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How to play the data with the synchro

signal (Multi-Track Recording)

How to set up

1 Introduction

The MC-202 is a 2 channel microcomposer incorporated with a monophonic synthesizer. Therefore, by connecting another monophonic synthesizer (SH-09, SH-2, SH-101, SYSTEM 100M, etc.), you can enjoy a Synthesizer Duet.

There are three methods of entering music data into the MC-202;

- 1 Typing the STEP, GATE and NUM-BER keys (No need to play the key-board)
- 2 Playing the keyboard
- 3 Playing the keyboard for Pitch entry and tapping the TAP key for Rhythm entry

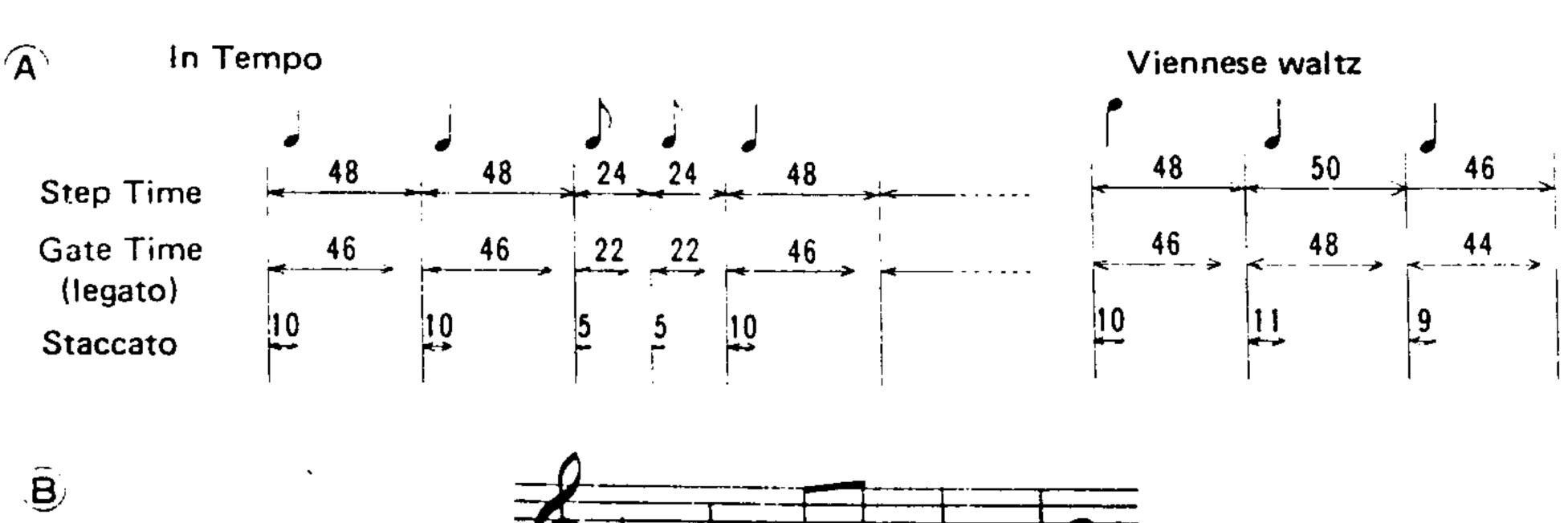
In the MC-202, we consider that a note includes the following three elements (information).

- 1) Pitch (entered by playing the keyboard)
- (2) Timing Value=Step Time (entered with the corresponding figures)
- (3) Actual Sounded Value=Gate Time (entered with the corresponding figures)

A note of a given Step Time has a longer Gate Time if it is legato, or shorter Gate Time if it is Staccato. So the Gate Time is to be set apart from the Step Time.

Refer to the figures shown below.

The MC-202 can be set to either Play or Edit mode. The Play mode turns the built-in synthesizer (or/and the external synthesizer) to playing. In its Edit mode, you can enter the data into the CH-1 and CH-2 separately. If everything is clear so far, you can start entering the data.

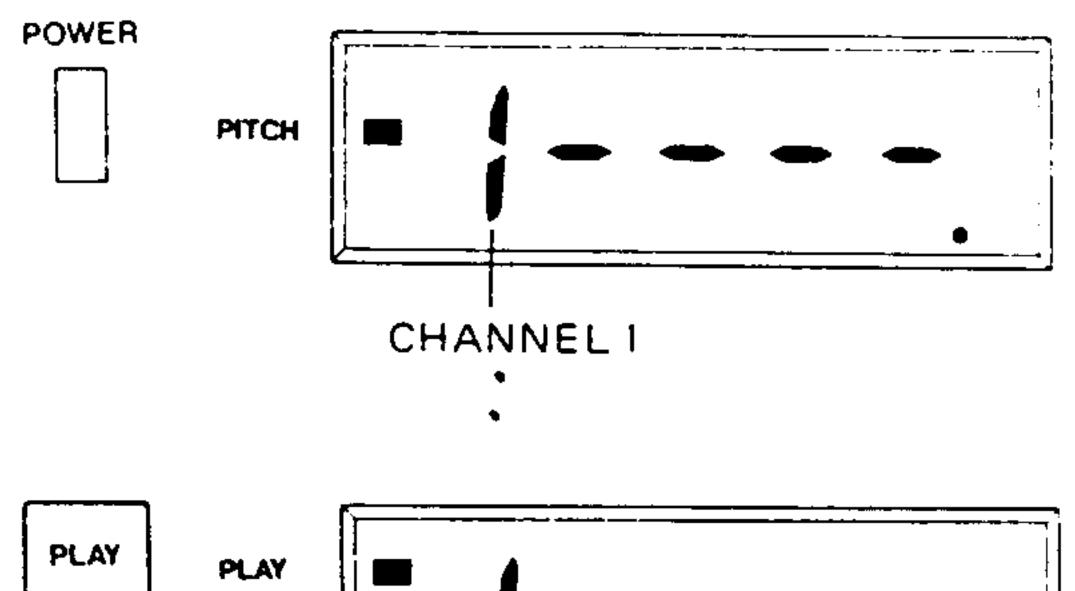


3 Entering(Basic)

A. Setting the synthesizer

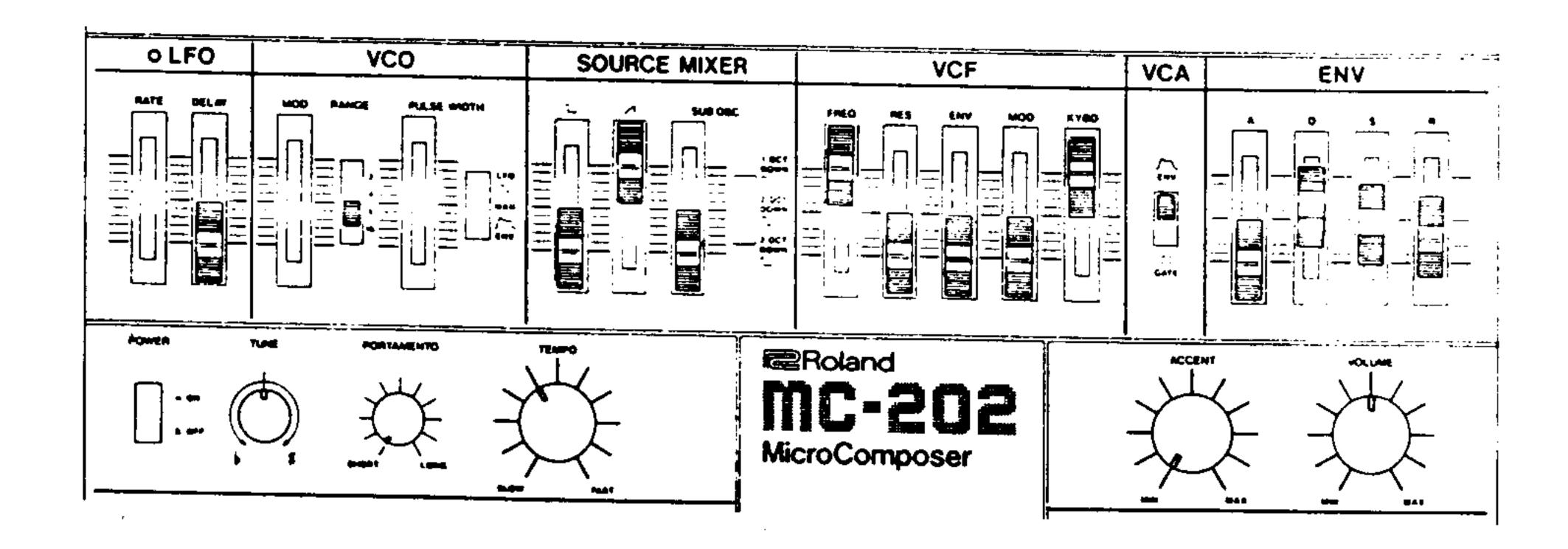
If you enter each note listening to its sound from the synthesizer, it is easier to detect mistakes.

You can set the synthesizer to work as follows.



- ① You may enter Pitch data into the CH-1.
- PLAY PLAY
- 2 The synthesizer may now be played.

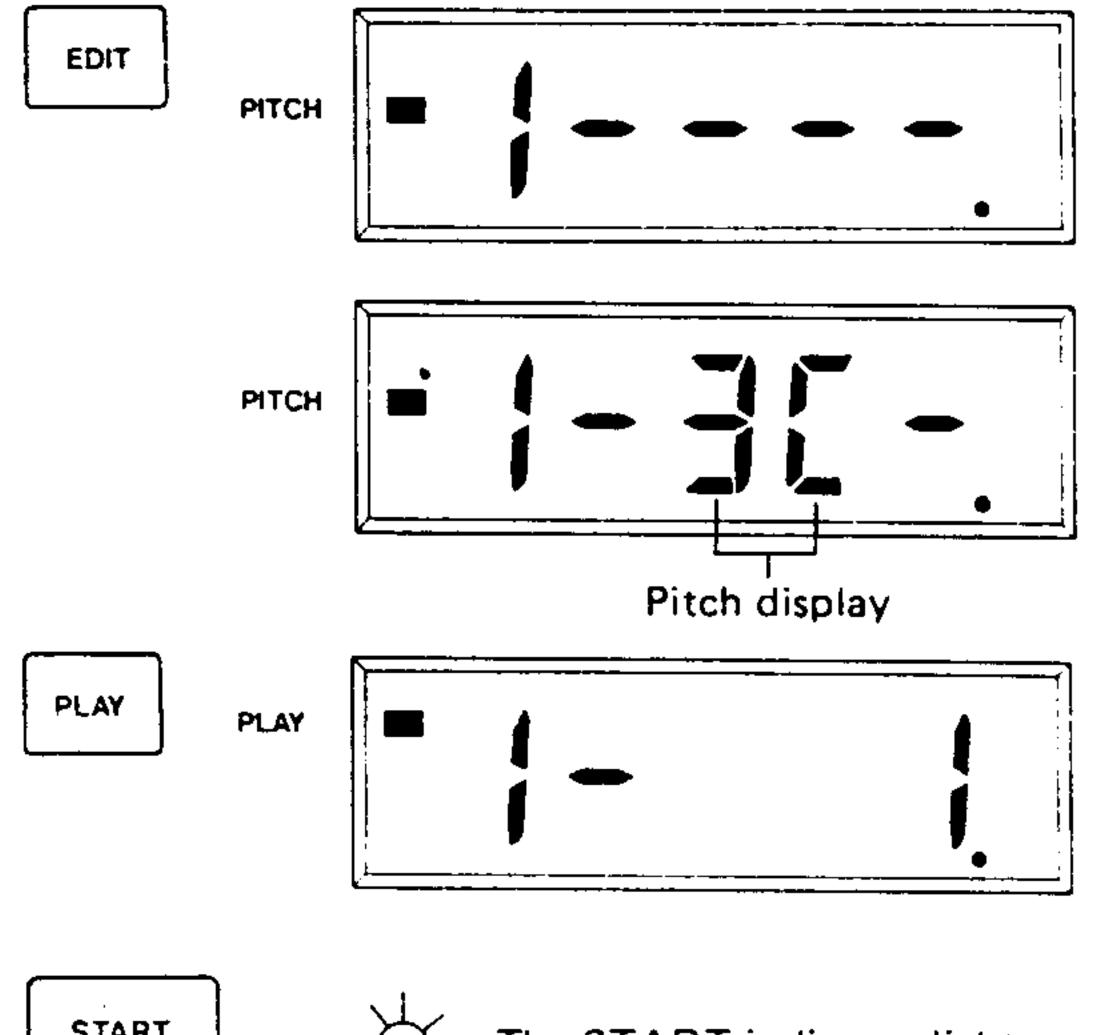
You may change the setting to your taste.



B. Entering the data with the STEP, GATE and NUMBER keys

First of all, enter the Pitch. If a rest comes up, enter the same pitch as the one just before.

1 Entering a Pitch



- 1) You can enter the Pitch data.
- · Play the keys according to the score.
- You will hear the same tone played on the keyboard, and the display window will also show the pitch value (e. g. Middle C:3C, # : upper right lights up).
- 2 You can play the music.

START

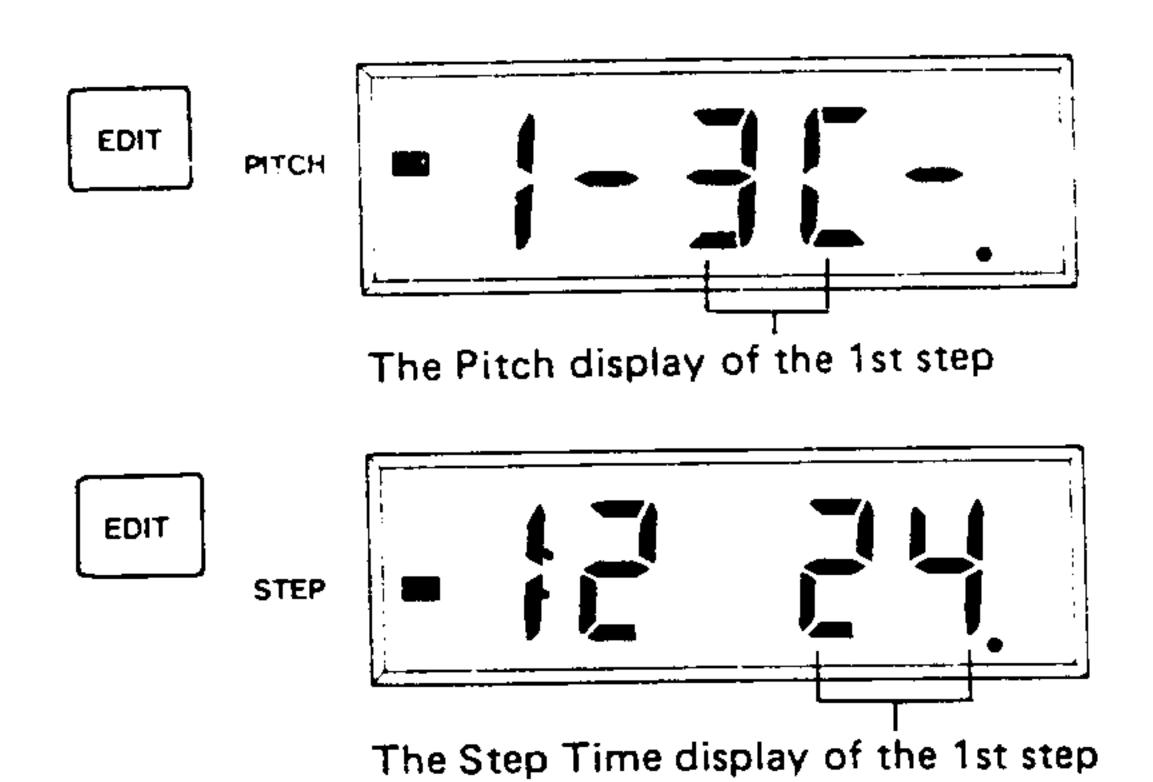
CONT

STOP

- The START indicator lights up
- 3 The music data will start playing.
- This data will automatically stop after played once. Also, the note instead of a rest is played.
- The tempo can be adjusted with the TEMPO knob.
- 4 You can stop playing in the middle, if you like.
 After checking the pitch data is all correctly entered, edit the Step Time.

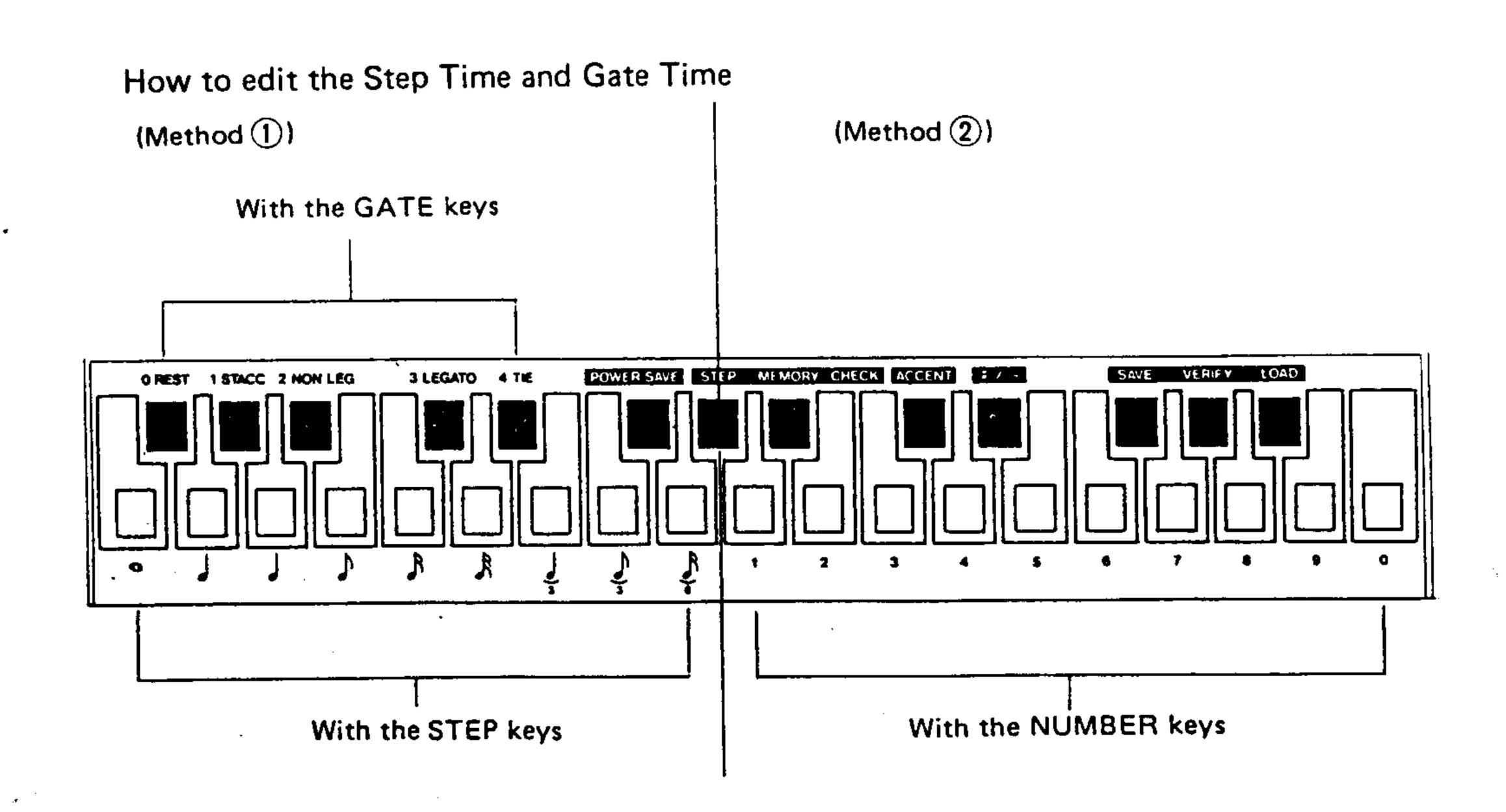
2 Editing the Step Time and the Gate Time

When the pitches are entered, all the notes will be automatically set to STEP TIME=24 (♪) and GATE TIME=12. Editing the Step Time and Gate Time will complete the data entry.



- 1) You may edit the Pitch.
- 2) You may edit the Step Time.
- The Step Time of the first step in the first measure will be indicated in the Display Window.

These are two ways of editing the Step Time and the Gate Time as shown below.



While editing the Step Time by using the STEP keys, you can also edit the Gate Time by using the GATE keys. If, however, using the NUMBER keys, you can

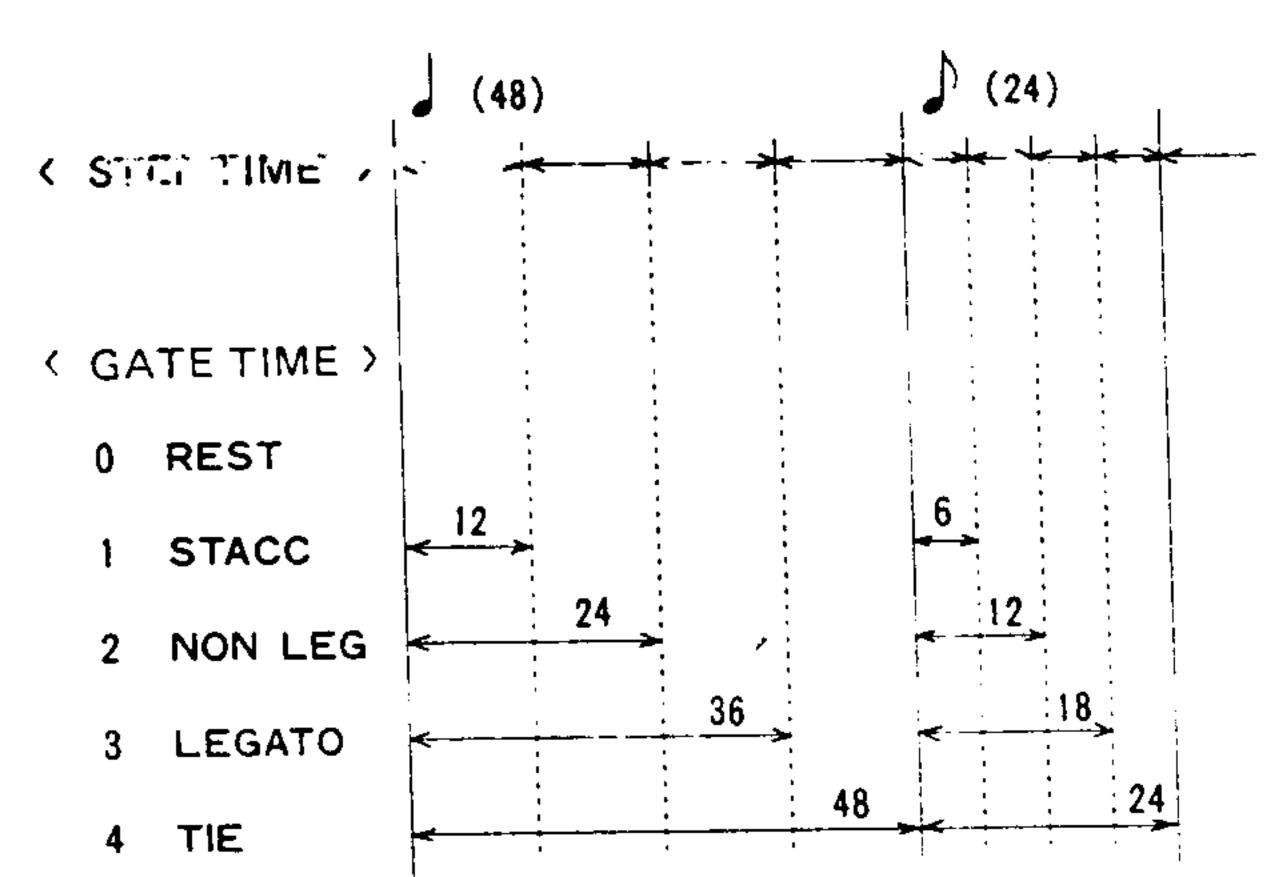
edit only the Step Time, so you need to edit the Gate Time later.

The functions of the STEP keys and the GATE keys are as shown below.

Keys and Step Time

2 = 132 3 = 96 3 = 32 48 3 = 16 3 = 8

Gate Keys and Gate Time

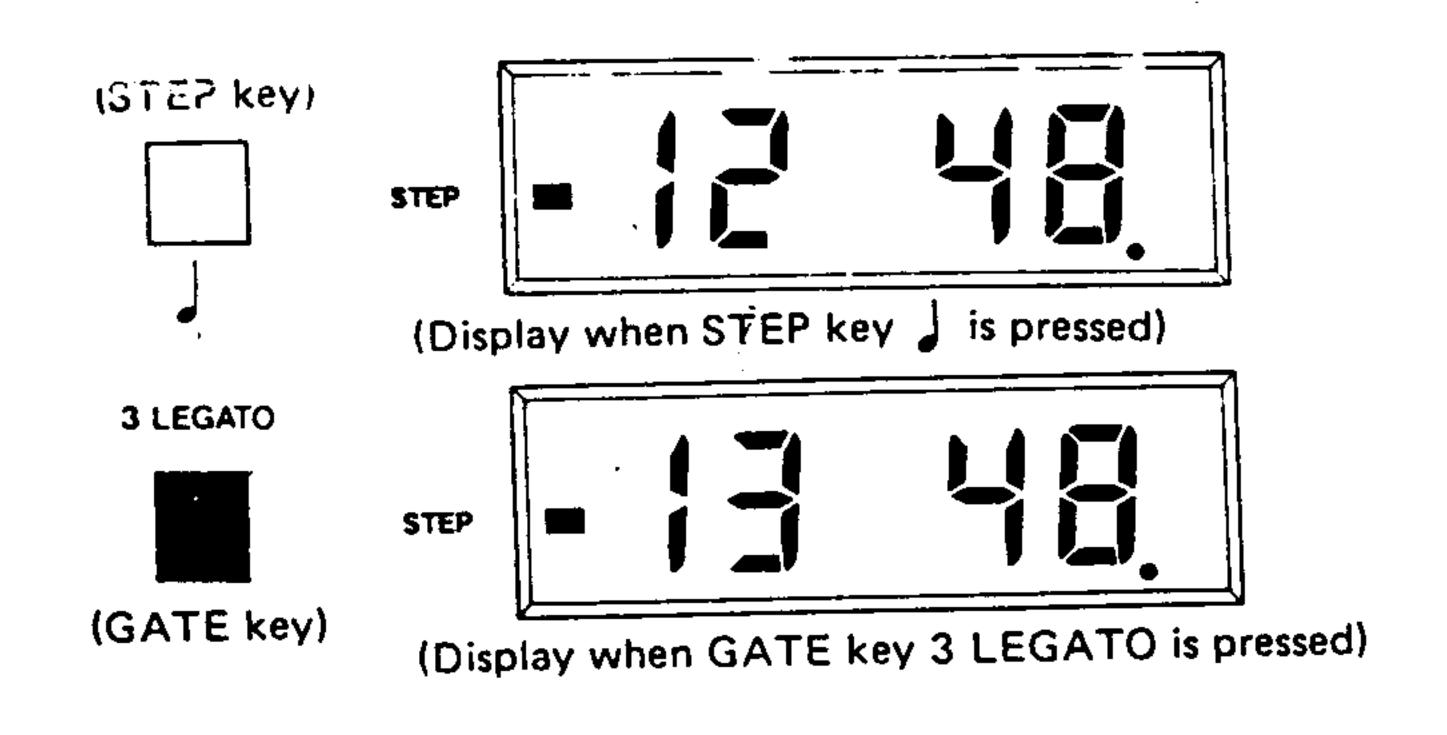


3 Editing with the STEP keys and GATE keys

Please edit from the first step in the first measure. You, however, do not need to change the 1 notes, as 1 = 24 is auto-

matically selected (default value) when the MC-202 is turned on.

If editing is necessary,



- 1) Set the Step Time
- 2) Set the Gate Time



3 Edit the Step Time and the Gate Time you have set.

The Display Window shows the Step Time of the next step.

Unless the ENTER key is pressed; the cditing is not completed. Therefore, you may set any Step Time and Gate Time as many times as you like before pressing the ENTER key.

If the Gate Time of the notes are all different, you will need to set the Gate Time one by one, but if the note has the same Gate Time as the one before, you just need to press the ENTER key, so that the same Gate Time will be automatically selected.

Entering the dotted notes and dotted rests

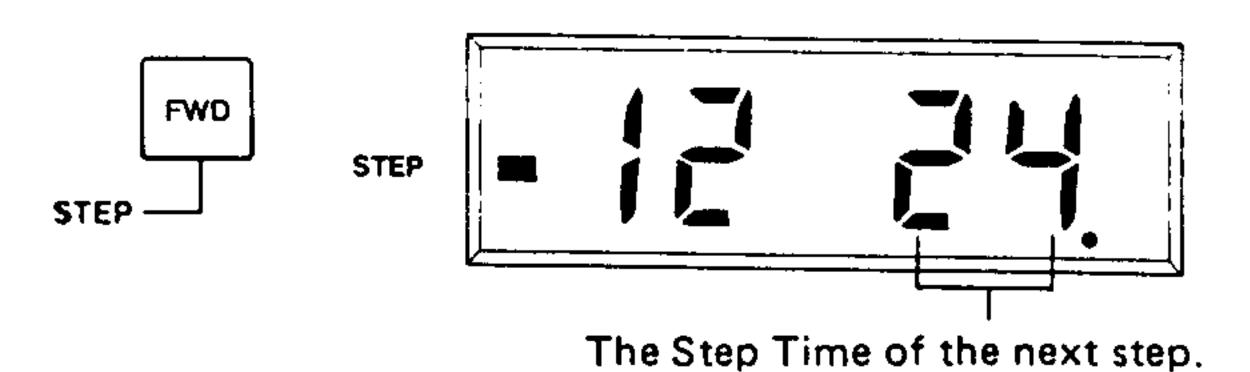
To enter dotted notes and rests, press the BAR key instead of the ENTER key, e. g. press \(\) key, then the BAR key instead of the ENTER key for \(\), and the Step Time will be 36.

Entering the rest

In entering a rest, enter the note which has the same length as the rest, then press the 0 REST key.

Refer to the figure below.

If editing is not necessary,

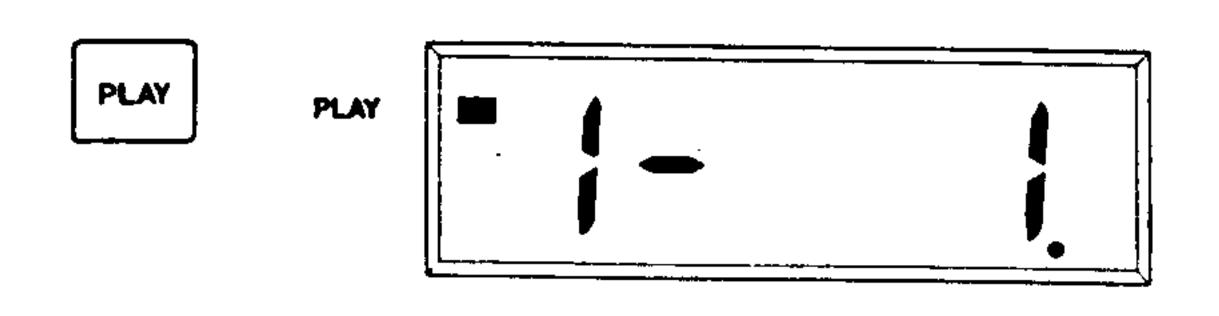


① Pressing the STEP FWD key will advance the step counter one step and the Display Window shows the Step Time of the next step.

If you have completed entering the Step Time and the Gate Time data, turn the MC-202 to the Play mode by pressing the PLAY key, then the music can be played.

4 Playing

START



1) The MC-202 is ready to play music.

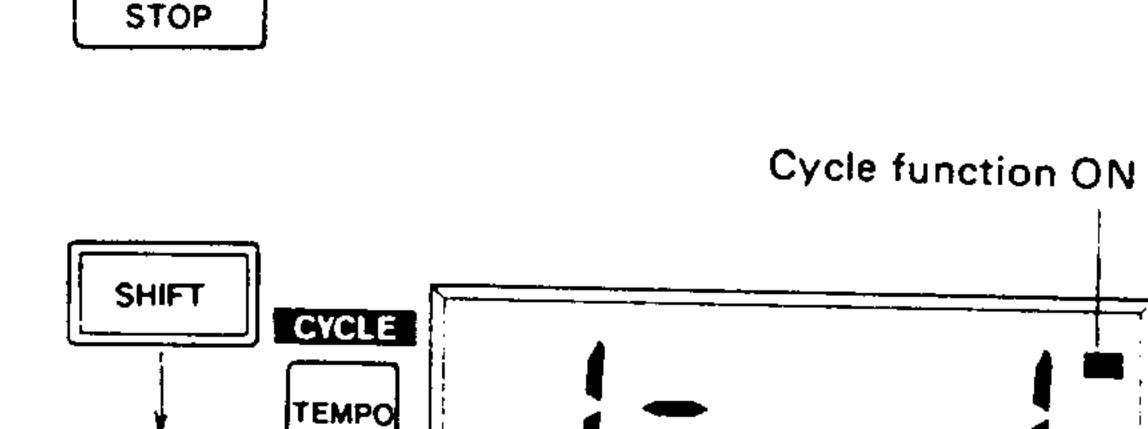
and the state of t

The union will now be played.

If you wish to play the same data repeatedly, set the MC-202 to the Cycle mode. The SHIFT key is used to give two functions to one key, i. e. by pressing a key while holding the SHIFT key down, that key will have the function written above it, much like the SHIFT Key apears on a typewriter.

How to loop play.

CONT



1) Stop playing.

CYCLE

2 Set to the Cycle mode.

START

3 If you start the MC-202 in this condition, the data will be played repeatedly until the STOP key is pressed. If you wish to leave the Cycle mode, press the STOP key, then press the CYCLE key while holding the SHIFT key down.

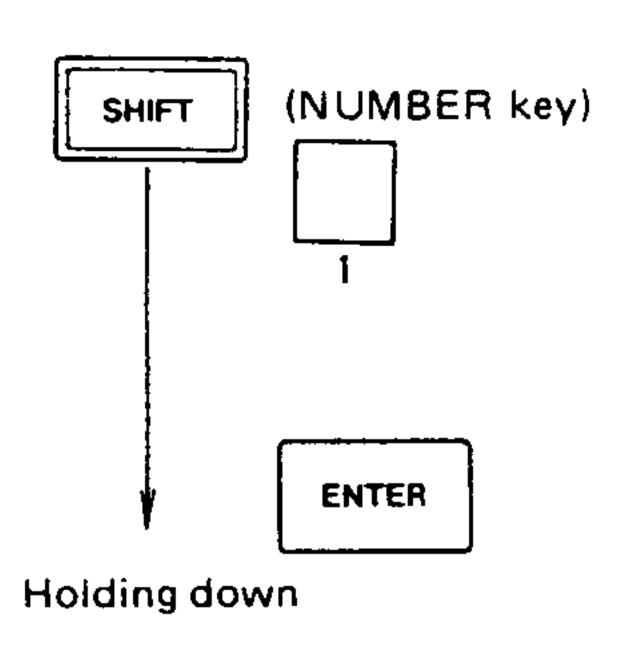
5 Editing the Step Time with the NUMBER keys

You can use the NUMBER keys instead of the STEP keys. For instance, if you wish to enter Step Time 48, first press 4, then 8. If you press a wrong key, press the 0 key three times, then again enter the correct number. Each time you press a NUMBER key, a beep will be heard. Again, unless you press the ENTER key, the Step Time is not edited. So make sure that the number displayed is correct, then press the ENTER key, and the next step is displayed ready to be edited. If editing

step by pressing the STEP FWD key. When using the STEP keys, you will need to select the Gate Time as well. With the NIJMBER keys. However, please just edit the Step Time one after another. After completing this procedure, go back to the first step in the first measure, then edit the Gate Time.

The following shows how to edit the Gate Time.

6 How to return to the first step in the first measure in the Edit mode



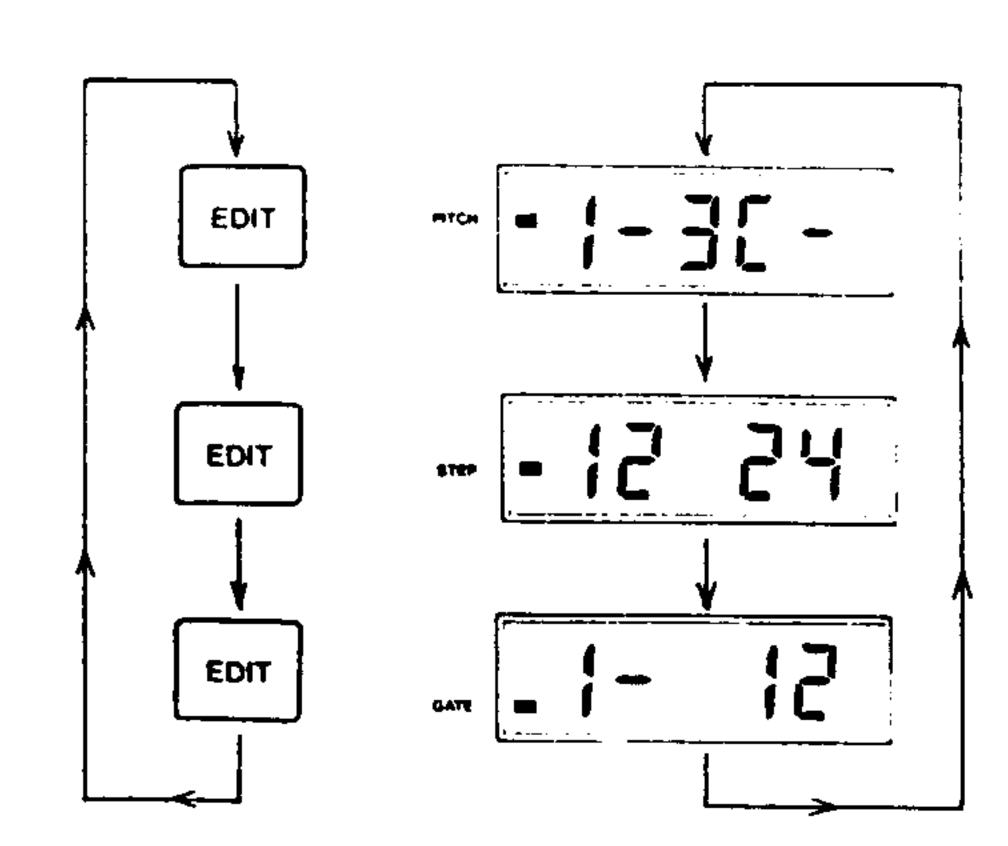
Press indicated keys all at once, then release the ENTER key, then the SHIFT key. Be sure not to release the SHIFT key before releasing the ENTER key.

7 Editing the Gate Time with the NUMBER keys

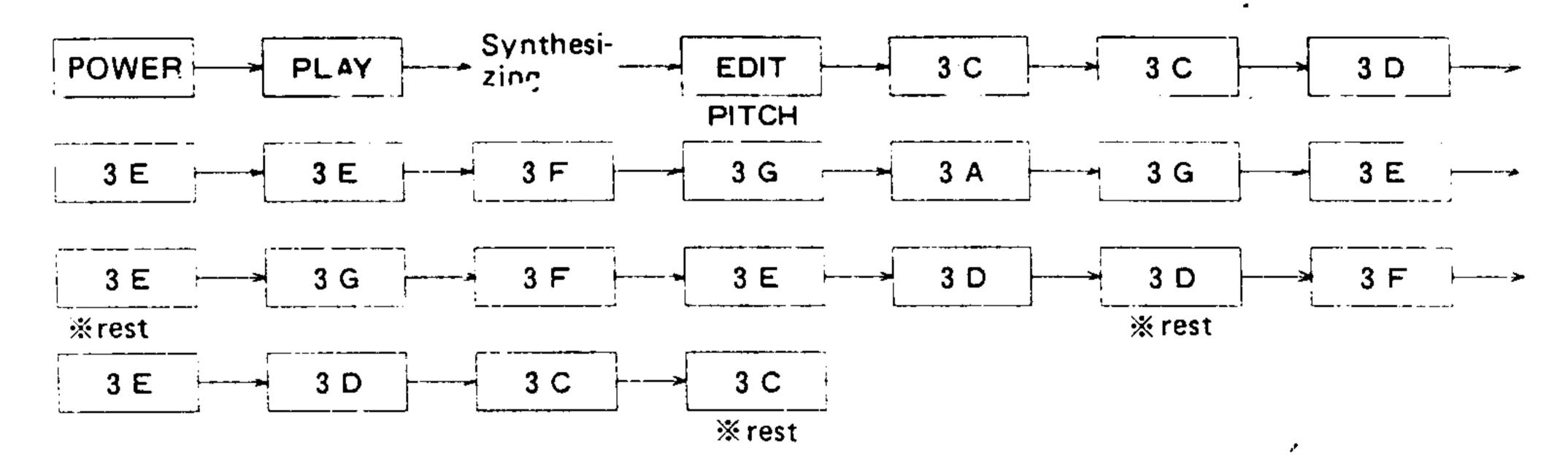
Each time you press the EDIT key, the Edit mode changes as follows.

When the MC-202 is in the Gate Time editing mode, you may edit the Gate Time in the exactly same method as the Step Time editing.

Changing the Gate Time to zero will make a rest, and changing it into the same value as the Step Time will make a tie.

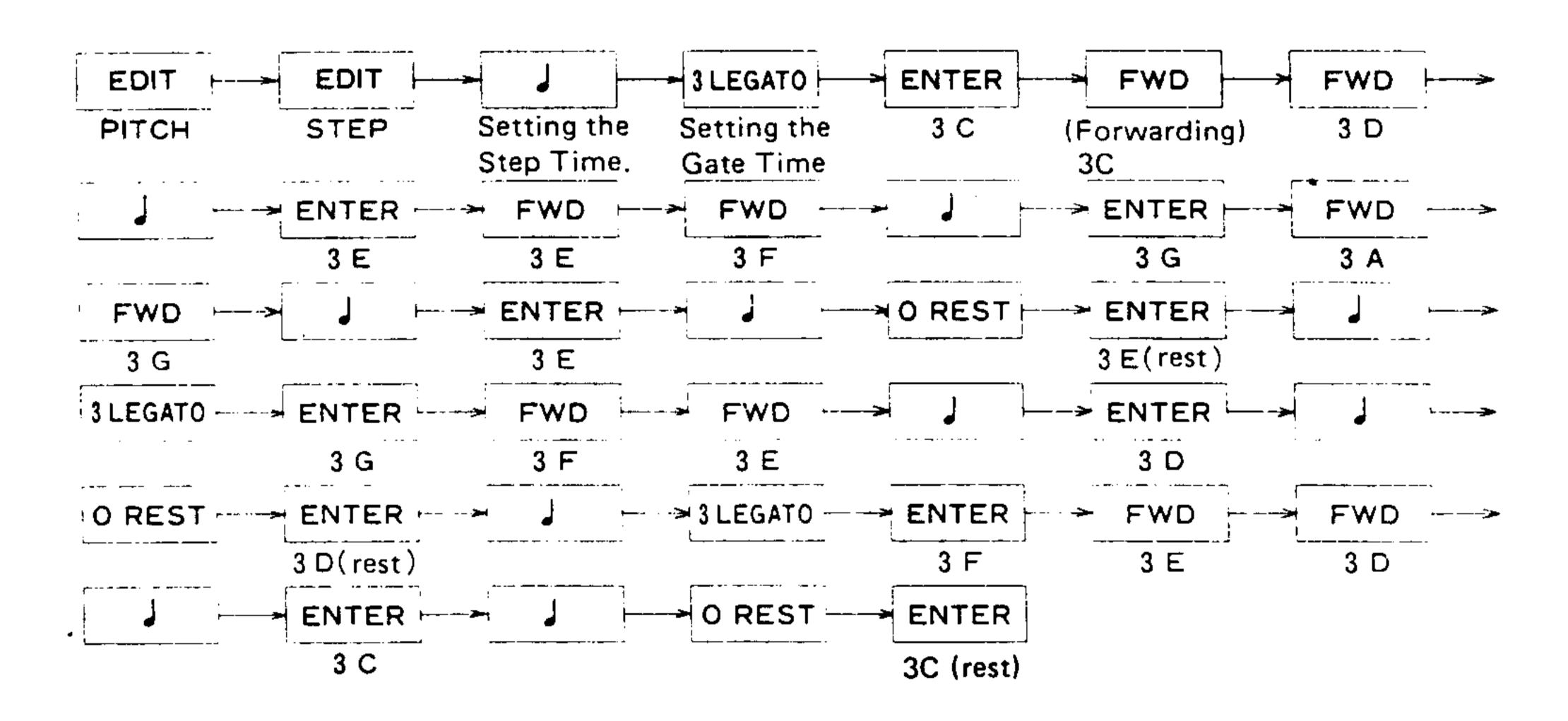






Now you have completed entering the Pitch data. Next, please check as follows.

Edit the Step Time and the Gate Time.



Note:

Now you have completed entering the Step Time and the Gate Time. Turn to the PLAY mode, then press the START key, and the music data you have just entered will be played.

Now that you have completed entering the music data, but you will still have to enter bar lines. In other words, the score of the Example (1) is entered as shown below. Whether bar lines are entered or not, the music data is played exactly the same. In later editing how-

ever, bar lines are useful allowing you to play the musical piece for the middle, or to step through the piece by measure. Also, the Display Window shows which measure is currently played.

The following shows how to enter the barn



8 How to enter Bar lines

There are two methods of entering bars.

- 1) Entering bars while entering the Pitch data
- 2 Entering bars after entering the Pitch data

The method ① may be more difficult as you are required to do two things at the same time. We suggest method ② for quick and easy entry.

1) Entering bars while entering the Pitch data

Enter the bar right after the last note of a measure by pressing the BAR key, then continue to enter the first note of the next measure.

2 Entering bars after entering the Pitch data

After completing the procedures up to (4) on page P12, press the STEP FWD key to advance the step one by one. If you hear the last note in a measure, press the BAR key and a bar is entered with a beep sound. Then again press the STEP

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FWD key until you hear the last note in the next measure, and type the BAR key just like the first measure. You do not need to enter a bar at the end of the music data.

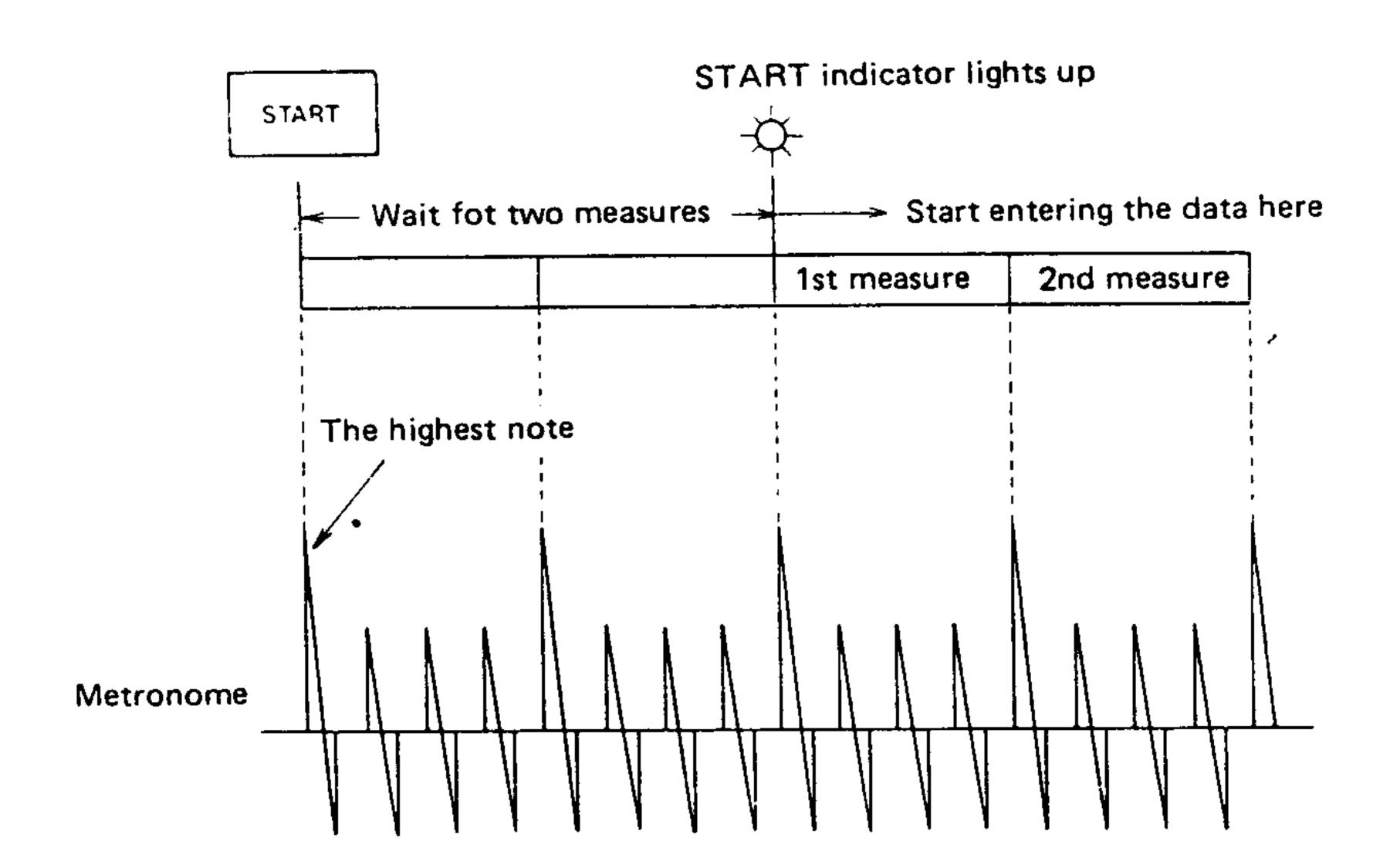
C. Entering the data by playing the keyboard

There is another method of entering data, which is playing the keyboard to the metronome.

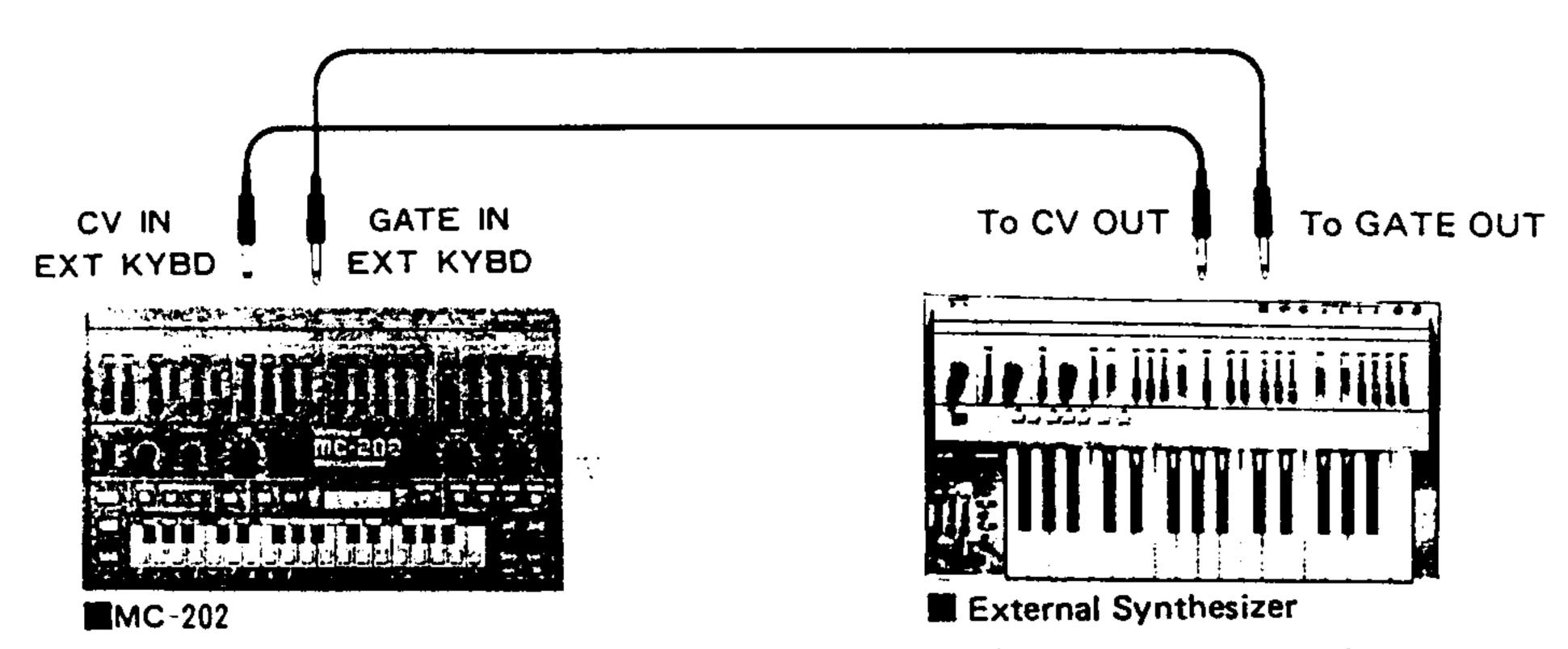
As the data is entered exactly as you are playing the keyboard, you will have to play accurately.

Also, using an external synthesizer (1V/

Oct) will make this job more comfortable. The metronome will sound as shown in the figure. The first two measures are just for getting used to the tempo, so start after you have heard two measures of the metronome.



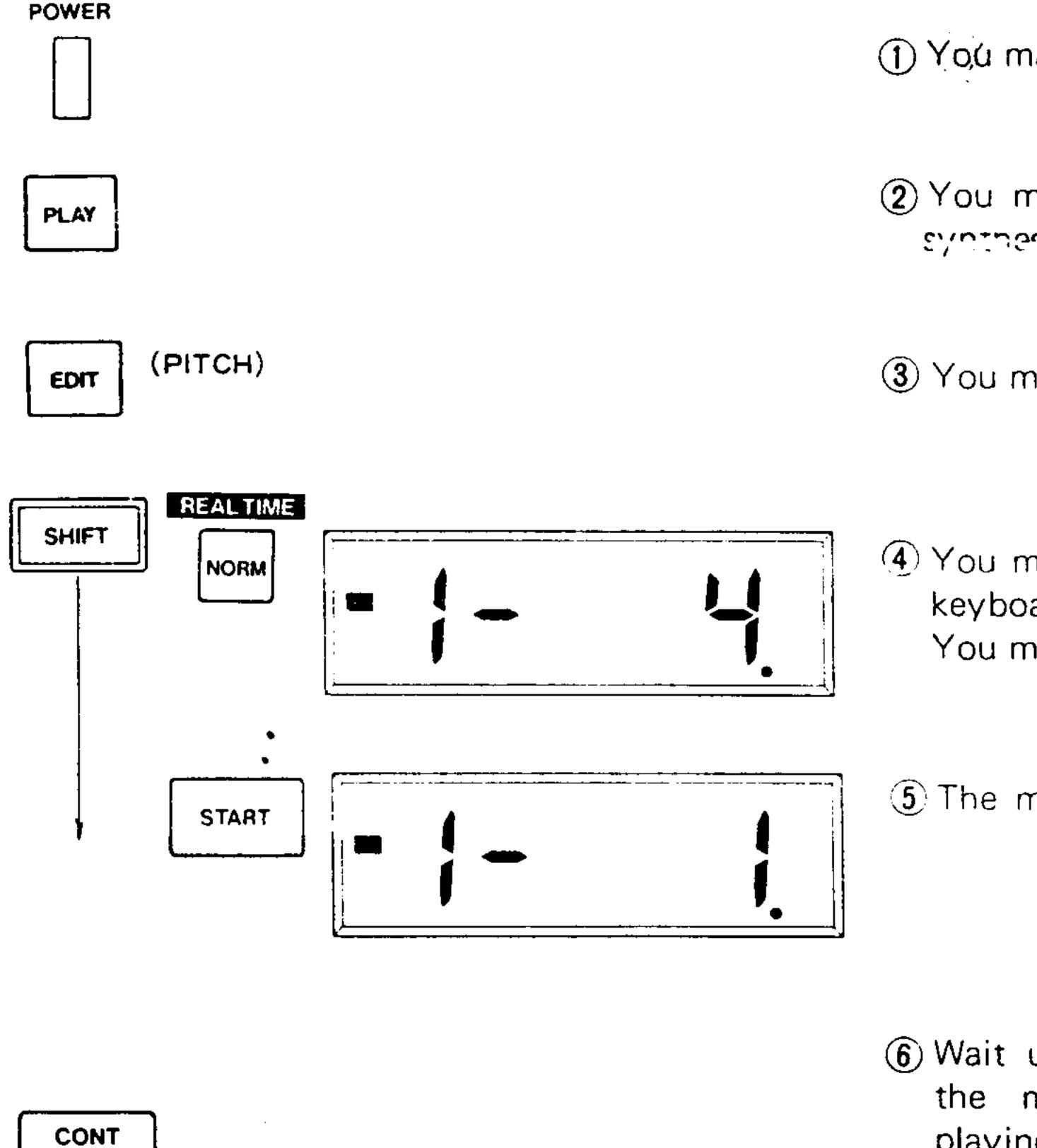
1 Connection



*Please use the Synthesizer (or Keyboard Controller) with 1V/Oct CV and Positive Gate Pulse (when on: +5 to 15V).

2 Operation

STOP

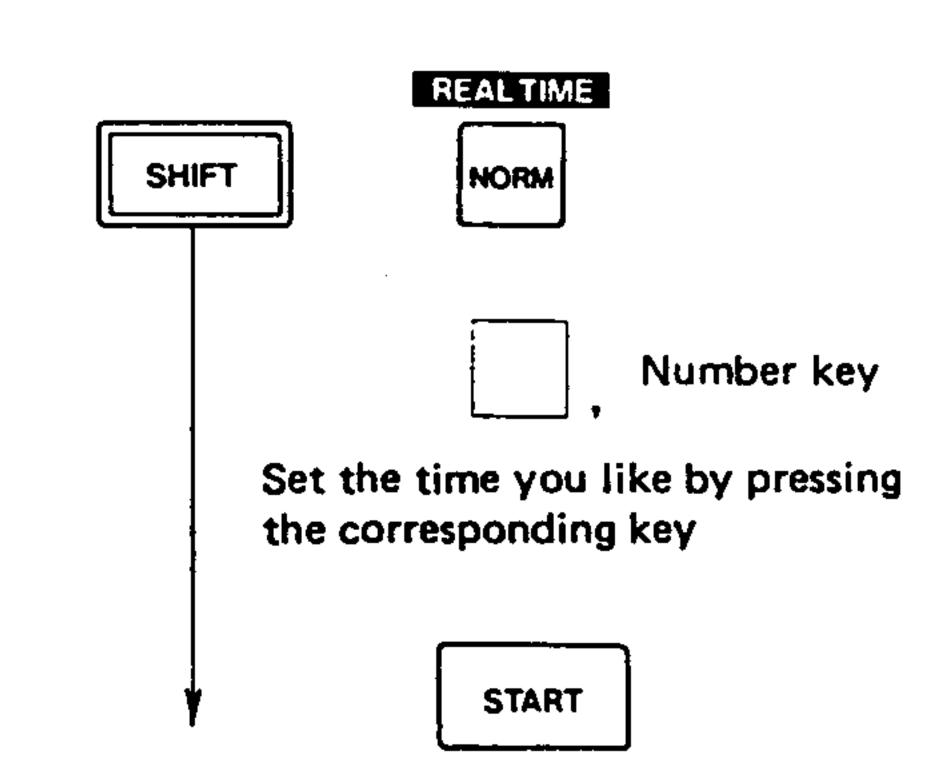


- 1) You may enter the Pitch data.
- 2) You may play the keyboard (you can synthesize the sound here).
- 3 You may enter the Pitch data.
- You may enter the data by playing the keyboard.

 You may enter the data in 4/4 time.
- (5) The metronome sound will be heard.
- 6 Wait until you hear two measures of the metronome sound, then start playing the keyboard.
- 7 Press the STOP key when you have played all the data.

If you wish to edit the music data you have entered, please start right from the beginning.

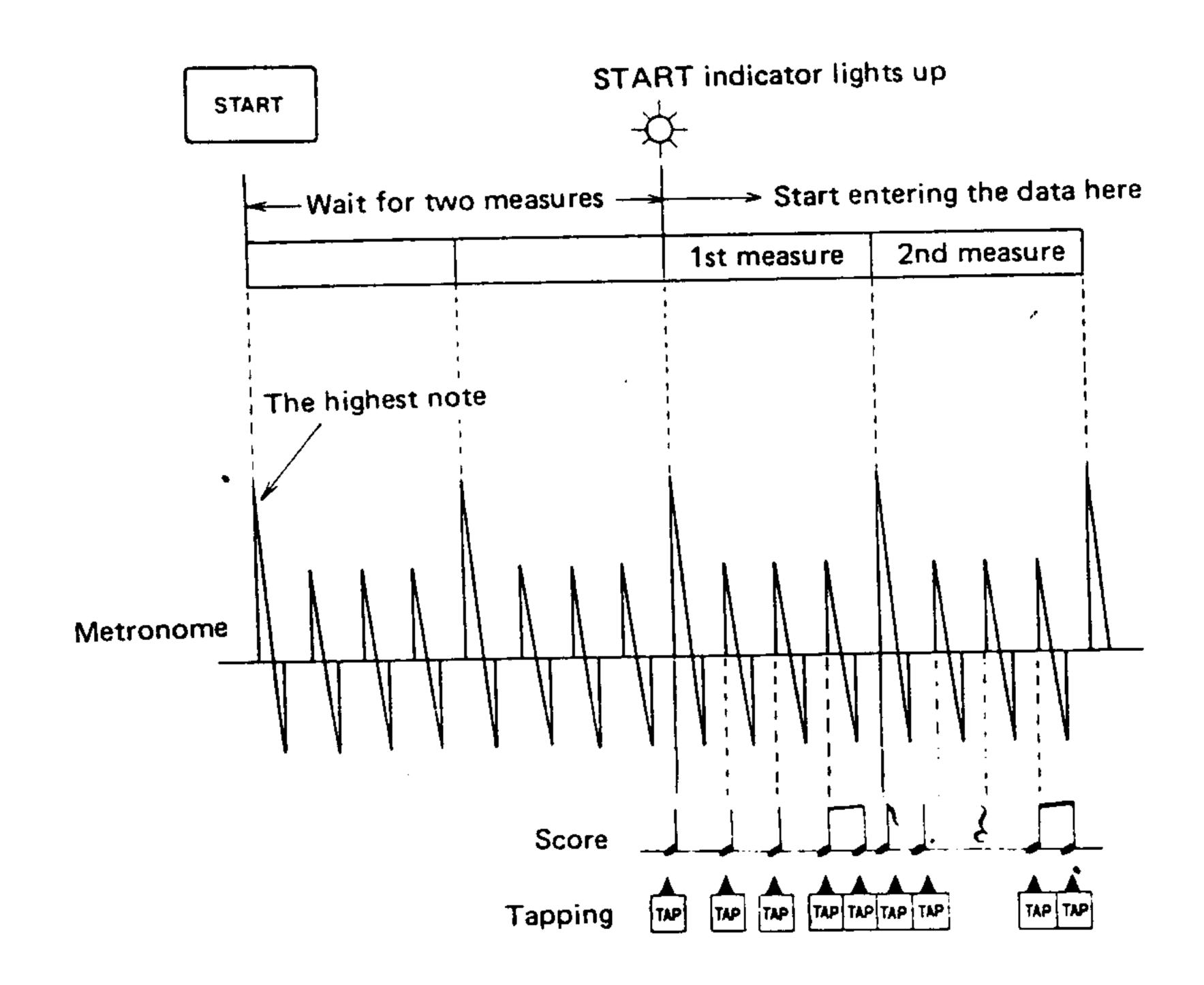
Entering music using other than 4/4 time It is possible to change the time of the methonome, therefore, you may enter the music piece using triplet or irregular time. If you have put the MC-202 in real time mode, but have not pressed the START key yet, you can press appropriate NUMBER key to change the signature.

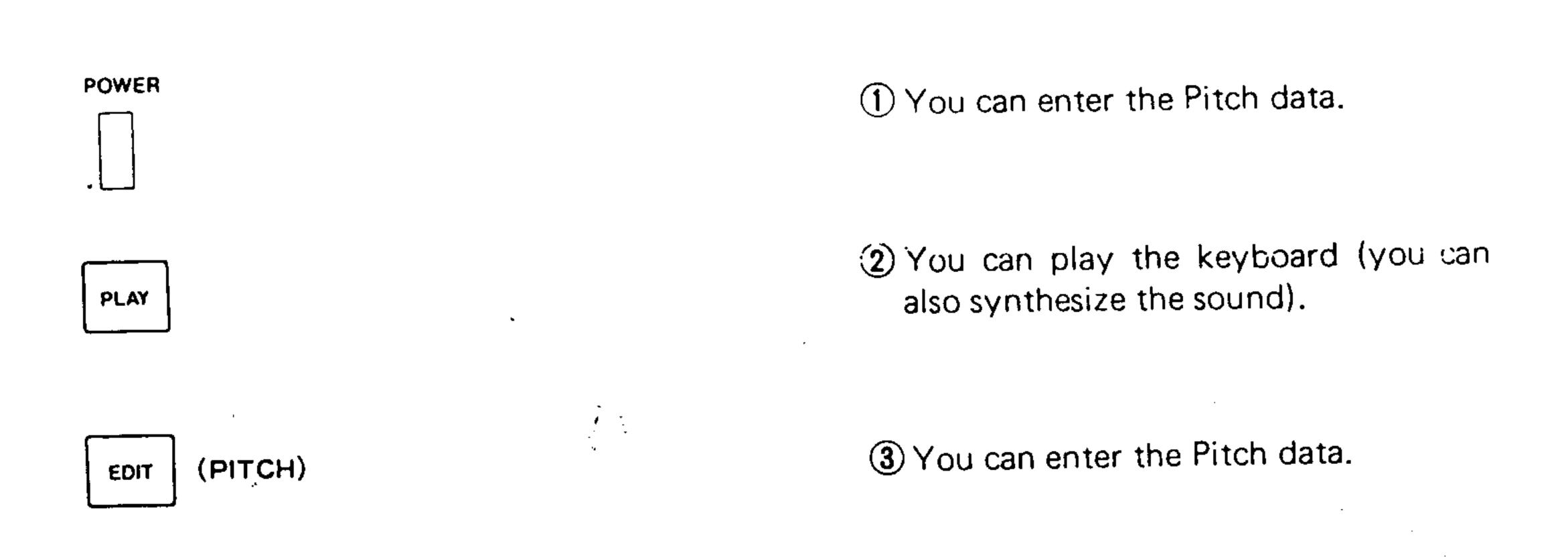


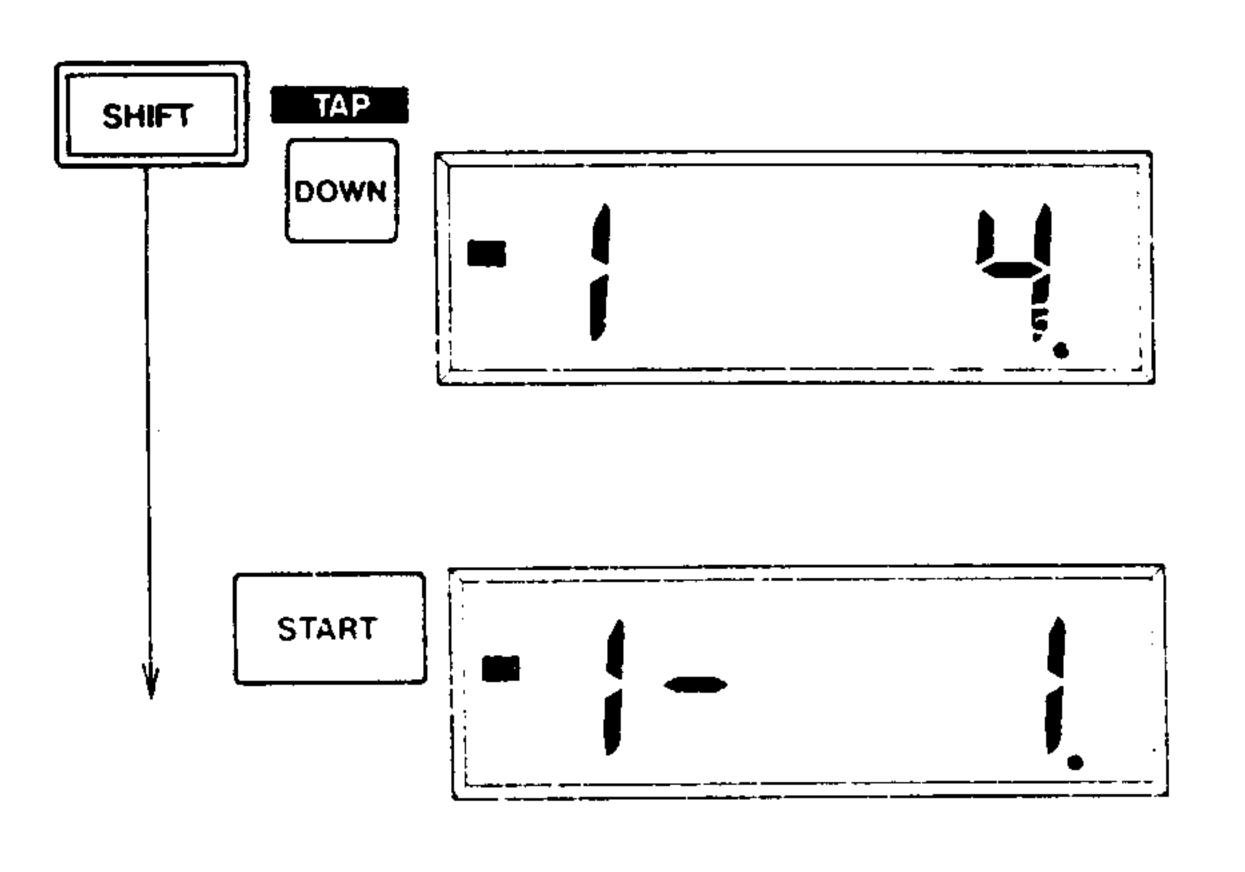
D. Entering the Pitch data by playing the keyboard and Rhythm data by tapping

After entering all the Pitch data by playing the keyboard, enter the Rhythm data (Step Time and Gate Time) by tapping the TAP key to the metronome. The metronome will sound as shown in the

figure. Please see when to tap the TAP key.
In entering the Rhythm data, again start after two measure of metronome sound.







- 4 Enter all the Pitch data by playing the keyboard. (You do not have to enter a rest.)
- (5) You may enter the Rhythm by tapping the TAP key in 4/4 time.
- 6 You will hear the metronome sound.
- The metronome. Please try to tap in the right rhythm.
- 8 Press the STOP key after the last note is tapped.

You may adjust the tempo by rotating the TEMPO knob.

CONT

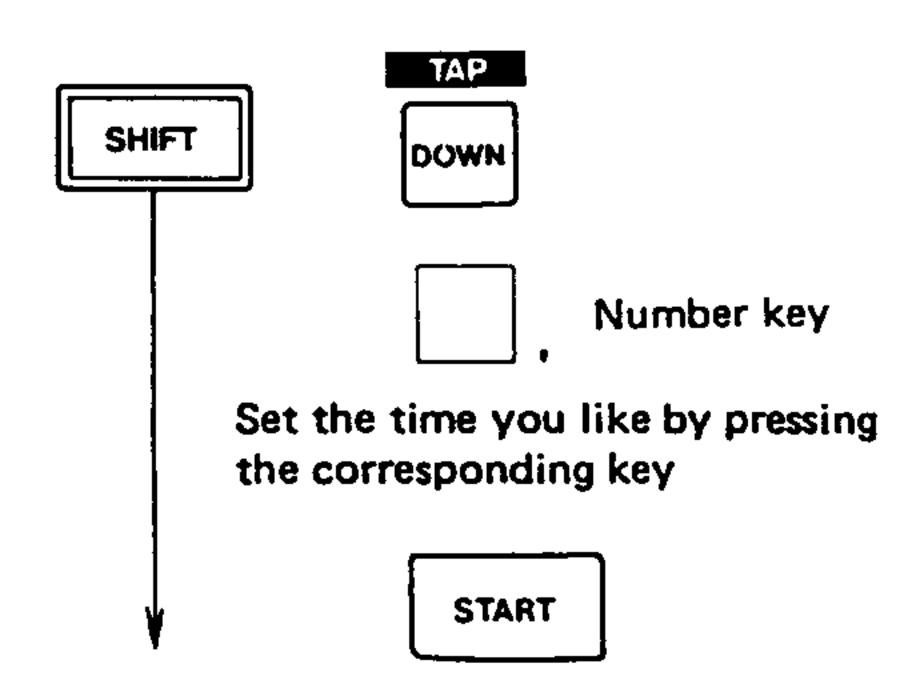
STOP

Each time you press the TAP key, you will hear the sound (the Pitch entered), and the Step Time and Gate Time will be entered in the same rhythm as you tap. If you wish to edit the data, do it right from the beginning.

Entering the Music Data using other than 4/4 time

Just like "C. Entering the data by playing the keyboard P. 20", you can change the time of the metronome.

In the procedure (5), set the time you like with the NUMBER keys as shown below. Then press the START key, and the metronome will sound in the set time.

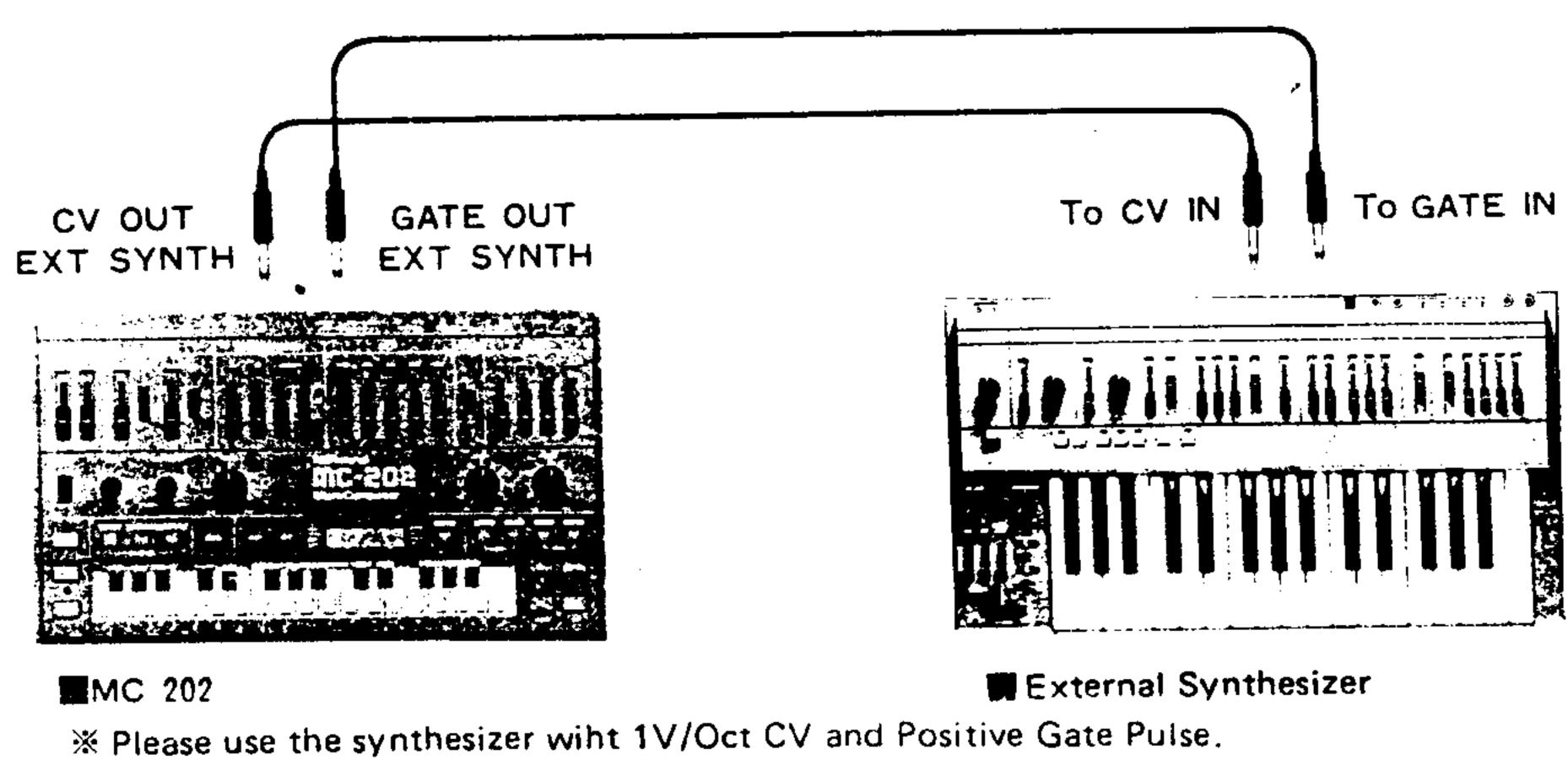


4 Entering data(Advance)

A. Entering data into the CH-2 and playing it

"Entering data (Basic)" only refers to entering data into the CH-1. If, however, you use both CH-1 and CH-2, a synthesizer duo is easily available. In this case, an external synthesizer (1V/Oct) will be required. On connecting it to the MC-202 please tune it with the MC-202's synthesizer. Also, if entering a different music data into the CH-2, you can alternately play the two different music data. In this case, the external synthesizer is not necessary.

Connections

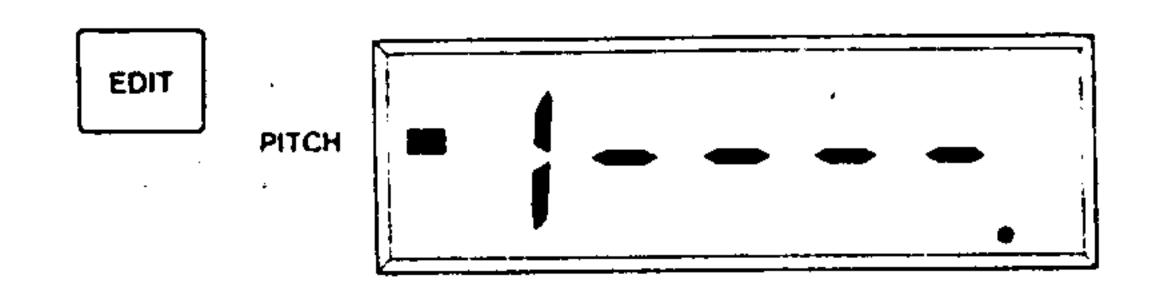


2 Tuning

(1) Check if all the connections have been correctly made.

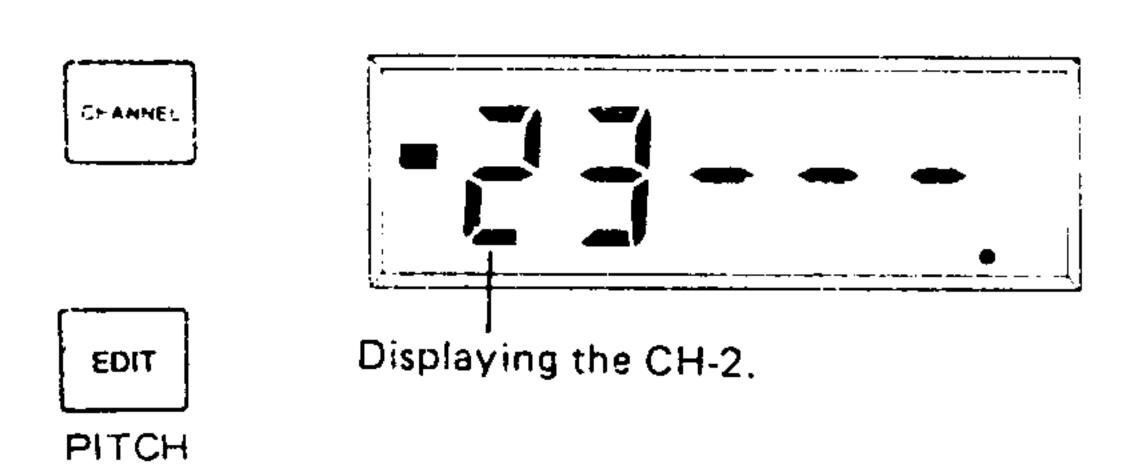
Enter the data for tuning into the MC-202,

2 You can edit the CH-1 (i.e. you can enter the Pitch data).

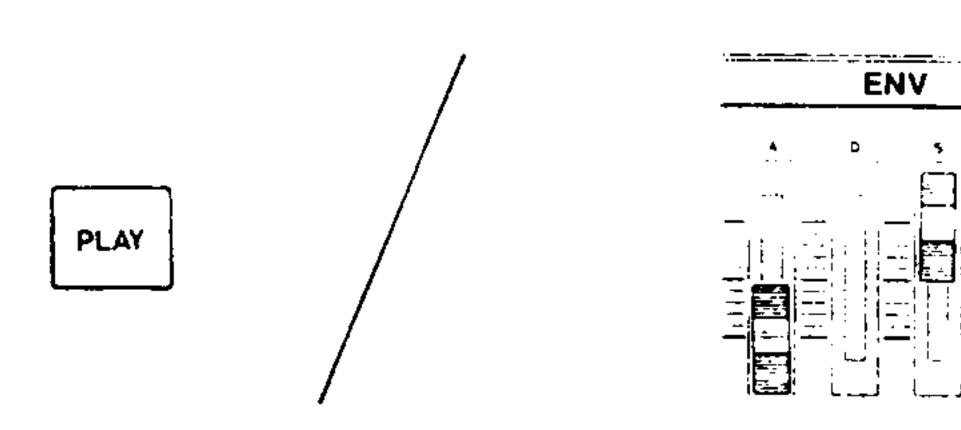


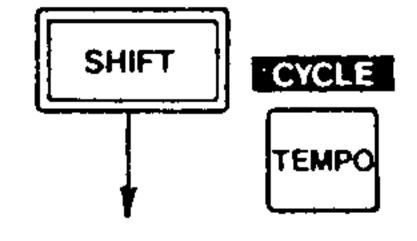
3 Enter the data as follows.





- 4) You can edit the CH-2.
- (5) Enter the same data as you entered in the procedure (3).
- To produce long tone, set the synthesizer's controls as shown in the figure below.





7 Turn the Cycle function on.

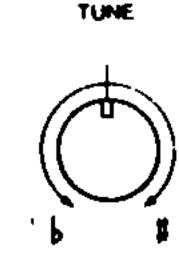


PLAY

8 Start playing The music data (2 CH's) for tuning will be played.



Now you have completed tuning



The music data for tuning is here set to 3A (440 Hz), but any other note will do. Also if tuning by using a tuning fork or a tuner, tune each synthesizer separately.

3 Checking the Channel, Entering data and Playing

The Display Window will change as shown in the figure as you select the channel for entering.

You can change the channel at any time except when the MC-202 is playing the data.

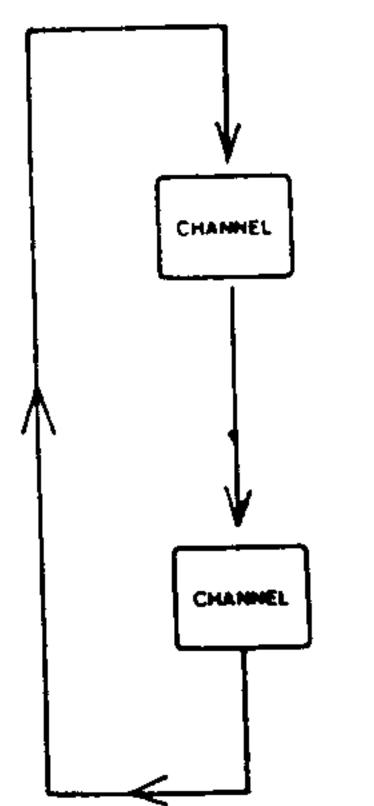
If entering the data by playing the key-board (P. 20) or tapping the TAP key (P. 22), it is possible to listen to the music data entered in the other channel simul-

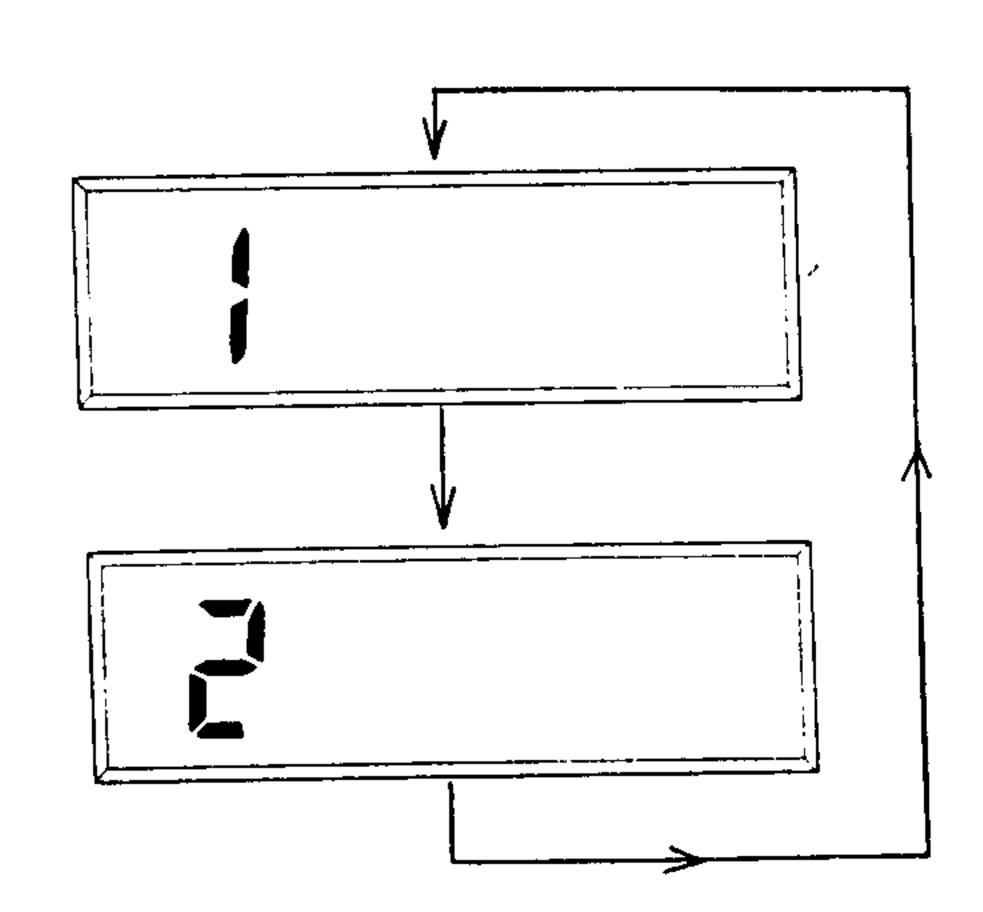
taneously.

You do not need to select the channel for playing, but you can select the synthesizer (the MC-202's or external synth) to play each data by changing the channel.

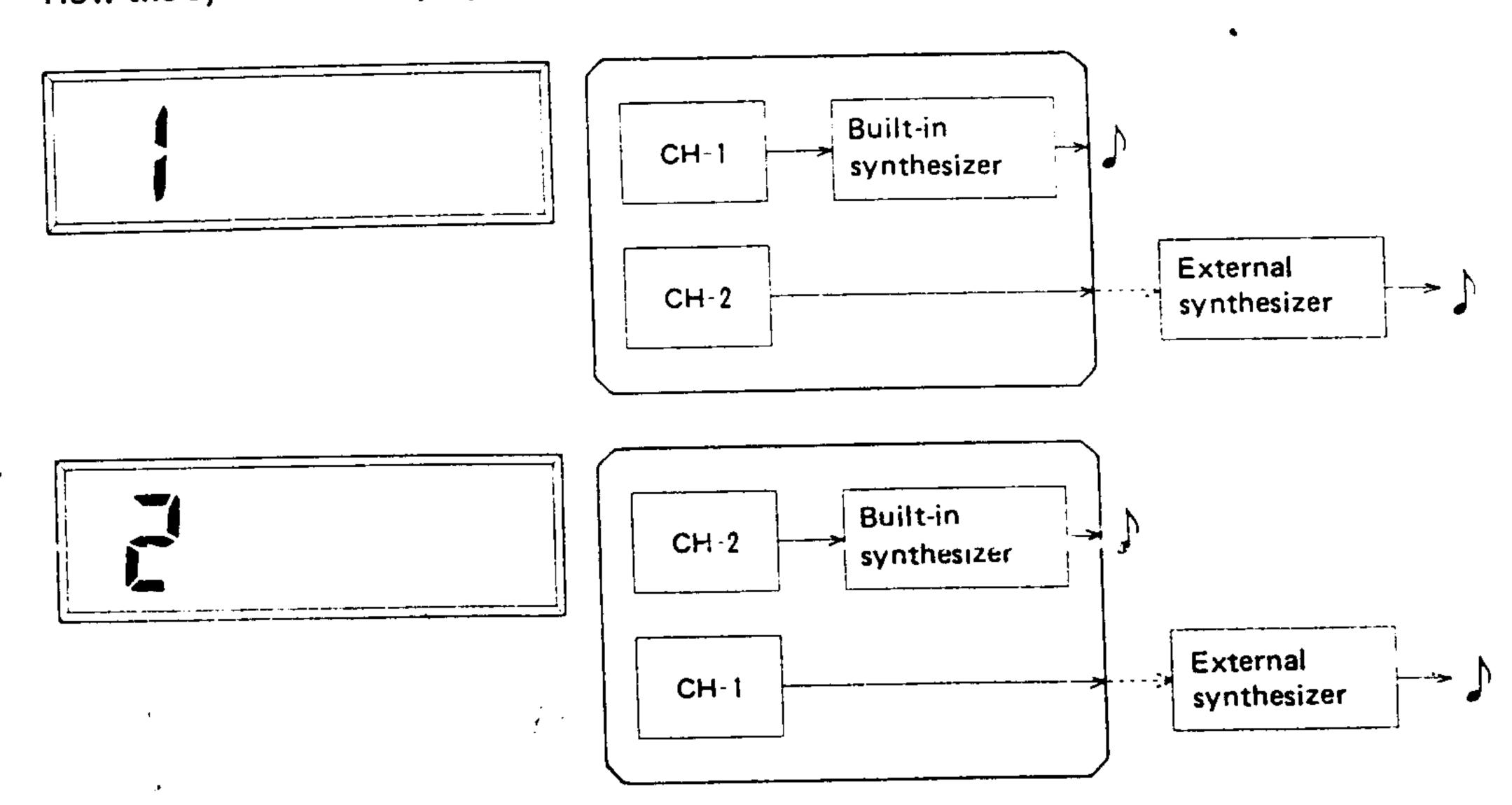
*If the bars of the CH-1 or CH-2 are not correctly entered, the Display Window will fail to show the correct measure number.







How the synthesizer to play each data changes.



B. Entering Accent and Portamento

It is also possible to enter Accent and Portamento etc.

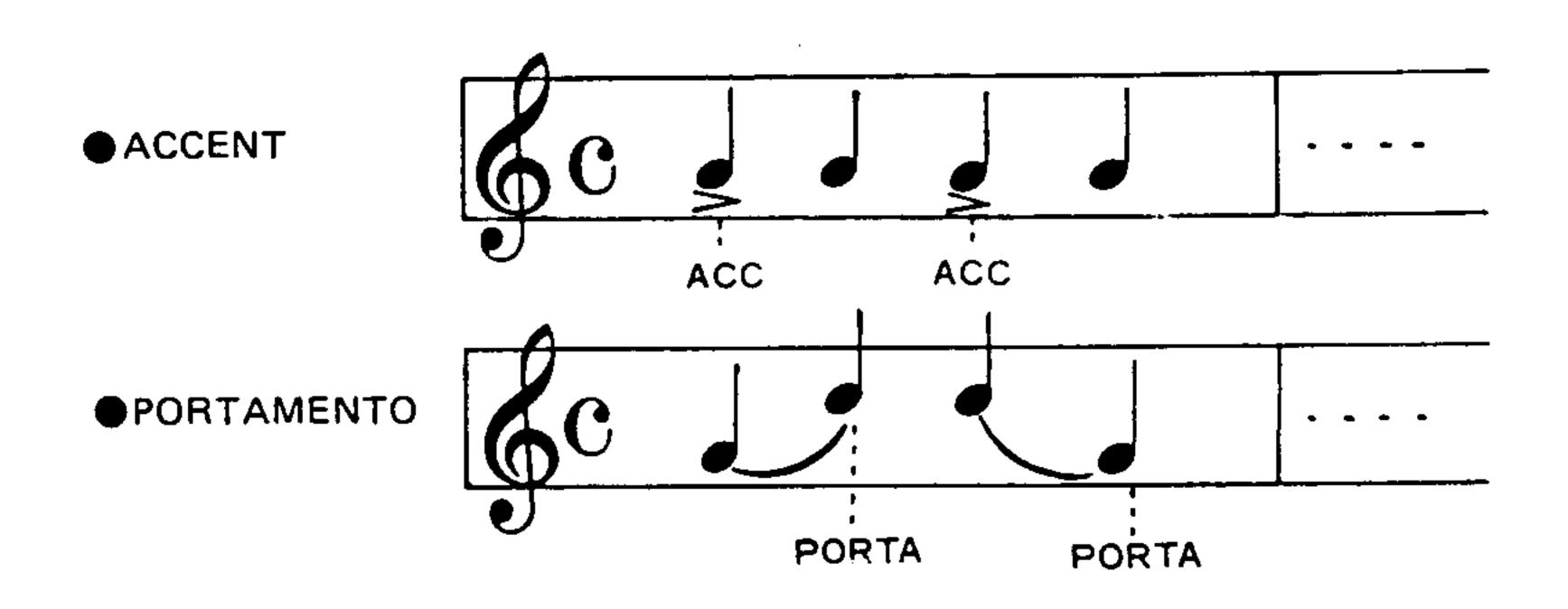
1 Entering Accent and Portamento

Accent (ACC)

As shown in the figure, you may give an Accent to any note you like.

Portamento (PORTA)

As shown in the figure, enter the Portamento to the last note of the two notes to which you wish to give a Portamento effect. The Portamento will also affect the external synthesizer, but the Accent is available only on the built-in synthesizer.



2 How to enter Accent and Portamento

There are two main methods of entering Accent and Portamento.

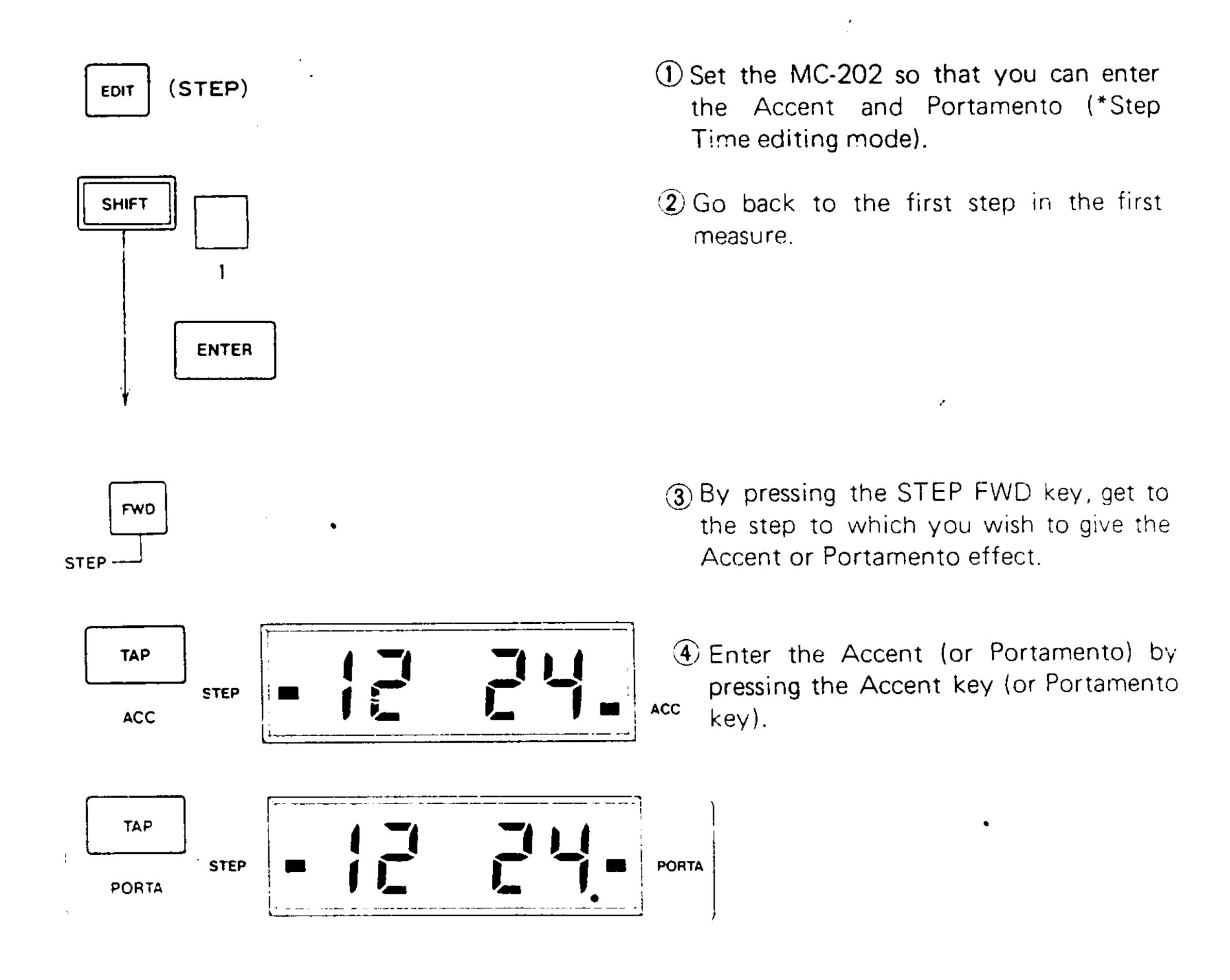
- 1 Entering while you are editing the Step Time.
- 2 Entering after you have finished all of the entering procedure.

Method 1

Set the Step Time, then press the Accent (or Portamento) key before pressing the ENTER key.

Method 2

After you have completed all the entering procedure, do as follows.



(5) Repeat (3) and (4) procedures.

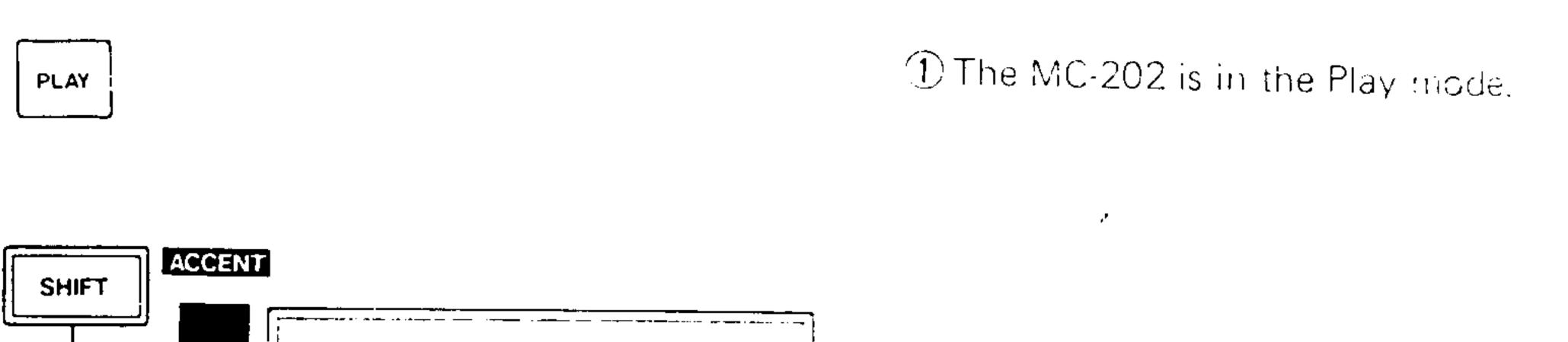
When you have completed the music entry, turn the MC-202 to the Play mode. Then see how each effect works by rotating its knob.

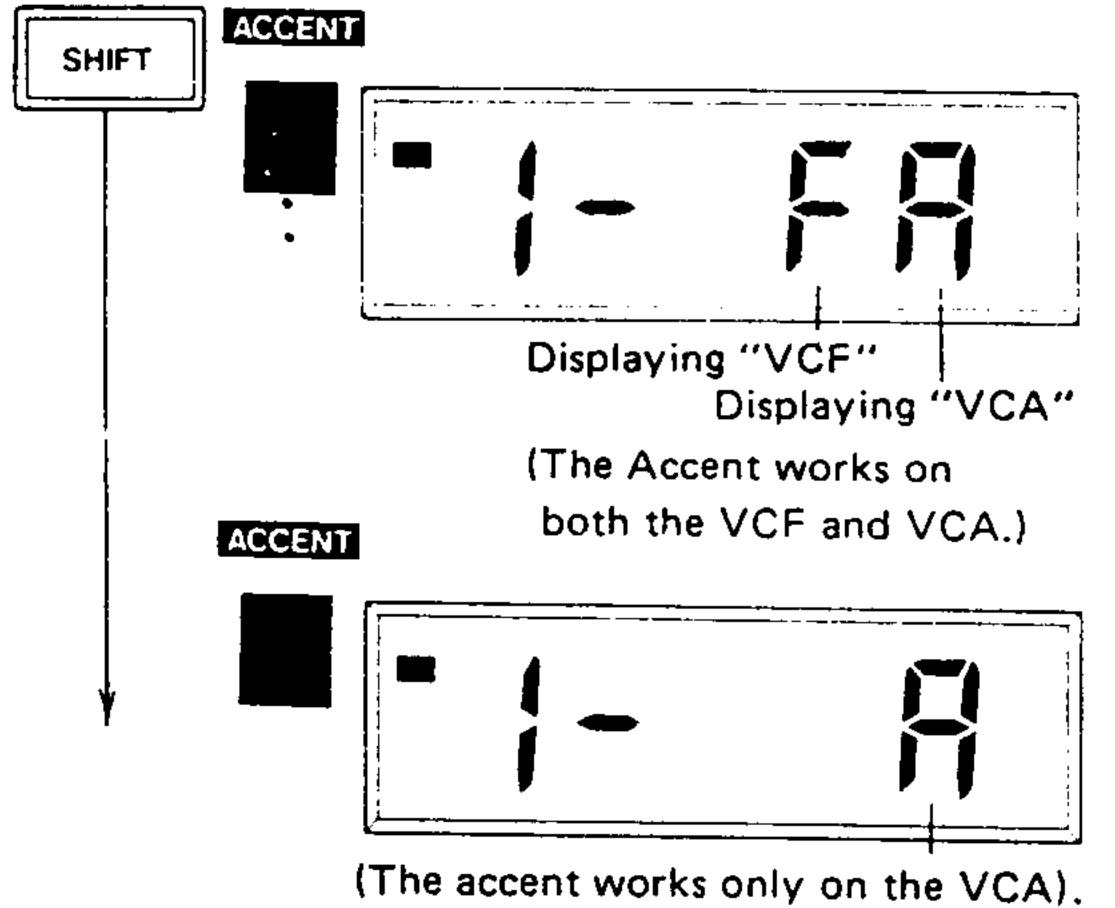
*If you have entered the Portamento effect to the both channels, you cannot set different Portamento times. When you make a mistake, press the Accent key (or Portamento key) and the bad data will be cleared.

3 Assigning the Accent effect

The notes with Accent usually control the VCA, but it is possible to control both the VCF and VCA.

*Refer to the separate volume "MC-202's Synthesizer".





- (2) The Display Window displays that the Accent works on both the VCF and VCA.
- 3 Now the Accent works only on the VCA.

6 Other useful functions

The MC-202 offers some more useful functions.

A. Tempo display

Pressing the TEMPO key will display the current Tempo.

*It needs a few seconds before you get an accurate tempo display.

The following procedures should be all done while the MC-202 is stopped in the Play mode.

B. Memory Capacity Check

You can easily see how many more notes can be entered into the MC-202. Do as shown in the figure, and the Display Window will show it with figures.

How to read the Display Window

Usually it will show the four figure number. A blank, however, is to be regarded as zero.

Memory Capacity

The state of the s

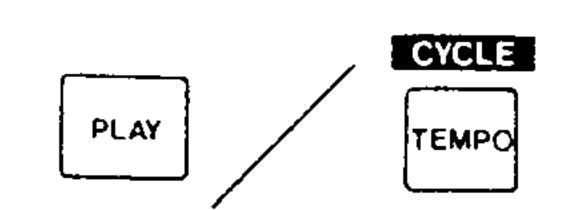
The maximum memory capacity of the MC-202 altogether (CH-1, CH-2) is approx. 2600 steps. This means approx. 160 measures of 8th notes in each measure can be entered. A bar costs 1/3 step.

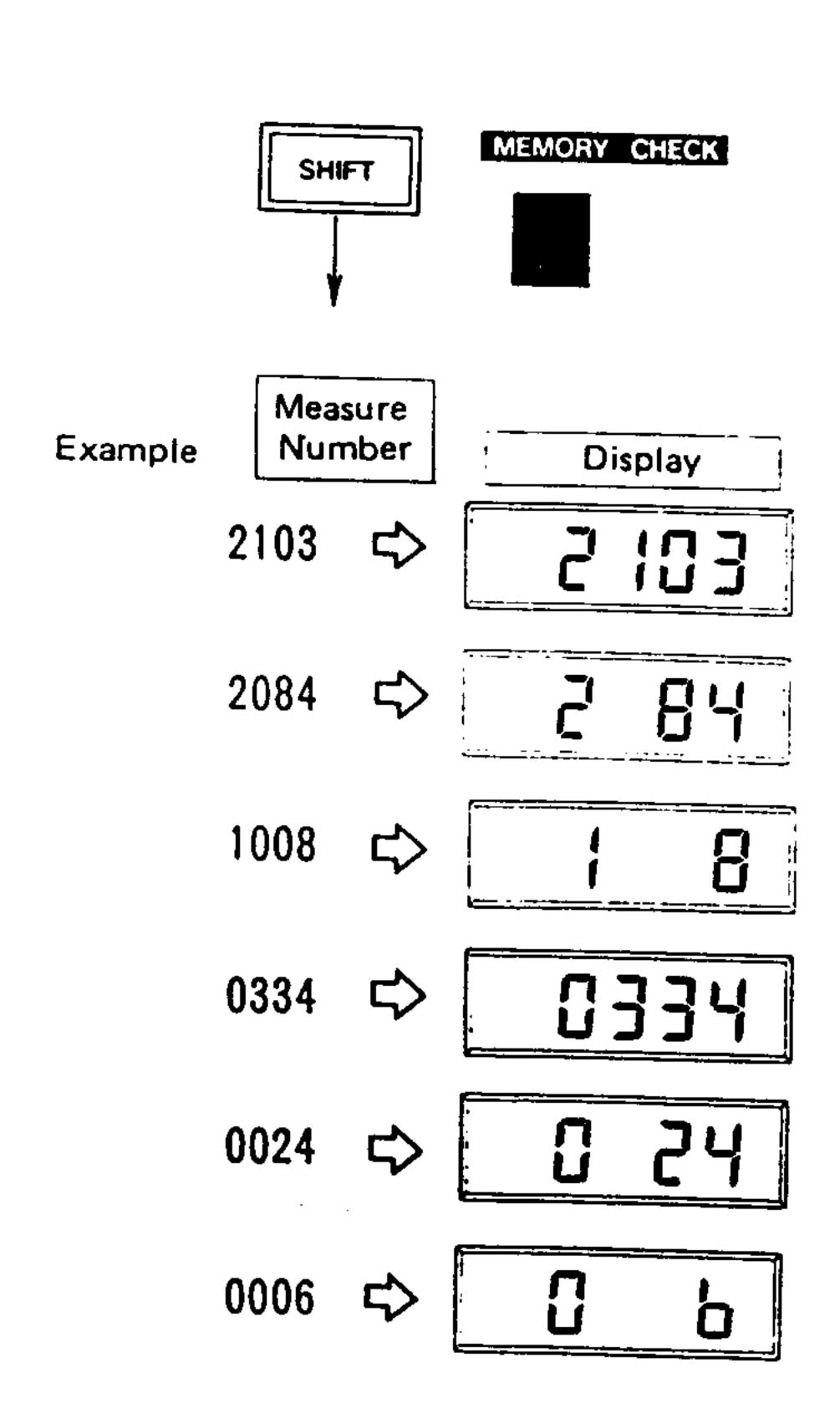
If all the memory capacity is used up, entering is no longer possible.

(If you still press a key, a beep will continuously sound.)

If, however, you are entering the data by playing the keybaord, there is no warning signal and entering more data will break the whole existing data, so please be sure to stop entering within 2600 steps.

Also, the action of the MC-202 may become more and more sluggish as the data is being entered. If so, please make sure that the mode or channel is changed, before going to the next procedure.

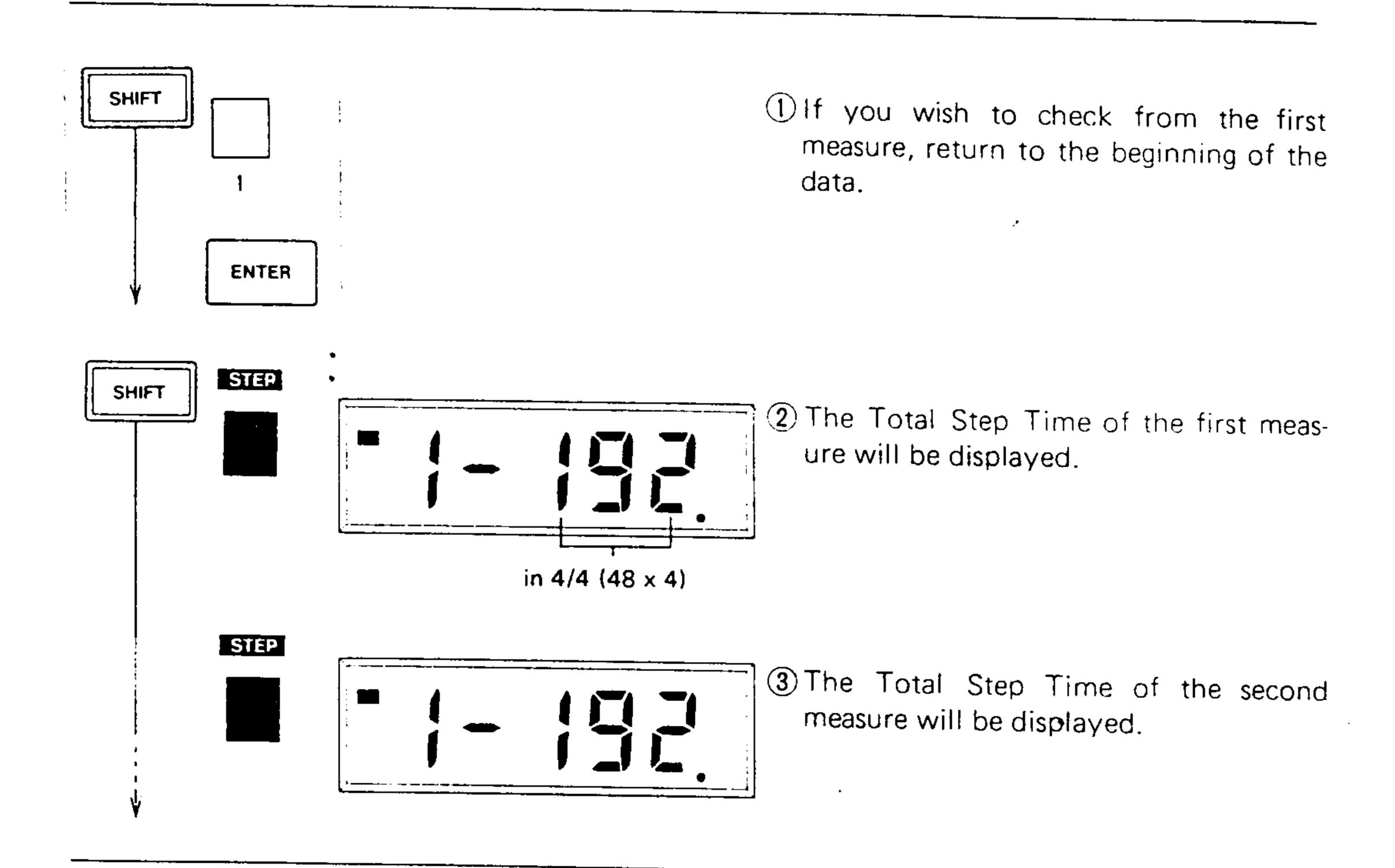




C. Step Number Check

You can see the Total Step Time (Step number) in a measure. If music in 4/4 time is entered, the total step times in one measure is bound to be 192 as J is step time 48.

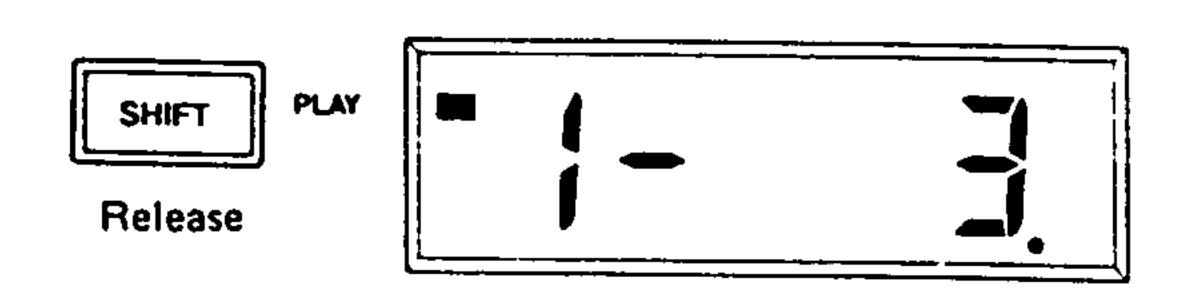
By checking this Total Step Time, you can avoid entering too many or too few steps.



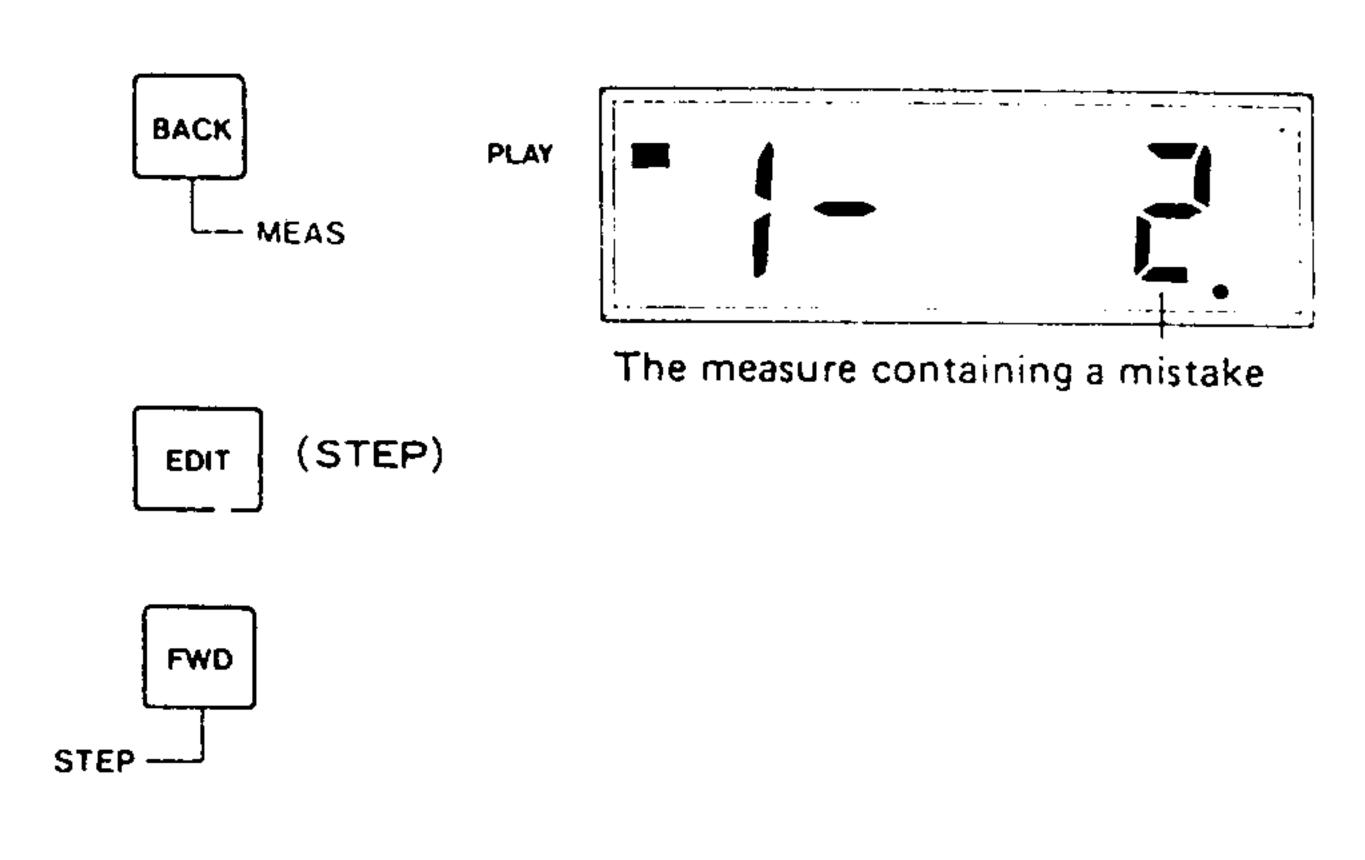
By repeating the same procedure, you can check as many measures. (Pressing the STEP CHECK key will forward one measure.)

If the Total Step Time is not correct

If you find a mistake while checking, do as follows.



(1) Release the SHIFT key.



(2) Back one measure by pressing the BACK key.

There is a mistake in the measure displayed.

- (3) Set to the Step Time Edit mode and get to the relevant step by pressing the STEP FWD Lay.
- (4) Referring to "Editing the Step Time P. 14", delete or insert necessary notes.

D. # and b display

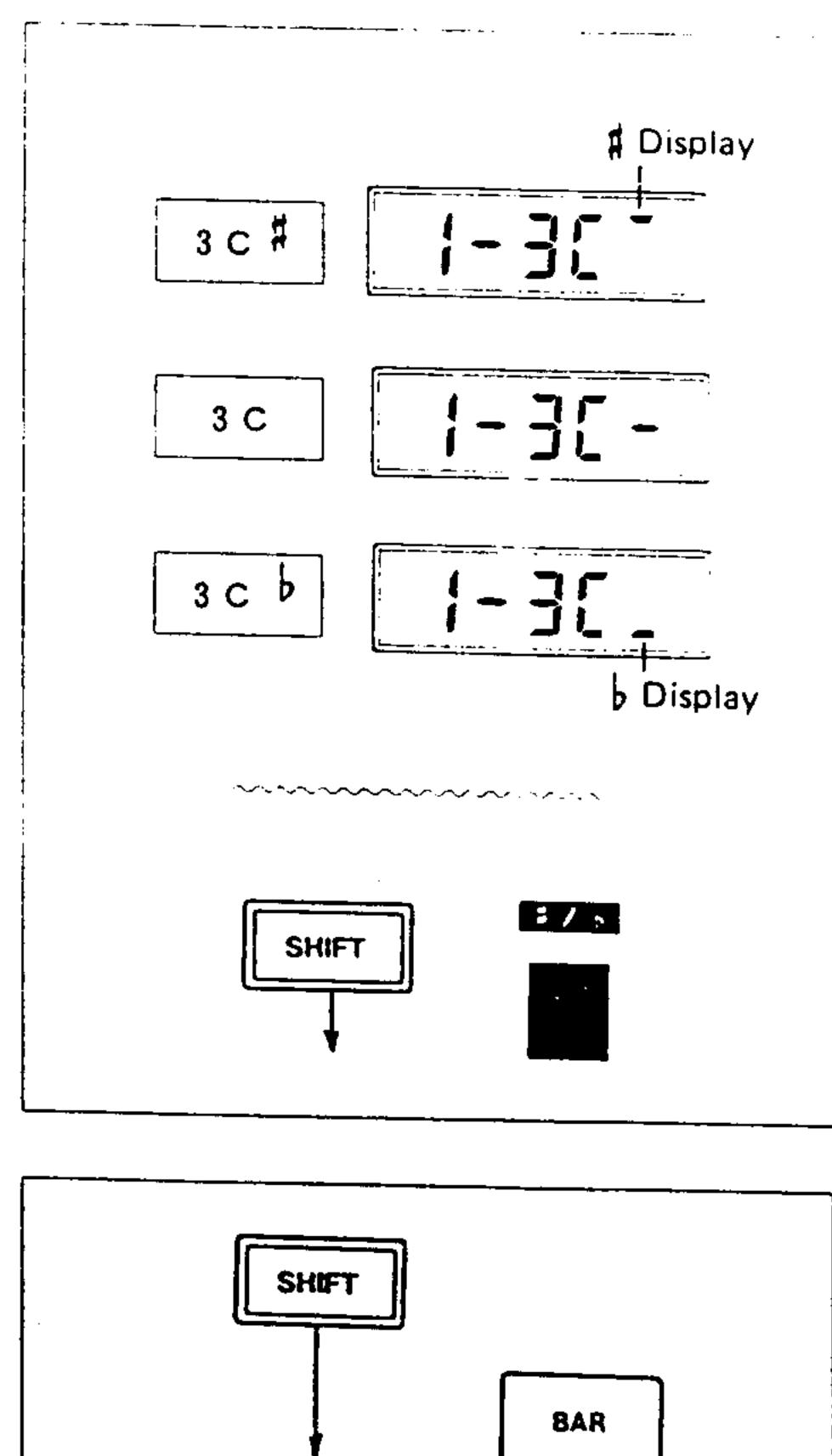
Pressing the black key on the keyboard will automatically display # in the Display Window, but you may change it to b.

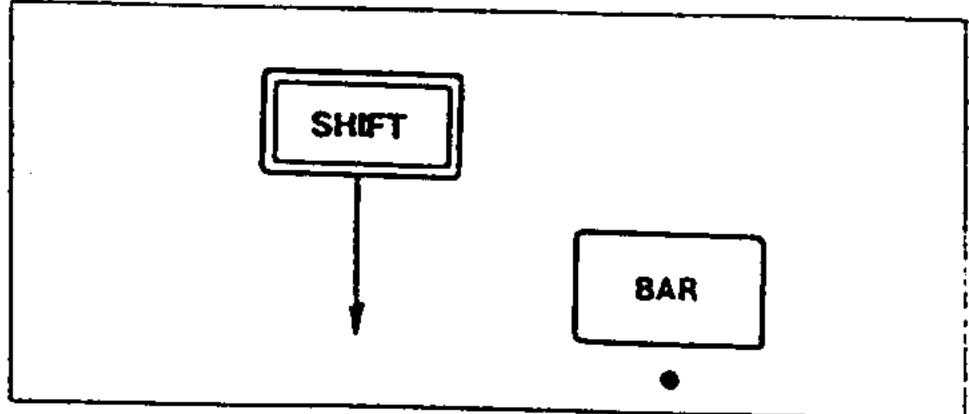
Then later you can easily check if the score has been correctly entered. Do as shown in the figure, then press the black key, and now the Display Window will show "b" indicator.

Repeat the same procedure shown in the figure, and the # display will return.

E. Beep sound ON/OFF

If you do not need the beep during operation, you can mute it as shown in the figure. To retrieve it, repeat the same procedure.





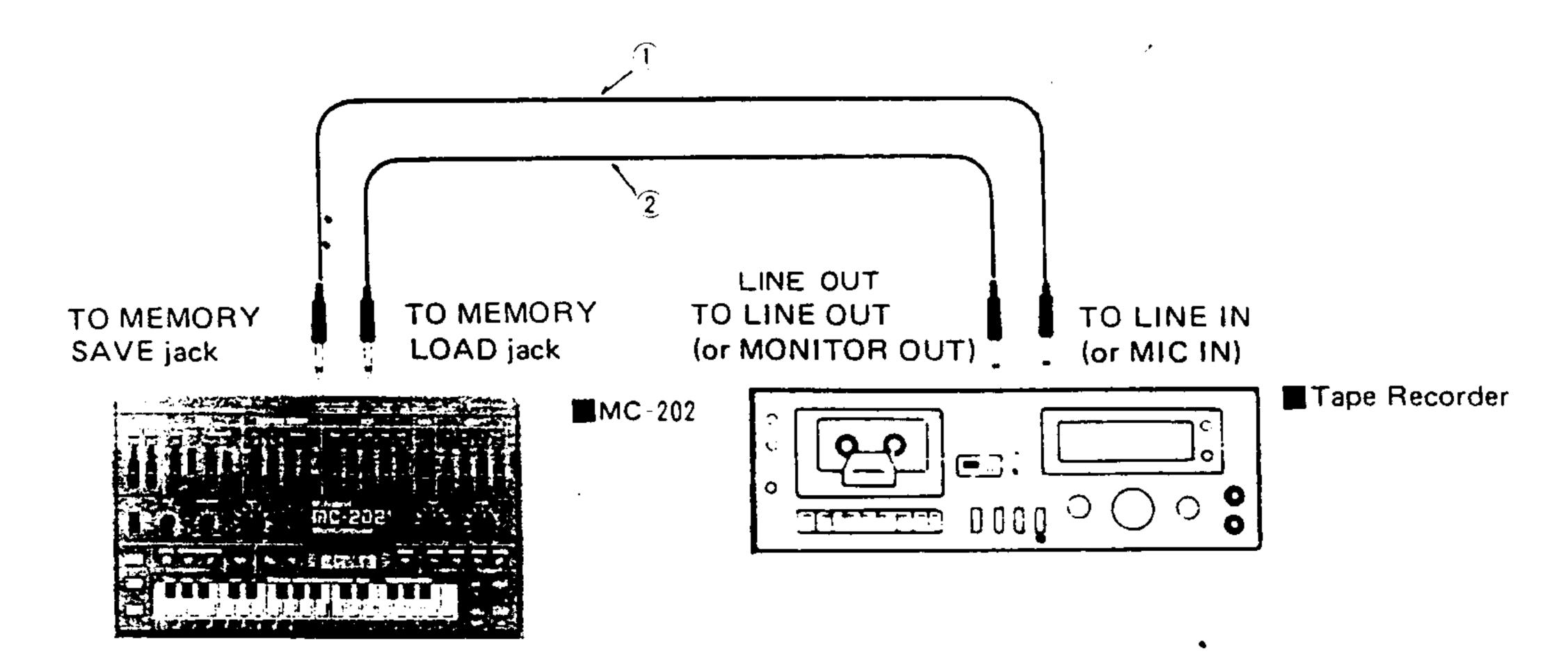
Z Saving the Music Data

A. Save, Verify, Load

You can save the music data you have entered on a normal tape. Please make it a rule to save the data before turning the MC-202 off.

B. Setting up

Set up a tape recorder with the MC-202 as shown below.



- ※ If you only want to save, connection 22 is not necessary.
- # If you only to load (or verify), connection 11 is not necessary.

C. Operation

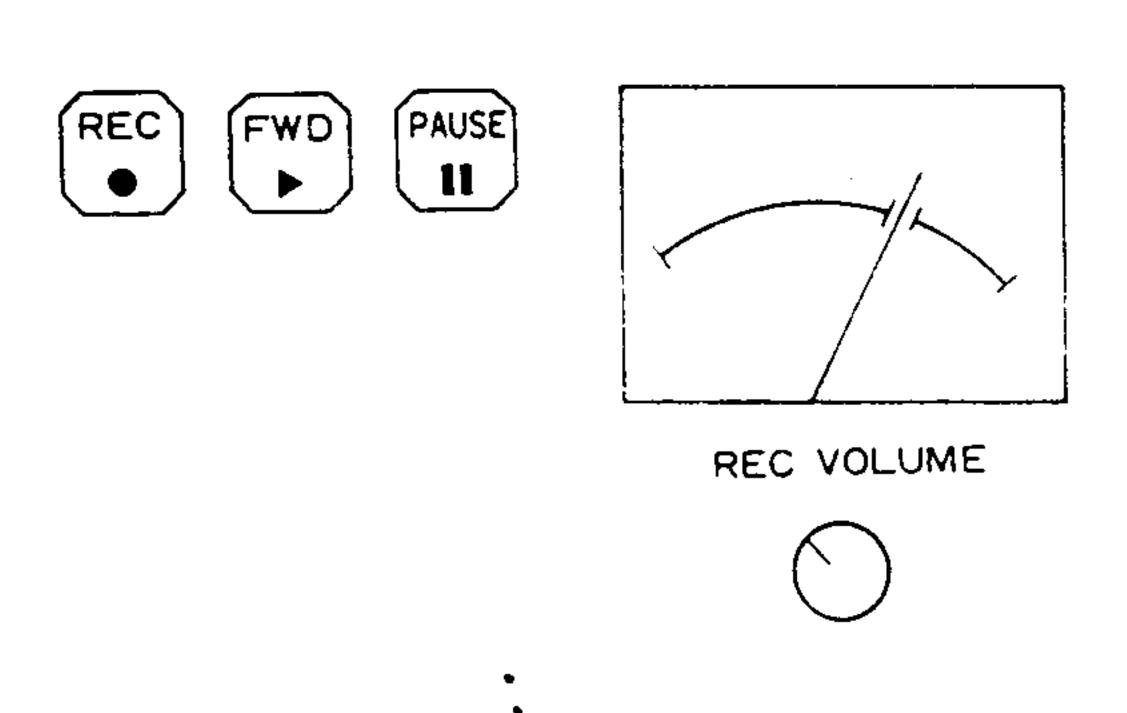
All the procedures should be done when MC-202 is stopped in the Play mode.

1 Save

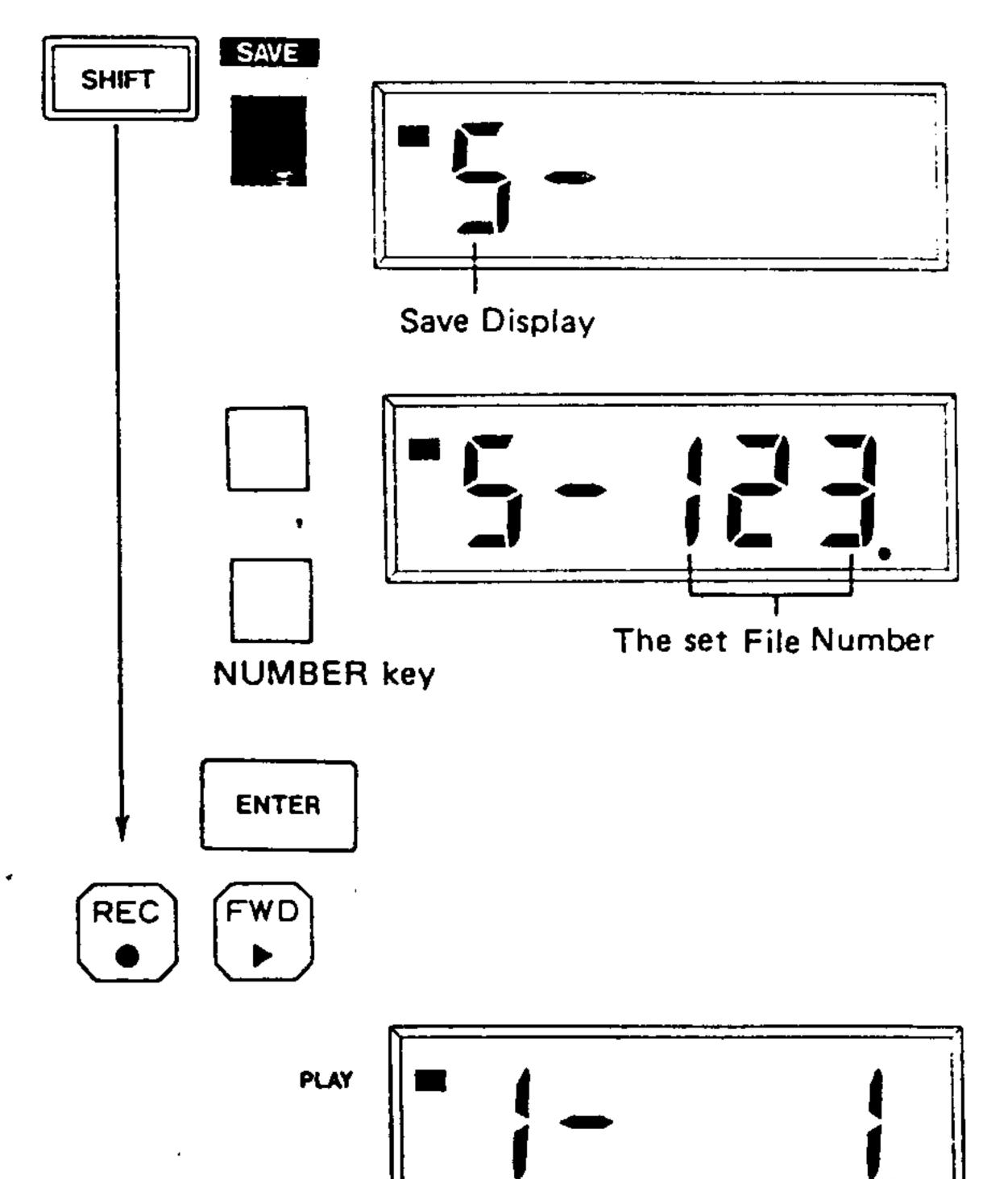
If you put a File Number to each song when in saving, later on, song recalling will be much easier.

0 to 999 are available for the File Numbers

and can be set by pressing the appropriate NUMBER keys.



① Set the tape recorder to the Recording mode and press its PAUSE button. If your tape recorder features recording level control, set the volume so that the Pilot tone from the MC-202 will read OVU or so.



2 Now saving is possible.

- 3 Set a File Number.
- Press the ENTER key then turn the tape recorder to the Recording mode.

 By pressing the ENTER key, the Pilot tone will become higher, then in about 7 seconds, the saving into the tape starts (Modulated tone will be heard).

 When the saving is completed, you will hear a beep, then again the Pilot tone.

STOP

(5) Stop the tape recorder.

2 Verify

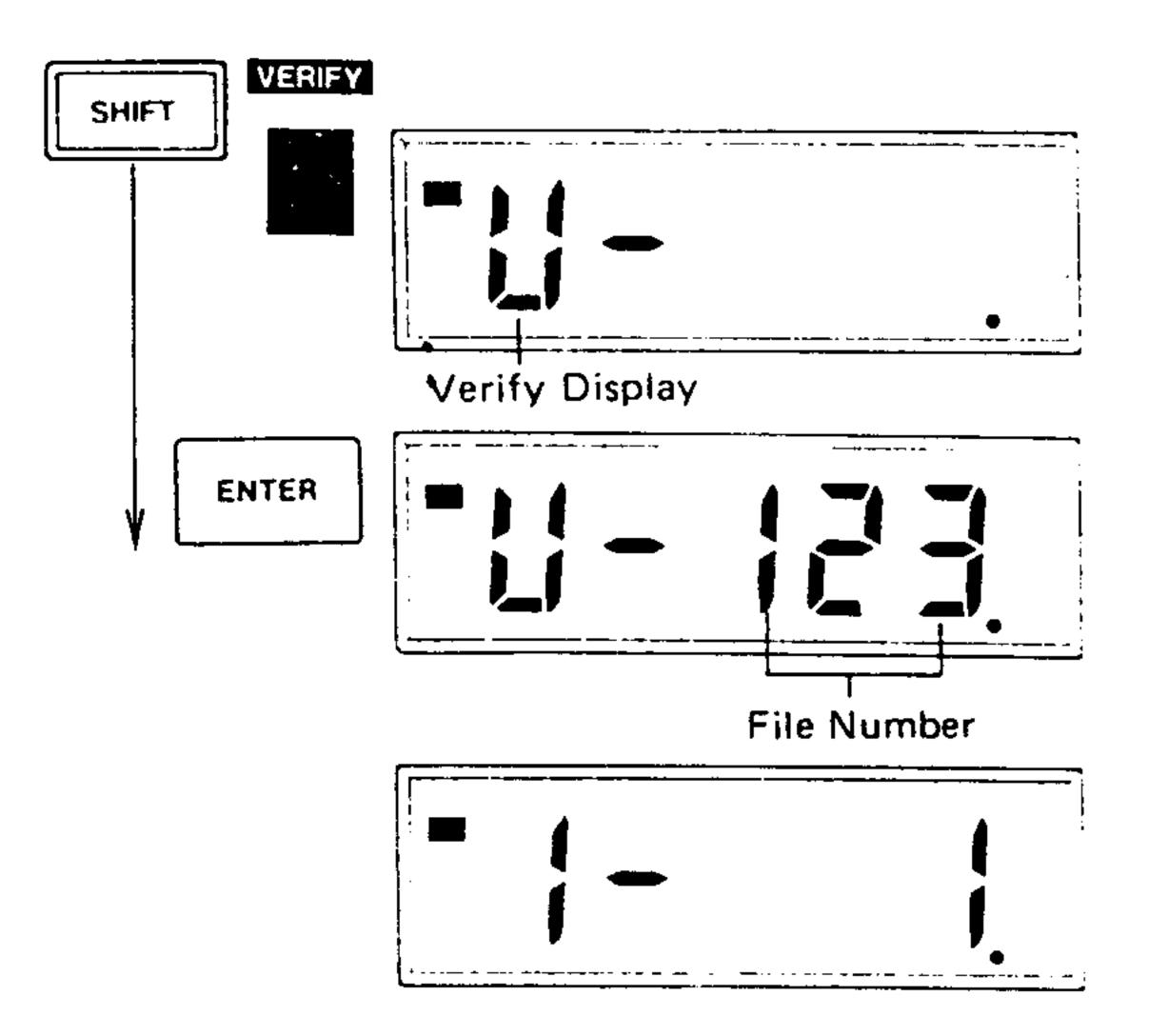
Be sure to verify the data after each saving.



① Adjust the output level of the tape recorder, then set it to the Playing back mode.

Be sure to shart the tape from the very beginning where you can hear the Pilot tone.

Complete the following two procedures while you hear the Pilot tone.



2 Now you can verify the data.

③ Verifying starts and the Display Window shows the File Number. If verifying is completed, a beep will be heard.

STOP

4 Stop the tape recorder.

Be sure to complete the procedures while still hearing the Pilot tone. If you are too early or too late, a continuous beep will be heard indicating an error. Also, if the playback level is too low, the beep may be heard. If so, try again with a higher level. If an error is heard, even though you have correctly done the verify procedure, please repeat the save procedure.

If the error is still indicated, refer to "D. The appropriate tape to be used for saving on P. 48".

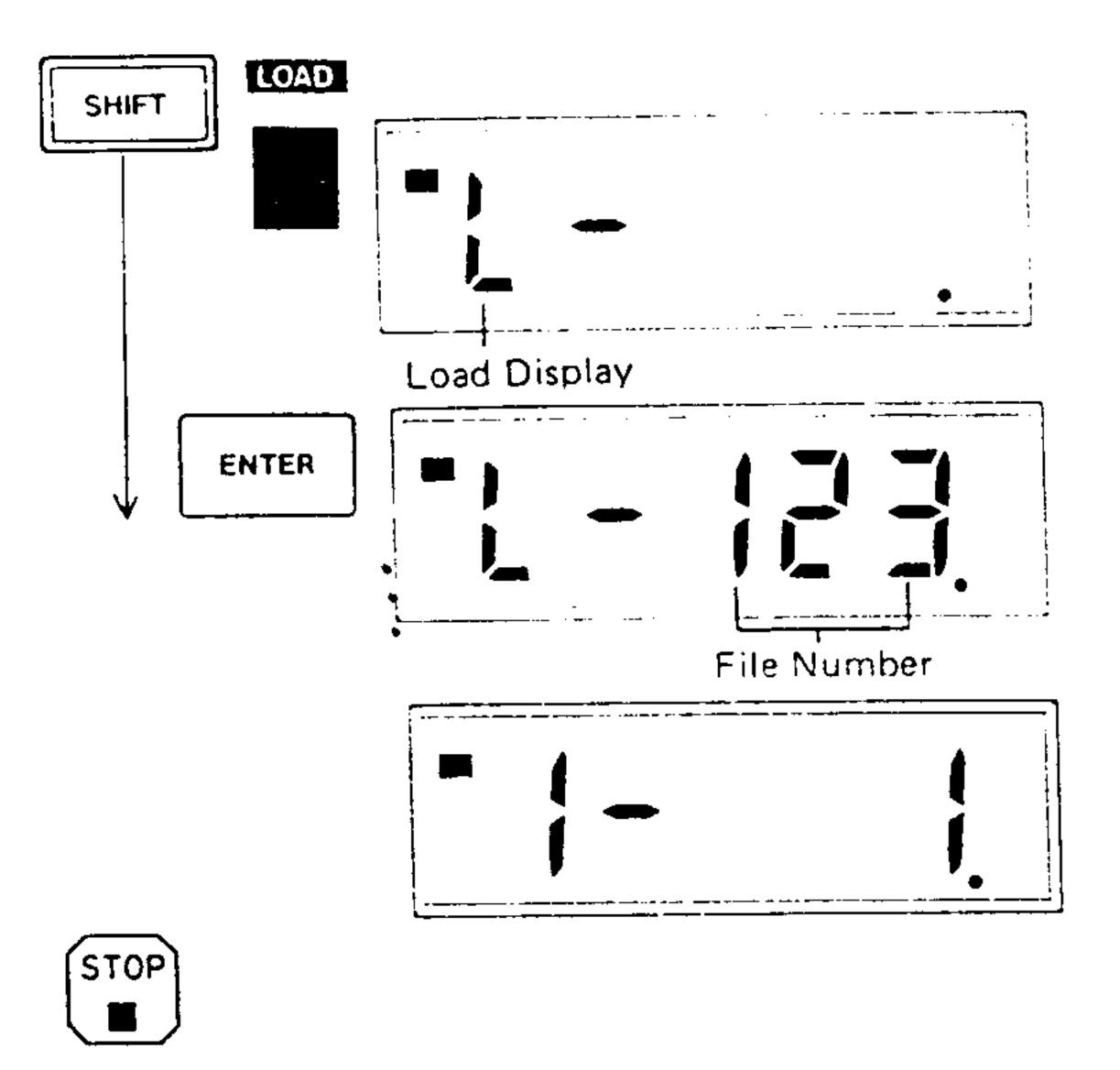
3 Load



① Adjust the output level of the tape recorder—then set it to the Play mode. Be sure to start loading from the very beginning of the tape where you hear the Pilot tone.

,这一点,一点一个老头,我们一点一点,我们就会会会了一样,只要有一个人的人,我们就有这种的人的,我们就是这些人的,我们就是不知,我们就是这个人的人,我们也是这样

While you still hear the Pilot tone, complete the following two procedures.



(2) Loading is now possible.

(3) Loading starts and the Display Window will show the File Number.

When loading is completed, a peop in the heard.

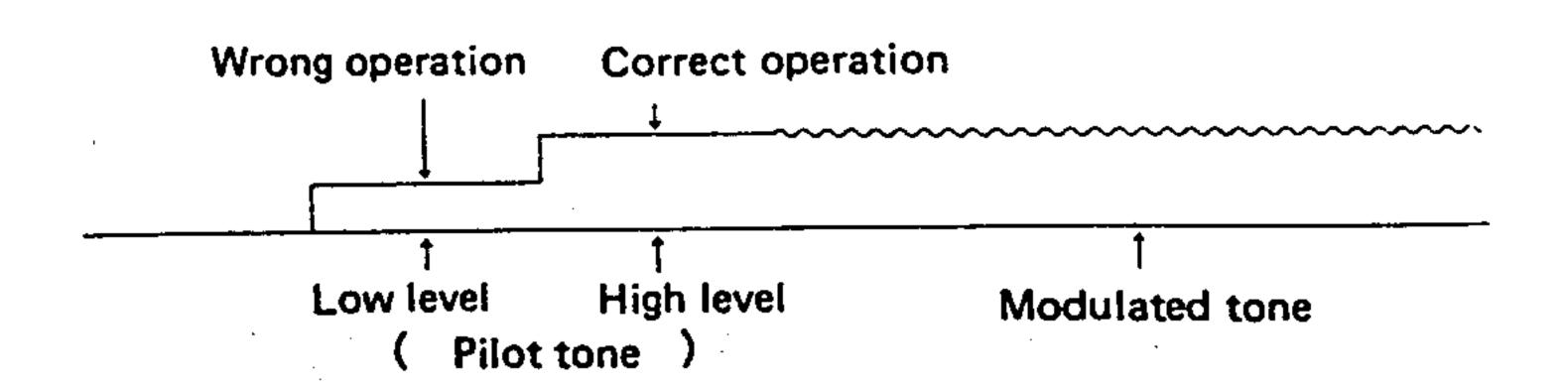
4 Stop the tape recorder.

Be sure to complete the above procedures while still hearing the Pilot tone. If you are too early or too late, a conitnuous beep will be heard indicating "error".

Also, if the playing back level is too low, error may be heard. If so, try again with a higher level.

Also, if the Pilot tone recorded when saling level is low, wait until it becomes higher, and start the above procedures. If not, an error will be heard (Refer to the figure).

If an error is indicated, even if you have correctly done all of the loading procedures, refer to "D. The appropriate tape to be used for saving on P. 48".



When the File Number is displayed in procedure (3), check if it is the correct one. If it is not what you want, stop the tape (loading mode is cancelled) and repeat the load procedure.

D. The appropriate tape for saving

The saving error is often caused by the tape you use. Please make sure that the tape has no dropout, and moreover, clean the head of the tape recorder.

Preserving the data tape, etc.

Please rewind the tape and avoid keeping it in excessive humidity and where it may be affected by a strong magnetic unit (such as speaker, amplifier etc.). If the data is an important one, save it on two tape so that you can avoid an accidental erasure of the entire data. Please do not copy from one tape to another, but load the data back to the MC-202 then save it to another tape.

E. Power Save Function

The MC-202 features the Power save function which can be effectively used to avoid unnecessary battery consumption.

Turn this Power save function on as shown in the figure, and the MC-202 does no longer functions but only retains the entered data.

Repeat the same procedure to turn this function off.

*Even if the Power save function is ON, turning the POWER switch off will erase the data, so please be sure to keep the Power on.

