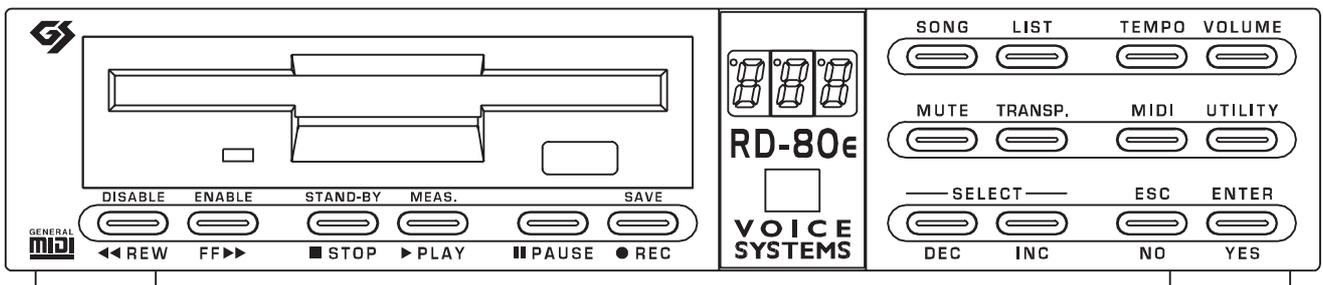




# RD-80€

## DATA FILER



Manuale Operativo  
Operating Manual



	This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.		This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electronic shock to persons.
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## "INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS" IMPORTANT SAFETY INSTRUCTIONS

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

- 1) Read all instructions before using the product.
- 2) To reduce risk of injury, close supervision is necessary when product is used near children.
- 3) Do not use this product near water – for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
- 4) This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time in high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
- 5) This products should be located away from heat sources such as radiators, heat register, or other products that produce heat.
- 6) The power supply cord of the instrument should be unplugged from the outlet when left unused for a long period of time.
- 7) Care should be taken so that objects do not fall and liquids are not spilled into the enclosure of the instrument.
- 8) The products should be serviced by qualified personnel when:
  - a. The power supply cord or the plug has been damaged; or
  - b. Objects have fallen, or liquid has been spilled into the product; or
  - c. The products has been exposed to rain; or
  - d. The products does not appear to operate normally or exhibit a marked change in performance; or
  - e. The products has been dropped, or the enclosure damaged.
- 9) Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified personnel.

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# 1. IMPORTANT NOTES

## 1.1 LOOKING AFTER THE PRODUCT

- Do not place the **RD-80e** close to heat sources, in damp or dusty places or close to strong magnetic fields.
- Never apply excessive force to the structures or controls (switches, buttons etc.).
- Protect the instrument from stresses during both transport and use. The instrument should be transported in its original packaging or an equivalent.
- When possible, do not place the instrument close to units which produce strong interference, such as radios, TV sets, monitors, etc.
- Never insert foreign bodies or liquids of any kind inside the device for any reason.
- For cleaning, use only a soft cloth or compressed air; never use detergents, solvents or alcohol.
- Do not expose the instrument to direct sunlight.
- Always use good quality screened cables. In addition, when disconnecting the cables from sockets take hold of them by the connector and not by the cable itself; when coiling, do not allow knots or twists to form.
- Before making connections ensure that the other units (especially amplification and diffusion systems) you are about to connect are switched off. You will avoid noisy or even hazardous signal peaks.

## 1.2 NOTES ON THE INSTRUMENT



### **IMPORTANT!**

*The **RD-80e** is equipped with a “direct-to-disk” reading system which plays the song while it is being read from the disk; this considerably reduces the loading times and ensures quicker operation when file playback is started.*

*However, this reading system requires special care during extraction of the disk when it is being used by the system, to avoid breaks in playback, system errors and damage to the drive reading heads. Users are therefore strongly advised:*

- **NOT TO REMOVE** the disk during performance of songs or Lists, during disk formatting, during file reading or writing, or whenever the disk drive LED is on.

- **ONLY TO REMOVE** the disk when the disk drive LED is **off**. When the current operation requires extraction of the disk **wait for** the prompt, which will appear on the display.

In order to obtain the best performance from the instrument, it is important to:

- Use only good quality floppy disks. Pay special attention to looking after floppy disks, taking care not to place them close to heat sources or magnetic fields (monitors, speakers, etc.) or in damp and dusty environments. Bear in mind that given the nature of the direct-to-disk system, the instrument must have error-free disks if it is to give the best performance.
- Make backup copies of floppy disks periodically, since the direct-to-disk system causes greater wear of the disk's magnetic medium than other systems.

With regard to the type of files to be used, bear in mind that:

- The **RD-80e** only uses standard MIDI files (extension \*.MID) resident on floppy disks formatted in accordance with the MS-DOS® standard. Files with different extensions will not be processed.
- The system supports up to 16 tracks. If a format 1 MIDI file exceeds the permitted number of tracks, an error will be shown on the display. However, for optimum system performance, use of type 0 SMF files is recommended.
- The **RD-80e** recognises the format of any lyrics on the song, identifying the copyright of the MIDI file producer, and displays it on the TV, by means of the video interface, or on the remote display (both optional). It is therefore important to use the permitted types of Karaoke without converting the format. In addition, do not use more than one text coding mode within the same file.

### 1.3 NOTES ABOUT THE MANUAL

- Take good care of this manual. Read all the information provided carefully; you will avoid wasting time and obtain the best performance from the instrument.
- Codes in square brackets ([ ]) indicate the names of the buttons on the instrument's panel or the connectors on the rear.



## 2. MAIN CHARACTERISTICS

### 2.1 THE RD80e'S STRUCTURE

The **RD-80e** is a MIDI Data Filer, meaning a device capable of reading MIDI files and playing them back in audio format thanks to its own internal sound generator.

For a clearer idea of how it works, we can divide the **RD-80e** into two sections: a file management section, which from now on we will call the *Data Player*, and a generation system, called the *Sound Generator*.

The *Data Player* section reads the data saved on the floppy disk and sends them to the *Sound Generator* section or to the [MIDI OUT] port. As well as this, this section manages all the device's internal programming, including the functions for management of the songs and of the sequences of songs contained on the floppy disk, and all the functions for editing the songs themselves, such as their deletion, memorisation and modification.

The *Sound Generator* section, on the other hand, converts the data received from the *Data Player* section into audio signals, and thus into music, bearing in mind the timbre and dynamic of every single note.

This section is able to reproduce 353 sounds and 17 Drum Kits, and is poly-timbric on 16 parts (16 different timbres can be played simultaneously) each distributed on one track, meaning one MIDI channel.

The maximum polyphony (the number of notes which can be played simultaneously) is 32. What's more, the *Sound Generator* section has a multieffects unit containing ambient effects (reverbs and echoes) and modulation effects (Chorus and Flanger).

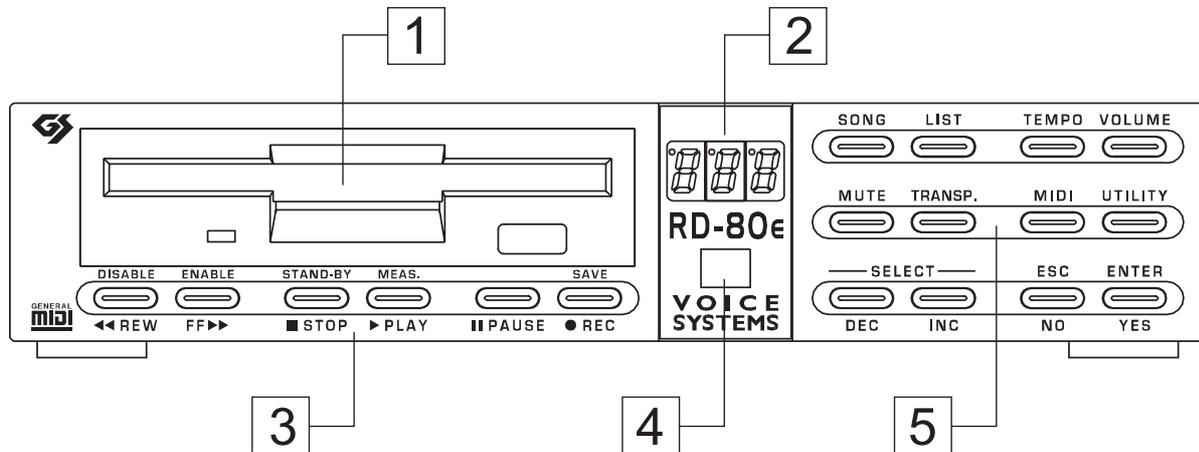
### 2.2 DATA FORMAT

The **RD-80e** floppy disk driver is able to take 3.5" floppy disks in DD (720 KByte) and HD (1.44 MByte) formats, formatted in accordance with the MS-DOS® standard. If the files contained in these two sections are to be interpreted by the instrument during reading, they must comply with the **MIDI file (\*.MID) Standard in formats 0 and 1**. During recording of MIDI data from an external source, the result will be saved in the form of **MIDI Standard Files in format 0**.

In order to be interpreted correctly by the instrument, MIDI files must belong to the **GENERAL MIDI** standard.

## 3. CONTROLS AND CONNECTIONS

### 3.1 THE FRONT PANEL



1. **FLOPPY DISK DRIVER:** the LED displays the reading/writing status of the floppy disk. Press the button to extract the disk from the drive. **Never extract the disk when the LED is on.**
2. **THREE-FIGURE NUMBER DISPLAY:** this display will show all the information relating to the status of the system, the selection of the songs and the **RD-80e** function values.
3. **CONTROL KEYS:** these keys, each with two functions (except for the [PAUSE] key), allow the user to check the performance or recording status of the song. The second function is shown in yellow above the button.
  - **[REW] (DISABLE):** allows fast backward shift to a specific bar or disables the menu functions recalled by the [MIDI] and [UTILITY] keys.
  - **[FF] (ENABLE):** allows fast forward shift to a specific bar or enables the menu functions recalled by the [MIDI] and [UTILITY] keys.
  - **[STOP] (STAND-BY):** stops performance or recording of the song; pressed for about two seconds, it switches the device to stand-by mode (low power consumption).
  - **[PLAY] (MEAS.):** starts performance of the song, or if pressed for about two seconds, it provides display of the bar reached.
  - **[PAUSE]:** stops performance or recording temporarily.
  - **[REC] (SAVE):** enables the recording mode (pressed together with the [PLAY] key), the function for saving changes to a song or saving of a List.
4. **REMOTE CONTROL RECEIVER:** this contains the infrared receiver for use of the remote control. For correct operation of this device, take care not to cover this area



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with objects or stickers.

## 5. SELECTION / CONFIRMATION / REAL TIME FUNCTION / ACCESSORY FUNCTION KEYS

**[SONG] and [LIST] keys:** these buttons are used to select the type of file the user wishes to perform.

- **[SONG]:** for selecting individual songs (\*.MID files);
- **[LIST]:** for selecting Lists (pre-arranged sequences of songs).

**[TEMPO] – [MUTE] – [TRANSP.] keys:** these buttons can be used to enable / disable the functions for real-time changes to songs (i.e. during performance). Prolonged pressure on these keys gives access to regulation of their respective functions. For further information, consult section 6.

- **[TEMPO]:** for regulating the tempo of the song;
- **[MUTE]:** for excluding one or more tracks from the performance;
- **[TRANSP.]:** for transposing the key of songs.

**[VOLUME] key:** allows regulation of the overall volume of the **RD-80e**. Prolonged pressure on this key in stop condition allows selection of the MIDI message (NRPN or CC) for controlling the volume. For further information, consult section 5.3

**[MIDI] and [UTILITY] keys:** these buttons provide access to the menus of the device's MIDI and accessory functions. For further information, consult sections 8 and 9.

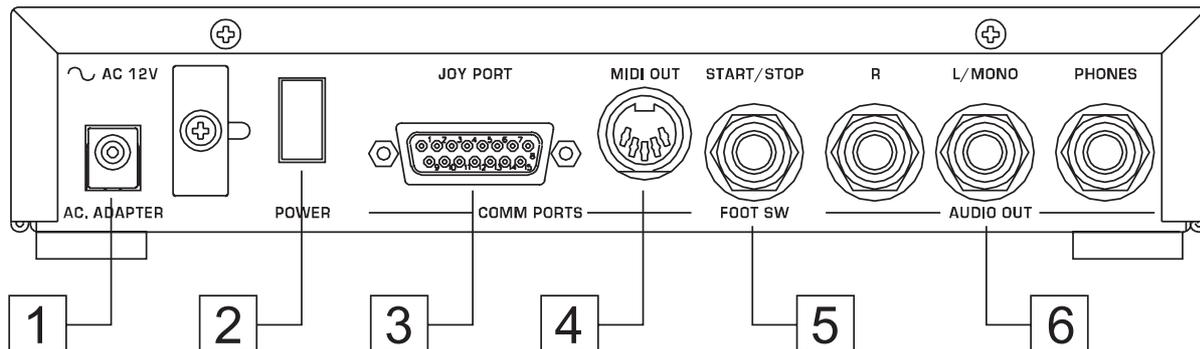
**[DEC] and [INC] keys:** these buttons allow selection of songs, selection of options in the Utility and MIDI menus and variation of the values of the functions.

- **[DEC]:** selects the song or function before the one shown on the display, decreases the value displayed.
- **[INC]:** selects the song or function after the one shown on the display, increases the value displayed.

**[ESC] (NO) and [ENTER] (YES) keys:** these buttons are used to confirm or abort the procedure when requested by the system.

- **[ESC] (NO):** abort.
- **[ENTER] (YES):** confirm.

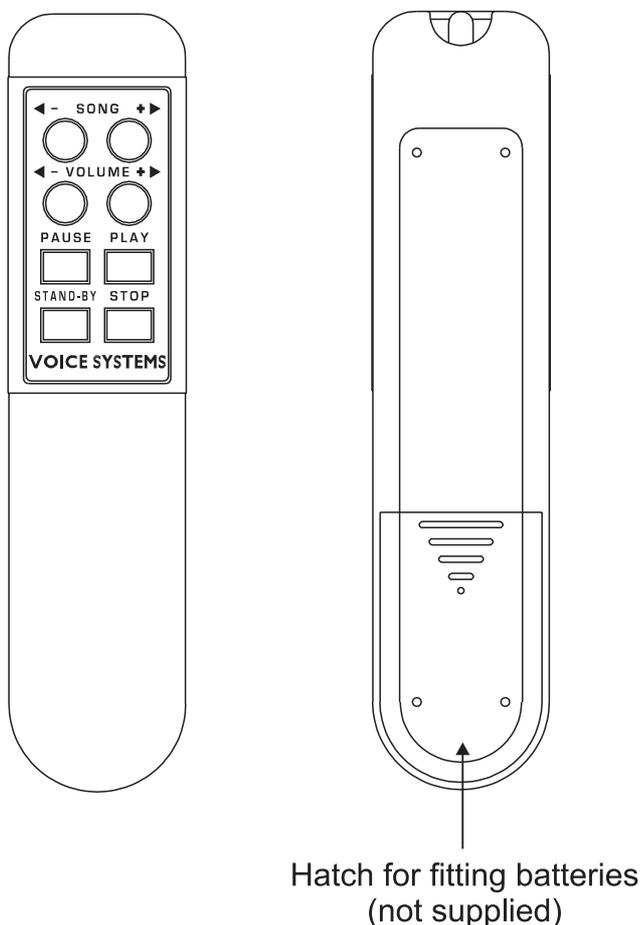
## 3.2 THE REAR PANEL



1. **[AC ADAPTER] connector:** connect the connector leading from the adapter supplied to this socket.
2. **[POWER] switch:** instrument on/off switch.
3. **[JOY PORT] connector:** this connector can be used to connect the optional peripherals such as the video interface, the vocal harmoniser and the additional graphic display to the **RD-80e**.  
This connector can also be used to equip the instrument with a MIDI IN port using a Joy Port-to-MIDI cable.  
Consult the connections section for further details about this.
4. **[MIDI OUT] connector:** output port for the MIDI data generated by the **RD-80e**.
5. **[FOOT SW] (foot-switch) connector:** allows connection of a foot-switch pedal with start / stop function.  
To avoid damage to the internal components of the **RD-80e** it is important to use only pedals with normally open contact.
6. **AUDIO OUT section:** the section contains all the signal outputs generated by the internal sound card of the **RD-80e**.
  - **[PHONES]:** socket for connection of a pair of stereophonic headphones. It is important to use headphones with impedance of at least 100Ω.
  - **[R] and [L/MONO]:** connect the cables leading from your amplification system to these sockets. If a monophonic signal is used, use only the [L/MONO] socket.

### 3.3 THE REMOTE CONTROL

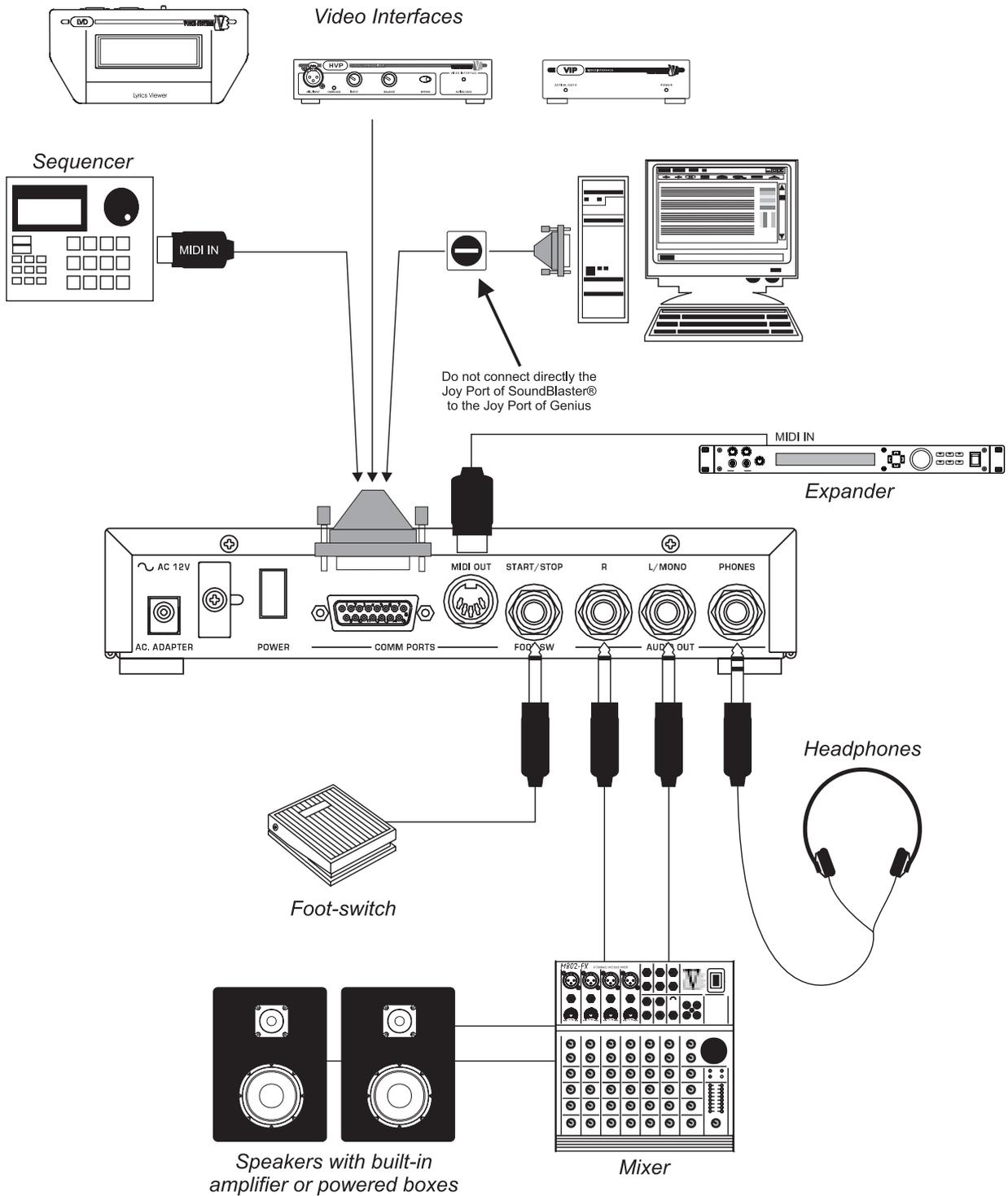
The **RD-80e** is equipped with a remote control for control of the main functions from a distance. The functions of the buttons are identical to those of the buttons of the same name on the device's front panel. See point 3.1 for the detailed description of the buttons, and the various sections for descriptions of the functions.



#### **CAUTION!**

*To ensure the remote control operates correctly, it is important not to obstruct the part of the front panel underneath the number display with objects or stickers; this part contains the sensor which allows reception of the remote control signal.*

# 4. THE CONNECTIONS



**CAUTION!**

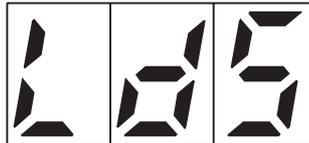
- ✓ The Joy Port-to-MIDI adapter must be equipped with an internal photocoupler.
- ✓ If the adapter carries a Joy Port resend, never use this for connecting additional peripherals.

## 5. PLAYING BACK SONGS

### 5.1 STARTING THE SYSTEM

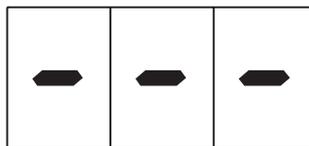
After making all the connections, switch on the **RD-80e** using the [POWER] switch on the rear panel.

The display will first show the software loading video page:

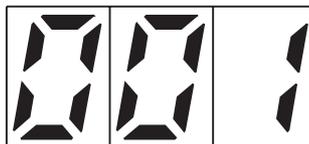


and then a moving central dash, instructing you to wait for the system to start up.

When the setup procedures are complete, the display will show:



if the floppy disk is not inserted (or inserted but not compatible, see point 5.3.1) or:



i.e. the song selection video page (which from now on we will also call the Main Page), confirming that the first song saved on the floppy disk has been selected (see Automatic Sort in point 5.2).

### 5.2 THE SORT AUTOMATIC

Whenever a floppy disk is inserted in the drive, the **RD-80e** performs the automatic sort function; in other words, it arranges the songs in rising alphabetical order (on the basis of the ASCII code). This means that the first backing track on the disk will be the one with the name which comes first in alphabetical order, and the last one the one with the last name.

Bear in mind that the name of a file may also consist of numbers, which in the ASCII alphabet are placed before the letters, so: "2worlds.mid" will be placed before "myway.mid".

The character placed last in the ASCII alphabetical order is the underscore (\_), so files whose names start with this character will be placed last in the order.

The **RD-80e** uses the underscore to place the files it creates itself (using the functions for saving the songs recorded, see point 7.2) at the end of the list.

## 5.3 SELECTING AND PERFORMING SONGS

To select the song of your choice (if it is not the first in the list), use the [INC] and [DEC] keys.

The [ENTER] key will start to flash, while [ESC] key will illuminate with a steady light.

Once the name of your chosen song has appeared, press [ENTER] to confirm: the LED of the Disk drive will light up until the song has been loaded.

Loading a song normally takes only a very short time; however, longer waiting times are possible in case of format 1 Midifiles and especially with files containing Lyrics metaevent texts.

You can also press the [ESC] key to abort the operation and return to display of the last song loaded.

To start playback, press the [PLAY] button: the LED of the key will light up and playback of the song will start.

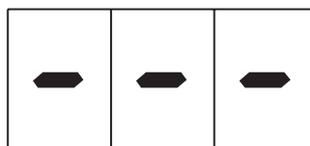
Pressing the [STOP] key will stop playback of the song, or you can press the [PAUSE] button for a temporary halt in playback. When you press [PAUSE] again, performance of the song will restart from the point where it was interrupted.

A song can also be selected while another is being played: in this case, select the song using the [INC] and [DEC] keys, press [ENTER] and the new song will be performed automatically, with no need to confirm with the [PLAY] button. Pressing [ESC] will abort the new selection.

If you wish to display the number of the bar reached, either during playback or in stop or pause status, keep the [PLAY] button pressed for about two seconds. To return to the song selection video page, press the [ESC] button.

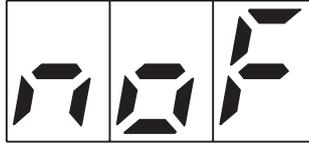
### 5.3.1 ERROR MESSAGES

#### FLOPPY DISK NOT VALID OR NOT INSERTED



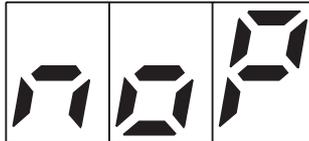
A disk which has not been correctly formatted in accordance with the MS-DOS® standard has been inserted. Extract the floppy disk and reformat it. If this video page appears again after formatting, the disk might be damaged.

## NO FILE



The floppy disk does not contain Midifiles.

## SONG NOT PLAYABLE



The file selected does not belong to the Standard MIDI file code, or is a format 1 SMF with more than 16 tracks. The song cannot be played.



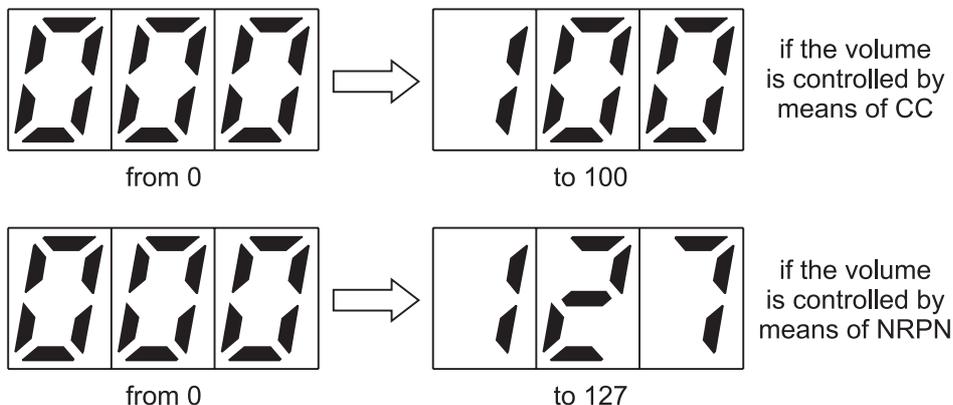
**N.B.**

*In view of the special features of the "Direct-to-Disk" reading system, disks in perfect condition should be used; any errors inside the file may cause sudden breaks in performance.*

*Never remove the floppy disk during playback.*

## 5.4 VOLUME SETUP

To adjust the volume of the songs being played back, press the [VOLUME] key. The display will show the value in a range 0-100 (if the volume is being controlled by means of CC) or 0-127 (if the volume is being controlled by means of NRPN):



Refer to point 5.3.1 for setting of the volume mode.

Use the [DEC] and [INC] buttons to modify the value of the volume at which the songs will be played back. When the [VOLUME] or [ESC] key is then pressed, the new value will be saved automatically and the display will return to display of the Main Page.



### CAUTION!

*Before starting playback of a backing track, make sure that the instrument's volume is not set on high values, to avoid damage to the diffusion system.*

#### 5.4.1 SETTING THE VOLUME MODE

The volume can be adjusted in two ways:

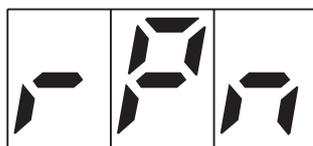
- NRPN: by means of the NRPN message associated to the volume of the internal sound generation card.
- CC: by means of a percentage modulation of the Control Change 11's in the backing track.

If the volume mode is set as NRPN, at each switch-on or adjustment the system will transmit the value of the volume NRPN to the internal sound generation section. This mode should always be used for better volume control when playing songs using the **RD80e's** internal sound generation system.

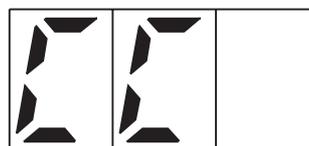
When CC mode is selected, the CC11's in the song are modulated on a percentage basis: the data in the track undergo relative editing, in order to keep the variations in volume set originally unchanged.

This mode should be used to control the volume of an external sound generation device (such as an expander) for playback of the backing tracks whose data are transmitted by the **RD80e**.

To make the selection, keep the [VOLUME] button pressed in stop mode: the display will show the volume mode currently set.



volume mode=NRPN



volume mode=CC

Use the [DEC] and [INC] keys to make the selection required. Then press the [ENTER] button to confirm the changes or [ESC] to abort them. In both cases, the song selection video page will be displayed.

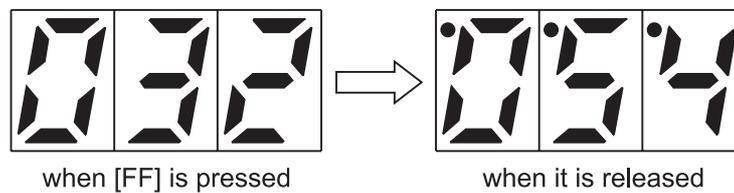


## 5.5 USING THE [REW] AND [FF] KEYS

The [REW] (Rewind) and [FF] (Fast Forward) keys can be used to find a given bar number inside the selected song.

These keys work in exactly the same way as the keys with the same names found on an ordinary tape recorder; the [FF] key provides a forward search, while the [REW] performs a backward search.

When either of the keys is pressed, the display will show the number of the destination bar; when it is released, three luminous dots will appear on the display. Any playback in progress will be stopped temporarily and the system will continue with the search for the selected bar number.



Once the destination bar is reached, playback of the song (if any) will restart automatically and the display will return to display of the number of the song.

Note that the time taken to reach the destination bar depends on the characteristics of the song (file format, number of tracks, presence of lyrics, etc.).

## 6. REAL-TIME FUNCTIONS

The **RD-80e** makes some important functions available in Real Time. In other words, they can be activated during playback of a song, thus giving the considerable advantage of very quick application, of great help when making temporary changes to the songs being performed.

To make the modifications permanent, use the procedures described in section 6.4.

### 6.1 TRACK MUTING

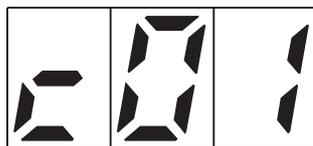
The Mute function allows performance of one or more tracks to be eliminated from the performance during playback of a song. This means that any note events on the track to be eliminated will be filtered, i.e. the instrument assigned to them will not be heard.

To activate or deactivate the function, press the [MUTE] key quickly: the relative LED will display its status. To access the setup video page, keep the key pressed for a few moments.

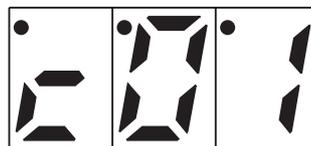
#### 6.1.1 MUTE SETUP

The **Mute Setup** function allows the user to set which tracks will be disabled **when the Mute function is activated**.

If the [MUTE] key is pressed for about two seconds in stop condition, the display will show the Mute condition relating to track 1, i.e. MIDI channel 1:



Mute disabled  
on track 1



Mute enabled  
on track 1

As the illustration shows the display contains three dots, showing that the track is in Mute condition.

The [DEC] and [INC] section keys allow selection of the track, while the [REW] and [FF] keys (which provide the Disable and Enable functions in this video page) disable and enable the mute function on the track displayed.

This means that one or more MIDI channels (or tracks) can be set in Mute status, and whenever they are selected their status will be displayed on the basis of the current condition (Mute on the channel enabled or disabled).

If the [ENTER] key is pressed, the new setup will be saved and can be enabled or disabled by pressing the [MUTE] button quickly. Track n. 4, normally attributed to the song's melody line (Lead), is set in Mute status by default. Pressing the [ESC] key will abort the changes. In both cases, the display will return to display of song selection.

## 6.2 TRANSPOSING THE KEY

This function allows the user to change the key of the song being played, or in other words to transpose the notes being played on all the tracks (the MIDI channels) by a number of semitones which can be set by the user, except for the drum kit track.

In the Midifile standard, the drum track is MIDI channel n. 10; it must not be transposed as this may cause the playing of drum timbres different from those originally envisaged, which might interfere with the beat of the musical backing.

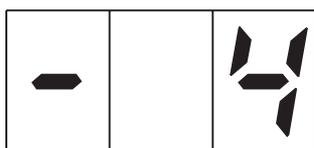
As for the other Real Time functions, pressing the [TRANSP.] key quickly activates (LED on) or deactivates (LED off) the current transposition.

Naturally, with the LED of the [TRANSP.] button off, the song will be played in the original key envisaged in the file.

### 6.2.1 TRANSPOSE SETUP

We have seen that the transposition can be activated by pressing the [TRANSP.] button quickly. The TRANSPOSE SETUP function allows the user to set **the number of semitones** by which the song will be transposed when this function is active.

When the [TRANSP.] key is kept pressed for about two seconds, the display will show:



transposition of 4  
semitones below the  
original key of the song



no transposition



transposition of 2  
semitones above the  
original key of the song

The [INC] and [DEC] keys can be used to vary the transposition value in a range of  $\pm 12$  semitones.

Press [ENTER] to save the new value or [ESC] to abort the operation (the original value of the transposition will be left unchanged).



#### NOTES

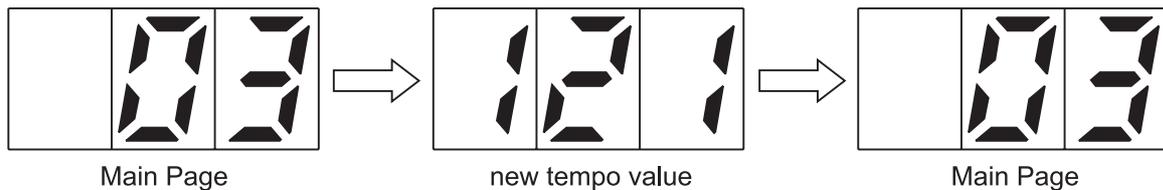
- ✓ Any chords displayed together with the lyrics of the song by means of the remote video interface or the additional graphic display (optionals) will be unaffected by the transposition.
- ✓ If the transpose function is set at 0, the song will not undergo any transposition, even if the function is activated.

## 6.3 ADJUSTING THE METRONOME TEMPO

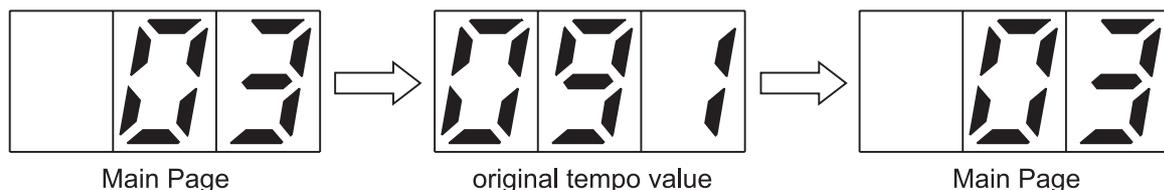
The TEMPO function allows the user to vary the metronome tempo of a song being played.

As for the other Real Time functions, pressing the [TEMPO] key quickly activates (LED on) or deactivates (LED off) the variation in tempo which can be set in the TEMPO SETUP function.

When the function is activated, the display will show the new metronome tempo value for a few seconds, after which it will return to display of the Main Page:



Alla disattivazione della funzione verrà visualizzato analogamente il valore di tempo originale.



### 6.3.1 TEMPO SETUP

Prolonged pressure on the [TEMPO] key gives access to the TEMPO SETUP function video page, which allows adjustment of the percentage variation of the metronome tempo (and not the absolute tempo of the song) in order to ensure a proportional variation even in case of rallentandos or accelerandos programmed during playback of the song.

Note that this value represents the percentage calculation which the instrument will carry out to set the new bpm (beats per minute) value.

A value of 100 means that the new tempo will be 100% of the original value, so there will be no variations. If a variation of 200% is set, the new metronome tempo value will be twice the original. The possible percentage variations cover a range of values from 50% to 200%.

Press [ENTER] to save the new value or [ESC] to abort the operation (the original value of the function will be left unchanged). In both cases the display will return to the Main Page.

## 6.4 SAVING CHANGES

The **RD-80e** allows you to save the changes made to a song by means of the Real Time functions (Mute, Tempo and Transpose) permanently.

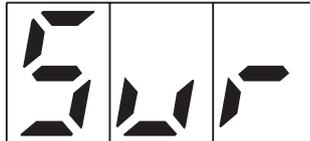


### CAUTION!

*During the saving procedure, the **RD-80e** automatically overwrites the original file: make a backup copy of it if you do not wish to lose the data it contains. This operation should be carried out when saving a song with MUTE function activated (since it will not be possible to restore the contents of the tracks on which the Mute function is set). In case of complex songs, the procedure of recalculating the song with the changes and then saving it may take a few minutes. It is therefore best to make all the changes you require and then save at the end (instead of carrying out a save for each change made).*

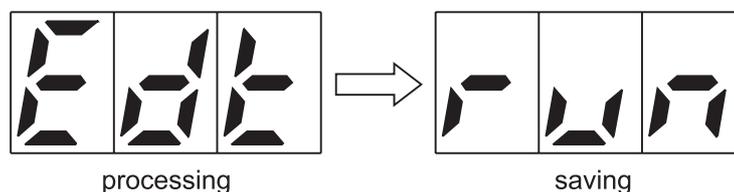
To save a modified song, proceed as follows:

- Select the song you intend to change;
- Set and activate the Real Time function with which you wish to modify the song;
- Carry out a Play to check that you are happy with the changes;
- Press the [REC] button (SAVE in this case): the system will request confirmation to go ahead with the video page:

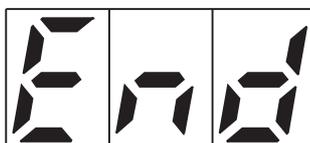


meaning “Are You Sure?”. Press [ENTER] to confirm the operation, or [ESC] to abort it (in this case the changes will not be saved).

The following video pages will appear on the display during the time taken for processing and saving:



once the Real Time functions selected have been completed they will be deactivated and the display will show:



meaning “end”.

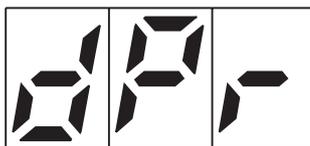


### IMPORTANT NOTES

- ✓ During processing ("Edit" video page), and saving ("run" video page) of the file **do not extract the disc.**
- ✓ Before carrying out the modification and saving procedures, make sure that there is enough space on the floppy disk (space equal to the size of the file you intend to change).
- ✓ During saving of a song with the Mute function activated, all the note events on the tracks set in muting mode will be deleted; after this, it will no longer be possible to play the notes on the tracks concerned.
- ✓ Only the Real Time functions active when the [REC] key is pressed will be saved.
- ✓ If no Real Time functions are selected, the [REC] button has no effect.

## 6.4.1 ERROR MESSAGES

### PROTECTED FLOPPY DISK



The disk on which you have attempted to save the file has write-protection. Move the tab in the top left-hand corner of the disk to the closed position, insert it in the drive again and press [ESC].

### DAMAGED FLOPPY DISK



The disk is damaged and it will not be possible to carry out the operation. Press [ESC] to return to the Main Page.

### NOT ENOUGH SPACE ON DISK



There is not enough space on the disk to make the change and save the file. Press [ESC], free enough space on the disk and repeat the procedure.



## 7. RECORDING SONGS

### 7.1 FOREWORD

As well as playing back songs in Standard MIDI File 0 and 1 format (see point 2.2), the **RD-80e** is also able to record the MIDI events received on the MIDI IN port, made available with the aid of an optional Joy-to-MIDI adapter (see section 4 for the connections). Once recorded, these data can be saved in the form of 0 format Standard MIDI Files (extension .MID) on the floppy disk.

Bear in mind that:

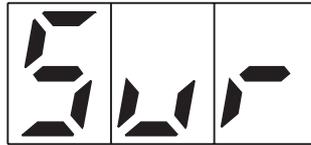
- The instrument does not allow any overrecording (total or partial), so if you wish to replace a recorded song, you will have to delete the song concerned and record another;
- Recording is always with time signature 4/4;
- The instrument records with a resolution of 192 t.p.q.n.;
- The recording always starts at instant 1.1 and no Punch In or Punch Out operations are possible.

### 7.2 RECORDING PROCEDURE

After making all the connections correctly, follow the recording procedure below:

- Insert a disk in the floppy drive: it must be formatted and unprotected (tab closed) and must have enough space to take the recording data.
- Press the [REC] key and, keeping it pressed, the [PLAY] key. The LED in the [REC] key will come on constantly, while the [PLAY] key LED will flash, indicating that the instrument is ready to record.  
The number of the song being recorded will appear on the display; this is the number of the last file on the disk + 1.
- Set the metronome tempo with which the recording will be made (this value will remain constant throughout the recording). The default value is 120, but it can be changed by pressing the [TEMPO] button and using the [INC] and [DEC] keys to set the new value. Press [ENTER] to confirm the value and return to display of the Main Page, or [ESC] to abort the changes.  
***N.B.:** at each new recording the tempo value will always be set at 120, regardless of the previous settings.*
- Press [PLAY] to start recording: the [PLAY] LED will come constantly on and the **RD-80e** will start to record all the MIDI data received by the MIDI In port. During this phase, the [PAUSE] key can be used to interrupt the recording temporarily; press [PAUSE] or [PLAY] again to restart the acquisition of the data.
- Press the [STOP] key to end the recording.

The system will now request confirmation to proceed with saving of the data on the floppy disk:



meaning "Are you Sure?". If the [ENTER] key is pressed the **RD-80e** will go ahead with saving of the data on the disk. **In this phase, do not extract the floppy disk from the drive.**

If [ESC] is pressed the recording will not be saved and all the data acquired will be lost.



#### NOTE

*If when the [STOP] key is pressed the display immediately shows the Main Page without requesting confirmation for saving, this means that the **RD-80e** has not received any MIDI data. Check that the connections are correct and/or that the transmitter instrument is sending the MIDI data correctly.*

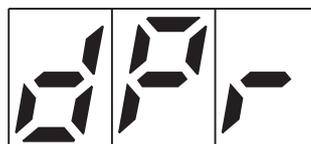
The Midifile created by the **RD-80e** will be placed at the end of the list of those present on the disk and named as follows:

\_\_RD\_nnn.mid

where \_\_RD\_ is the fixed part of the file name and *nnn* is a consecutive number (i.e. last file \_\_RD\_ + 1). This means that the last file is placed at the end of the list even if there are other files generated by the **RD-80e**. For example, the first file generated will be called \_\_RD\_001.mid, the second \_\_RD\_002.mid, and so on.

### 7.2.1 ERROR MESSAGES

#### PROTECTED FLOPPY DISK

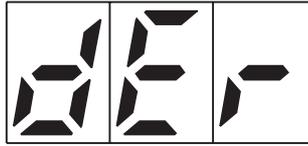


The disk on which you have attempted to save the recording has write-protection. Move the tab in the top left-hand corner of the disk to the closed position, insert it in the drive again and press [ESC].



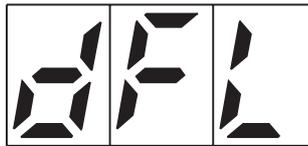
---

**DAMAGED FLOPPY DISK**



The disk is damaged and it will not be possible to carry out the operation. Press [ESC] to return to the Main Page.

**NOT ENOUGH SPACE ON DISK**



There is not enough space available on the disk to take the entire recording. Press [ESC], free space on the disk and repeat the procedure.

## 8. MIDI SECTION

The MIDI section, which can be recalled using the key of the same name in stop status, allows you to set up all the instrument's MIDI parameters, such as the output Router and setting of the synchronisation with any connected devices.

Once the [MIDI] key has been pressed, the first menu function will appear on the display. To select the function required, use the [INC] and [DEC] buttons and press [ENTER].

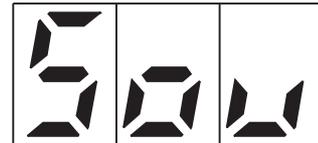
These functions will be shown on the display as follows:



Out Router



Sync In



Sync Out

- **Out Router:** sets whether the MIDI data from the song for each track (the MIDI channels) are to be sent to the sound generator or to the [MIDI OUT] port.
- **Sync In:** sets which of the synchronisation messages received from the Joy Port MIDI IN port the instrument is to interpret.
- **Sync Out:** sets which synchronisation messages are to be sent to the [MIDI OUT] port.



### NOTE

- ✓ *Every modification made to the parameters relating to this section will automatically be memorised.*

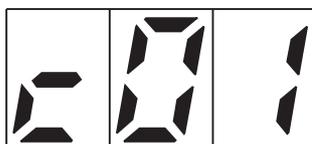
The [ESC] key can be used to return to the Main Page.

### 8.1 OUT ROUTER

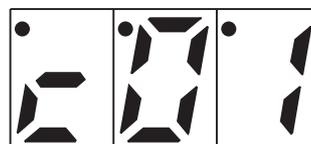
The OUT ROUTER function allows you to specify whether the data relating to each track (corresponding to its own MIDI channel) are to be sent to the internal sound generator or to the [MIDI OUT] port.

From the MIDI menu, select the Out Router function and press the [ENTER] key.

The display will show the current setting of the MIDI channel (or track) 1:



Track 1 addressed to the internal sound generator



Track 1 addressed to the [MIDI OUT] port

As the illustration shows, the three dots on the display indicate that the track is addressed to the [MIDI OUT] port.

The [DEC] and [INC] keys can be used to select the tracks, while the [REW] (Disable) and [FF] (Enable) keys allow you to set the routing of the track data to the [MIDI OUT] port.



### IMPORTANT NOTE

*Note that the track addressed to the [MIDI OUT] port is not played by the internal sound generator but only by the remote MIDI devices, set of course for reception on that channel.*

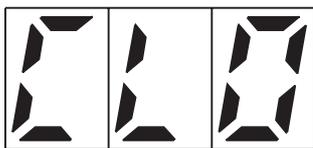
When the operation is complete, the [ESC] key can be pressed to exit from the video page in question; all the modifications will be saved automatically. On exit from the function, the current song will be reloaded to implement the modifications.

## 8.2 SYNC IN

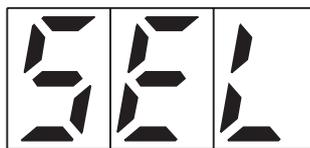
The SYNC IN function allows you to set which of the Real Time messages relating to the synchronisation, present on the MIDI IN port connected to the [JOY PORT], you wish the **RD80e** to interpret.

The Real Time codes are high-priority MIDI messages used for control or synchronisation messages. The functions of the individual messages will be described below.

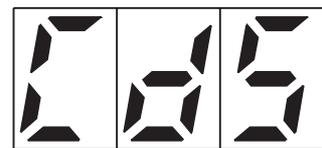
From the MIDI menu (recalled using the [MIDI] key in stop condition), recall the SYNC IN function ("Sin" video page) and press [ENTER]. The display will show the first Real Time message available for setting. To select messages, use the [INC] and [DEC] buttons, the display will show:



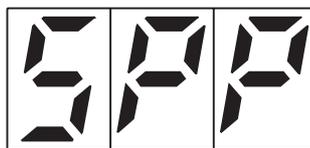
MIDI Clock



Song Select

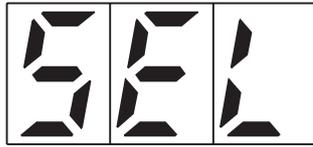


Commands

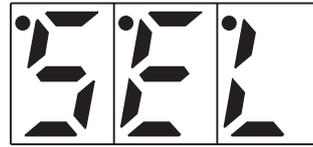


Song Position Pointer

Once the synchronisation message has been selected, use the [FF] (Enable) button to enable its reception or [REW] (Disable) to disable it. A message is interpreted when three dots are shown on the display.



Reception of the Song Select  
message disabled



Reception of the Song Select  
message enabled

The display is similar for the other synchronisation messages.

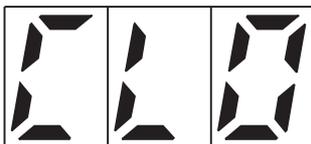
- **Clock:** enables/disables reception of the MIDI Clock. With the function enabled, the value of the tempo in bpm (beats per minute) of the **RD-80e** will be updated in real time with that of the transmitter device connected to the MIDI In port of the [JOY PORT]. If the **RD-80e** does not detect this message, it will refer to its own internal Clock.
- **Commands:** enables/disables reception of the MIDI Start, Stop and Continue messages, which emulate the functions of the [PLAY], [STOP] and [PAUSE] buttons. When the function is activated, the **RD-80e** will carry out these commands received by the MIDI In port of the [JOY PORT].
- **Song Select:** enables/disables reception of the MIDI message for selection of songs.
- **Song Position Pointer:** enables/disables reception of the MIDI messages for pointing the bar of the selected song.

When the operation is complete, the [ESC] key can be pressed to exit from the video page in question; all the modifications will be saved automatically. On exit from the function, the current song will be reloaded to implement the modifications.

### 8.3 SYNC OUT

The SYNC OUT function allows you to enable transmission of specific MIDI synchronisation messages.

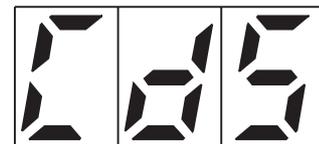
From the MIDI menu (recalled using the [MIDI] key in stop condition), recall the SYNC OUT function ("Sou" video page) and press [ENTER]. The display will show the first Real Time message available for setting. To select messages, use the [INC] and [DEC] buttons, the display will show:



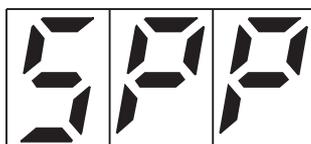
MIDI Clock



Song Select



Commands



Song Position Pointer

Once the synchronisation message has been selected, use the [FF] (Enable) button to enable its reception or [REW] (Disable) to disable it. A message is transmitted when three dots are shown on the display.



Transmission of the Song  
Select message disabled



Transmission of the Song  
Select message enabled

The display is similar for the other synchronisation messages.

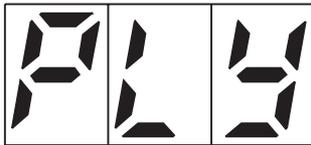
- **Clock:** enables/disables transmission of the internal MIDI Clock of the **RD-80e** to the [MIDI OUT] port. When the function is active, it will be possible to synchronise the tempo of another device, connected to the [MIDI OUT] port and set for reception of the message in question, with that of the **RD-80e**.
- **Commands:** enables/disables transmission of the MIDI Start, Stop and Continue messages. With the function active, when the [PLAY], [STOP] and [PAUSE] buttons are pressed, the **RD-80e** will transmit the relative message to the [MIDI OUT] port.
- **Song Select:** enables/disables transmission of the MIDI message for selection of the active song. When the function is active, if a song is selected with the **RD-80e** the relative message will be transmitted to the [MIDI OUT] port (when the [ENTER] key is pressed).
- **Song Position Pointer:** enables/disables transmission of the MIDI message for pointing the bar of the selected song. With the function activated, when a bar is selected by means of the [REW] and [FF] keys, the **RD-80e** will transmit the relative bar reached message to the [MIDI OUT] port.

When the operation is complete, the [ESC] key can be pressed to exit from the video page in question; all the modifications will be saved automatically. On exit from the function, the current song will be reloaded to implement the modifications.

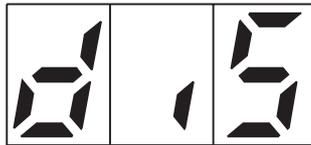
## 9. UTILITY SECTION

The UTILITY section contains all the accessory functions which provide a useful completion of the operations made available by the **RD-80e**.

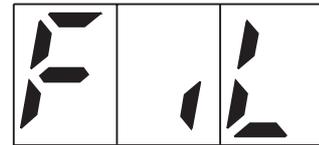
These functions, like those of the MIDI section, are only accessible in stop condition. Press the [UTILITY] key for access to the menu of the same name; to select the function, use the [INC] and [DEC] keys, which will be shown on the display as follows:



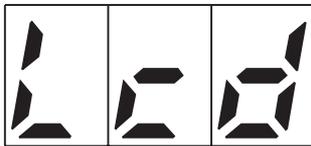
Play Mode



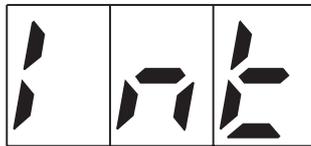
Disk



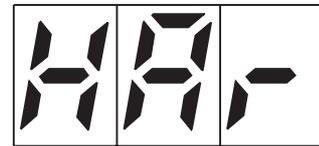
File



External display



Video Interface



Vocal Harmonizer

- **Play mode:** sets the play mode, meaning the status of the All Play Song and the Lyrics Master Switch.
- **Disk:** allows access to the floppy disk formatting and copy functions.
- **File:** allows access to the file copy and deletion functions.
- **Graphic LCD:** allows access to the settings relating to the additional graphic display which can be connected to the **RD-80e**.
- **Video Interface:** displays the parameters for setting up the additional video interface.
- **Vocal Harmonizer:** parameters for configuration of the remote vocal harmoniser.

Once the function required has been selected, press [ENTER] to access the internal parameters.

The [ESC] key can be used to return to the Main Page.



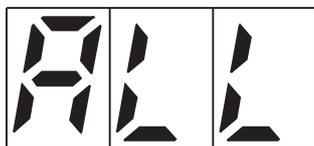
### NOTE

- ✓ *For information about the settings of the optional graphic display and the video interface – voice harmoniser, also refer to the relative user manual.*

## 9.1 PLAY MODE

The Play Mode function allows you to set the modes for playing of the songs, i.e. the All Play Song and the Lyrics Master Switch.

Once the function has been selected, the display will show the modes described, which can be selected using the [INC] and [DEC] keys.



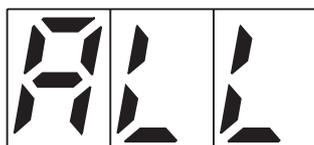
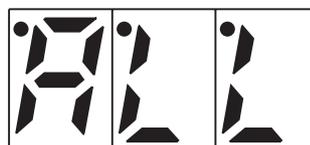
All Play Song



Lyrics Master Switch

- **All Play Mode:** if the function is activated, during playing when the end of one song is reached the next one will be loaded and played automatically, until the end of the last song saved on the floppy disk.
- **Lyrics Master Switch:** if the function is activated the **RD-80e** will send any MIDI karaoke data in the song being played to the [MIDI OUT] port.  
Disable this function if the optional remote peripherals such as the video interface of the additional graphic LCD display are not connected; this will prevent longer song loading times.

To enable the function press the [FF] (Enable) button, or to disable it use the [REW] (Disable) key. The functions will be activated if there are three luminous dots on the display:

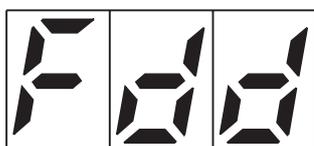
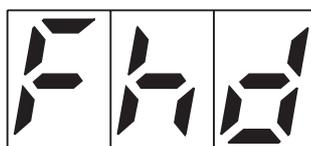
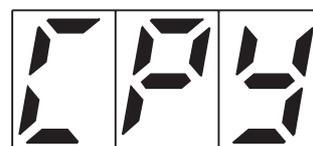
All Play Mode  
function disabledAll Play Mode  
function enabled

The status of the Lyrics Master Switch is displayed in the same way.

When the operation is over, press the [ESC] key to save the modifications and the system will return to display of the Utility menu.

## 9.2 DISK FUNCTIONS

For the Utility, menu, selecting the DISK option ("dis" on the display) gives access to the functions for formatting and copying the floppy disks used with the **RD80e**. The functions will appear on the display as follows:

Formatting of 720 Kb  
floppy (2DD)Formatting of 1.44 Mb  
floppy (2HD)

Physical copying of floppy

Use the [INC] and [DEC] keys to select the functions and [ENTER] to recall them.

### 9.2.1 FORMATTING A DISK

Each freshly-purchased floppy disk **must** be formatted before use. The **RD80e** formats floppy disks in MS-DOS® format, meaning that these disks can also be used with Personal Computers or Sequencers.

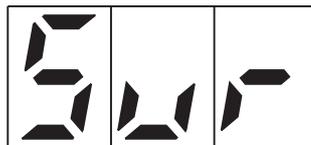


#### CAUTION!

*Bear in mind that when a floppy disk or the internal memory is formatted, all the data memorised will be lost irretrievably.*

To start formatting, select one of the two video pages described in the previous point, bearing in mind that 2DD formatting is for 720 Kb floppy disks and 2HD formatting must be used for 1.44 Mb floppy disks.

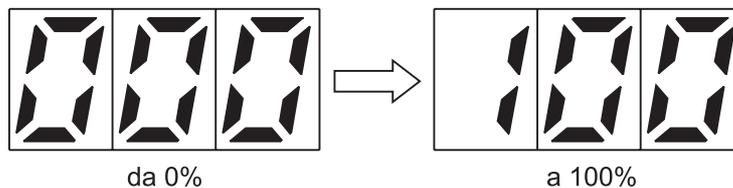
Then insert the floppy disk you wish to format and press the [ENTER] button: the display will show a request for confirmation that you wish to proceed with the formatting.



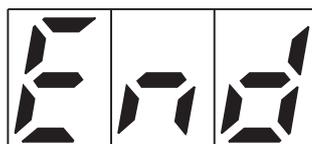
meaning "Are you Sure?".

Pressing the [ENTER] key will start the formatting, or pressing [ESC] will abort the operation and the display will return to the previous video page.

In case of confirmation, the instrument will go ahead with the Format operation, and a video page will show the percentage of formatting completed:



During this operation the instrument will not respond to the pressing of any button, after which the display will show:



to indicate that the procedure has been completed successfully.

**CAUTION!**

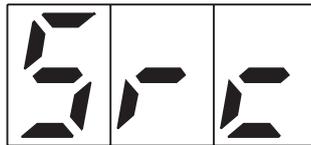
- ✓ Do not extract the disk and do not switch off the **RD-80e** during the formatting procedure.
- ✓ When formatting floppy disks, take care to select the correct capacity.

**9.2.2 COPYING A DISK**

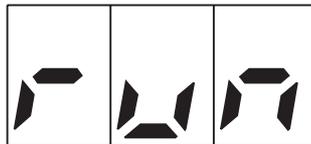
The **RD-80e** allows you to copy the contents of an entire floppy disk, regardless of the type of files it contains (meaning including files not related to the **RD-80e** system), onto another disk **of the same capacity**.

Note that the reading/writing time is independent of the amount of data on the source disk, since the copying procedure overwrites the entire contents of the destination disk with those of the source disk: this causes the loss of all the data present on the destination disk.

After selecting the function concerned (“CPY” page in the Utility menu) insert the source disk containing the data for copying and press [ENTER]; the display will show:



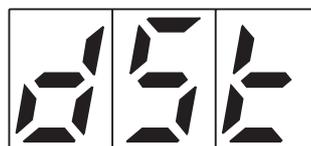
reminding you to insert the source disk, after which the system will display:



informing you that the system is reading the data, after which a video page will appear instructing you to extract the source floppy disk:

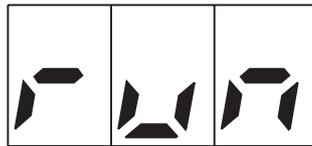


and insert the destination disk:

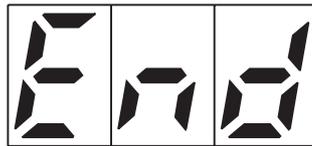




The instrument will then write the data on the floppy disk, showing on the display:



At the end of the operation the following video page will appear:



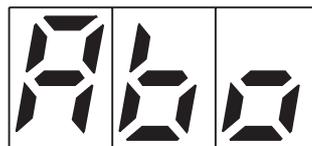
to indicate that the procedure has been completed successfully.



**CAUTION!**

*You are urged to take special care when extracting and inserting the disk; this must only be carried out when the instrument gives the relative prompt. This is because it takes a short time for the drive heads to reach the safety position.  
If the destination floppy disk is inserted before the system gives the prompt, extract the disk again and wait for the message.*

During the reading and/or writing operations, pressing the [ESC] key interrupts copying of the floppy disk. The display will show the message:

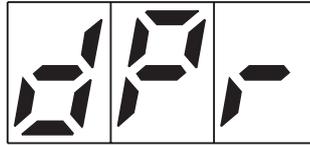


for the time taken to close any files open.

---

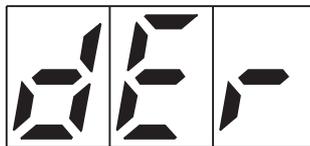
### 9.2.3 ERROR MESSAGES – DISK SECTION

#### FLOPPY DISK PROTECTED



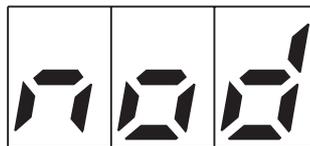
The disk has write protection and it is not possible to save the data or format the disk. Move the tab in the corner of the disk to the closed position, insert it in the drive again and press [ESC]. Then repeat the copy or format procedure.

#### FLOPPY DISK DAMAGED – INCORRECT CAPACITY



The disk is damaged, not usable, or has capacity different from that required. Press [ESC] and replace the floppy disk. Then repeat the copy or format procedure.

#### FLOPPY DISK NOT INSERTED



There is no disk in the drive and the operation requested cannot be carried out. If the disk is present, wait a few moments (to allow the instrument to acquire the floppy disk) and then retry the procedure. Also try removing and re-inserting the disk. Press [ESC] to return to the menu or to the prompt for insertion of the floppy disk.

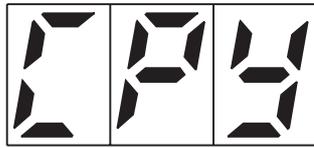
#### FORMATTING ERROR



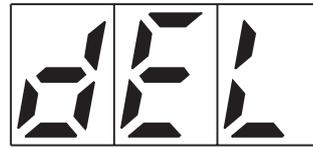
An error has occurred during formatting and it will not be possible to complete the operation. The disk might be unusable. Press [ESC] to return to the Utility menu.

## 9.3 FILE FUNCTIONS

From the Utility menu, selecting the File option (“Fil” video page) gives access to two functions:



Copying of single file



Deleting of single file

- **File Copy:** this function allows you to copy one or more files from one floppy disk to another.
- **File Delete:** this function allows you to delete one or more files saved on disk.

You can use the [SONG] and/or [LIST] buttons to select the type of file to be copied or deleted.

### 9.3.1 COPYING A FILE

After selecting the File Copy function, you can use the [INC] and [DEC] buttons to select the number of the Song or the List to be copied (using the [SONG] and [LIST] buttons to select the type of file).

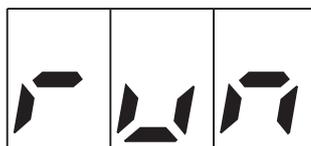


#### **IMPORTANT NOTE**

*If the destination floppy disk contains files with the same names as those as to be copied, the system will overwrite the existing files.*

After making the selection, press [ENTER] to go ahead with the copy of the file corresponding to the number shown on the display.

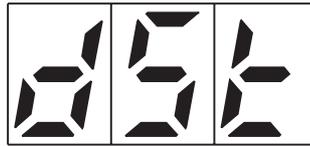
For the time taken to read the data, the following video page will appear:



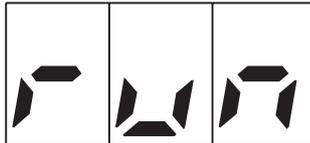
The system will then prompt you to extract the origin disk:



and insert the destination disk:

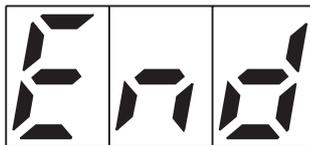


The data will then be written on the destination floppy disk immediately:



When the procedure is completed, the display prompts you to extract the destination disk and insert the origin disk if you wish to copy another file.

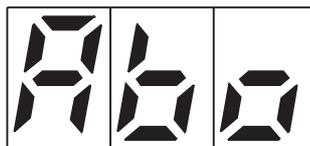
After insertion of the origin floppy disk, the display will show:



confirming that the copy has been completed successfully.

The video page for selection of the file will then appear again to allow you to make another copy if you wish.

During the reading and/or writing operations, pressing the [ESC] key interrupts copying of the file. The display will show the message:



for the time taken to close any open files. Insert a valid floppy to quit the abort function.



### **CAUTION!**

*You are urged to take special care when extracting and inserting the disk; this must only be carried out when the instrument gives the relative prompt. This is because it takes a short time for the drive heads to reach the safety position.*

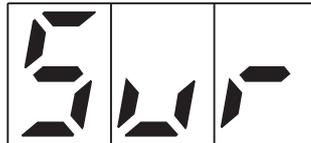
*If the destination floppy disk is inserted before the system gives the prompt, extract the disk again and wait for the message.*

### 9.3.2 DELETING A FILE

After selecting the File Delete function, you can use the [INC] and [DEC] buttons to select the number of the Song or the List to be deleted (using the [SONG] and [LIST] buttons to select the type of file).

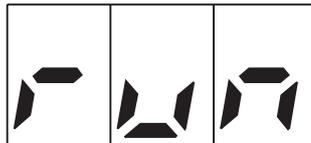
After making the selection, press [ENTER] to go ahead with deletion of the file corresponding to the number shown on the display.

The display will show a video page for confirmation to proceed:

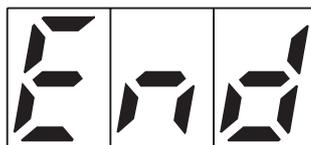


acronym of “Are you Sure?”. Press [ENTER] to confirm the operation or [ESC] to abort it.

In case of confirmation, the system will delete the file definitively from the disk. For the time taken to complete the operation, the display will show:



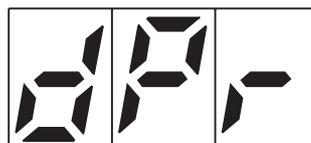
At the end of the operation the following video page will appear:



indicating that the operation has been completed.

### 9.3.3 ERROR MESSAGES – FILES SECTION

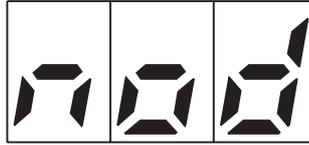
#### DISK PROTECTED



The disk has write protection and it is not possible to copy or delete the file. Extract the floppy disk, move the tab in the corner of the disk to the closed position, insert it in the

drive again and press [ESC].

### DISK NOT IN DRIVE



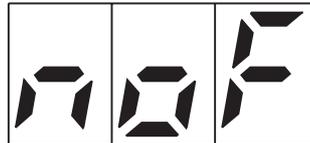
There is no disk in the drive and the operation requested cannot be carried out. If the disk is present, wait a few moments (to allow the instrument to acquire the floppy disk) and then retry the procedure. Also try removing and re-inserting the disk. Press [ESC] to leave the video page.

### DISK ERROR



The disk is damaged or unusable. Press [ESC] and replace the floppy disk.

### NO FILE



This message is displayed if the floppy disk does not contain Songs or Lists, so it is not possible to select the file for copying/deletion.

## 9.4 CONTROL OF THE OPTIONAL GRAPHIC DISPLAY

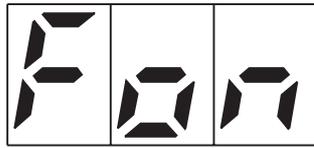
The **RD-80e** allows you to connect the optional Voice Systems **LVD** liquid crystal display (LCD) by means of the [JOY PORT] on the rear of the instrument. You will then be able to show any lyrics present on the backing track being played on the display. Refer to section 4 for information about the connections.



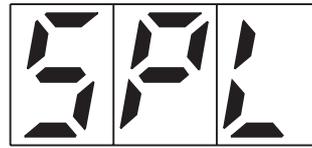
#### NOTE

*To allow the lyrics of the song to be shown on the LVD display, the Lyrics Master Switch must be on. For instructions for setting this function, refer to point 9.1.*

From the Utility menu, use the [INC] and [DEC] buttons to select the “Lcd” video page and press [ENTER]: this will give access to the functions for setting the font and the type of spelling for the graphic display.



Font Type



Spelling Type

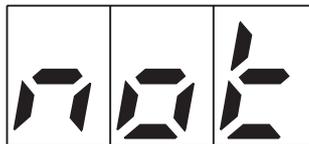
- **Font Type:** this function allows you to select the size of the characters shown on the LVD display.
- **Spelling Type:** this function allows you to select the type of spelling for the karaoke (if envisaged by the song being played).

After selecting the function required, press the [ENTER] key to access the settings.



**NOTE**

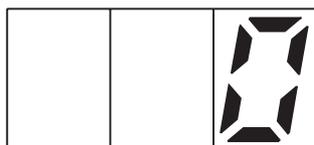
*These functions can only be recalled if the LVD graphic display is present and properly installed. Otherwise, the system will show the video page:*



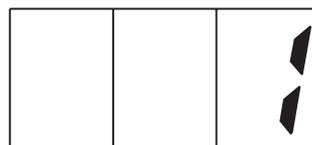
*meaning “Not installed”.*

**9.4.1 SELECTING THE TYPE OF FONT**

To set the type of font with which the lyrics of the song are to be shown on the display, recall the Font Type function (“Fon” video page) and press [ENTER]; the display will show the last type of font selected:



Normal Font

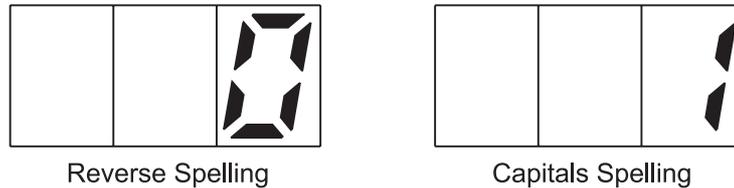


Big Font

Use the [INC] and [DEC] keys to select the character size required, then press the [ESC] key to exit from the function and return to the Utility menu. The settings will be saved automatically.

### 9.4.2 SELECTING THE TYPE OF SPELLING

The type of spelling is another setting relating to the optional graphic display. To make this setting, recall the Spelling Type function ("Spl" video page); the setting video pages are the following:



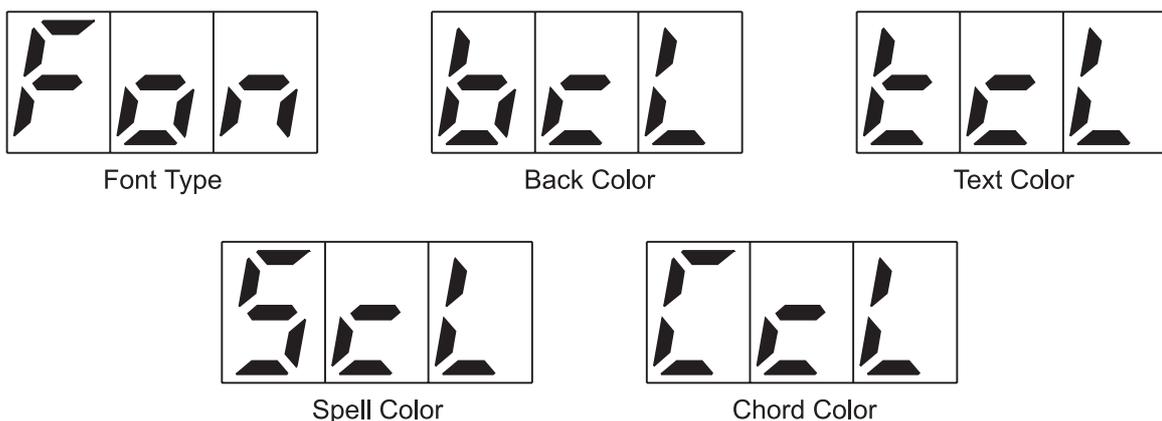
- **Reverse:** the karaoke is displayed with the characters in reverse.
- **Capitals:** the karaoke is displayed in uppercase/lowercase letters.

After making the selection, press the [ESC] key to exit from the function and return to the Utility menu. The settings will be saved automatically.

## 9.5 SETTINGS RELATING TO THE VIDEO INTERFACE

If you wish to display the lyrics of the songs played on an ordinary TV set, the Voice Systems **HVP** or **VIP** video interfaces can be connected to the **RD80e**.

To set their operation, select the Video Interface option ("Int" video page) from the Utility menu and press [ENTER]. The display will show the video pages for selection of the individual settings relating to the HVP or the VIP.



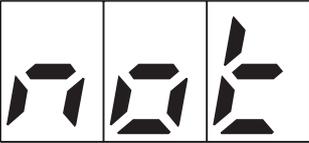
- **Font Type:** selection of the size of the character displayed on the TV.
- **Back Color:** selection of the background colour of the TV screen.
- **Text Color:** selection of the colour of the lyrics of the song.
- **Spell Color:** selection of the colour of the lyrics of the song subjected to spelling (if envisaged by the song being played).

- **Chord Color:** selection of the colour of the chords displayed together with the lyrics of the song (if envisaged by the song being played).

Use the [DEC] and [INC] keys to select the function you wish to set and press [ENTER] to display its setting.

**NOTE**

*These functions can only be recalled if the HVP or VIP video interfaces are present and properly installed. Otherwise, the system will show the video page:*



*meaning "Not installed".  
Refer to section 4 for instructions for connecting the **RD80e** to the HVP or the VIP.*

### 9.5.1 SELECTING THE FONT TYPE

After selecting the Font Type option ("Fon" video page), you will be able to adjust the size of the characters of the lyrics of the song shown on the TV set. The video pages displayed are the following:



Normal Font



Big Font



Extra-Big Font

**Normal Font:** characters of normal size suitable for large-screen televisions.

**Big Font:** large characters which can be displayed on medium-size screens.

**Extra-Big Font:** characters larger in size than the Big Font, suitable for small-size screens.

After making the selection, press the [ESC] key to leave the function and save the settings.

### 9.5.2 SELECTING THE COLOURS

After selecting one of the video pages relating to the functions for setting the colours displayed on the TV set (Back Color, Text Color, Spell Color or Chord Color), press [ENTER]: the display will show the number corresponding to the colour set for the function recalled.

The table in the next page contains the numerical values of the colours available.



Color #	Back Color	Text Color	Spell Color	Chord Color
1	Black	Black	Black (reverse)	Black
2	Navy	Navy	Navy (reverse)	Navy
3	Red	Red	Red (reverse)	Red
4	Pink	Pink	PinK (reverse)	Pink
5	Green	Green	Green (reverse)	Green
6	Blue	Blue	Blue (reverse)	Blue
7	Yellow	Yellow	Yellow (reverse)	Yellow
8	White	White	White (reverse)	White
9			Black	
10			Navy	
11			Red	
12			Pink	
13			Green	
14			Blue	
15			Yellow	
16			White	

Select the new colour using the [DEC] and [INC] keys and press the [ESC] key to exit from the function and save the new settings.

The colour selection procedure is identical for all the functions.

## 9.6 VOCAL HARMONIZER

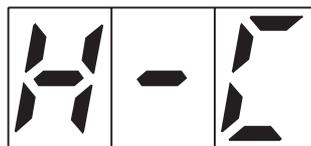
As we have seen when describing the settings of the remote video interface, the **RD80e** can be connected to the **HVP**. In this section we will describe the settings relating to the vocal harmoniser.

For further information about the connections, refer to section 4.

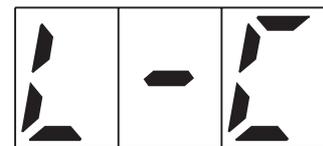
To access the vocal harmoniser setup functions, select the Vocal Harmonizer option (“Har” video page). The video pages of the functions concerned are the following:



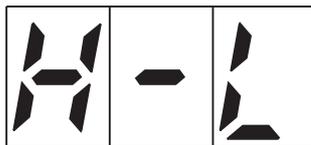
Type



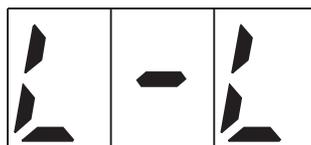
Harmony Channel



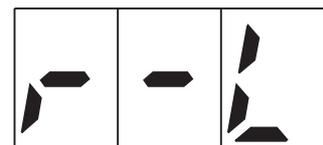
Lead Channel



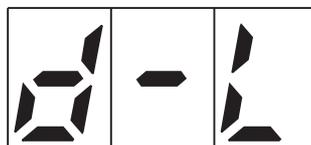
Harmony Level



Lead Level



Reverb Level

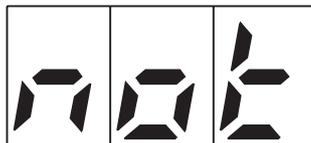


Delay Level

- **Type:** this function allows selection of the type of harmonisation.
- **Harmony Channel:** this function allows you to set the MIDI channel on which the HVP obtains the data for the harmonisation.
- **Lead Channel:** use this function to select the MIDI channel by means of which the auto-tuning of the melody line is carried out (when the Lead mode is activated).
- **Harmony Level:** this function allows you to set the level of the voices for the harmonisation
- **Lead Level:** this function allows you to set the level of the voice used for the auto-tuning of the melody line.
- **Reverb Level:** use this function to adjust the level of the reverb effect which simulates the propagation of the signal inside a room.
- **Delay Level:** this function allows you to set the level of the delay effect, more often known as the *echo effect*, used to obtain repetitions of the signal.

**NOTE**

*These functions can only be recalled if the HVP voice harmoniser is present and properly installed. Otherwise, the system will show the video page:*

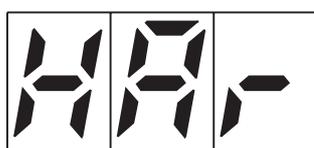


*meaning "Not installed".*

After selecting the function required, press [ENTER] to access the internal settings.

**9.6.1 TYPE OF HARMONISATION**

After selecting the Type function ("Typ" video page) you will be able to select the type of harmonisation you require:



Harmony operating mode



Lead operating mode

After making the selection, press [ESC] to return to the menu. The settings will be saved automatically.

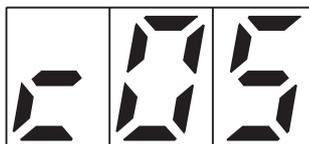
### **9.6.2 SETTING THE HARMONISER MIDI RECEPTION CHANNELS**

Using the Harmony Channel (“H-C” video page) and Lead Channel (“L-L” video page) functions, you can set the MIDI channels of the Harmony channel and of the Lead channel of the HVP respectively.

The Harmony channel contains the chords for harmonisation of the voice, while the Lead channel contains the melody line of the song.

Note that the Lead channel is only present if a LEAD type harmonisation is being used (for the selection procedure, refer to point 9.6.1).

Once the function has been selected, the display will show the current MIDI channel for the function selected:



In the example the channel selected (Lead or Harmony) is set on channel MIDI 5. Use the [DEC] and [INC] keys to select the MIDI channel of your choice then press [ESC] to save the settings and display the Utility menu.

### **9.6.3 SETTING THE LEVELS**

The Harmony Level, Lead Level, Reverb Level and Delay Level functions (“H-L”, “L-L”, “r-L” and “d-L” on the display) allow you to adjust the levels of the Harmony channel, the Lead channel and the reverb and delay effect respectively. The reverb and delay effects are applied both to the original signal from the microphone and to the parts added by the voice harmoniser.

Note that the Lead channel is only present if a LEAD type harmonisation is being used (for the selection procedure, refer to point 9.6.1).

Once the function required has been selected, the display shows the value of the current level, which can be modified using the [DEC] and [INC] keys. The range of values applicable to the levels is from 127 to 0 (signal processed by the HVP absent).

On completion of the operation press the [ESC] key to save the settings and return to display of the Utility menu.

## 10. THE LISTS

The term List refers to a prearranged sequence of songs which the instrument will load and play automatically one after the other. This sequence can be programmed by the user and saved in the form of a LIST file (extension .LST).

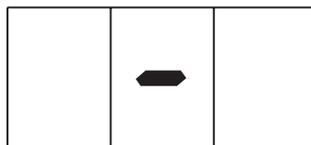
The lists created by the **RD-80e** consist of steps, each of which contains the name of the file to be performed and not the number shown by the display: this means that even if songs are added to the disk later, the List will still be performed correctly.

Each sequence of songs can contain up to 64 steps; in other words, it is able to concatenate up to 64 songs.

### 10.1 CREATING A LIST

A List may contain songs saved on just one floppy disk; insert the disk containing the songs with which you wish to create a List in the drive.

From the Song mode, in Stop condition, keep the [LIST] key pressed for a few moments. The [LIST] LED will start to flash, while the [SONG] LED will be constantly on (since you have to select songs to be placed in the steps) and the display will show:



indicating that the first step in the List is empty.

You can use the [REW] and [FF] buttons to select the number of the song you wish to place in the first step. After making the selection, press [ENTER]: the system will save the step and add another one after it, showing the step empty video page (i.e. the one just entered).

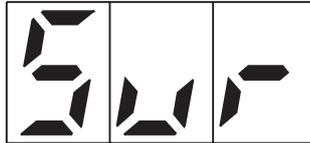
To insert a step between two existing steps, select the one after which you wish to add another and press [ENTER]: the system will insert the step, the steps after it will be moved forward one place and the display will show the step empty video page (i.e. the one just entered).

If [ESC] is pressed the step displayed will be deleted and the following steps will be shifted back one place. If steps are left empty, these steps will be ignored during performance of the List

Repeat this procedure until the entire List has been programmed.

## 10.2 SAVING THE LIST

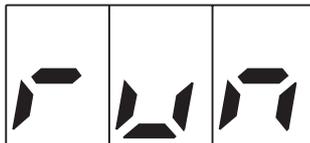
During the List creation procedure, the List can be saved on the floppy disk at any moment by pressing the [REC] (SAVE) key. The display will then show:



meaning "Are you sure?".

Press [ENTER] and the instrument will go ahead with the saving procedure; press [ESC] and the saving procedure will be aborted.

During the saving procedure the display will show:



and then return to the List selection video page.

To abort the List creation procedure without saving it, press the [LIST] key.

The List file generated by the **RD-80e** will be placed after any already present on the disk and named as follows:

\_\_RD\_nnn.lst

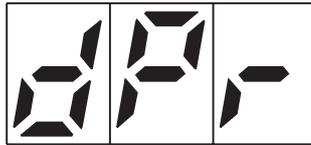
where \_\_RD\_ is the fixed part of the file name and *nnn* is a consecutive number (i.e. last file \_\_RD\_ + 1). This means that the file generated is always at the end even if there are other files generated by the **RD-80e**. For example the first List file generated will be called \_\_RD\_001.lst, the second \_\_RD\_002.lst, and so on.

### 10.2.1 ERROR MESSAGES – SAVE LIST

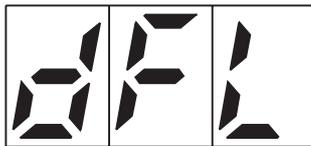
#### DISK ERROR



The disk is damaged and it will not be possible to carry out the operation.

**DISK PROTECTED**

The disk on which you have attempted to save the List has write protection. Move the tab in the corner of the disk to the closed position, insert it in the drive again and press [ESC].

**DISK FULL**

There is not enough space available on the disk to save the List file just created.

**10.3 PERFORMING A LIST**

To select a List, press the [LIST] button from the Main Page and display the number of the List file required using the [INC] and [DEC] keys. Then press [ENTER] to confirm the selection.

When the [PLAY] key is pressed the first song in the List will be played, and when it finishes the second song will automatically be loaded and played, down to the last step. If [STOP] is pressed, the current song will be interrupted and the List reloaded from the first step.

To return to the Song mode, press the key of the same name on the panel and confirm with [ENTER].

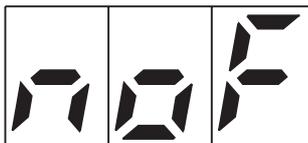
**NOTES**

- ✓ *If one or more songs in the List are deleted, during performance of the List a number of steps might be skipped where the missing files are placed. It is therefore important to bear this in mind when deleting files.*
- ✓ *Never extract the floppy disk during performance of the List.*



### 10.3.1 ERROR MESSAGES – PLAY LIST

#### NO FILE



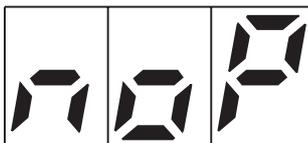
There are no List files on the floppy disk inserted.

#### NO SONG



There are no songs in the List, or the songs in the List selected are not saved on the floppy disk.

#### NOT PLAYABLE SONG



The song belonging to the List being played does not belong to the MIDI file Standard code, or is a MIDI format 1 file with more than 16 tracks. It will not be possible to play the song.

## 10.4 LIST FILE MANAGEMENT

In this manual, we have seen how it is possible to copy or delete the song files (\*.mid) saved on the floppy disk. The same procedures are also exactly identical for the List files, which will be made available during these operations by pressing the [LIST] button on the front panel. Press [SONG] to return to management of the .mid files.

# 11. ACCESSORY FUNCTIONS

## 11.1 FACTORY SETTINGS

The Factory Settings function allows you to restore the original settings of the instrument on purchase, thus eliminating all the changes you have made-

To restore the Factory Settings switch on the **RD80e** with the [REC] button pressed; the following video page will appear:



meaning “Factory Setting-up”.

The parameters will be set up as described in the table below:

### REAL TIME FUNCTIONS

Volume Mode = NRPN  
Volume Level = 127  
Tempo = Off  
Tempo Variation = 120%  
Mute = Off  
Mute Settings = track 4 only  
Transpose = Off  
Transpose BIAS = +2

### MIDI FUNCTIONS

Router = all track disabled  
Sync In = all function disabled  
Sync Out = MIDI Clock only enabled

### PLAY MODE FUNCTIONS

All Play Song = Off  
Lyrics Master Switch = Off

### LCD SETTINGS

Font = 0 (Norm)  
Spelling Type = 0 (Reverse)

### VIDEO INTERFACE SETTINGS

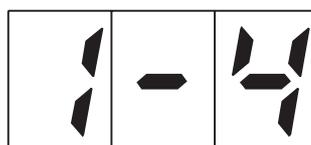
Font = 1  
Background Color = 1 (black)  
Text Color = 8 (white)  
Spelling Color = 11 (red)  
Chord Color = 5 (green)

### HARMONIZER SETTINGS

Type = Harmony  
Harmony Channel = 5  
Lead Channel = 4  
Harmony Channel Level = 100  
Lead Channel Level = 80  
Reverb Level = 64  
Delay Level = 0

## 11.2 DISPLAYING THE SOFTWARE RELEASE

To display the release of the software currently installed in the system, switch on the instrument with the [PAUSE] button pressed. The display will show the current release of the operating system for about three seconds:



after which the system will repeat the start-up procedures.



---

## 11.3 STAND-BY FUNCTION

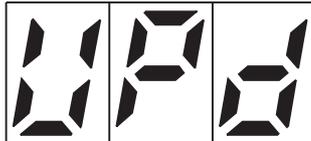
The Stand-By function allows the instrument to be switched to stand-by mode. To do this, keep the [STOP] (STAND-BY) button pressed for about three seconds. To reactivate the instrument, simply press the [ENTER] button (the LED of this button will stay on as long as the instrument is in Stand-By mode to indicate that it is not switched off but has been set in Stand-By status).

## APPENDIX

### UPDATING THE OPERATING SYSTEM

The **RD80e** operating system is resident in the instrument's internal memory. Updating it to subsequent releases is simple and immediate.

Switch off the instrument and insert the floppy disk containing the file with the new operating system. Then switch on the instrument and the display will show:



meaning “updating”, informing you that the instrument has found the system file and is proceeding with the reading, saving and verification operations.

The saving and verification phases are very delicate procedures where the instrument is virtually without an operating system.

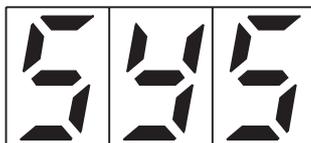
**It is therefore essential NOT TO SWITCH THE INSTRUMENT OFF during these operations.** If this should occur, the system might not work correctly: in this case, reinstall the operating system.

When the procedure has been concluded correctly, the display will show the Main Page.



#### NOTES

- ✓ *The file containing the operating system is called `Data_80.sys`. It is therefore important not to rename it.*
- ✓ *If the following video page is displayed during the update:*



*either the floppy disk medium is damaged or the update file contains data which are not valid.*



# SOUND LIST

## MAIN SOUND – GENERAL MIDI

(all channels except 10)

PG	GENERAL MIDI	PG	GENERAL MIDI	PG	GENERAL MIDI	PG	GENERAL MIDI
0	Grand Piano	32	Acoustic Bass 1	64	Soprano Sax	96	Rain
1	Bright Piano	33	Finger Bass	65	Alto Sax 1	97	Soundtrack
2	E. Grand Piano	34	Pick Bass	66	Tenor Sax	98	Crystal
3	Honky Tonk	35	Fretless 1	67	Baritone Sax	99	Atmosphere 1
4	Electric Piano 1	36	Slap Bass 1	68	Oboe	100	Brightness
5	Electric Piano 2	37	Slap Bass 3	69	English Horn	101	Goblins
6	Harpichord 1	38	Synth Bass 1	70	Bassoon	102	Echoes
7	Clavinet	39	Synth Bass 2	71	Clarinet 1	103	Sci-fi
8	Celesta	40	Violin 1	72	Piccolo	104	Sitar
9	Gloken	41	Viola	73	Flute	105	Banjo
10	Music Box	42	Violoncello	74	Recorder	106	Shamisen
11	Vibes	43	Double Bass	75	Pan Flute	107	Koto 1
12	Marimba	44	Tremolo Strings	76	Blow Bottle	108	Kalimba
13	Xylopon	45	Pizzicato	77	Shakuhachi	109	Bag Pipe
14	Chimes	46	Harp	78	Wistle	110	Fiddle
15	Dulcimer	47	Timpani	79	Ocarina	111	Shanai
16	Drawbar Organ	48	String Ensemble 1	80	Square 1	112	Tinkle Bell
17	Jazz Organ1	49	String Ensemble 2	81	Sawtooth 1	113	Agogo
18	Rock Organ 1	50	Synth Strings 1	82	Calliope	114	Steel Drum
19	Church Organ 1	51	Synth Strings 2	83	Chiff	115	Woodblock
20	Reed Organ	52	Choir Aah	84	Charang	116	Taiko Drum
21	Musette	53	Voice Ooh	85	Voice	117	Melodic Tom 1
22	Harmonica	54	Syn Voice	86	Fifths	118	Synth Drum 1
23	Tango Accordion	55	Orchestra Hit	87	Bass Lead 1	119	Reverse Cymbal
24	Nylon Guitar	56	Trumpet 1	88	Fantasy 1	120	Guitar Fretnoise
25	Steel Guitar	57	Trombone 1	89	Warm Pad	121	Breath Noise
26	Jazz Guitar	58	Tuba	90	Polysynth	122	Seashore
27	Clean Guitar 1	59	Mute Trumpet	91	Choir	123	Bird Tweet
28	Muted Guitar	60	French Horn 1	92	Bowed	124	Telephone 1
29	Overdrive Guitar	61	Brass	93	Metallic	125	Helicopter
30	Distort. Guitar	62	Syn Brass 1	94	Halo	126	Applause
31	Guitar Harmonics	63	Syn Brass 2	95	Sweep	127	Gunshot



## SOUND VARIATION

(all channels except 10)

PG	GENERAL MIDI	Bank Select MSB	1st VARIATION	Bank Select MSB	2nd VARIATION	Bank Select MSB	3rd VARIATION
0	Grand Piano	8	Piano 1w	10	Piano 1d		
1	Bright Piano						
2	E. Grand Piano						
3	Honky Tonk						
4	Electric Piano 1	8	Detune El. Piano 1	16	Electric Piano 1v	24	60's Electric Piano
5	Electric Piano 2	8	Detune El. Piano 2	16	Electric Piano 2v		
6	Harpsichord 1	8	Coupled Hps.			24	Harpsi o
7	Clavinet						
8	Celesta						
9	Gloken						
10	Music Box						
11	Vibes						
12	Marimba						
13	Xylopon						
14	Chimes	8	Church Bell	9	Carillon		
15	Dulcimer						
16	Drawbar Organ	8	Detune Organ 1	16	60's Organ 1	32*	Organ 4
17	Jazz Organ1	8	Detune Organ 2			32*	Organ 5
18	Rock Organ 1						
19	Church Organ 1	8	Church Organ 2	16	Church Organ 3		
20	Reed Organ						
21	Musette	8	Accordion (italian)				
22	Harmonica						
23	Tango Accordion						
24	Nylon Guitar	8	Ukelele	16	Nylon Guitar o	32*	Nylon Guitar 2
25	Steel Guitar	8	12 Strings Guitar	16	Mandolin		
26	Jazz Guitar	8	Hawaiian Guitar				
27	Clean Guitar 1	8	Chorus Guitar				
28	Muted Guitar	8	Funk Guitar	16	Funk Guitar 2		
29	Overdrive Guitar						
30	Distort. Guitar	8	Feedback Guitar				
31	Guitar Harmonics	8	Guitar Feedback				
32	Acoustic Bass 1						
33	Finger Bass	8	Finger Bass 2				
34	Pick Bass	8	Picked Bass 2				
35	Fretless 1						
36	Slap Bass 1						
37	Slap Bass 3						
38	Synth Bass 1	1	Syn Bass 101	8	Synth Bass 3		
39	Synth Bass 2	8	Synth Bass 4	16	Rubber Bass		
40	Violin 1	8	Slow Violin				
41	Viola						
42	Violoncello						
43	Double Bass						
44	Tremolo Strings						
45	Pizzicato						
46	Harp						
47	Timpani						
48	String Ensamble 1	8	Orchestra				
49	String Ensamble 2						
50	Synth Strings 1	8	Syn Strings 3				
51	Synth Strings 2						
52	Choir Aah	32*	Choir Aahs 2				
53	Voice Ooh						
54	Syn Voice	8	Synth Voice 2				
55	Orchestra Hit						

32\*: this variations obtain also with Bank Select MSB=24



PG	GENERAL MIDI	Bank Select MSB	1st VARIATION	Bank Select MSB	2nd VARIATION	Bank Select MSB	3rd VARIATION
65	Alto Sax 1						
66	Tenor Sax						
67	Baritone Sax						
68	Oboe						
69	English Horn						
70	Bassoon						
71	Clarinet 1						
72	Piccolo						
73	Flute						
74	Recorder						
75	Pan Flute						
76	Blow Bottle						
77	Shakuhachi						
78	Wistle						
79	Ocarina						
80	Square 1	1	Square 2	8	Sine Wave		
81	Sawtooth 1	1	Saw	8	Doctor Solo		
82	Calliope						
83	Chiff						
84	Charang						
85	Voice	8	Lead Voice 2				
86	Fifths						
87	Bass Lead 1						
88	Fantasy 1						
89	Warm Pad						
90	Polysynth						
91	Choir	8	Pad Choir				
92	Bowed						
93	Metallic						
94	Halo						
95	Sweep						
96	Rain						
97	Soundtrack						
98	Crystal	1	Syn Mallet				
99	Atmosphere 1						
100	Brightness	8	Brightness 2				
101	Goblins	8	Goblins 2				
102	Echoes	1	Echo Bell	2	Echo Pan		
103	Sci-fi						
104	Sitar	1	Sitar 2				
105	Banjo						
106	Shamisen						
107	Koto 1	8	Taisho Koto				
108	Kalimba						
109	Baq Pipe						
110	Fiddle						
111	Shanai						
112	Tinkle Bell						
113	Agogo						
114	Steel Drum						
115	Woodblock	8	Castanes				
116	Taiko Drum	8	Concert BD				
117	Melodic Tom 1	8	Melodic Tom 2				
118	Synth Drum 1	8	808 Tom	9	Electric Perc 1		
119	Reverse Cymbal						



**DRUM SET TABLE (MIDI channel 10)**

	<b>Prog 1: HQ STD SET1</b>	<b>Prog 2: HQ STD SET2</b>	<b>Prog 9: HQ ROOM SET</b>	<b>Prog 17: HQ POWER SET</b>	<b>Prog 25: HQ ELEC. SET</b>
27 - D#1	High Q				
28 - E1	Slap				
29 - F1	Scratch Push				
30 - F#1	Scratch Pull				
31 - G1	Sticks				
32 - G#1	Square Click				
33 - A1	Metronome Click				
34 - A#1	Metronome Bell				
35 - B1	HQ STD1 Kick2	HQ STD2 Kick2	HQ Room Kick2	HQ Power Kick2	HQ Elect Kick2
36 - C2	HQ STD1 Kick1	HQ STD2 Kick 1	HQ Room Kick1	HQ Power Kick1	HQ Elect Kick1
37 - C#2	Side Stick				
38 - D2	HQ STD1 Snare1	HQ STD2 Snare1	HQ ROOM Snare1	Gated Snare	Elec SD
39 - D#2	Hand Clap				
40 - E2	Snare Drum2	HQ STD Snare2	HQ Room Snare1	HQ Power Snare1	HQ Elec Snare1
41 - F2	HQ Low Floor Tom		HQ Power Low Tom2	HQ Power Low Tom2	Elec Low Tom2
42 - F#2	Closed Hi Hat [EXC1]				
43 - G2	HQ High Floor Tom		HQ Power Low Tom1	HQ Power Low Tom1	Elec Low Tom1
44 - G#2	Pedal Hi Hat [EXC1]				
45 - A2	HQ Low Tom		HQ Power Mid Tom2	HQ Power Mid Tom2	Elec Mid Tom2
46 - A#2	Open Hi Hat [EXC1]				
47 - B2	HQ Low Mid Tom		HQ Power Mid Tom1	HQ Power Mid Tom1	Elec Mid Tom1
48 - C3	HQ Hi Mid Tom		HQ Power High Tom2	HQ Power High Tom2	Elec High Tom2
49 - C#3	Crash Cymbal 1				
50 - D3	HQ High Tom		HQ Power High Tom1	HQ Power High Tom1	elec High Tom1
51 - D#3	Ride Cymbal1				
52 - E3	Chinese Cymbal				Reverse Cymbal
53 - F3	Ride Bell				
54 - F#3	Tambourine				
55 - G3	Splash Cymbal				
56 - G#3	Cowbell				
57 - A3	Crash Cymbal 2				
58 - A#3	Vibraslap				
59 - B3	Ride Cymbal 2				
60 - C4	Hi Bongo				
61 - C#4	Low Bongo				
62 - D4	Mute High Conga				
63 - D#4	Open High Conga				
64 - E4	Low Conga				
65 - F4	High Timbale				
66 - F#4	Low Timbale				
67 - G4	High Agogo				
68 - G#4	Low Agogo				
69 - A4	Cabasa				
70 - A#4	Maracas				
71 - B4	Short Whistle [EXC2]				
72 - C5	Long Whistle [EXC2]				
73 - C#5	Short Guiro [EXC3]				
74 - D5	Long Guiro [EXC3]				
75 - D#5	Claves				
76 - E5	High Wood Block				
77 - F5	Low Wood Block				
78 - F#5	Mute Cuica [EXC4]				



	Prog 26: HQ TR808 SET	Prog 27: HQ DANCE SET	Prog 33: JAZZ SET	Prog 41: BRUSH	Prog 49: ORCHESTRA	Prog 57: SFX SET
27 - D#1					Closed Hi Hat	*
28 - E1					Pedal Hi Hat	*
29 - F1					Open Hi Hat	*
30 - F#1					Ride Cymbal	*
31 - G1						*
32 - G#1						*
33 - A1						*
34 - A#1						*
35 - B1	HQ 909 BD	HQ Dance Kick	Jazz BD2	Jazz BD2	Concert BD2	*
36 - C2	HQ 808 BD	HQ Elec Kick2	Jazz BD1	Jazz BD1	Concert BD1	*
37 - C#2	808 Rim Shot					
38 - D2	808 Snare Drum	HQ Dance Snare1		Brush Tap	Concert SD	*
39 - D#2				Brush Slap	Castanets	High Q
40 - E2	HQ 909 Snare	HQ Dance Snare1		Brush Swirl	Concert SD	Slap
41 - F2	808 Low Tom2	Elec Low Tom2			Timpani F	Scratch Push
42 - F#2	808 CHH [EXC1]	808 CHH [EXC1]			Timpani F#	Scratch Pull
43 - G2	808 Low Tom1	Elec Low Tom1			Timpani G	Sticks
44 - G#2	808 CHH [EXC1]	808 CHH [EXC1]			Timpani G#	Square Click
45 - A2	808 Mid Tom2	Elec Tom2			Timpani A	Metronome Click
46 - A#2	808 OHH [EXC1]	808 OHH [EXC1]			Timpani A#	Metronome Bell
47 - B2	808 Mid Tom1	Elec Mid Tom1			Timpani B	Guitar Slide
48 - C3	808 Hi Tom2	Elec Hi Tom2			Timpani C	Gt Cut Noise (down)
49 - C#3	808 Cymbal				Timpani C#	Gt Cut Noise (up)
50 - D3	808 Hi Tom1	Elec Hi Tom1			Timpani D	Double Bass Up
51 - D#3					Timpani D#	Key Click
52 - E3		Reverse Cymbal			Timpani E	Laughing
53 - F3					Timpani F	Screaming
54 - F#3						Punch
55 - G3						Heart Beat
56 - G#3	808 Cowbell					Footsteps1
57 - A3					Concert Cymbal2	Footsteps2
58 - A#3						Applause
59 - B3					Concert Cymbal1	Door Creaking
60 - C4						Door Closing
61 - C#4	808 High Conga					Wind Chime
62 - D4	808 Mid Conga					Car Engine Start
63 - D#4	808 Low Conga					Car Pass
64 - E4						Car Breaking
65 - F4						Car Pass
66 - F#4						Car Crash
67 - G4						Police Siren
68 - G#4						Train
69 - A4						Jet Take-off
70 - A#4	808 Maracas					Helicopter
71 - B4						Startship
72 - C5						Gun Shot
73 - C#5						Machinegun
74 - D5						Lasergun
75 - D#5	808 Claves					Explosion
76 - E5						Dog
77 - F5						Horse Gallop
78 - F#5						Birds



	<b>Prog 65: STANDARD SET</b>	<b>Prog 73: ROOM SET</b>	<b>Prog 81: POWER SET</b>	<b>Prog 89: ELECTR. SET</b>	<b>Prog 90: TR-808 SET</b>
27 - D#1	High Q				
28 - E1	Slap				
29 - F1	Scratch Push				
30 - F#1	Scratch Pull				
31 - G1	Sticks				
32 - G#1	Square Click				
33 - A1	Metronome Click				
34 - A#1	Metronome Bell				
35 - B1	Kick Drum2/Jazz BD2				
36 - C2	Kick Drum1/Jazz BD1		Power Kick	Elec BD	808 Bass Drum
37 - C#2	Side Stick				808 Rim Shot
38 - D2	Snare Drum 1		Gated Snare	Elec SD	808 Snare Drum
39 - D#2	Hand Clap				
40 - E2	Snare Drum2			Gated Snare	
41 - F2	Low Floor Tom	Room Low Tom2	Room Low Tom2	Elec Low Tom2	808 Low Tom2
42 - F#2	Closed Hi Hat [EXC1]				808 CHH [EXC1]
43 - G2	High Floor Tom	Room Low Tom1	Room Low Tom1	Elec Low Tom1	808 Low Tom1
44 - G#2	Pedal Hi Hat [EXC1]				808 CHH [EXC1]
45 - A2	Low Tom	Room Mid Tom2	Room Mid Tom2	Elec Mid Tom2	808 Mid Tom2
46 - A#2	Open Hi Hat [EXC1]				808 CHH [EXC1]
47 - B2	Low Mid Tom	Room Mid Tom1	Room Mid Tom1	Elec Mid Tom1	808 Mid Tom1
48 - C3	Hi Mid Tom	Room Hi Tom2	Room Hi Tom2	Elec Hi Tom2	808 Hi Tom2
49 - C#3	Crash Cymbal 1				808 Cymbal
50 - D3	High Tom	Room Hi Tom1	Room Hi Tom1	Elec Hi Tom1	808 Hi Tom1
51 - D#3	Ride Cymbal1				
52 - E3	Chinese Cymbal			Reverse Cymbal	
53 - F3	Ride Bell				
54 - F#3	Tambourine				
55 - G3	Splash Cymbal				
56 - G#3	Cowbell				808 Cowbell
57 - A3	Crash Cymbal 2				
58 - A#3	Vibraslap				
59 - B3	Ride Cymbal 2				
60 - C4	Hi Bongo				
61 - C#4	Low Bongo				
62 - D4	Mute High Conga				808 High Conga
63 - D#4	Open High Conga				808 Mid Conga
64 - E4	Low Conga				808 Low Conga
65 - F4	High Timbale				
66 - F#4	Low Timbale				
67 - G4	High Agogo				
68 - G#4	Low Agogo				
69 - A4	Cabasa				
70 - A#4	Maracas				
71 - B4	Short Whistle [EXC2]				
72 - C5	Long Whistle [EXC2]				
73 - C#5	Short Guiro [EXC3]				
74 - D5	Long Guiro [EXC3]				
75 - D#5	Claves				808 Claves
76 - E5	High Wood Block				
77 - F5	Low Wood Block				
78 - F#5	Mute Cuica [EXC4]				
79 - G5	Open Cuica [EXC4]				
80 - G#5	Mute Triangle [EXC5]				
81 - A5	Open Triangle [EXC5]				
82 - A#5	Shaker				
83 - B5	Jingle Bell				

## MIDI IMPLEMENTATION CHART – Data Filer Section -

Voice Systems **RD80e**  
Data Filer

Date: 11/10/2000  
Version: 1.0

FUNCTION ...		TRANSMITTED	RECOGNIZED	REMARKS
<b>BASIC CHANNEL</b>	<b>DEFAULT CHANGED</b>	1-16 X	1-16 X	
<b>MODE</b>	Default Messages Altered	Mode 3		
<b>NOTE NUMBER</b>	True Voice	0-127	0-127	
<b>VELOCITY</b>	Note ON Note OFF	O O	O O	
<b>AFTER TOUCH</b>	Key's Ch's	O O	O O	
<b>PITCH BENDER</b>		O	O	
<b>CONTROL CHANGE</b>	0-127	O	O	
<b>PROGRAM CHANGE</b>	True #	O	O	
<b>SYSTEM EXCLUSIVE</b>		O	O	
<b>SYSTEM COMMON</b>	Song Pos Song Sel Tune	O O X	O O X	(1) (1)
<b>SYSTEM REAL TIME</b>	Clock Commands	O O	O O	(1) (1)
<b>AUX MESSAGES</b>	Local On-Off All note Off Active Sense Reset	X O X X	X O X X	
<b>NOTES:</b> (1) = If SYNC is enabled – See MIDI SYNC Section				

Mode 1: Omni On, Poly  
Mode 3: Omni Off, Poly

Mode 2: Omni On, Mono  
Mode 4: Omni Off, Mono

O = YES  
X = NO

## MIDI IMPLEMENTATION CHART – Sound Generator Section -

Voice Systems **RD80e**  
Data Filer

Date: 11/10/2000  
Version: 1.0

FUNCTION ...		TRANSMITTED	RECOGNIZED	REMARKS
<b>BASIC CHANNEL</b>	<b>DEFAULT CHANGED</b>	X	1-16	
		X	X	
<b>MODE</b>	Default Messages Altered	X	Mode 3	
<b>NOTE NUMBER</b>	True Voice	X	0-127	
<b>VELOCITY</b>	Note ON	X	O	
	Note OFF	X	X	
<b>AFTER TOUCH</b>	Key's	X	O	
	Ch's	X	O	
<b>PITCH BENDER</b>		X	O	
<b>CONTROL CHANGE</b>	0-1	X	O	
	5-7	X	O	
	10-11	X	O	
	64-67	X	O	
	80-81	X	O	
	91	X	O	
	93	X	O	
	99	X	O	
	101	X	O	
	120-121	X	O	
	123	X	O	
	126-127	X	O	
<b>PROGRAM CHANGE</b>	True #	X	O	
			0-127	
<b>SYSTEM EXCLUSIVE</b>		O	O	
<b>SYSTEM COMMON</b>	Song Pos	X	X	
	Song Sel	X	X	
	Tune	X	X	
<b>SYSTEM REAL TIME</b>	Clock	X	X	
	Commands	X	X	
<b>AUX MESSAGES</b>	Local On-Off	X	X	
	All note Off	X	O	
	Active Sense	X	X	
	Reset	X	O	

Mode 1: Omni On, Poly  
Mode 3: Omni Off, Poly

Mode 2: Omni On, Mono  
Mode 4: Omni Off, Mono

O = YES  
X = NO

## FCC RULES

**NOTE:** This equipment has been tested and found to comply with the limits for a **Class B** digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV technician for help.

The user is cautioned that any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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