Options

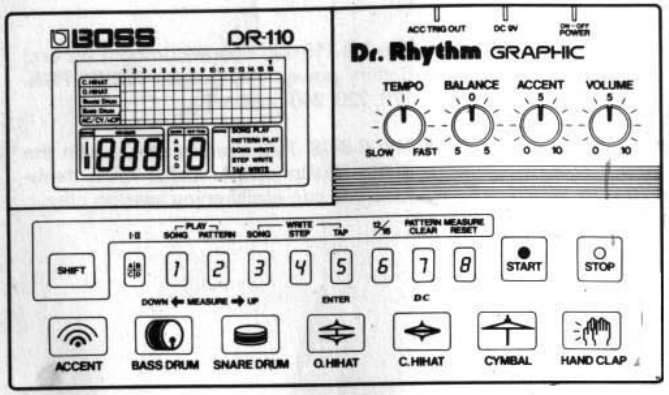
AC Adaptor BOSS PSA-120, 220 or 240

Connection Cord PJ-1

BOSS

Products of Roland

BOSS DR-110 Dr. Rhythm



Owner's Manual

The Doctor Rhythm DR-110 is a fully programmable rhythm machine.

Scanned by Django of www.dtronics.net
Midi kit for your DR110? check www.dtronics.net

- Please read this owner's manual carefully.

AC DC
AC & BATTERY POWERED

Features

■ **The Doctor Rhythm DR-110 is a compact yet fully programmable rhythm machine.**

- The LCD (Liquid Crystal Display), showing current information in number, allows quick visual grasp of the data.
- Up to 16 Rhythm Patterns of your own can be written into memory. And as well, 16 different Rhythm Patterns are already preprogrammed ready to be in use.
- By combining the preset Rhythm Patterns and those you have written, the whole two pieces of music, each up to a maximum 128 measures, can be written into memory.
- 6 Sound Sources can be played not only with data you have written but also in real time by tapping the Instrument Keys.
- It is possible to write a triplet or triple time rhythm.
- An ACC Trig Out Jack is provided for controlling a synthesizer, etc.
- The DR-110 features Memory back up system, therefore, the data you have written can be retained even after switched off.
- The DR-110 can operate on both AC and Battery power. (AC Adaptor: BOSS PSA-120, 220, 240 optional).
- The P-BUS Jack enables set-up with the BOSS Headphone Amplifier HA-5, therefore, you can easily enjoy session play.

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Important Notes

Power

- The DR-110 can be powered by battery or AC Adaptor. If you are running it on battery power, replacement will be occasionary necessary.

Location

- Operating the DR-110 near a neon or fluorescent lamp may cause noise interference. If so, change the angle or position of the DR-110.
- Avoid using the DR-110 in extreme heat or humidity or where it may be affected by sunlight or dust.

Cleaning

- Use a soft cloth and clean only with mild detergent. Do not use solvents such as a paint thinner. Do not immerse in water.

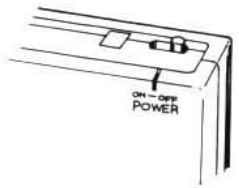
LCD

- View the Display from the proper angle.
- Please be careful not to damage the window.

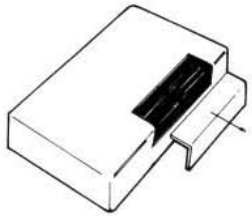
Power

How to insert batteries

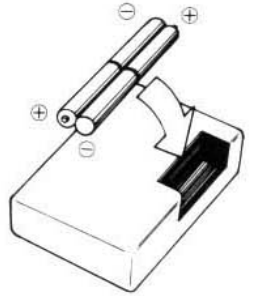
①Make sure that the Power Switch is turned off.



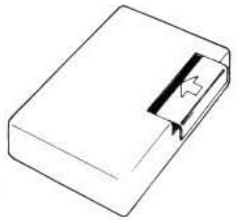
②Remove the cover from the battery housing by sliding it away.



③Place the supplied dry cell batteries in the battery housing in correct polarity, as marked inside housing.

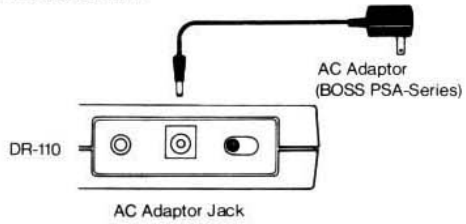


④Replace the cover.



AC Power

«Connections»



Please be sure to use an AC Adaptor that supplies 9 volts DC such as BOSS PSA 120, 220 or 240 depending on the voltage system in your country. (Using any other adaptor may cause trouble).

«Cautions»

- Please turn the DR-110 off, before connecting the AC Adaptor.
  Connecting the AC Adaptor with the DR-110 on may cause improper operation or even break down.

«To avoid accidental loss of your indispensable data»

- The DR-110 features a Memory back up system that retains the data you have written even when switched off, and this is fully supported by battery power. So, to avoid losing the data in memory, make sure to keep the batteries securely connected in the battery housing even while using the AC Adaptor.

- Please replace the whole set of the batteries with a new set once a year, whatever the battery consumption may be like.

«Battery replacement is required in the following cases»

- In about 120 hours, if ordinary dry cell type batteries are being used. (It varies depending on the type of the cells and how much the DR-110 has been used.)

- If the DR-110's LCD (Liquid Crystal Display) becomes dimmer or flares, or the sound or action of the unit becomes unstable.

«Battery Replacement»

- Please use 4 AA dry cells (UM-3).

- Please be sure to turn the DR-110 off and unplug the AC Adaptor if using one, before battery replacement.

- If you have made battery replacement within a few hours, data written in memory will be all protected finely.

- Please avoid leaving exhausted batteries connected, or trouble may be caused by battery leakage.

- When using battery power, please do not forget to turn off the Power Switch.

Connection

OUTPUT (P-BUS) Jack

- This is to connect to an amplifier (guitar, keyboard or audio).

☆ This jack also serves as LINE IN, as it is P-BUS standard. (Refer to P32).

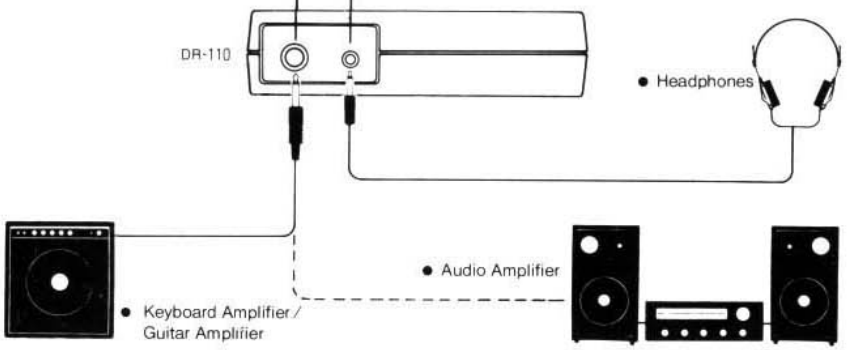
Headphone Jack

- Stereo headphones are to be connected tc this jack.

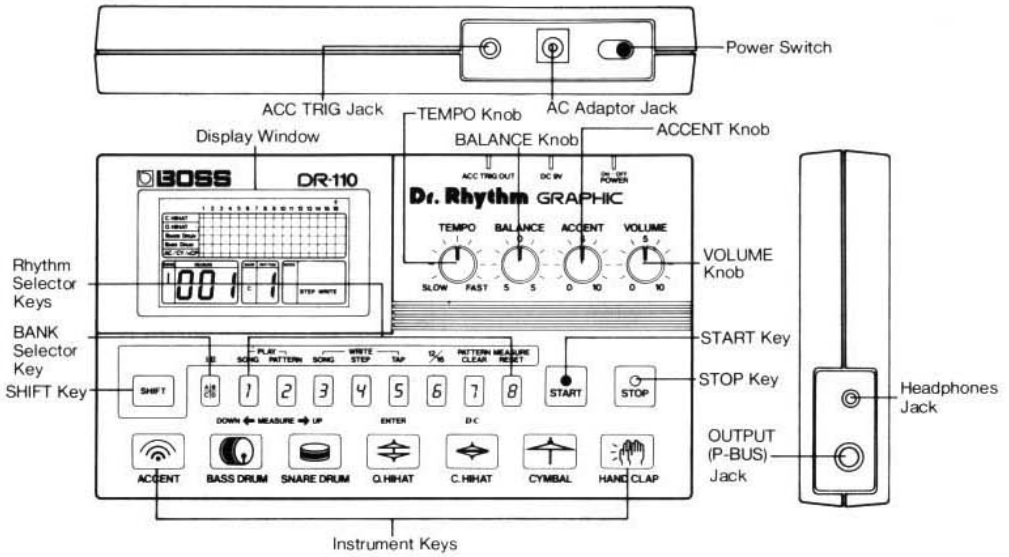
☆ Appropriate impedance is 8 to 100Ω.

☆ The headphones should have a stereo mini plug. (If it has 1/4" standard phone plug, Mini to ¼" adaptor plug will be necessary).

☆ Even if the headphones are connected to this jack, the OUTPUT jack still can send signals. So, if you need only headphones sound, do not use the OUTPUT jack, use the Headphone Jack.



Panel Description

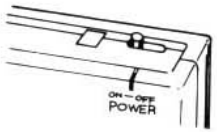


Playing Rhythm Patterns

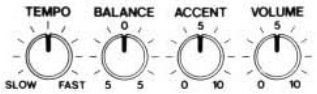
16 different Rhythm Patterns are preprogrammed in the DR-110. The following are how to play them.

①Insert batteries, then set up an amplifier (or headphones), so that you can listen to Rhythm playing.
☆ How to insert batteries → See P.5.
☆ Connections → See P.8.

②Turn the DR-110 on.
☆ Number or dot representing the current data will be shown in the Display Window.



③Set all the controls to the center positions.



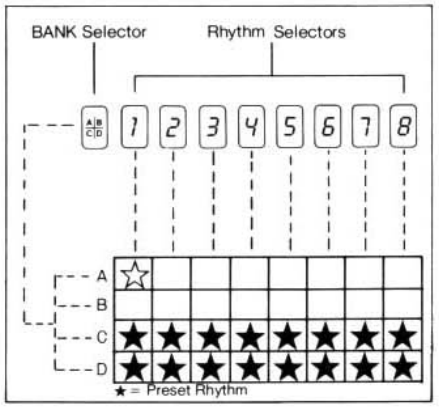
④Press the START Key.
☆ Rhythm will start playing.

⑤Change Rhythm Patterns by pressing a BANK Selector and Rhythm Selector Keys. (Refer to P.11)
☆ Please be sure to wait until one whole Rhythm Pattern is played up, before changing Rhythms.

⑥Adjust each control to your liking. (Refer to P.12)

⑦Pressing the STOP Key will immediately stop Rhythm playing.

• **How to select a Rhythm Pattern**



☆ For instance, if you press Bank A and Rhythm Selector Key 1, ☆ will be selected.

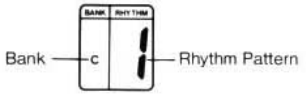
☆ There are 4 Banks A, B, C and D, each containing 8 Rhythm Patterns. Therefore, up to 32 different Rhythm Patterns are available.

☆ In Bank C and D, 16 Rhythm Patterns are preprogrammed and Bank A and B are left free for the user to write his own Rhythm Patterns (up to 16).

☆ Selecting either of the Bank A or B does not play Rhythm correctly.

☆ The currently selected Bank and Rhythm Pattern is shown in the Display.

☆ Each time the Bank Selector Key is pressed, the Bank changes ┌→A→B→C→D→┐.



• Control Description

TEMPO Knob
This is to adjust the playing tempo of the Rhythm. Rotating this clockwise quickens the tempo.

BALANCE Knob
This is to adjust the proportion of the Drums and the Cymbal and Hihat volumes. Rotating this knob counterclockwise increases the volume of the Drum sounds, and rotating it clockwise increases the volume of Hihat and Cymbal. Hand Clap sound does not change by the position of this knob.

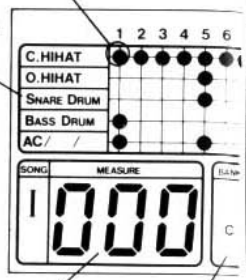
ACCENT Knob
This is to control the intensity of the Accent. As you rotate this knob clockwise, the accent will become stronger. (If no accent is written, there will be no accent in playing Rhythm.)

VOLUME Knob
This is to adjust the volume. Rotating this knob clockwise will raise the volume.

• Display

Even while Rhythm is not playing, this dot blinks at the tempo of the rhythm.

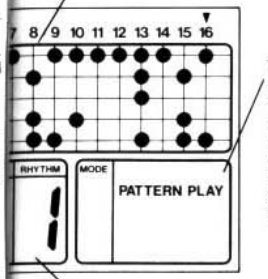
Each sound source is shown here.



This part of the Display Window reacts while the DR-110 is in SONG WRITE or SONG PLAY Mode.
- See "SONG WRITE and PLAY" on P.25.

The selected Bank is shown here.

The data of the selected Rhythm Pattern (timing value) is displayed.
- The details will follow later in "Key point for writing" on P. 18.



This shows operation mode of the DR-110. (Here, PATTERN PLAY Mode). While Rhythms are playng, the window flashes in every measure. Please be sure to change the modes while Rhythm is not playing.

The number of the selected Rhythm Pattern is shown here.

• Reference

The Preset Rhythm in Bank C and D will remain even if the batteries are removed. i.e. there is no way to erase them and write new patterns. See P.36.for the details of the Preset Rhythms.

Manual Play

By tapping the Instrument Key, you can play each sound source in such a tempo.
- This function is available even while Rhythm is playing.
- Accent can be added just by pressing the Accent Key.

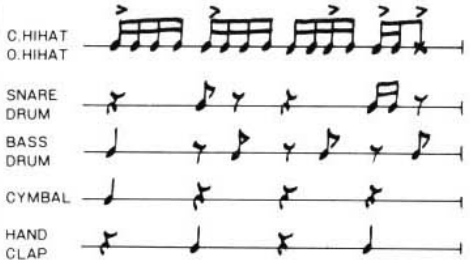
Writing Rhythm Pattern

There are two major methods of writing a measure of Rhythm Pattern into the DR-110.

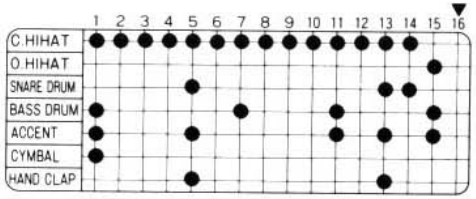
• STEP WRITE
Write Rhythms on the Display Screen.

• STEP WRITE
Tap the Instrument Keys and write a Rhythm Pattern as you play.

• Example Score



• Rhythm Chart



①Make sure that Rhythm is not playing.

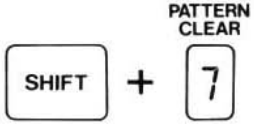
②While holding the SHIFT Key down, press the Rhythm Selector Key 4.
☆ Now, the DR-110 is turned to the STEP WRITE mode.

• SHIFT Key
This SHIFT Key is effectively used when one key serves double functions. i.e. pressing a key while the SHIFT Key is being held down will give the key the function as shown above it (in grey letters enclosed in a blue line).

③Select the Rhythm Pattern by pressing the BANK Selector and the Rhythm Selector Keys.
☆ For selecting A-1 pattern, select the Bank A and press the Rhythm Selector Key 1.

☆ The Display shows the number of the selected Rhythm Pattern.

④Press the Rhythm Selector Key 7.
☆ If there is already a Rhythm Pattern written, the above procedure erases it.



⑤Select a sound source you like with the Instrument Key. e.g., if you want Bass Drum, simply press the Bass Drum Key.

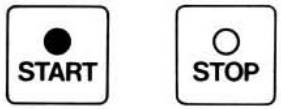
☆ The blinking dot moves onto the row of the selected sound source.

☆ Accent, Cymbal and Handclap occupy the same line in the Display Window, but only the one currently selected appears.

AC/ / If Accent is selected.
/CY/ If Cymbal is selected.
/ /HCP If Hand Clap is selected.

☆ HAND CLAP (HCP)
CYMBAL (CY)
C. HIHAT
O. HIHAT
SNARE DRUM
BASS DRUM
ACCENT (AC)

⑥Write Rhythm Pattern according to the Rhythm Chart
• Dot → Press • Key (START Key)
No mark → Press ○ Key (STOP Key)



☆ If the • Key is pressed, a dot will be written, forwarding the blinking dot in the Display one step. If the ○ Key is pressed, the dot in the Display simply goes ahead one step without writing any.

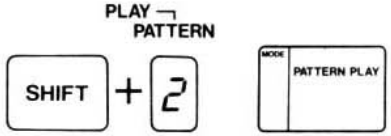
☆ When the 16 steps have been written with one sound source, the blinking dot in the Display will go back to head (position 1).

⑦Following the above procedures, write all sound sources and accents desired.

«If you make a mistake in writing»

Press the ○ Key a few times, and return the blinking dot to the head (1st position), then write correct a Rhythm Pattern.
Now, play the Rhythm.

⑧While holding the SHIFT Key down, press the Rhythm Selector Key 2.
☆ Now the DR-110 is in the PATTERN PLAY mode.



⑨Press the START Key.

☆ The written Rhythm Pattern will play.

If you find any mistake, simply stop playing then write correct pattern by repeating operation ② → ⑤ → ⑥.

• Key point for writing

The Rhythm Chart (or the Display) is divided into 16 steps of 16th notes. Each step can have "•" (sound) or no mark (no sound). All notes shown in a score should be replaced with ♪ and 𝅘𝅥𝅯, and • for ♪ and no mark for 𝅘𝅥𝅯 are to be set to complete a Rhythm Chart (Fig. 1). In the procedure of replacing the notes with ♪ and 𝅘𝅥𝅯, timing value is not involved, this is because percussive sounds are all very short. Please study the Rhythm Sample in Fig. 2.

Fig 1

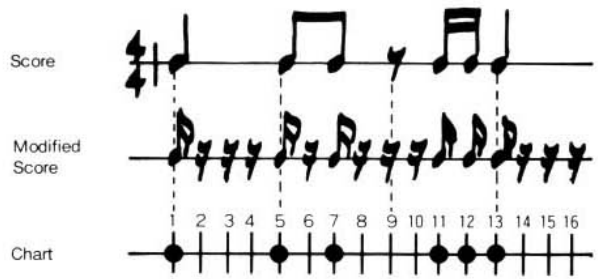
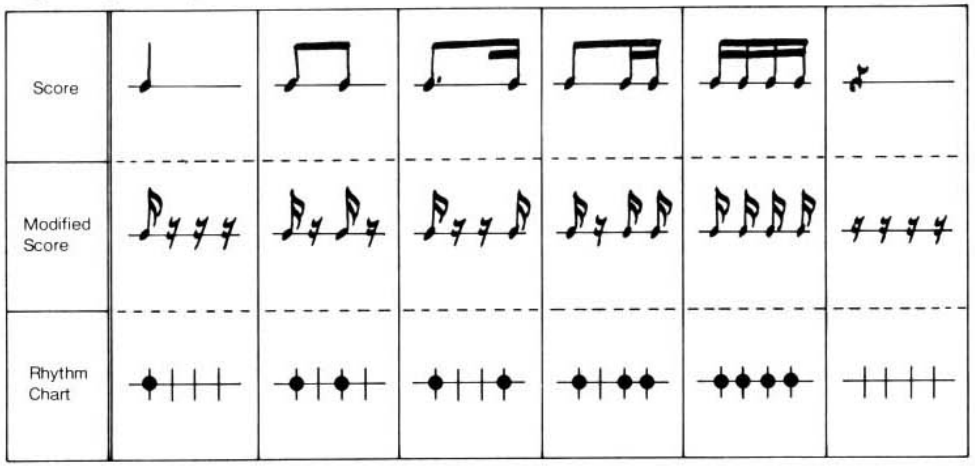


Fig 2 Rhythm Sample



• **Writing triplet and triple time**

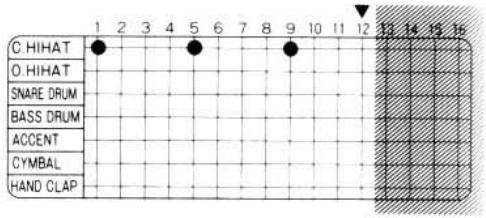
To write triplet Rhythm such as Shuffle or Swing, or triple time, after completing up to procedure ④ on P.15, press the Rhythm Selector Key 6 while holding the SHIFT Key down. Here, the ▼ mark in the Display moves from 16 position to 12, showing that writing is now possible. Then continue to procedure ⑤.

«Note»

- If the blinking dot comes so far as to 12, it will go back to the beginning.
- When the Rhythm Patter is erased, ▼ mark will appear in the 16 position.
- The triple-time Rhythm of 12 steps has a different playing tempo from other 4/4 time Rhythms (triplet is slightly slower), therefore you .need to be careful when playing different Rhythms continuously. (Triplet Rhythm have matching tempo.)

[Display]

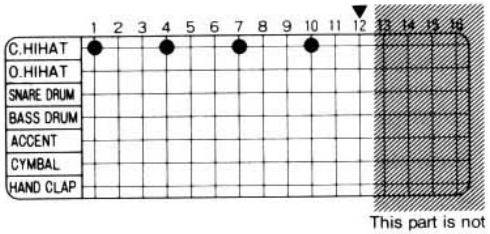
Writing triple time



"Note"
Each "●" shows the head position of Beat.
• In this case, one step is ♪.

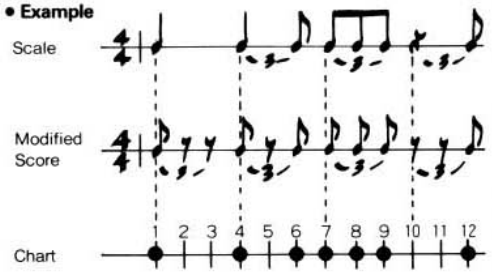
- If you are to return ▼ mark to the 16 position after setting it to 12 once, repeat the same procedures as already described in "Writing triplet and triple time" on P.20.

Writing Triplet



"Note"
Each "●" shows the head position of Beat within a measure.
• In this case, one step is not ♪, but ♪ that is the 1/3 of ♩ note.

• **Example**



• **Reference**

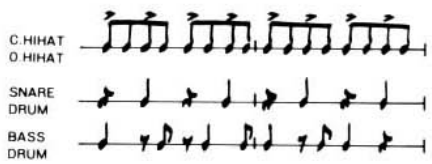
①The Display's indication; AC, CY, HCP changes only during the STEP WRITE mode. Therefore, if you want to see the Rhythm Chart of a particular Sound Source during PLAY mode, simply press the STEP WRITE Button then the relevant Instrument Key.

②If you write Open Hihat on Closed Hihat (in the same timing), Closed Hihat with Accent will be obtained.

③To make break (rests), just erase the Rhythm Pattern.

④Usually, one step is to be ♪ (or 𝅘𝅥𝅯) in the chart (or Display), but it can be ♪ or 𝅘𝅥𝅯 as you like.

[Example1: 1 Step = ♪]



• There can be two measures written within one Rhythm Pattern, but shorter rhythm such as 𝅘𝅥𝅯 cannot be written.

[Example 2: 1 Step = 𝅘𝅥𝅯]

Refer to Sample Rhythm on P.46.

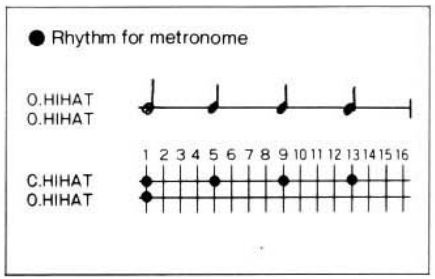
«Note»

In either case above, the tempo of the Rhythm will be different from the one written in a usual way (1 Step = ♪).

TAP WRITE

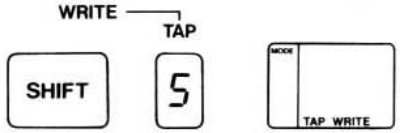
Tap the Instrument Keys along with metronome and write Rhythm Pattern. The DR-110 does not include metronome, so write Hihat as a metronome.

①Observing the STEP WRITE procedures 1 to 7 on P.14 write the following metronome rhythm.



②While holding the SHIFT Key down, press the Rhythm Selector Key 5.

☆The DR-110 is now in the TAP WRITE mode.

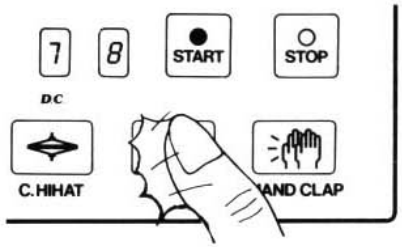


③Press the START Key.

☆The metronome rhythm you have written will play.

④Press any Instrument Key you like along with the metronome.

☆The Rhythm in such intervals as the key tapping will be written.



- You may tap as many Instrument Keys as you like at a time.
- The lowest line in the Display shows "AC", but Cymbal and Hand Clap can also be written.

«If you make a mistake»

If you wish to correct the mistake, press the Instrument Key that is relevant to the mistake for a few seconds, while holding the Rhythm Selector Button 7. All the dots in the line of that instrument will go out, and now writing a new Rhythm is possible.

- **Key Point for TAP WRITE**

①Any sound source can be used as a metronome. (Here, used are Closed Hihat, and Open Hihat to make it easy to see head of the first step).
②In the example, metronome interval is set to ♩ , but can be set what you like, such as ♪ .
③For instance, if you are using Closed Hihat as a metronome, clear the Hihat after writing Bass Drum and Snare Drum, so that writing Hihat will be easier.

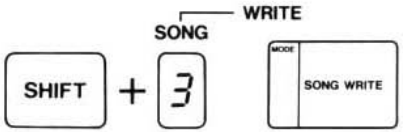
SONG WRITE and PLAY

Using the Rhythm Patterns you have written and the Preset Rhythms, you can write entire Rhythm Patterns of a piece of music. Two pieces each up to a maximum of 128 measures can be written.

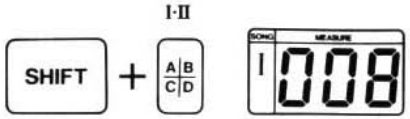
Writing a Song

①Make sure that Rhythm is not playing.

②While holding the SHIFT Key down, press the Rhythm Selector Key 3.
☆ Now, the DR-110 is in the SONG WRITE mode.



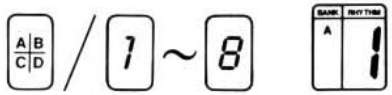
③Select either Song number I or II.
- While holding the SHIFT Key down, press the BANK Selector Button, and the number changes I and II alternately each time it is pressed.



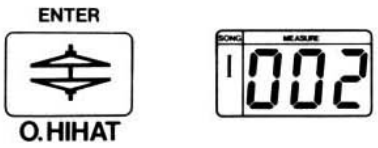
④While holding the SHIFT Key down, press the Rhythm Selector Key 8.
☆ Now the first measure of the Song is ready to start to play.

⑤Press the START Key.
☆ Rhythm will start playing.

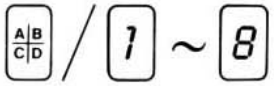
⑥Select the Rhythm Pattern you wish to write into the first measure.
☆ The selected Rhythm Pattern is now shown in the Display and plays.



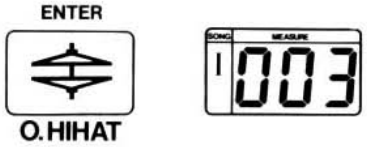
⑦Press the ENTER Key (O HIHAT).
☆ Now the selected Rhythm Pattern is written into the first measure, and it will move to the second measure.



⑧Select the Rhythm Pattern to be written into the second measure.



⑨Press the ENTRY Key.
☆ The selected Rhythm Pattern is written into the second measure and it moves to the third measure.



- Likewise, keep writing up to the measure just before the final one.
- If you are to write the same Rhythm Pattern as the one before, just pressing the ENTER Key will be sufficient.

⑩Selected Rhythm Pattern for the last measure.

⑪Press the D.C. Key (C. HIHAT)
☆ Now D.C. (da capo) is set to the final measure.

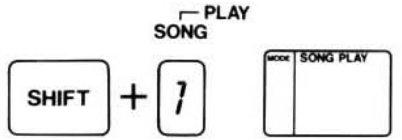
⑫Press the ENTER Key.
☆ The selected Rhythm Pattern is now written into the final measure, and it moves to the next measure.

⑬Press the STOP Key.

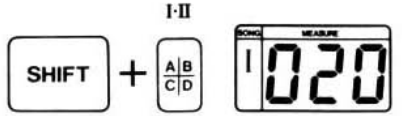
Now try playing the Rhythm.

Playing Song

①While holding the SHIFT Key down, press the Rhythm Selector Key 1.
☆ Now the DR-110 is turned to the SONG PLAY mode.



②Select either Song number I or II.
☆ Press the BANK Selector Key while holding the SHIFT Key down, and the Song number will alternately changes I and II.



③While holding the SHIFT Key down, press the Rhythm Selector Key 8.
☆ Now the first measure of the Song is ready to play.

MEASURE
RESET

④Press the START Key.
☆ Now the Rhythm Patterns you have written play from the first measure. The Display shows the currently playing measure.

- After the final measure (where D.C. is set) is played, the first measure will start playing again (Loop play).

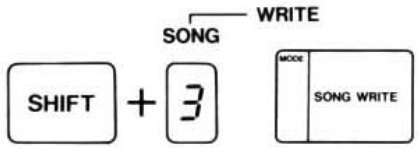
⑤Pressing the STOP Key will immediately stop playing.

- **If you have made a mistake in writing**

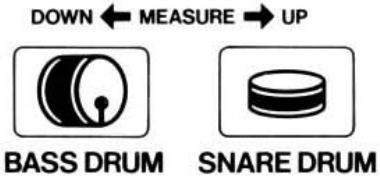
Correct it as follows.

«If Rhythm Patterns are wrongly written»

①Set the DR-110 to the SONG WRITE mode.

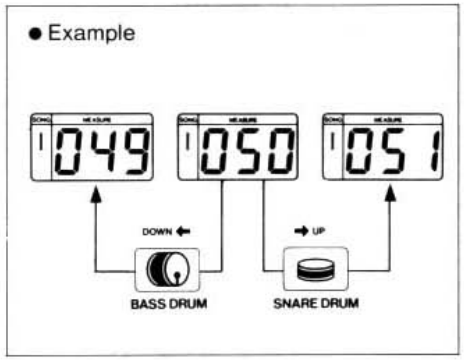


②By using the MEASURE UP and DOWN Keys, go to the relevant measure.
- The MEASURE UP and DOWN Keys work only in the SONG WRITE Mode.



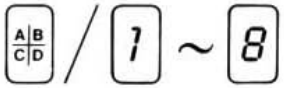
«How to use the MEASURE UP and DOWN Keys»

- Pressing the UP Key will advance 1 measure, and DOWN Key will back 1 measure up. (The Display changes accordingly.)
- You can forward measures continuously by pressing both the UP and DOWN Keys together, but you cannot back up measures.
- If all 128 measures are played up, it automatically stops playing.



③Press the START Key and start playing.

④This time select the correct Rhythm Pattern.



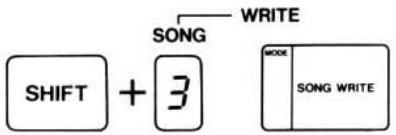
⑤Press the ENTER Key.
☆ Now the new correct pattern is written.

⑥Press the STOP Key.

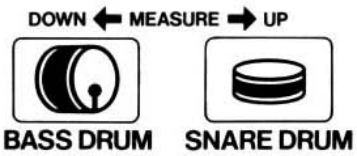
«If you have written D.C. in a wrong position, or too many or few measures»

Set another D.C. in this case.

①Set the DR-110 to the SONG WRITE mode.



②Go to the measure where you wish to write D.C.



③Start Rhythm play by pressing the START Key.

④Press the D.C. Key.

⑤Press the STOP Key.

- **Reference**

①If you mistakenly press the D.C. Key during writing, just carry on writing and press the D.C. Key to the final measure. (Da capo is written to the later measure.)

②If you have written the triplet time then 4/4 time continuingly, their tempoes will be different.

③You can start playing from any measure you like. Simply set the DR-110 to the SONG WRITE mode, and call any measure you like by using the MEASURE UP and the DOWN Keys.

④Even during song playing, it is possible to add other sound sources by tapping the Instrument Keys.

⑤For instance, if you wish to move from the measure 100 to 20, it is quicker to reset to the first measure (by pressing the Rhythm Selector button 8 while holding the SHIFT Key down), and forward measures by pressing the UP and DOWN Keys together.

⑥If you think it difficult to stop playing the moment the final measure is played, it may be a good idea to write a few measure rests after the final measure.

Application

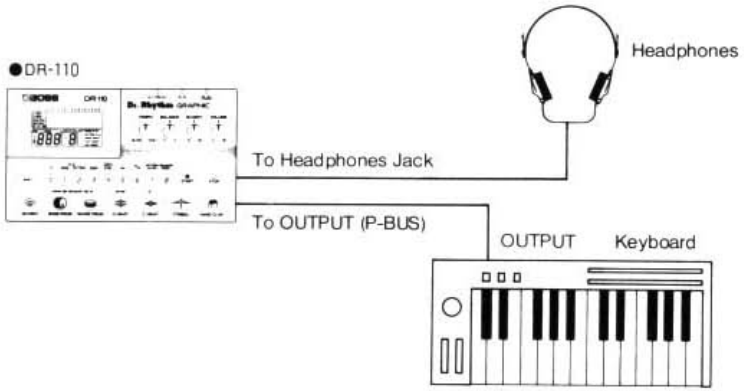
Using PLAY BUS

• Using the P-BUS as LINE IN

The Output (P-BUS) can be used as Line In. For instance, by feeding keyboard signal, you can monitor the Rhythm and keyboard sounds.

«P-BUS»

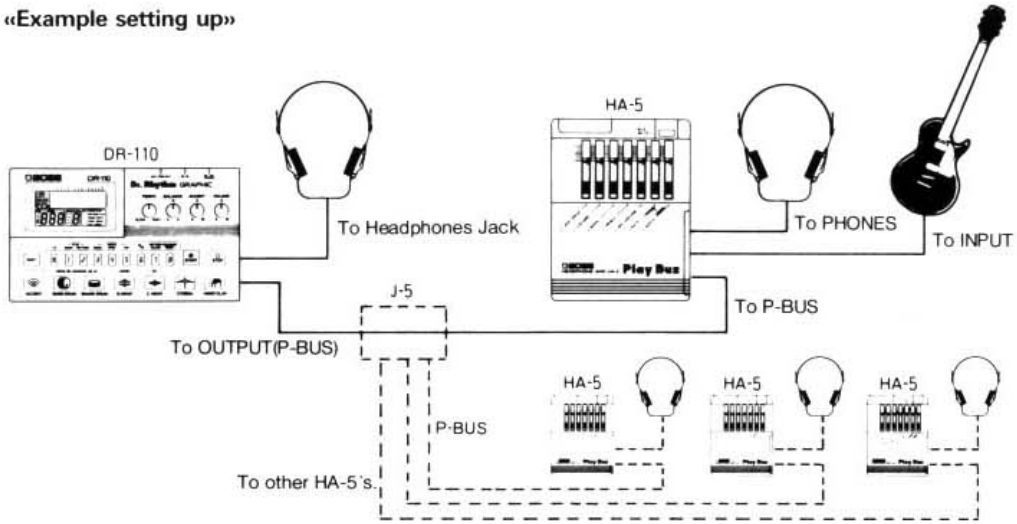
☆ This is an amazingly useful system that allows signal output and input only with single Bus Line (a guitar cord). By setting up the Roland Headphone Amplifier HA-5, you can easily enjoy session play.



• Setting up the BOSS PLAY BUS HA-5

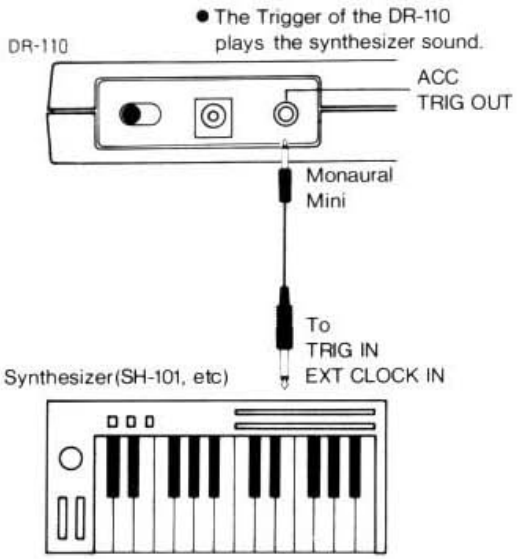
☆ Please see the owner's manual of the HA-5 for the details.

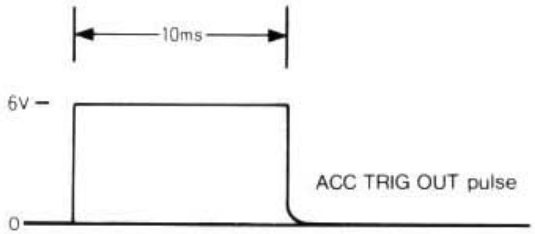
«Example setting up»



● ACC TRIG OUT Jack

☆Trigger Pulse (+6V, 10ms) will be sent at such intervals as Accents have been written.





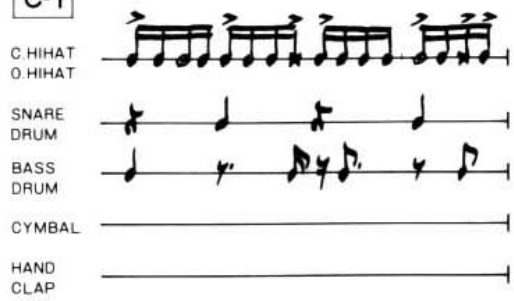
☆By connecting the EXT (ARPEGGIO) CLOCK IN Jack of a synthesizer to this jack, it is made possible to control the built-in Arpeggio or Sequencer by an external Synthesizer, or to start or stop the Sequencer, and many more are possible.

Preset Rhythm & Sample Rhythm

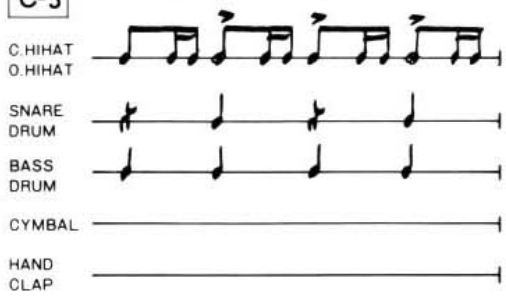
Preset Rhythms

※ Hihat Score ····· ♩ = Closed Hihat
× = Open Hihat
♩ = Closed & Open Hihat

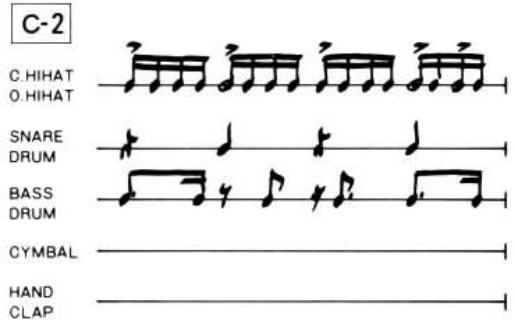
C-1



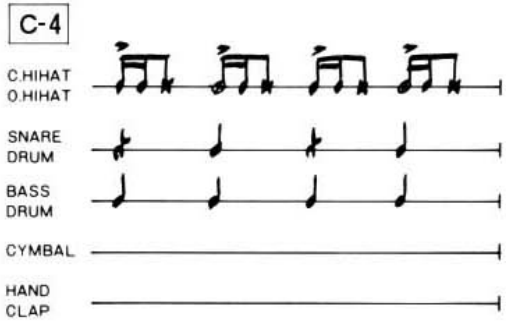
C-3



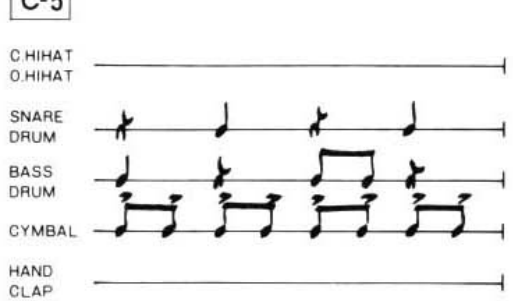
C-2



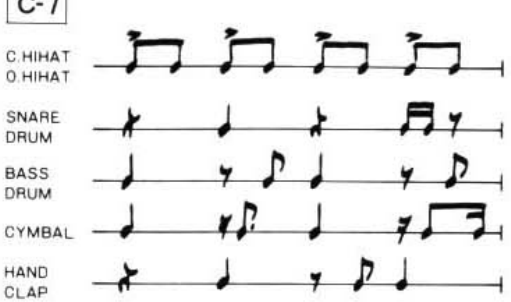
C-4



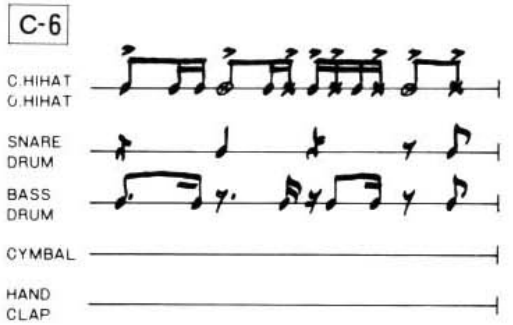
C-5



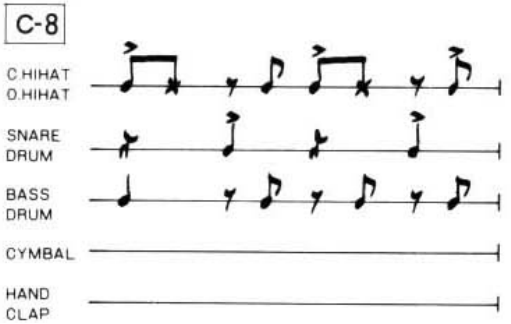
C-7



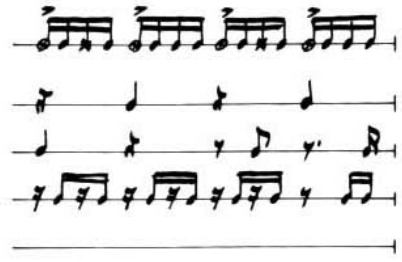
C-6



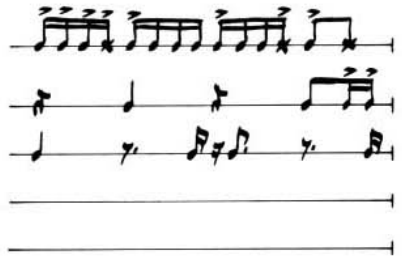
C-8



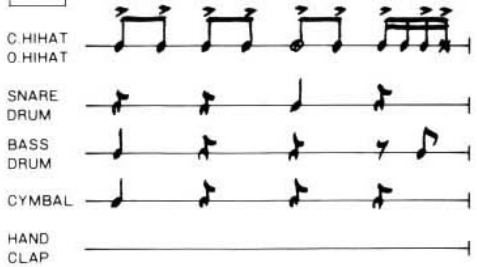
D-1



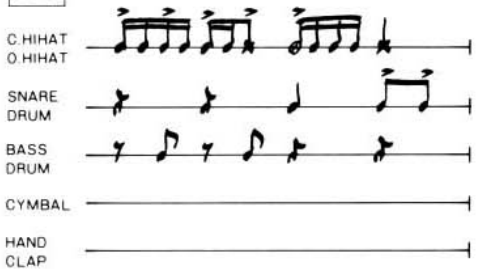
D-2



D-3



D-4



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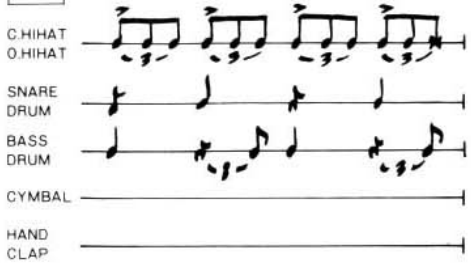

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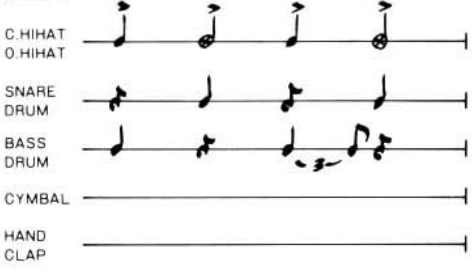

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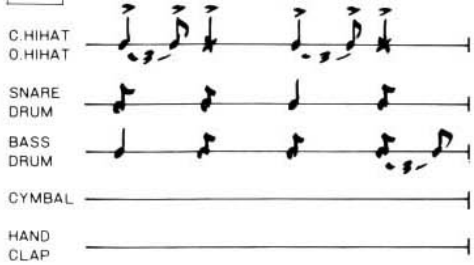
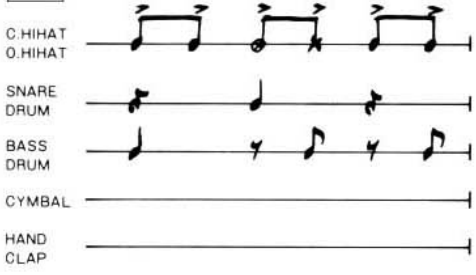


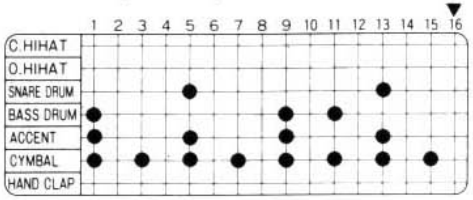
D-8

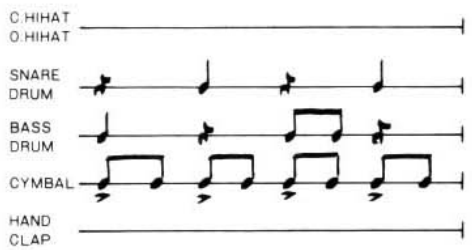


Sample Rhythm

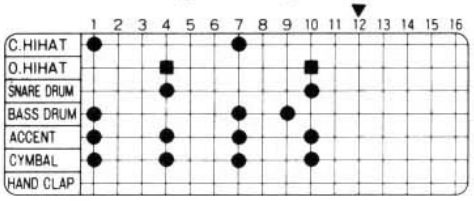
☆ = Rhythm Pattern for the beginning of a song.
◯ = Rhythm Pattern for Fill In.
■ = Write as you prefer.

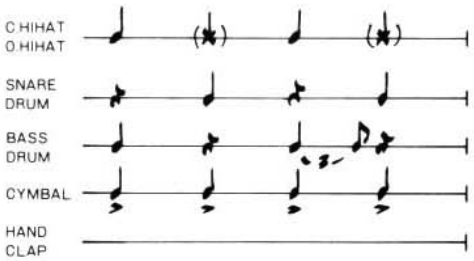
ROCK I (8 Beat)



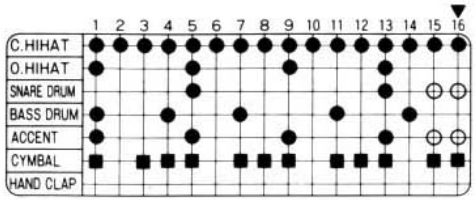


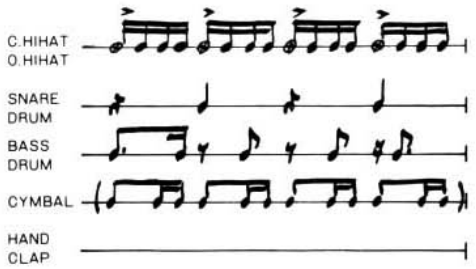
ROCK II (Boogie-woogie)



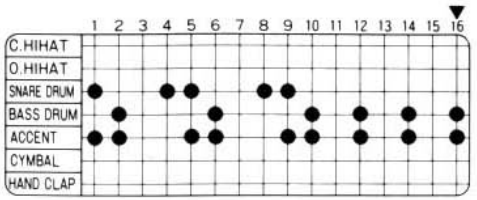


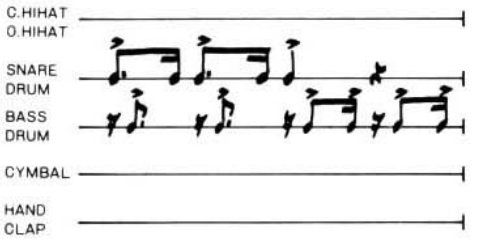
ROCK III (16 Beat)



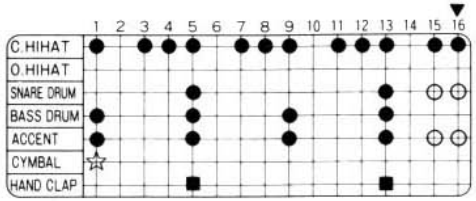


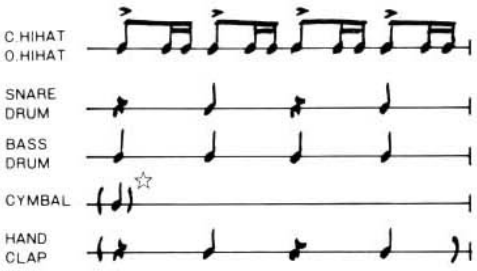
FILL IN I



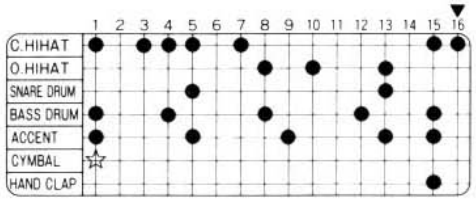


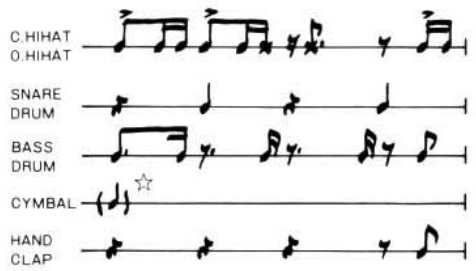
ELECTRONIC POP I



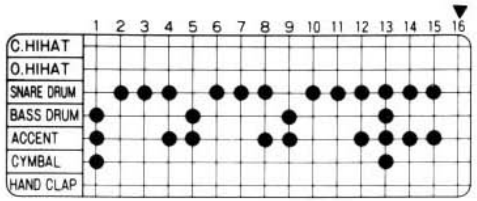


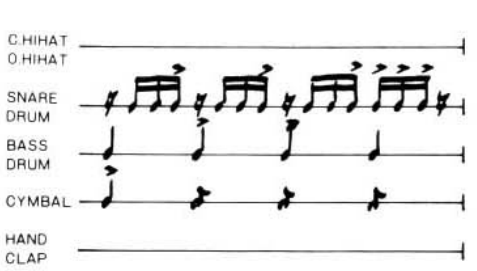
ELECTRONIC POP II



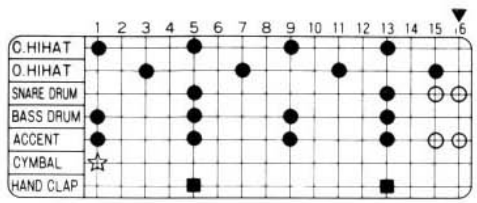


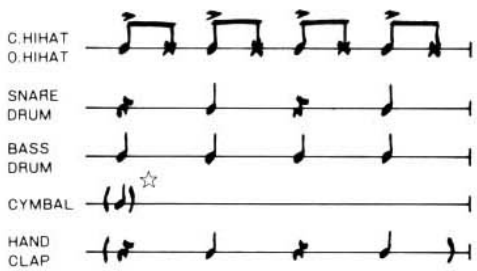
FILL IN II





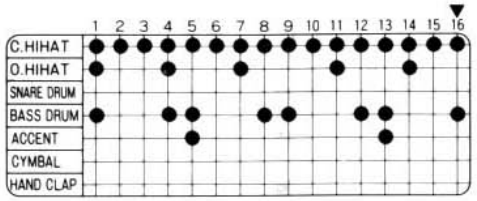
DISCO

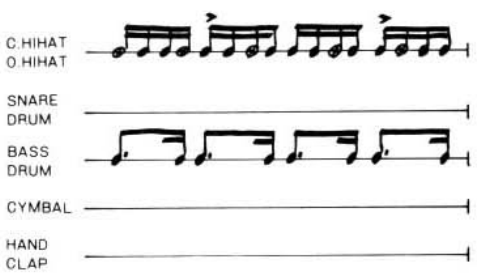




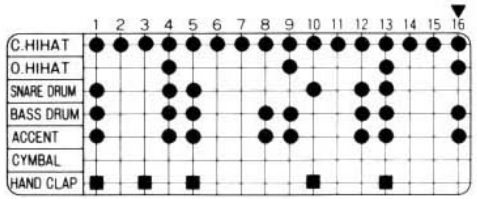
★ This is a typical Disco pattern. With the Snare Drum (♩), it will become Fill in.

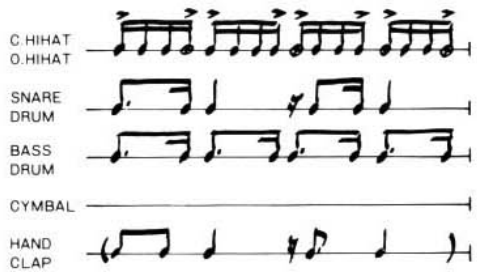
LATIN I (Bossanova)



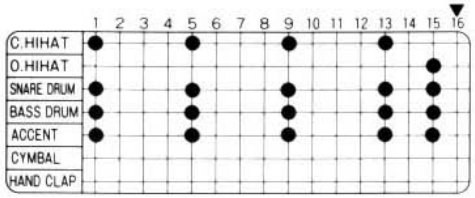


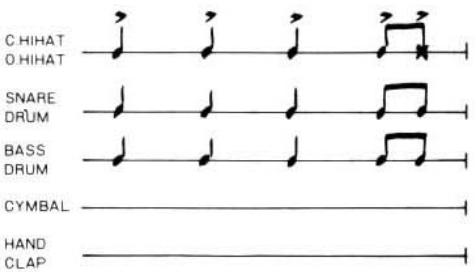
LATIN II (Samba)



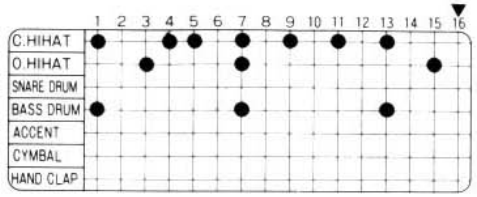


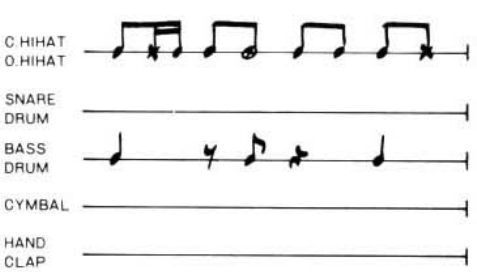
LATIN III (Tango)



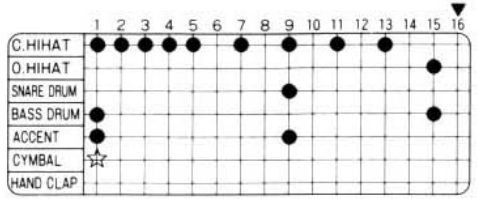


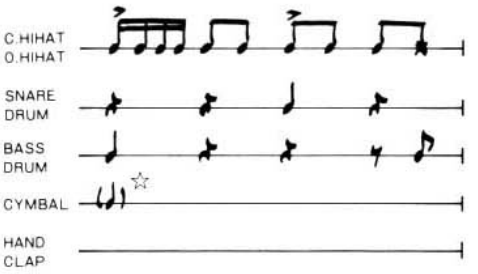
LATIN IV (Mambo)





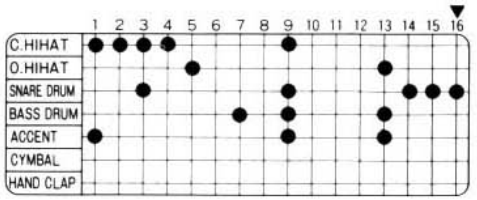
ROCK (32 Beat Ⓐ)

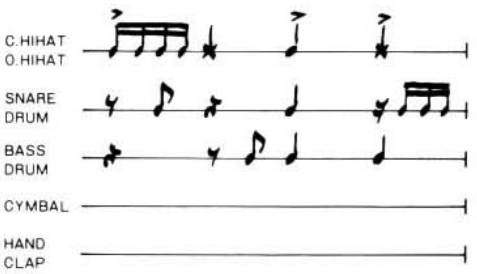




★ This is a high technique used in Fusion music.

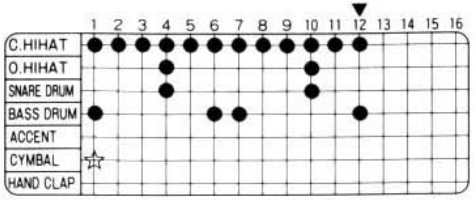
ROCK (32 Beat Ⓑ)

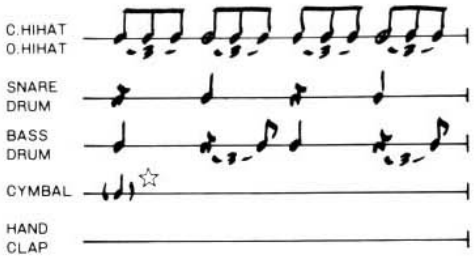




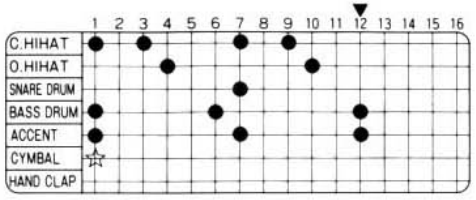
★ Write two patterns separately, then with the Song function put them together.

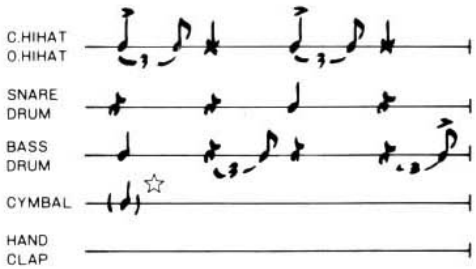
SLOW ROCK (TRIPLET)



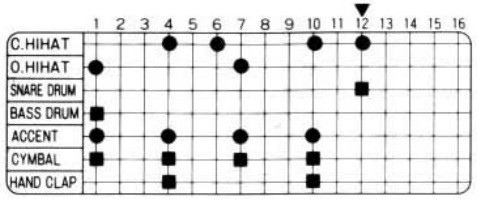


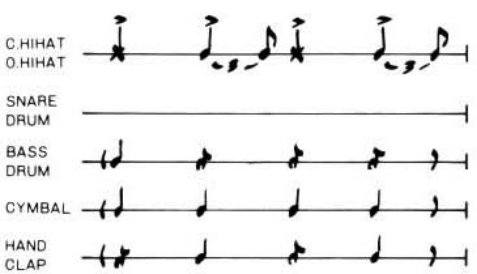
SHAFFLE ROCK





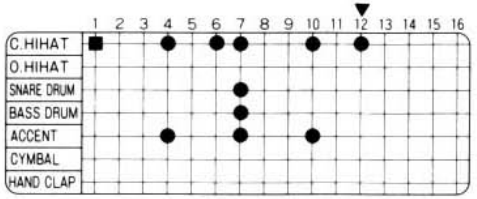
4 BEAT

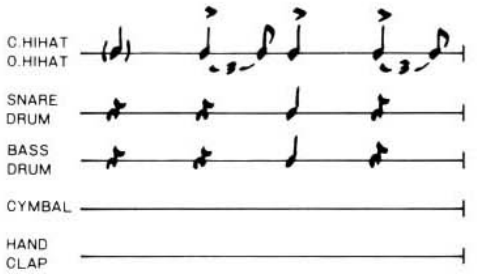




★ Put Snare Drum and Bass Drum, if you like.

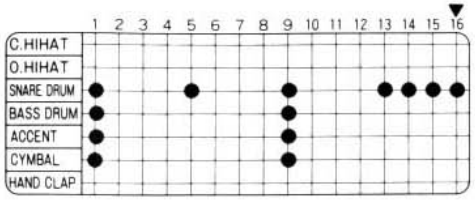
REGGAE

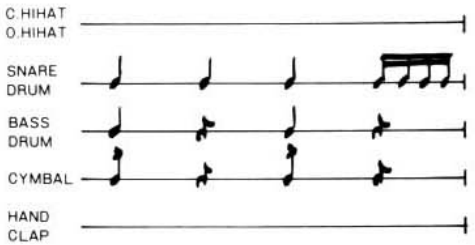




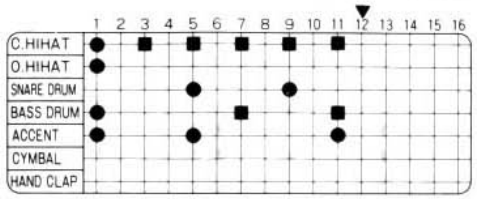
★ Put Cymbal, if you think necessary.

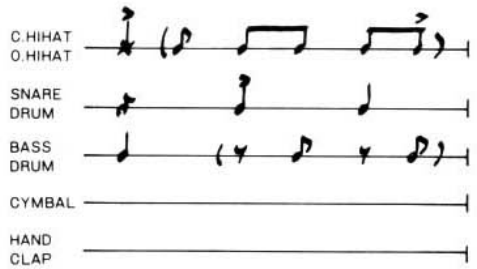
MARCH





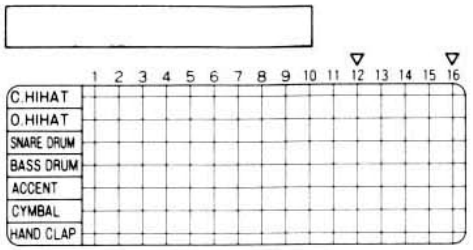
WALZ

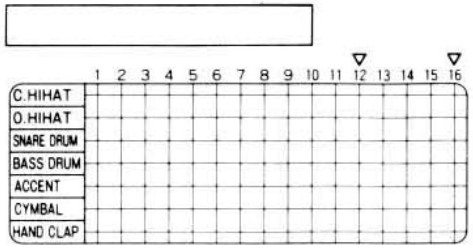




★ With the Bass Drum and Hihat in ( ), 8 beat Walz is obtained.

Original Memo





C.HIHAT
O.HIHAT

SNARE
DRUM

BASS
DRUM

CYMBAL

HAND
CLAP

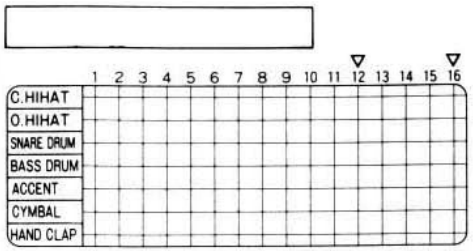
C.HIHAT
O.HIHAT

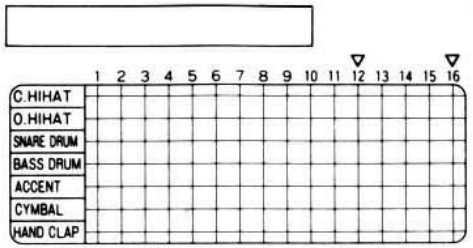
SNARE
DRUM

BASS
DRUM

CYMBAL

HAND
CLAP





C.HIHAT
O.HIHAT

SNARE
DRUM

BASS
DRUM

CYMBAL

HAND
CLAP

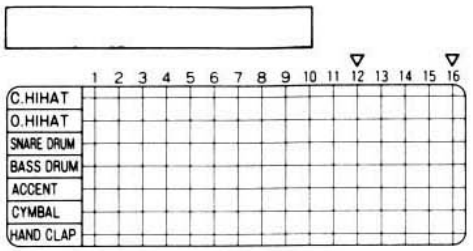
C.HIHAT
O.HIHAT

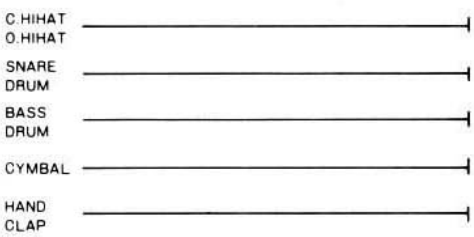
SNARE
DRUM

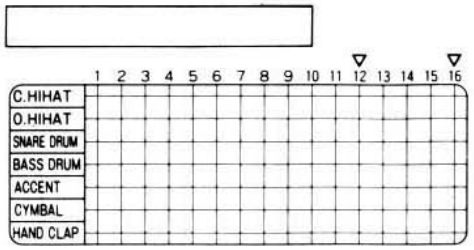
BASS
DRUM

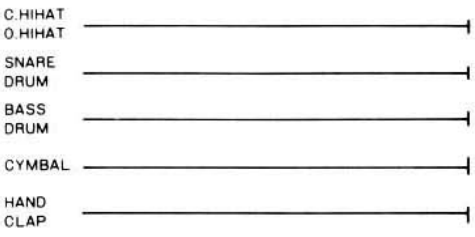
CYMBAL

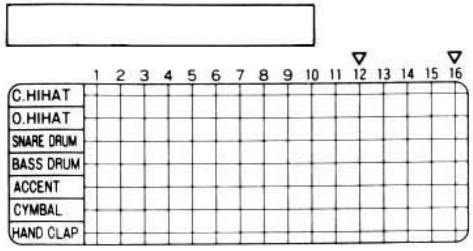
HAND
CLAP

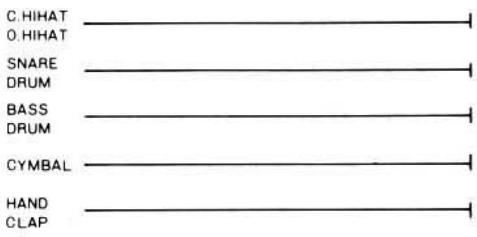

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
C.HIHAT
O.HIHAT
SNARE DRUM
BASS DRUM
ACCENT
CYMBAL
HAND CLAP

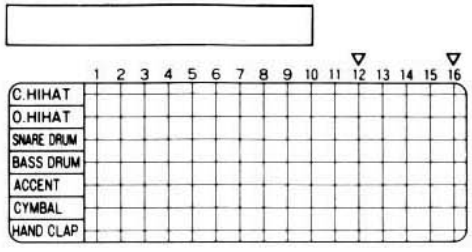

C.HIHAT O.HIHAT
SNARE DRUM
BASS DRUM
CYMBAL
HAND CLAP

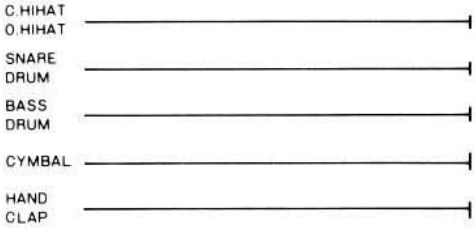

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
C.HIHAT
O.HIHAT
SNARE DRUM
BASS DRUM
ACCENT
CYMBAL
HAND CLAP


C.HIHAT O.HIHAT
SNARE DRUM
BASS DRUM
CYMBAL
HAND CLAP


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
C.HIHAT
O.HIHAT
SNARE DRUM
BASS DRUM
ACCENT
CYMBAL
HAND CLAP


C.HIHAT O.HIHAT
SNARE DRUM
BASS DRUM
CYMBAL
HAND CLAP


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
C.HIHAT
O.HIHAT
SNARE DRUM
BASS DRUM
ACCENT
CYMBAL
HAND CLAP


C.HIHAT O.HIHAT
SNARE DRUM
BASS DRUM
CYMBAL
HAND CLAP

Specifications

■ DR-110 Dr. Rhythm GRAPHIC

● **Memory Capacity**
32 kinds (8 × 4 Banks)
- Preset Rhythms 16
- Free for users 16

● **Step Number (within a measure)**
1 to 16 steps/1 to 12 steps

● **Song**
128 measures × 2 (I, II)
(Maximum of continuous measures 128)

● **Sound Sources**
Bass Drum
Snare Drum
Cymbal
C. Hihat
O. Hihat
Hand Clap
Accent

● Liquid Crystal Display × 1

● Keys & Controls
- SHIFT Key
- BANK Selector Key (A to D)
- Rhythm Selector Keys (1 to 8)
- START Key
- STOP Key
- Instrument Keys (Accent, Bass Drum, Snare Drum, O. Hihat, C. Hihat, Cymbal and Hand Clap)
- TEMPO Knob
  ♩ = 45 to 300
- BALANCE Knob
- ACCENT Knob
- VOLUME Knob

● Power Switch × 1
● Jacks
- DC 9V × 1

AC Adaptor Jack (Optional AC Adaptor BOSS PSA-120, 220 or 240)

- OUTPUT (P-BUS)
  Standard Phone Jack
  Input/ Output Impedance 10k
- Headphones ×1
  Stereo Mini Jack
  +6V, 10ms pulse

- **Power**
  6V (UM-3 ×4)
  (AC Adaptor: 9V)

- **Consumption**
  7mA (Min.) to 12mA (Max.)

- **Dimensions**
  190 (W) × 110 (D) × 30 (H) mm
  7-1/2(W)×4-5/16(D)×1-3/16(H) in

- **Weight**
  450g/1 lb (including batteries)

Specifications are subject to change without notice.

- **Accessories**
  Dry Cell Batteries UM-3 (BR-3) × 4
  Case × 1