of operation).
- B. Set the MIDI Clock of the MS100 in the ACTIVE mode (see the MIDI Clock section).
- C. Set the MIDI CLOCK OUT of the Computer in the ACTIVE mode.

These last two operations ensure that the Master Clock is that of the Computer.

Suppose that you have already programmed a computer sequence of 4 bars of the 5 tracks that the Pattern can consist of, that is:

Drum, Bass, Chord 1. Chord 2 and Chord 3.

The MIDI channels of the 5 tracks of the Computer must perfectly correspond with the Reception Channels (MIDI Rx) of the internal Parts of the MS100:

DRUM:	Channel 10
BASS:	“ 3
CHORD 1:	“ 4
CHORD 2:	“ 5
CHORD 3:	“ 6

After carrying out these operations you are ready to record the sequence in a Pattern.

This is the procedure to follow:

1. Press **F 4** (EDIT PATTERN).
2. Select an empty Pattern (by means of the **VALUE keys**).
3. Enter in the RECORD mode by pressing **F6**.
4. Select the Part of the Style to be recorded. Suppose you want to record Arrangement A for example, press **F3**.
5. With **F7** and the **VALUE keys** establish the number of bars in the Arrangement, in this case 4.
6. With **F6** and the **VALUE keys** select the key to be recorded (Major, Minor, Seventh).
7. If you want to record the sounds exactly in the octave that you are listening to, check that the Transposer is set to '0'.
8. Set the METRONOME to 'ON' with **F 8**.
9. Set all the MIDI Parameters of the Computer as indicated above.
10. Set the computer to automatically recycle 5 times in the 4 bars, as the MIDI channels to record are 5 and they are recorded one channel at a time.
11. Press **START** on the Computer. If you have carried out all the operations correctly the Clock of the MS100 should be automatically activated, thereby starting the recording. The first track recorded is the Drums, then the Bass, then the Chords 1, 2, and 3. You will hear the superimposition of one track on another with each recycle of the computer. The display will show the Part that is being recorded each time. When the recording of Arrangement A is terminated, the Start will be automatically turned 'Off' on the MS100.

**NOTE: The Metronome function must be 'ON' (point 8 above) otherwise the START of the MS100 will be turned 'OFF' at the end of each track. There is no need to set the Quantize value as this will be automatically set to 96 with this procedure.**

## 19. SONG RECORD

The SONG RECORD function enables the recording of a sequence carried out on the keyboard in real time, using the Arrangements and playing the lead line.

To record the SONG:

1. Press **SONG RECORD** in the DISK section of the panel. The display will ask a name to be assigned to the Song:

```

ASSIGN SONG FILE NAME :
<< Down           Up >>      Cancel  Record
  
```

2. Write the name of the Song (one letter is sufficient) by **using the keys in the VOICE BANK**.
3. After writing the name, press **F8 (RECORD)**. This opens a new display:

```

Press F8 to Start Recording !
                          Cancel  Start
  
```

4. Now, by pressing **F8 (START)**, the MS100 will be set in a standby condition, in that the recording will effectively start when the first event is inserted (this can be the first note or even the activation of the Start or Intro).  
A small rectangle that appears in the upper line of the display indicates that the recording has already started. All the changes made to the panel controls during the performance will be recorded in the Song.
5. To stop the Song, repress **SONG RECORD**. The small rectangle in the display will disappear and the MS100 will automatically be set in the SONG PLAY mode, that is in the position to replay the Song the moment the recording has been concluded.
6. Press **START** to listen to the Song. During replay it is possible to play with the sequence, freely selecting the Lead Voice in the Voice Bank section.



## 20. HARD DISK - FLOPPY DISK

### GENERAL NOTES

The MS100 is provided with a 3.5" Floppy Disk Drive and an internal 510 Mbyte Hard Disk.

The two Disk Units can carry out the same functions (Load, Save etc.), but the Floppy Disk should be considered as an intermediate unit to load all the necessary data into the Hard Disk or as a momentaneous device for listening to MIDI Files etc.

In fact the operating speed and the memory capacity of the Hard Disk are far superior to those of the Floppy Disk.

Therefore it is advisable to work in normal conditions using exclusively the Hard Disk.

After gaining confidence with several procedures of the Floppy Disk, essential for its functioning and its dialog, you will definitely be astounded by the applicational power gained with the use of the Hard Disk in your MS100.

### PRECAUTIONS

It is very important not to subject the MS100 to excessive shocks as these can damage the Hard Disk or Floppy Disk mechanisms in an **irreparable** manner with consequent loss of the data contained in them.

The damage caused by this type of bad treatment will make the product's guarantee void.

You should **absolutely** avoid moving the MS100 when this is functioning.

Switch the instrument 'Off' before any movement and before transport.

Wait at least 30 seconds before moving the keyboard (the time taken by the Hard Disk to come to a complete stop).

It is also advisable to wait at least 30 secs between when the instrument is switched 'Off' and when it is switched 'On' again.

Finally it is suggested that you always preserve the original disks of material loaded into the Hard Disk, as a guarantee of back up in case of accidental cancellation or seriously bad functioning of the Hard Disk.

### HOW TO SELECT HARD DISK OR FLOPPY DISK

The two units, Hard Disk and Floppy Disk, cannot work together. Therefore it is necessary to choose the appropriate Disk Unit for each operation.

**The selection between Hard Disk or Floppy Disk functioning is achieved as follows:**

1. With the instrument switched 'On', press the blue **DISK** key.  
Corresponding to the F1 position in the display, the word "FLOPPY" or "HARD (1)" will show according to whether the Floppy or Hard Disk is selected.  
The number in brackets beside HARD refers to the number of the Folder in use at the moment (see Folder).
2. Press the **F1** key to select Floppy or Hard. If no disk is inserted in the Floppy Drive, the display will show "Diskette Absent". Insert a disk in the drive and press **Cancel** to return to the main DISK Menu.

## HARD DISK

---

The Hard Disk of the MS100 has a capacity of 510 Mbytes and this powerful mass memory is sub-divided into 999 Folders.

Each Folder can contain a total of 255 files, of which 99 can be Songs or MIDI Files and all the remaining files can be made up indifferently of Styles, Programs, Registrations, PCM Sounds, Groove & Styles.

### HOW TO PLAY THE SONGS IN THE HARD DISK (or FLOPPY)

To listen to the Songs contained in the Hard Disk of the MS100 (in Folder 1 there are several demo Midi files) or on the Floppy Disk proceed as follows:

1. Press the **SONG PLAY** key (Insert the diskette in the Drive).
2. Check what the display is showing in the F2 position.  
If it is showing FD, this means that the FLOPPY DISK is currently activated and you can listen to the backings contained on the diskette.  
If, on the other hand the display is showing HD [ 1 ] this means that the Hard Disk is currently active and you can listen to the Demo Songs already in Folder 1.  
The selection of FD (FLOPPY) and HD (HARD) can be made by alternately pressing **PAGE <<** and **PAGE >>**.
3. In both cases just press **F5** (DIRECTORY) to view the list of the MIDI Files present.
4. To start the Song, just press the **Function Key** corresponding to the Song number and then press **START**.

### NON STOP PLAY

If the Hard Disk is active and you know the number of the Song, the selection can be made directly from the numeric keypad from 0 to 9 under the display, even when the Song is playing.

In this way, thanks to the NON STOP PLAY function, it is possible to instantly select the next Song which will be inserted immediately in less than a second.

This function plays an important role when doing live gigs, as it enables the player to go to the next Song without any delay, instantly choosing the most appropriate Song for any occasion.

### HOW TO COPY FILES FROM THE FLOPPY TO HARD DISK (and Viceversa )

The procedure for the loading of files from the Floppy Disk to the Hard Disk is as follows:

1. Press the blue **DISK** key .
2. Press **F5** (COPY). The display will show one of two messages in the top left hand corner:

**COPY FLOPPY —> HARD**

**COPY HARD —> FLOPPY**

The selection can be made by pressing **F2**.

COPY FLOPPY - > HARD	REGISTR.	PROGRAM
USD / USV	SND / GRV	SONG / CHN
		PATT / CHAIN

The display will show all the sections that can be copied:

F3 (Registration), F4 (Program), F5 (User Drum Set/ User Voice), F6 (PCM Sound/Groove), F7 (Song/Chain), F8 (Pattern).

### Supposing you want to copy a Song file from the Floppy Disk to the Hard Disk:

3. Insert the disk in the Drive and press **F7** (SONG/CHN).
4. Press **F1** (SONG FILES).
5. The display will show a list of the Songs present on the Disk.  
At this point it is possible to carry out a single or multiple copy of the Songs.

### To carry out the Copy:

**A:** Press the **Function Key** corresponding to the Song or Songs that you want to copy. Go to the next page with the **PAGE >>** key if necessary.

**B:** To confirm the copy, press **SAVE/NAME**. The display will show:

COPY		-----TO-----
<<DOWN	UP>>	ALL <Confirm>>

**C:** If you are doing a single copy, just press **F8** (CONFIRM).

If, on the other hand you are doing a multiple copy, press **F7** (ALL) and then confirm this with **F8**. This will begin the automatic Copy of all the selected files onto the Hard Disk.

The above procedure for the copying of Songs from the Floppy Disk to the Hard Disk is also completely valid for the copying of all the other files of the MS100, that is Styles, Programs, Registrations etc.

To carry out the reverse Copy, that is **HARD DISK to FLOPPY DISK**, just carry out the same operations indicated for the copy from Floppy to Hard in points 1, 2 and 3, making sure that Copy function selected is:

**COPY HARD - - -> FLOPPY**

## 21. DISK LOAD

### HOW TO LOAD FILES FROM THE HARD DISK OR FLOPPY INTO THE INTERNAL MEMORY

The function of loading the various files from the Hard Disk or Floppy Disk into the Internal memory (RAM) of the MS100 is carried out in the following way:

1. Press **LOAD** in the DISK section.
2. Check the F1 position in the display to see if the LOAD HD (1) function is active (loading from the Hard Disk) or LOAD FD (loading from the Floppy Disk). The selection of the two modes is made by pressing **F1**.
3. Suppose that the Floppy Disk (Load FD) is active. The display will indicate all the sections concerned in the loading:

LOAD FD	SND / GRV	REGISTR .	PROGRAM
USER D . SET	USER / VOICE	PATTERN	PAT . CHN

4. Press the **Function key** relative to the section to be loaded.
5. The display will list all the files present in that section.
6. Select the section and then press **F8** to confirm.

The loading of the Registration, Program, User Voice and User Drum set sections will be carried out immediately.

The loading of the PCM Sounds or Grooves and Styles is worth a special mention.

### HOW TO LOAD PCM SOUNDS OR GROOVES FROM DISK

The PCM Sounds that are loaded from Disk will be collocated in the first 4 USER VOICE locations from 1 to 4.

The Grooves are sampled rhythmic cuttings mostly linked with a Style to create the Groove & Styles.

When the memory is empty, the first PCM Sound or Groove is automatically collocated in location 01. If there is already a Sound loaded into the memory, it will be assigned the next free location.

If the PCM Sound is quite complex, it can occupy more than one User location.

The PCM Sounds are cancelled when the keyboard is switched 'Off'.

**The loading of the PCM Sounds is carried out in the following way:**

1. Press **LOAD** in the DISK section.
2. Press **F2** (SND/GRV).

3. Then press **F1** or **F5** according to whether you want to load PCM Sounds or Grooves. The display shows the Files available.
4. Press **the Function key** relative to the File to be loaded. The display will ask for a User location to be assigned (see beginning of this section).
5. Press **F8** (CONFIRM) to activate the loading.

You are reminded that for the PCM Sounds and the Grooves that require a lot of memory, the use of the Hard disk is **absolutely necessary**.

In fact the loading times of the Hard Disk are considerably shorter than with the Floppy Disk.

Suffice it to say that a Groove or PCM Sound that needs no more than one User location, can be loaded on average in about 6 to 8 seconds.

## HOW TO LOAD STYLES, GROOVES & STYLES AND CHAINS OF PATTERNS FROM DISK

### LOAD STYLES

The Internal Memory of the MS100 contains about 20/24 Styles. With the Memory Expansion EM 1 -640 Kbytes (optional) about a further 40/48 Styles can be added.

All the Styles loaded in the Patterns Memory remain memorized even after the instrument is switched 'Off' and they will be cancelled only in the case of a Hard Reset (see Hard Reset a pagina 25.1)

#### To load a Style from Disk:

1. Press the **LOAD** key in the Disk section.
2. Select the Hard or Floppy Disk with **F1**. Suppose that this is Floppy (check that the disk is inserted in the drive).
3. Press **F7** (PATTERN). The display will show the Directory of the Styles present on the Disk.
4. Press the **Function Key B** corresponding to the Style to be loaded. The display will always indicate the number of the first free location even if there are other Styles in the memory.

```
LOAD - - - - - TO      01 [EMPTY]
                        <Cancel>  <Confirm>
```

5. Press **F8** (CONFIRM) to confirm the loading.

## LOAD GROOVE & STYLE

---

The Groove & Style is a Style just like any other with the one difference that its Rhythmic section is made up completely (or in part) of a PCM sample called Groove.

When the Groove and Style is loaded in the MS100 it has to carry out two simultaneous loading operations: first the Style locates itself in the Pattern section and then the Groove locates itself in the User Voice from 1 to 4.

A special synchronization system assures that the Groove is controlled by the Style and that it also adapts itself perfectly to the changes in Tempo.

### NOTE

**A. When the instrument is switched 'Off' the Grooves do not remain in memory while the patterns do.**

***In the case of the Grooves and Styles therefore, to restore the same condition as before switching the instrument 'Off', it is sufficient to load the PCM relative to the Groove, that is the .GRV files, to obtain the complete Groove & Styles.***

**B. The loading of the Groove & Style (for the reasons explained above) takes more time with respect to the loading of a normal Style.**

***You are advised, therefore, to always use the Hard Disk for the operations regarding both the loading of PCM Sounds and Grooves & Styles.***

## LOAD PATTERN CHAINS

---

In order to reduce to a minimum the loading times of the Styles, the PATTERN CHAIN function has been provided in the MS100 (see CHAINS in the HARD DISK FOLDERS section on page 23.2).

The Pattern Chain enables you to carry out the collective loading of many Styles in one operation.

**This function can be very useful, above all, in the following cases:**

**A.** After a Hard Reset, to restore the Patterns setup in a very short time, exactly as it was before switching 'Off'.

**B.** Not having the Memory Expansion (Mod. EM 1), to alternate different groups of Styles in the Internal Memory.

**NOTE: If you carry out a loading of a Pattern Chain when there are already Styles in the Internal Memory, the Chain will be loaded according to the memory space available.**

***Remember that the Standard Memory can contain about 20/24 complete Patterns and that the Memory Expansion EM 1 ( optional ) can contain about 40/48.***

***These numbers are purely indicative, as everything depends on the structure of the actual Styles and on the complexity of the Arrangements with which they are composed.***

---

**The loading of a Chain of Patterns from the Hard Disk is carried out as follows:**

1. Press **LOAD** in the DISK section. *Check that the LOAD HD (1) mode is active in the F1 position of the display.*
2. Press **F8** (PAT.CHAIN).
3. Press the **key relative to the Chain** to be loaded.  
If enough memory is available the entire Chain will be loaded.  
If other Styles exist in the memory, the display will show:

EXISTING PATTERNS !!	<OVERWRITE ALL>
<KEEP LOCKED>	<KEEP ALL>

4. Pressing **F4** (OVERWRITE ALL) all the pre-existing Styles will be cancelled and those in the Chain will be loaded.  
On the other hand, by pressing **F8** (KEEP ALL) the pre-existing Styles will be preserved and the Chain will be loaded until the memory is full.

If the memory is full, the display will show:

**"NO MEMORY AVAILABLE"**

## 22. DISK SAVE AND OTHER DISK FUNCTIONS

### HOW TO SAVE FILES ON DISK

It is possible to save on Disk all the internal programming of the MS100 regarding the Program, Registration, Pattern, User Voice and User Drum Set sections.

#### To save on Disk:

1. Press **SAVE** in the DISK section. Select the SAVE HD (1) (Hard Disk saving) or SAVE FD (Floppy Disk saving) mode with the **Function Key F1**.  
In the case of FD, insert the disk in the Drive (otherwise the error message "Diskette Absent" will appear).
2. Select the section that you want to save on Disk by means of the **Function Keys F4 to F8**.  
Then, before saving, you can assign a name to the file if desired.
3. Press **F8** (SAVE) to confirm. In the case that this file is already on the Disk, the message "FILE ALREADY EXISTS - OVERWRITE / CANCEL" will appear on the display.  
In this case, press **F7** (OVERWRITE) if you want to substitute the existing file on the Disk with the new one or press **F 8** (CANCEL) to cancel the operation.

### OTHER DISK FUNCTIONS

Other than the DISK COPY, DISK LOAD and DISK SAVE functions examined in the previous sections, other Disk Menus exist that enable a very sophisticated control of all the operations that you can carry out with the HARD and FLOPPY DISK units.

#### For access to the other DISK Menus:

1. Press the blue **DISK** key. The display will show all the Disk Menus:

[ HARD ( 1 ) ]	DIRECTORY	DELETE	INFO
COPY	TRNSPL	TEMPO	FOLDER
			CHAINS

The various menus will now be examined in order.

### DIRECTORY

Pressing **F2** you obtain access to all the Directories of the currently active Disk Unit.

GLOBAL	SND / GRV .	REGISTR .	PROGRAM
USERD . SET	USERVOICE	SONG / CHN	PATT / CHAIN

The GLOBAL function enables you to view all the Files present on the Disk, while the other functions enable the viewing of the Files available in each of the various sections.



## DELETE

The DELETE menu is provided for the cancelling of the Files present on the disk. The GLOBAL function enables indistinctive access to all the Files while the other functions direct the cancelling of the Files section by section.

### To cancel the File:

1. Press **F3** (DELETE).
2. Select the section that contains the File that you want to cancel.
3. Press **the Function Key** corresponding to the File to be cancelled.
4. Press **F8** to confirm. (The display will advise that the File has been cancelled).

## INFO

The INFO Menu opened by pressing **F4** in the DISK Menu on page 22.1, provides various information on the condition of the currently active Disk Unit, indicating how much memory is still available (FREE), what the Free percentage is with respect to the total memory space, how many Files are present and in what Folder they are in (in the case of the Hard disk).

At this point the Hard/Floppy selection can be made by pressing **F6**.

**RENAME:** The RENAME function in the INFO Menu enables you to change the names of the Files in the various sections.

### To change a name, do as follows:

1. Press **F7** (Rename).
2. Select the section with the **Function Keys**.
3. Select the single File and write a new name (selecting the position with **UP/DOWN** and writing the characters with the **VOICE BANK** keys).
4. Press **F8** to confirm (or **F7** to return to the Directory).

## FORMAT

---

The FORMAT function is provided for the formatting of new Floppy Disks that you will be using with the MS100 and in extreme cases, for the formatting of the Hard Disk.

### FORMATTING THE HARD DISK

**WARNING: THE FORMATTING OF THE HARD DISK IRREPARABLY CANCELS ALL THE FILES CONTAINED IN IT.**

Therefore you should **ABSOLUTELY AVOID** any access to the Hard Disk formatting function or you should leave it immediately if you have accessed the function by mistake.

In this last case, the display will advise you of your access to the function with two consecutive warning messages:

```
" D I S K   F O R M A T : E R A S I N G   A L L   D A T A ? ? Y e s       N o "
```

Press **F7** (NO). If by mistake you press YES, a second warning message will appear as follows:

```
" D I S K   F O R M A T : E R A S I N G   A L L   D A T A ! !  
A R E   Y O U   S U R E ? ?                               Y e s       N o "
```

Also in this case, press **F8** (NO).

In fact if you press YES you would confirm, in a definite manner, the formatting of the Hard Disk with the consequent loss of all the data contained on it.

## FORMATTING THE FLOPPY DISK

**WARNING:** *The formatting of a disk will cancel all the data contained on the disk.*

**To format a disk proceed as follows:**

1. Insert the disk into the Floppy Disk Drive.
2. Press the blue **DISK** key.
3. Press **F4** (INFO).
4. Check that the FLOPPY is activated (and not Hard) by pressing **F6**.
5. Press **F8** (FORMAT). Two consecutive protective warning messages will appear (see above).
6. Press **F8** (YES).
7. Now, this time, press **F7** (YES) to confirm the operation.

The formatting of the disk will take about 2 minutes.

## TRANSPOSE / TEMPO

These two useful functions are provided for the SONGS and enable you to Transpose the Song and vary the Tempo.

### TRANSPOSE

1. Press **F1** for access to the function. The display will show all the Song Files on the Disk.

2. Select the Song. The display will give two options: Transposition of the entire instrument, comprising the Song (Global Transposer) or Transposition of just the Song, leaving the keyboard unaltered.  
The selection is made by pressing **F1** or **F5**
3. Set the Tempo value of the Song with the **VALUE keys**; this will be collocated in the display in the **F 4** position.
4. Press **F8** to confirm the Transposition.

## TEMPO

1. Press **F5** for access to the function.
2. Select the Song.
3. Set the different Tempo of the Song with the **VALUE keys**.
4. Press **F8** (CONFIRM) to confirm. This display will ask you to assign a new name to the Song. This can be useful when you want to keep the original Song with its own Tempo, but want to create another identical Song with a different Tempo. Hence the use of a different name; to avoid confusion.
5. Press **SAVE** to confirm. In the SONG PLAY mode the Song will show the new Tempo in the display.

Any further modifications to the Song Tempo will be referred to the original Tempo and not to that imposed at a later time.

## 23. HARD DISK FOLDERS

As already seen, the Hard Disk is sub-divided into 999 Folders.

Each Folder can contain up to 255 Files, of which 99 can be made up of Songs and all the rest indistinctly of PCM Sounds, Styles, Programs etc.

The selection of the Folders is not possible when the Floppy is activated.

### For access to the functions provided for the Folders:

1. Press the blue DISK key.
2. Press F7 (FOLDER). The display will show all the Folder Functions.

**NEW:** Used to give a name to a new Folder.

**VIEW :** Shows a display of all the Files present in the selected Folder.

**OPEN:** Used to select the Folder number with which you intend to work.  
The selection is made by pressing the corresponding **Function Key**.

**NOTE: The selection of the Folder can be made even while you are playing, without entering the Disk function, by simultaneously pressing both PAGE << and PAGE >>.**

**RENAME:** This function is use to change the name of the Folder.

1. Press F4 (RENAME).
2. Press any free Function key.
3. Write the new name using the normal method and then confirm with F8.

**DELETE:** The DELETE function enables the name of the Folder to be deleted.

### For access to the function:

1. Press F5 (DELETE).
2. Press **the Function key relative to the Folder to be cancelled**. If this Folder is the currently active Folder, the following message wil appear:

**"OPEN FOLDER CANNOT BE DELETED"**

In this case, return to the initial Disk menu and select a different Folder number to the one that you want to cancel with the **VALUE keys**, then repeat the operation.

**NOTE: The Folder can be cancelled only when it is empty. If there are any Files in a Folder that you try to cancel, the message "FOLDER NOT EMPTY" will appear on the display. This means that you will have to cancel these Files with the DELETE function before carrying out the cancellation of the Folder.**

**LINK:** The LINK function enables the transfer of the Directory Address of a certain File in a Folder to several different Folders.

The benefit being the possibility to access these files even if they are in a Folder different to the one they belong to.

This does not consume any memory space, in that the LINK function does not carry out a physical copy of the File but limits itself to coupling only the Directory Address of the File in question to other Folders.

### How to carry out a LINK operation

1. Press **F6** (LINK).
2. The display will ask you to select the Destination Folder (TARGET) to which the names of the Files should be associated.  
Press **F8** to proceed.
3. Select the Destination Folder by pressing its respective **Function key**.
4. The display will now ask you to select a Source Folder (SOURCE) from which to draw out the Directory Addresses. Press **F8** to proceed.
5. Select the Source Folder (Source) in which the Files that you intend to associate to the Destination Folder (Target) can be found.  
The selection is made by pressing the corresponding **Function key**.
6. All the Files of the Source Folder will now be shown in the display.  
Select the Files that you are interested in by pressing the corresponding **Function Key** (an arrow to the side of each will now be seen in the display).
7. Finally press **SAVE / NAME**. The display will advise you that the currently active Folder will be modified by the addition of the new Files taken from the Source Folder.
8. Press **F8** to confirm the operation.

**REPORT:** This function is used to automatically copy the contents of the Directories of the currently active Folder of the Hard Disk, onto a Floppy Disk. This is with the objective of being able to load the contents of the disk into a PC as a Text File and then print the Directories. The extension of the Report File will be **.rpt**. The printed Report will be absolutely necessary when the number of Files becomes very high. To carry out this copy operation just press **F8** (REPORT).

**CHAINS:** This function is used to create Chains of Songs or Styles. In the case of Songs, the Chains can be used to play several complete pieces of music in Non-Stop succession. In the case of Styles, it can be useful on the other hand when you want to carry out a fast loading of a group of Styles in one operation.

### For access to the Chains function:

1. Press the blue DISK key. Check, by means of the **Function Key F1**, that the relative Disk Unit (Hard or Floppy) in which you want to create the Chain is active, and that the selected Folder is active in the case of the Hard Disk (on the contrary, modify this with the **VALUE keys**).
2. Press **F8** (CHAINS).

The display will show:

SONG	CHAIN	CREATE	VIEW
PATTERN	CHAIN	CREATE	VIEW

- The VIEW function is used to show the list of the Songs and Styles that make up the Chain.  
The CREATE function is used to memorize the Files in the Chain.  
The same procedure is used for both Songs and Patterns.
- Press **CREATE**. (**F3** for the Songs or **F7** for the Patterns).  
Place the first 8 Files in the Chain using the **Function keys F1 to F8** to select the position and the **VALUE keys** to select the Songs or Patterns. To proceed to the next 8 Files, press **PAGE >>**.  
Each Chain can be composed of up to 32 Files.
- Once the Chain has been completed, press **SAVE/NAME** to assign a name to the Chain (one letter is enough).
- Finally press **F 8** (SAVE) to confirm the saving of the Chain.

In the PLAY mode, the Chain will behave exactly like any Song.

See LOAD PATTERN CHAINS (page 21.3) for information on the loading of Pattern Chains.

---

## REMAPPING OF THE INITIAL SETUP OF THE SONG

---

This important function enables you to modify and resave the initial setup of the Song on Disk (Hard or Floppy).

In this way, the player can rapidly customize for the MS100, even Songs programmed for other instruments, selecting the Sounds, Volumes and the Effects most appropriate.

### To remap the initial setup of the Song:

- Press **SONG PLAY**.
- Press **F5** (DIRECTORY).
- Select the name of the Song.
- Press the **F1** key (GM PART) for access to the General MIDI.  
Select the various parts and make the necessary modifications by means of the **PAGE <<** and **PAGE >>**.
- Once the changes have been completed, press **SAVE / NAME**. The display will show "SAVE INITIAL SET UP TO \_\_\_\_\_" asking you to assign a new name to the Song you have just modified (leaving the original Song unaltered).
- Press **F8** (SAVE) to save the new Song.

**NOTE: The inherent modifications to the initial mapping of the Song, only refer to the first setting that arrives on the MIDI channel in chronological order. It does not take into account, therefore, any further changes that can occur on the same channel during the Song.**

## 24. KARAOKE (with the optional VI 1 Video Interface)

### PROCEDURE FOR THE WRITING OF LYRICS, CHORDS AND KARAOKE WITH VISION (OPCODE) FOR MACINTOSH.

#### LYRIC WRITING:

1. Insert a "Lyrics" event in the desired point.
2. Write "<".
3. Write the Lyrics required (maximum 40 characters per line).
4. Proceed to the end of the Song.  
You are advised divide the musical phrase respecting the musical logic, and to divide the prases of the melodic line.

#### CHORD WRITING:

1. Insert a "Lyrics" event in the desired point.
2. Write "%".
3. Write the Chord.
4. Proceed to the end of the Song.

#### HOW TO COLOUR THE WORDS:

1. Move the Lyrics and Chords tracks slightly backwards with respect to where they were written on the computer. If you use a division of 480 tics/quarter, the amount you will need to move back could be between -300 and -400 according to the playing speed of the Song.
2. Save the MIDI File just edited.
3. Make the MIDI connection to the MS100 as follows:  
MDI Out MS100 -> In Computer / Out Computer -> MIDI In MS100.
4. Simultaneously press the four **Function keys F5, F6, F7 and F8** of the MS100.
5. Press the **Function key F1 (KRK)** to set this to 'ON'.
6. Press **EDIT**.
7. Repress **EDIT**.
8. Press **F1 (MIDI)**, then **F6 (Clock)**, then **F8 (Clock Out Active)**.

9. Set the computer in the following manner:  
Receive MIDI Sync (or External Clock);  
Filter all recording events except Control 31;  
Set an empty track in the Record mode.
10. Select the Song in which you want to colour the lyrics of the Karaoke.  
This operation must be performed both with the computer and the MS100.
11. At this point, by setting the computer to Record, the keyboard will start the Song showing the lyrics both in the display and on the TV connected to the VI 1 Video Interface.
12. Moving the Modulation Wheel of the MS100 will colour the lyrics. You are advised to lower the playing speed of the Song in order to make the colouring more precise.
13. At the end of the recording of the Karaoke effect you will have the final file on the computer. At this point, you can save the MIDI File. You are advised to channelize both the Lyrics and the Control 31 events for the colouring on MIDI Channel 1, which is normally the only free channel.

**Suggestion:** Remember to MUTE all the active tracks on the computer during the recording of the colouring, in order to avoid a Loop effect.

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## **PROCEDURE FOR THE WRITING OF LYRICS, CHORDS AND KARAOKE WITH NOTATOR FOR ATARI**

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After switching 'On' and loading the programme, open the EDIT page by clicking on the relative icon.

Select "NOTE DISPLAY" in the EDIT page with the 'N' key of the keyboard or activate it from the EDIT menu.

Take out a 'LYRICS' event by clicking the left mouse key and keeping it pressed while positioning it under the musical score in the point desired.

(The events are in the partbox on the left of the screen or in the partbox that appears by moving the mouse to the extreme bottom the screen).

Now the mouse is transformed into a short dash and it is possible to write the Lyrics and the Chords desired by means of the keyboard ( maximum 40 characters).

Finally, press '**RETURN**' and proceed to to the end of the Song.

Insert the character " < " before each Phrase and the character " % " before each Chord.

You are advised to carry out all the operations with the melody line, for a perfect synchronism between the music and the scrolling of the Lyrics and the Chords.

For the colouring of the Lyrics (KARAOKE), the instructions given previously for the procedure with Vision for MACINTOSH are also valid in this case.

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## 25. HARD RESET- INITIALIZATION OF THE MS 100

Like all computerized products, it is sometimes necessary to reset the internal microprocessor. This will be seen from unusual readings on the display or some kind of malfunctioning.

**WARNING: - When you initialize your MS100, the internal memory will be entirely cancelled meaning that any Patterns, Registrations, Programs, User Voices, User Drum Set etc. that have been programmed will all be lost.**

You are therefore advised to copy onto the Hard disk any programming done on the instrument that you consider to be important, in order to be able to rapidly reload it back into the memory of the instrument in case of a Hard Reset.

Furthermore, from time to time, you are also advised to copy onto a Disk all the programming that you do not want to lose and keep at least two copies of the disk, as this programming could be lost when a defect occurs in the instrument or when it is sent to a service centre for repair.

To carry out a Hard Reset on the MS100 follow this procedure:

1. Switch the instrument 'OFF'.
2. Hold down the **F1** and **F2** function keys and then with these held down, switch the instrument 'ON'. The following display will show:

```
HARD RESET REQUESTED
'F3' to Confirm -- 'F4' to skip
```

3. Press **F3** to confirm the HARD RESET or **F4** to proceed without initializing the instrument.
4. After a few seconds the MS100 will show the Play menu on the display showing that it is ready to be used.

## 26. SYSTEM EXCLUSIVE MESSAGES

To transmit and receive the "System Exclusive messages" set the instrument with the menu of the display as follows :

EXCLUSIVE MESSAGE :	TX : ON	RX : ON
TABS :	TX : ON	RX : ON

### DUMP EXCLUSIVE MESSAGES

Several types of Dump are available in the MS Series:

1. Patterns
2. User drum sets
3. User voice
4. Programs
5. Registrations

Each Dump message is transmitted with 3 different Exclusive Messages:

1. Header
2. Data
3. Check sum

**HEADER:** F0H,26H,7DH,LEN (ALWAYS 4),ST,NR,SIZE,F7H

**DATA :** F0H,26H,7EH,LEN (VARIABLE),DATA0,DATA1,.....,F7H

**CHECK SUM :** F0H,26H,7FH,LEN (ALWAYS 4),ST,NR,CS,F7H

LEN = Length of following data excluding final ending F7h.

ST = Type of Dump:

- 0 = Pattern header
- 1 = User drum set
- 2 = Single user voice
- 3 = Single program
- 4 = Single registration
- 10H = Pattern arrangers ( A B C D together )
- 11H = Pattern fill-ins (1 2 3 together )
- 12H = Pattern intro 1
- 13H = Pattern intro 2
- 14H = Pattern ending 1
- 15H = Pattern ending 2
- 42H = User voices set
- 43H = Programs set
- 44H = Registrations set

NR = Number of item in case of single item dump  
 SIZE = Size of total dump data  
 DATA = Data dump  
 cs = Check sum

Because the structure of a midi exclusive message does not accept data bigger than 7FH, excluding the initial F0H and ending F7h, the DATA and SIZE are converted in 7 bit formats and both LEN and SIZE refer to the original data and not to converted data, thus, for example, the size of data transferred will be 8/7 bigger than the effective quantity of dumped item data and than the SIZE indicated in the message.

## TABS EXCLUSIVE MESSAGES

The "Tabs Exclusive Messages" are a simulation of actions on the instrument, thus it must send the tab pressed message and the tab released message.

The tab pressed message is:

F0H,26H,7CH,tab code (from 00H to #78h),7Fh,F7H

The tab released message is:

F0H,26H,7CH,tab code (from 00H to #78h),00h,F7H

## TAB CODES

00h Piano	30h Minore (Ped.)	60h Number 0
01h Chrom	31h Settima (Ped.)	61h Number 1
02h Organ	32h Mi-Se (Ped.)	62h Number 2
03h Guitar	33h 5a+ (Ped.)	63h Number 3
04h Bass	34h Dim (Ped.)	64h Number 4
05h String	35h 6a (Ped.)	65h Number 5
06h Ensamble	36h Soft (Ped.)	66h Number 6
07h Brass	37h Bank 2	67h Number 7
08h Sax Reed	38h Fill1	68h Number 8
09h Pipe	39h Fill2	69h Number 9
0ah S.Lead	3ah Fill3	6ah Enter/Name
0bh S. Pad	3bh Fill to Arr.	6bh Value <<
0ch S.Eff.	3ch Regs.	6ch Value >>
0dh Ethnic	3dh Octave Down	6dh Page -
0eh Percuss.	3eh Pattern	6eh Page +
0fh Sound eff.	3fh Voice-d (Ped.)	6fh Hold
10h Sel. Bank 1	40h Sostenuto (Ped.)	70h F1
11h Sel. Bank 2	41h Bass	71h F2
12h Sel. Bank 3	42h CH1	72h F3
13h Sel. Bank 4	43h CH2	73h F4
14h Sel. Bank 5	44h CH3	74h F5
15h Sel. Bank 6	45h Drum Off	75h F6

16h Sel. Bank 7	46h Bass Mode	76h F7
17h Sel. Bank 8	47h Octave Hold	77h F8
18h Program	48h Piano Style	78h Save
19h User	49h Easy Chord	
1ah Control	4ah Restart/stop/cont	
1bh D.Set	4bh Slow -	
1ch Fade Out	4ch Fast +	
1dh Portam.	4dh Start/Stop	
1eh Intro/End.1	4eh Full Chord	
1fh Intro/End.2	4fh Load	
20h Drums +	50h Key Start	
21h Drums -	51h Key Stop	
22h Right +	52h Sustain	
23h Right -	53h Swell to right	
24h Bass +	54h Pedal B.	
25h Bass -	55h Disk Menu	
26h CH1 +	56h Play	
27h CH1 -	57h Record	
28h CH2 +	58h Voice-up (Ped.)	
29h CH2 -	59h Transposer -	
2ah CH3 +	5ah Transposer +	
2bh CH3 -	5bh Rotor	
2ch Arr. A	5ch Fast	
2dh Arr. B	5dh Split	
2eh Arr. C	5eh After Touch	
2fh Arr. D	5fh Edit/Exit	

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## SPECIAL PARAMETERS SYSTEM EXCLUSIVE MESSAGES

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F0H,26H,7BH,special par.(00H -04H),00H,value,F7H

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## SPECIAL PARAMETER CODE

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Code	Item	Value
00H	TYPE OF REVERB	from 0 (00H) to 16 (10H)
01H	TYPE OF CHORUS	from 0 (00H) to 8 (08H)
02H	REVERB LEVEL	from 1 (01H) to 16 (10H)
03H	KEYBOARD SPLIT	from 0 (00H) to 127 (7FH)
04H	DRUM MAP SELECT	0 (00H) New MS series, 1 (01H) old ms series