

MIDI

DIGITAL DRUMMER

CR-1000

Owner's Manual

FREE MANUAL! do NOT PAY for IT!



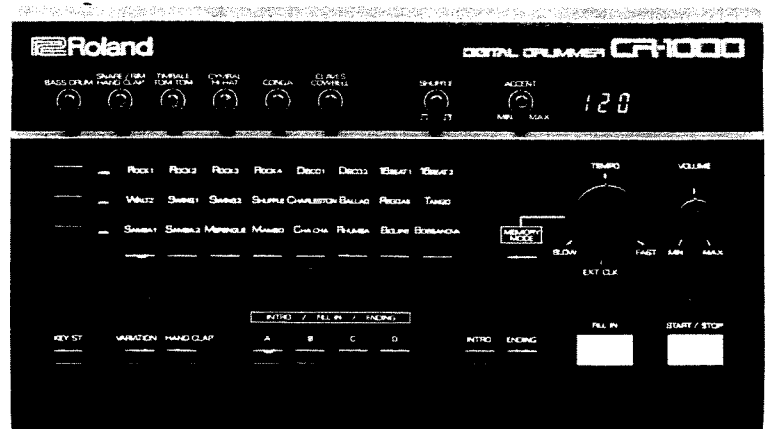
***Please do visit the CR1000
resource center.***



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IMPORTANT NOTE

LOCATION

- Operating the CR-1000 near a neon or fluorescent lamp may cause noise interference. If so, change the angle or position of the unit.
- Avoid using the unit in excessive heat or humidity or where it may be affected by direct sunlight or dust.

CLEANING

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

Before using the CR-1000 for the first time:

Place the batteries into the unit as shown in "Battery Replacement" on page 5, or connect the AC adaptor. Then take the following operation for initialization. Please never fail to do this.

- ▶ Make sure that the unit is turned off, then turn it on while holding the Hand Clap Key ⑩ and the Variation Key ⑨ down.

VARIATION HAND CLAP



While holding down



POWER

ON OFF



- * Please note that this procedure will replace any previous data with the standard preset data.
- * The Variation Key serves to initialize the levels of the individual sound sources (or Shuffle, accent level), while the Hand Clap Key initializes the tempo. This means that it is also possible to initialize only either of them.
- * When any of the following troubles occur on the CR-1000, the data in memory is broken, so please take the above procedure for initialization.
 - a. The Display shows nothing.
 - b. The Display shows the tempo other than 30 to 270.
 - c. The rhythm cannot be played.

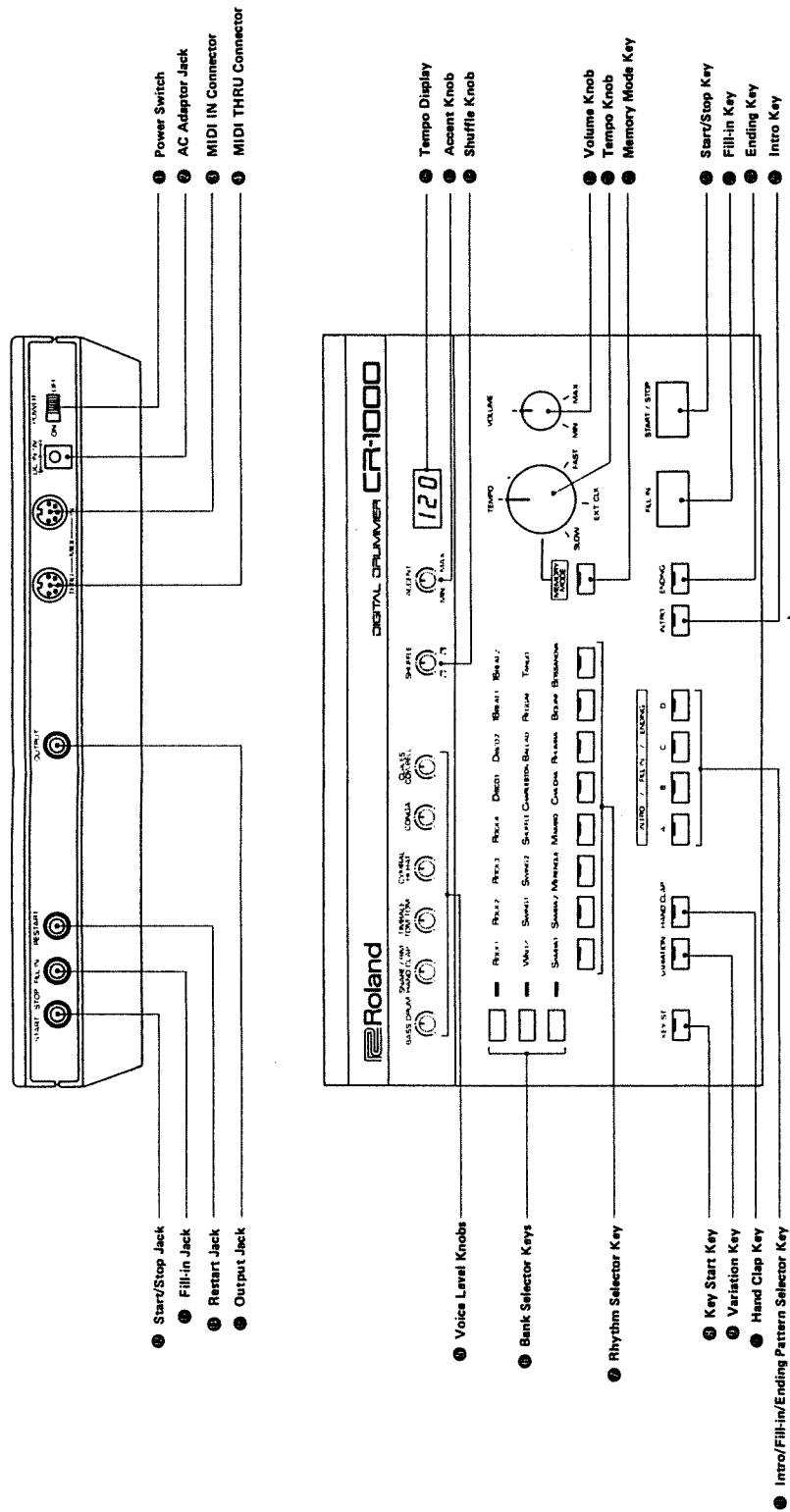
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1 PANEL DESCRIPTION



Memory Backup

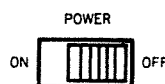
- * The CR-1000 features memory back-up system that retains the data even when switched off. A set of batteries supports its back-up circuit.
- * Be sure to keep the batteries securely connected even during AC operation.
- Always replace with a complete set of new batteries once a year no matter how rarely you have used the unit.
- The initializing procedure is not necessary when you replace the batteries.
- If the unit is not to be used for long periods of time, please save the data on a tape then switch it off and remove the batteries, otherwise various troubles may be caused by battery leakage.
- Please be sure that the polarities of the batteries are correct.
- Please observe the following "Battery Replacement".
- * Battery replacement may be needed in about 6 hours, but this varies depending how you use the unit and the types of the batteries used. When the Tempo Indicator's flashing is dimmer or the sound and action of the unit are unstable, immediately replace the batteries.
- * The appropriate AC adaptor to be used with the CR-1000: PSA-120, 220 or 240

Battery Replacement

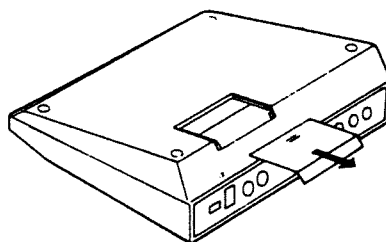
- * The data in memory can be retained if the batteries are replaced with a new set within ten minutes.

► Use six 1.5 V (UM-3) batteries.

- ① Make sure that the CR-1000 is turned off.

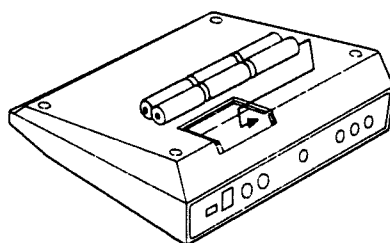


- ② Remove the battery cover on the bottom of the unit.

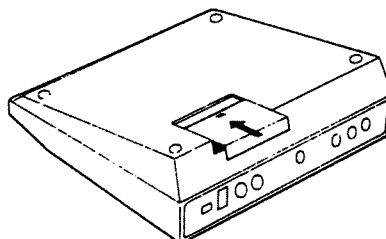


- ③ Remove the batteries from the battery case.

- ④ Place a new set of batteries taking care of the polarities.



- ⑤ Replace the battery cover.



2 OUTLINE OF THE CR-1000

The Roland drum machine CR-1000 contains 16 digital drum voices with 24 different basic rhythm patterns and 24 variation patterns.

- The 16 digital drum sounds of the CR-1000 are a basic drum kit plus some Latin percussions which can be played in various preprogrammed rhythm patterns.
- It is possible to add intro, fill-in and even ending pattern which serves to give a natural ending impression.
- The level of the individual drum sound can be adjusted, and the accent can be added to the rhythm. The level of the accent can be freely changed.
- Featuring MIDI, the CR-1000 can be used with other MIDI devices.
- The rhythms on the CR-1000 (except for some rhythms) can be changed to shuffle beats. And the timing of the shuffle beat can be spontaneously set.
- In each preset rhythm, you can write tempo, volume of the individual drum sound, timing of the shuffle, level of the accent, etc.
- The pedal switch can be used instead of the Start/Stop and/or the Fill-In Key. The Restart Pedal returns the rhythm to the beginning.
- Turn the Key Start Key on, and you can the rhythm by playing the keyboard.
- The three figure Display Window shows the tempo in number (BPM/beat per measure).
- * The CR-1000 operates both from the mains and on battery (AC/DC).

RADIO AND TELEVISION INTERFERENCE

*Warning - This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception.

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such a interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measures:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable.
- These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio-television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio-TV Interference Problems"
This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402. Stock No. 004-000-00345-4

Bescheinigung des Herstellers /Importeurs

Hiermit wird bescheinigt, daß der/die/das

ROLAND DIGITAL DRUMMER CR-1000

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046 / 1984

(Amtsblattverfügung)

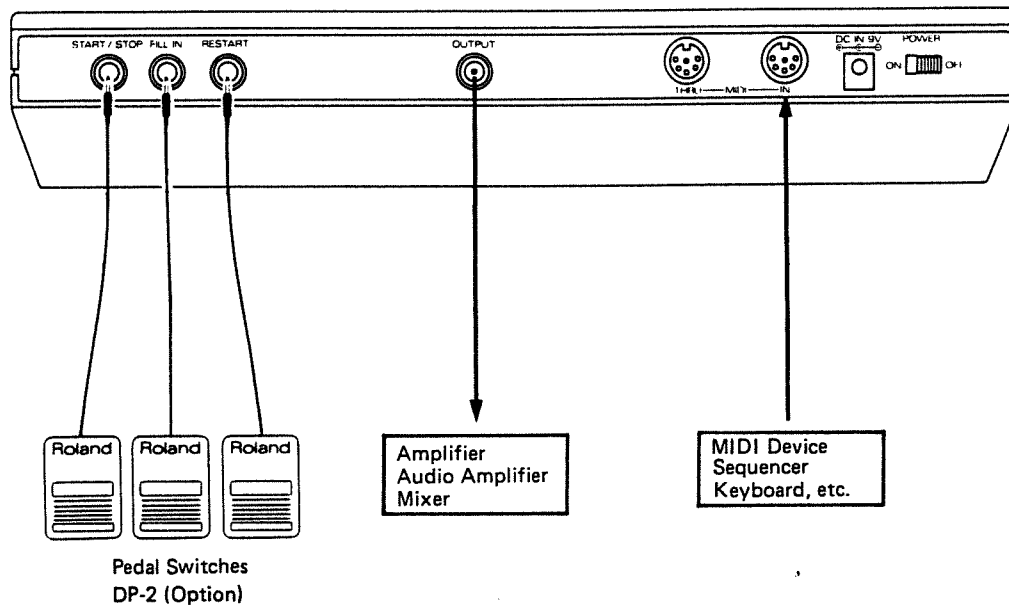
funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingebracht.

Roland Corporation Osaka / Japan

(Name des Herstellers/Importeurs)

3 CONNECTIONS



4 OPERATION

1. Basic Operation

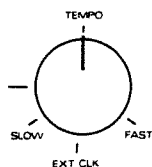
a. Selecting and Playing a Rhythm

The CR-1000 contains 24 different basic rhythm patterns and 24 variation patterns, altogether 48 patterns.

- ① Set up the CR-1000 as shown in "CONNECTIONS" and turn the CR-1000 and the other devices such as the amplifier, the keyboard and so on.

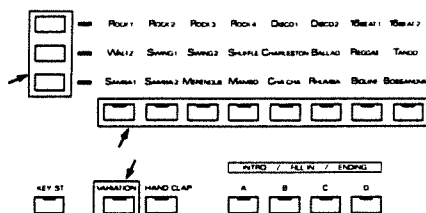


- ② Set the Tempo Knob ⑩ to the position other than EXT CLK.



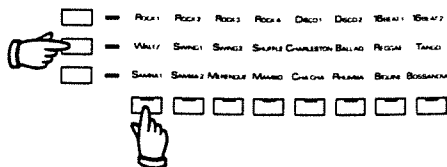
- ③ Push the Bank Selector Key ⑥ and the Rhythm Selector Key ⑦ to select the desired rhythm pattern.

To select a variation rhythm, push the Variation Key ⑨ in the end.



The indicator of the pressed key will light up. When a variation rhythm pattern is selected, the indicator of the Variation Key lights up as well.

e.g.) To select Waltz, push the keys as shown below.



*Each time the Variation Key is pushed, the basic rhythm and variation rhythm modes are alternately selected.

*The pattern score of each rhythm is shown on page 23.

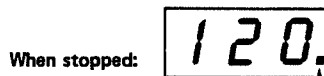
*Some rhythms patterns consists of two bars.

- ④ Push the Start/Stop Key ⑫

START / STOP



The rhythm starts playing and the dot flashes as shown below.



Flashes in the tempo of the rhythm



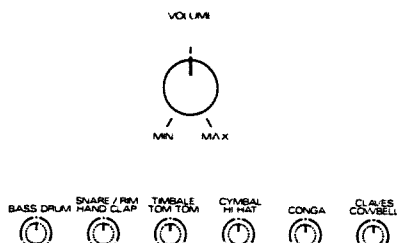
Flashes at the end of the bar Flashes in the tempo of the rhythm

- ⑤ To stop the rhythm, push the Start/Stop Key ⑫

The moment the Start/Stop Key is pushed, the rhythm stops playing.

b. Volume Adjusting

You can adjust the level of the individual drum sound with each Voice Level Knob ⑤, and set the overall volume with the Volume Knob ⑯. The individual volume you set will be automatically written into memory.



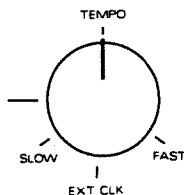
* Rotating each knob clockwise will increase the corresponding volume.

* The level setting of the drum sounds in each rhythm will be automatically written into memory. Therefore, when you call the same rhythm later, the level setting remains unchanged no matter how the Voice Level Knobs are set on the panel. Changing the positions of the knobs even slightly will cancel the previous settings, and new values will be written into memory.

c. Tempo Control

You can set the tempo of the rhythm using the Tempo Knob ⑳.

The tempo you set will be shown in the Display ⑩.



* Rotating the knob clockwise will quicken the tempo.

* The Display shows the tempo in number from 40 to 240 (BPM/Beat per measure).

d. Accent

Accent can be added to the rhythm, and the level of the accent can be adjusted with the Accent Knob ⑰.



* Rotating the knob clockwise will increase the level of the accent.

* The level of the accent in each rhythm will be automatically written into memory. Therefore, when you call the same rhythm later, the setting remains unchanged. Changing the position of the knob even slightly will cancel the previous accent setting and the new value currently set with the knob will be written into memory.

* The rhythm pattern score shown on page 23 will help you with the positions of the accents.

e. Changing Rhythms During Playing

Even while a rhythm is playing, you can change to other rhythm. Try changing rhythms using the Bank Selector and the Preset Rhythm Selector Keys.

* Even after you push the key, the current rhythm will play up to the end of the bar then the one you have selected will start palying from the beginning. (When you push the key while the first bar of the two bar rhythm is playing, the new rhythm will start after the second bar is played.)

2. Intro/Fill-in/Ending

The CR-1000 contains Intro, Fill-in and Ending patterns as well as the usual rhythm patterns. This enables to create wider variations of music. Intro pattern is used at the beginning of the music, Fill-in in the middle and Ending at the end. Four patterns A, B, C and D are optional for each Intro, Fill-in and Ending. For Fill-in, variation patterns are also provided. However, pressing the Pattern Selector Key A will automatically select

the patterns A for all Intro, Fill-in and Ending. If you need different groups of patterns, select the pattern you like while the rhythm is playing.

* Refer to the pattern score shown on page 37.

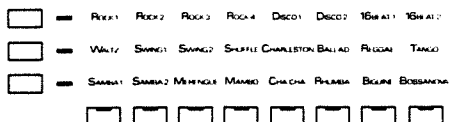
* The Intro, Fill-in and Ending pattern you select may sound strange in some rhythms. Select an appropriate one with the aid of the following table.

Rhythm Pattern Combination Table ○ Excellent Match △ Slightly odd × Difficult

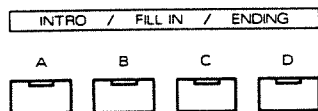
		I N T R O				F I L L I N				E N D I N G			
		A	B	C	D	A	B	C	D	A	B	C	D
Bank 1	Rock 1 (Variation)	○	○	○	○	○	○	△	○	○	○	○	○
	Rock 2 (")	○	○	○	○	○	○	△	○	○	○	○	○
	Rock 3 (")	○	○	○	○	○	○	△	○	○	○	○	○
	Rock 4 (")	○	○	○	○	○	○	△	○	○	○	○	○
	Disco 1 (")	○	○	○	○	○	○	△	○	○	○	○	○
	Disco 2 (")	○	○	○	○	○	○	△	○	○	○	○	○
	16 beat 1 (")	○	○	○	○	○	○	△	○	○	○	○	○
	16 beat 2 (")	○	○	○	○	○	○	△	○	○	○	○	○
Bank 2	Waltz (Variation)	○	×	×	×	×	○	△	○	○	○	△	×
	Swing 1 (")	○	○	○	○	○	○	△	○	○	○	△	○
	Swing 2 (")	○	○	○	○	○	○	△	○	○	○	△	○
	Shuffle (")	○	○	○	○	○	○	△	○	○	○	○	○
	Charleston (")	○	○	○	○	○	○	△	○	○	○	△	○
	Ballad (")	○	○	○	○	○	○	△	○	○	○	○	○
	Reggae (")	○	○	○	○	○	○	△	○	○	○	△	○
	Tango (")	○	○	○	○	○	△	△	○	○	○	△	○
Bank 3	Samba 1 (Variation)	○	○	○	○	○	○	△	○	○	○	○	○
	Samba 2 (")	○	○	○	○	○	○	△	○	○	○	○	○
	Merenge (")	○	○	○	○	○	○	△	○	○	○	○	○
	Mambo (")	○	○	○	△	○	○	△	○	○	○	○	△
	Chacha (")	○	○	○	△	○	○	△	○	○	○	○	△
	Rhumba (")	○	○	○	△	○	○	△	○	○	○	○	△
	beguine (")	○	○	○	△	○	○	△	○	○	○	○	△
	Bossanova (")	○	○	○	△	○	△	○	○	○	○	○	△

a. Adding Intro

- ① Select the rhythm you wish to play using the Bank Selector Key ⑥ and the Preset Rhythm Selector Key ⑦.



- ② Using the Intro/Fill-in/Ending Pattern Selector Key ⑩, select the Intro pattern you like; A, B, C or D.

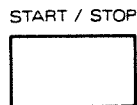


- ③ Press the Intro Key ⑫ to turn to the Intro mode.

(The indicator lights up.)



- ④ Push the Start/Stop Key ⑭.

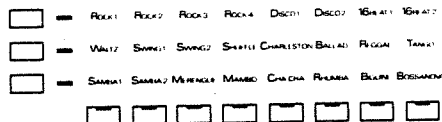


A bar of the Intro pattern will be played, then the selected rhythm pattern will start playing. (Some Intro pattern consists of a bar, and some consists of two bars.)

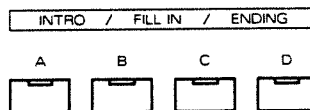
* If you wish to cancel the Intro you have set, simply push the Intro Key. (The indicator goes out.)

b. Adding Fill-in

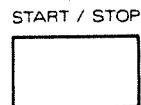
- ① Select the rhythm you wish to play using the Bank Selector Key ⑥ and the Preset Selector Key ⑦.



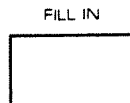
- ② Select the Fill-in pattern you like; A, B, C or D using the Intro/Fill-in/Ending pattern Selector Key ⑩.



- ③ Push the Start/Stop Key ⑭, and the selected rhythm pattern will start playing.



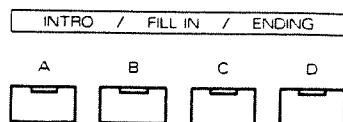
- ④ Push the Fill-in Key ⑮ where you wish to add Fill-in. A pattern of the Fill-in will be played.



* If you push the Fill-in Key right at the beginning of the next bar, a whole bar of the Fill-in pattern will be played. If, however, you push the key at the fourth beat of the 4/4 rhythm, only one beat of the Fill-in pattern will be played. (See page 20.)

* Fill-in patterns all consists of one bar. When using a rhythm of two bars (such as Latin), put a fill-in at the second bar of the rhythm.

* Even while playing the rhythm, you can change the Fill-in patterns using the Intro/Fill-in/Ending Pattern Key ⑪.

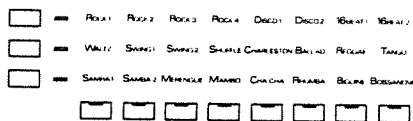


* The variation patterns of Fill-in can be selected with the Variation Key ⑩.

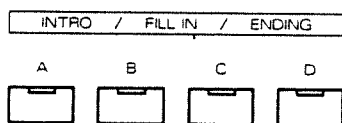


c. Starting from Fill-in

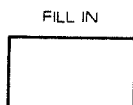
- ① Select the rhythm you wish to play with the Bank Selector Key ⑥ and the Preset Selector Key ⑦.



- ② Select the desired Fill-in pattern A, B, C or D using the Intro/Fill-in/Ending Pattern Selector Key ⑪.



- ③ Push the Fill-in Key ⑫.

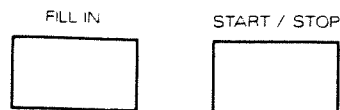


* The whole Fill-in pattern will be played and the usual rhythm pattern playing will follow.

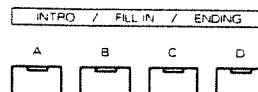
* If the CR-1000 is already turned to the Intro mode (the Intro Key ⑫ turned on), the Intro pattern will be played first, then the Fill-in pattern will follow.

d. Using Ending Pattern

- ① To play the rhythm, push either the Start/Stop Key ⑭ or the Fill-in Key ⑫.



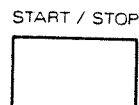
- ② Select the desired Ending pattern A, B, C or D with the Intro/Fill-in/Ending Pattern Selector Key ⑪.



- ③ Turn to the Ending mode by pushing the Ending Key ⑬. (The indicator lights up.)

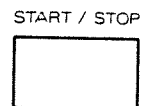


- ④ Push the Start/Stop Key ⑭.



* The rhythm pattern currently playing will continue to play up to the last bar, then the Ending pattern will follow.

* If you wish to replace the last bar of the music with the Ending pattern, push the Start/Stop Key ⑭ one bar before the last bar.



* To cancel the Ending mode, simply push the Ending Key ⑬. (The indicator goes out.)

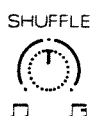


* To stop playing immediately after pushing the Start/Stop Key ⑭ in the step ④, simply push the same key again.

3. Other Useful Functions

a. Arrangement with Shuffle

Using the Shuffle Knob ⑩, the rhythm can be changed to shuffle beat. At its fully counter-clockwise position, there is no shuffle effect, and as the knob is rotated clockwise, the effect becomes deeper.



*The Shuffle Knob does not affect the Waltz and Ballade. On the other hand, Swing 1, Swing 2 and Shuffle Charleston are shuffle beats already, therefore, even with the knob set to fully counter-clockwise, there is some shuffle effect existed. (See the pattern score and the shuffle timing table shown on page 22 and 23.)

*The setting of the Shuffle Knob in each rhythm is automatically written into memory. Therefore, when the same rhythm is selected later, the setting will remain unchanged. Moving the Shuffle Knob even slightly will cancel the previous setting and the new setting of the Knob will be written in memory.

b. Arrangement with Hand Clap

Push the Hand Clap Key ⑩ to turn to the Hand Clap mode. (The indicator lights up.) This mode adds hand clap to the rhythm.



*To cancel the Hand Clap mode, simply push the Hand Clap Key.

*Refer to the pattern score shown on page 23.

c. Tempo Writing

Tempo can be written in each rhythm, and the set tempo can be changed while the rhythm is playing.

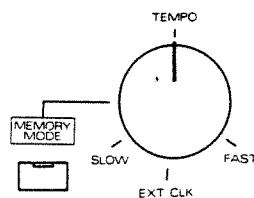
1) How to Write a Tempo

- ① Make sure that the Memory Mode Key ⑫ is turned off (the indicator off).

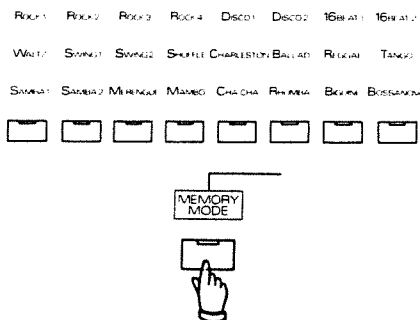


- ② Select the rhythm you wish to play and push the Start/Stop Key.

- ③ Set the desired tempo using the Tempo Knob ⑭.



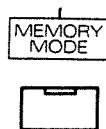
- ④ Press the Rhythm Selector Key ⑦ that contains the selected rhythm, and without releasing it, push the Memory Mode Key ⑫.



*The tempo you have set is now written in memory, and the CR-1000 is ready to be played in the set tempo (the Memory Mode Key is lit).

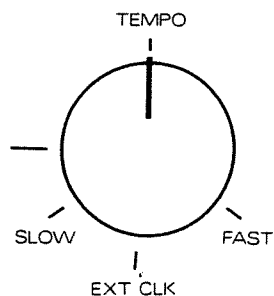
2) Playing the Rhythm with the Set Tempo

Pushing the Memory Mode Key ② now will play the rhythm in the tempo you have written.

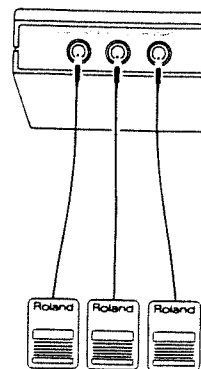


* Here, you can finely change the set tempo with the Tempo Knob ③. When the knob is set to the center position, there is no change in the tempo you have written. That is, the rhythm is played in the written tempo. Rotating the Tempo Knob will change the tempo within the range of ± 20 percentage. (30 is the slowest, and 270 the fastest.)

* Pushing the Memory Mode Key again will cancel this mode (the indicator goes out), returning to the usual mode in which the rhythm is played in the tempo set with the Tempo Knob.



d. Pedal Operation



Pedal Switch
DP-2 (Option)

1) START/STOP

This works just like the Start/Stop Key ④ on the panel.

START / STOP



2) FILL IN

This works just like the Fill-in Key ⑤ on the panel.

FILL IN



3) RESTART

By pressing the pedal switch, the playing rhythm can be reset to the beginning (to the first beat of the rhythm). This is effective to correct the timing the timing while the rhythm is playing, or to create odd timing.

5 MIDI

The CR-1000 features MIDI IN Connector which serves to connect the unit to other MIDI devices such as sequencer, keyboard etc.

*Please read the separate booklet "MIDI".

Using MIDI, the following functions can be obtained on the CR-1000.

1. Starting the rhythm on the CR-1000 by playing the keyboard. (Key Start: page 16)
2. The dynamics of the rhythm on the CR-1000 can be controlled with the velocity of the keyboard (how hard you play the keyboard). (Nuance: page 16)
3. By using the tone selector buttons on the external keyboard, various operations can be performed, such as changing rhythm patterns, adding Fill-in, Intro and Ending. (Rhythm Selection: page 17)
4. The CR-1000 can sync to the connected MIDI programmable unit. (MIDI Sync Mode: 18)
5. The Note On messages sent from the external keyboard or programmable machine can play the corresponding drum voices on the CR-1000. (CR-1000 as a MIDI Sound Module: page 19)

■ MIDI of the CR-1000

Before using the CR-1000 with other MIDI device, it is necessary to set the MIDI channels of the two units to the same number.

Usually, the CR-1000's receive MIDI Channel defaults to OMNI ON which receives the messages on all the channels. OMNI ON is all right when only one unit is connected to the CR-1000. However, when more than one unit is connected, this would be inconvenient because the CR-1000 would receive the message sent to other unit. So, it is necessary to set the CR-1000's receive MIDI channel. (Setting a MIDI Channel will automatically turn to OMNI OFF.)

[How to set the MIDI channel]

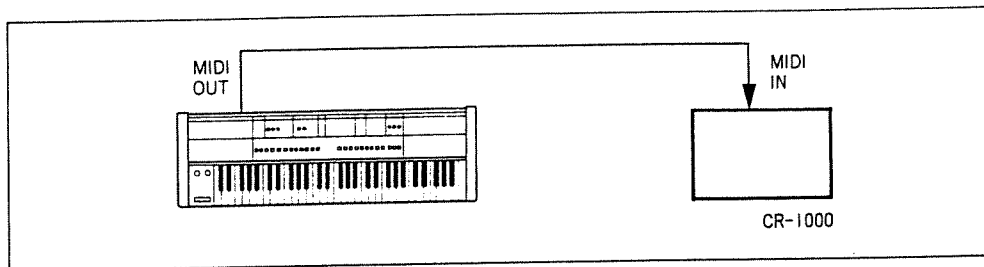
Set the Tempo Knob  to the position other than EXT CLK (The EXT CLK position should be selected only when the CR-1000 is used as a MIDI sound module), and switch the CR-1000 while holding down the key corresponding to the channel number you want.

CHANNEL NUMBER ↔ CR-1000 PANEL KEY

(1)		=	ROCK 1 1	ROCK 2 2	ROCK 3 3	ROCK 4 4	DISCO 1 5	DISCO 2 6	16BEAT 1 7	16BEAT 2 8	
(2)		=	WALTZ 9	SWING 1 10	SWING 2 11	SHUFFLE 12	CHARLESTON 13	BALLAD 14	REGGAE 15	TANGO 16	
(3)		=	SAMBA 1 *	SAMBA 2 *	MERENGUE *	MAMBO *	CHA CHA *	RHUMBA *	BIGUINE *	BOSSANOVA *	
(BANK SELECTOR)											
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
			(PRESET RHYTHM SELECTOR)								

The channel numbers (figures 1 to 16 each appearing below the name of a Rhythm) are positioned as shown above.

To select channel 10, for example, turn the power on while holding down both BANK SELECTOR (2) and PRESET RHYTHM SELECTOR (2) keys.



1. Key Start

Push the Key Start Key ⑧ to turn to the Key Start mode (the indicator on), and the rhythm on the CR-1000 will start to play by playing the keyboard.

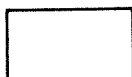
KEY ST



*The Key Start function cannot be turned on while the rhythm is running.

*Even in the Key Start mode, you can as well use the Start/Stop Key ⑫ or the Fill-in Key ⑭ to start the rhythm.

FILL IN



START / STOP



*Once the rhythm starts running, the Key Start Key is automatically turned off.

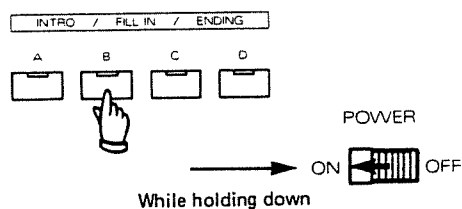
*To cancel the Key Start mode before the rhythm starts running, simply push the Key Start Key (the indicator off).

★Key Start is the function to start the rhythm by the Note On messages sent from the external device.

2. Nuance Function

The Nuance function adds the dynamics to the CR-1000. The dynamics of the rhythm can be controlled with the velocity of the external keyboard that features touch sensitivity. That is, the manner you play the keyboard affects the volume of the CR-1000's rhythm.

To turn on the Nuance function, switch the CR-1000 on while holding the Intro/Fill-in/Ending Pattern Selector Key ① down.



*The Nuance function is attainable only on the keyboard lower than F3# (Fa sharp six key lower than middle C). This is because the Nuance function is more effectively used in the accompaniment and bass part.

★Nuance is the function that controls the volume of the rhythm on the CR-1000 by the velocity messages sent from the external device.

3. Rhythm Selection (Program Change)

By using the tone selector buttons on the Keyboard various operations can be performed; such as changing rhythm patterns, adding Fill-in, Intro and Ending patterns.

When the patches are changed on the keyboard featuring MIDI, the corresponding Program Change number is transmitted. The CR-1000 receives the transmitted Program Change and acts accordingly. In other words, the tone selector buttons on the keyboard can be used instead of the keys (such as the Rhythm Key, Fill-in Keys, etc.) on the CR-1000.

* To ignore the Program Change, turn the CR-1000 on while holding the Intro/Fill-in/Ending Pattern Selector Key **11**-A down.

PROGRAM CHANGE

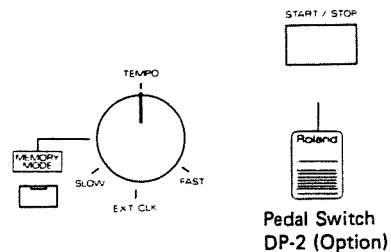
(BANK 1)	1 ROCK 1	2 ROCK 2	3 ROCK 3	4 ROCK 4	5 DISCO 1	6 DISCO 2	7 16-BEAT 1	8 16-BEAT 2
(VARIATION OF BANK 1)	9	10	11	12	13	14	15	16
(BANK 2)	17 WALTZ	18 SWING 1	19 SWING 2	20 SHUFFLE	21 CHARLESTON	22 BALLAD	23 REGGAE	24 TANGO
(VARIATION OF BANK 2)	25	26	27	28	29	30	31	32
(BANK 3)	33 SAMBA 1	34 SAMBA 2	35 MERENGUE	36 MAMBO	37 CHA CHA	38 RHUMBA	39 BEGUINE	40 BOSSANOVA
(VARIATION OF BANK 3)	41	42	43	44	45	46	47	48
	49 FILL-A ON	50 FILL-B ON	51 FILL-C ON	52 FILL-D ON	53 *	54 *	55 *	56 *
	57 INT/END-A	58 INT/END-B	59 INT/END-C	60 INT/END-D	61 INTRO ON	62 INTRO OFF	63 ENDING ON	64 ENDING OFF

*The program Change numbers 53 to 56 will be ignored.

4. MIDI Sync (to external device)

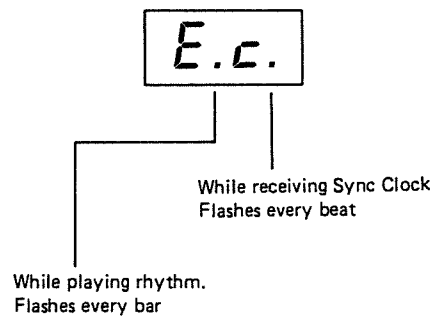
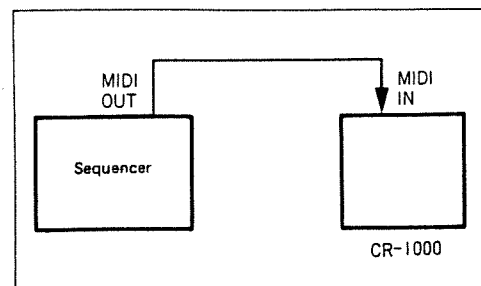
*The rhythm on the CR-1000 can sync to the connected MIDI device. To turn to the MIDI Sync mode, set the Tempo Knob ⑩ to the EXT CLK position. Now, the CR-1000 is controlled by the MIDI signal sent from the connected device.

*While in the MIDI Sync mode, do not use the Tempo Knob ⑩, Memory Mode Key ⑪, Start/Stop Key ⑫ or pedal switch. Other knobs and keys function as usual.



*The Nuance and Rhythm Selection functions (explained in the previous section 2 and 3) can be used in the MIDI Sync mode.

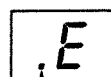
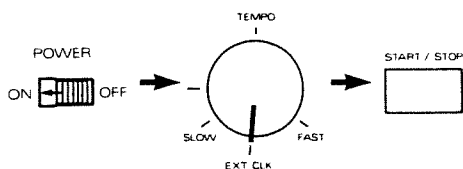
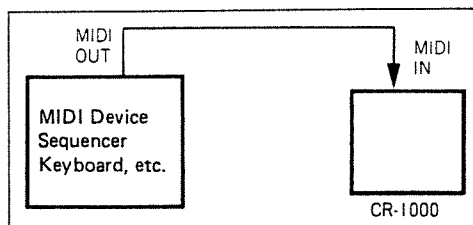
*To stop playing in the middle of the rhythm, simply move the Tempo Knob to the position other than EXT CLK.



5. The CR-1000 as MIDI Sound Module

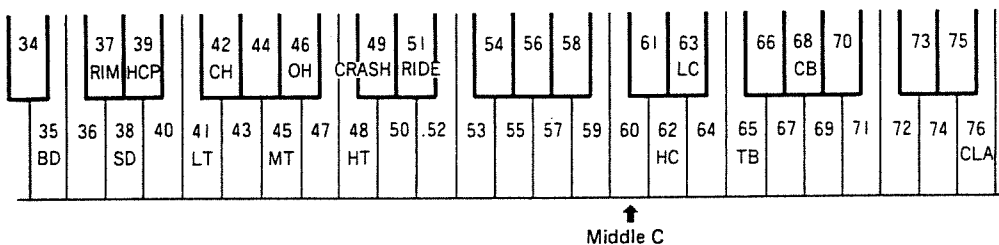
The drum voices of the CR-1000 can be played by the Note On messages sent from the external device.

Turn the Unit on, set the Tempo Knob ⑩ to the EXT CLK position and push the Start/Stop Key ⑫. This is called MIDI Sound Module mode.



When the CR-1000 receives the Note On message that is within the sound range of the CR-1000, the indicator lights up. (It does not light up when the voice Level Knob is set to zero.)

MIDI Note Numbers ↔ CR-1000's Drum Voices



↑
Middle C

BD : bass drum
CH : closed hi-hat
RIDE : ride cymbal
CLA : claves

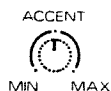
RIM : rim shot
MT : mid tom
HC : hi conga

SD : snare drum
OH : open hi-hat
LC : low conga

HCP : hand clap
HT : hi tom
TB : timbale

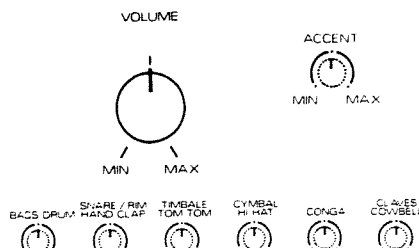
LT : low tom
CRASH : crash cymbal
CB : cowbell

*Using the Accent Knob ⑪, the width of the dynamics can be changed. Rotating the knob clockwise will widen the width.



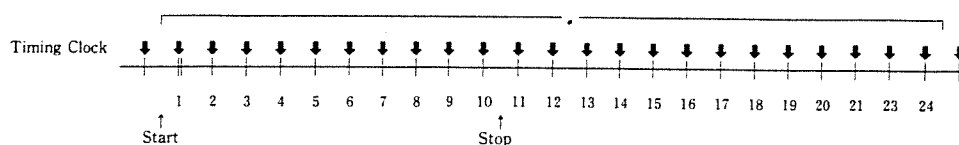
*Pushing the Start/Stop Key ⑫ will turn to the MIDI Sync mode, then here moving the Tempo Knob ⑩ to the position other than EXT CLK will turn to the non-MIDI mode in which the CR-1000 works on its own.

*While in the MIDI Sound Module mode, do not use any other knob or key except the Volume Knob ⑬, the Voice Level Knobs ⑤ and the Accent Knob ⑪ for playing the rhythm. (The level of each drum sound can not be written in memory.)



■ Reference

Timing of Start/Stop (in Normal Mode)

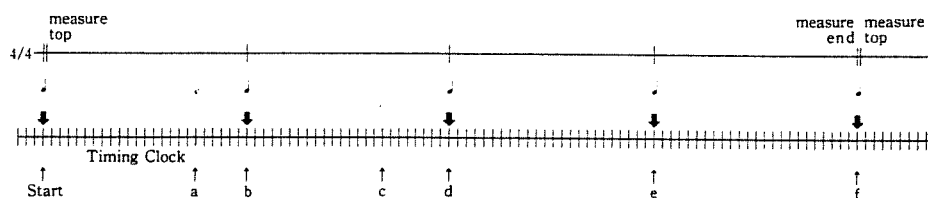


In the above example, the rhythm starts from Timing Clock 1, and stops at the Timing Clock 11.

When an Ending pattern is added, pushing the Start/Stop Key does not stop the music immediately. The music is played up to the last bar, then the ending pattern is played, before it stops.

*Timing Clock is always sent in the timing of . =24.

Timing of Fill-in/Ending (in Normal Mode)



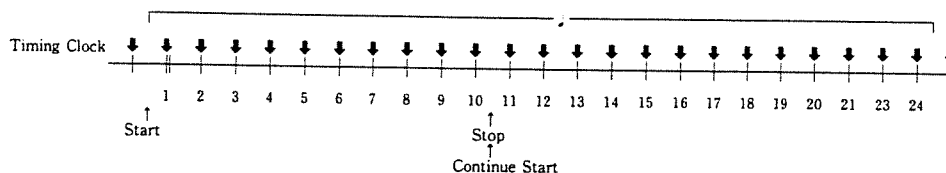
In above example (4/4 rhythm is playing), pushing the Fill-in Key at "a" will add the last three beat Fill-in pattern from "b" to "f".

Likewise, pushing the Fill-in Key at "c" position will insert the last two beats of the Fill-in pattern from "d" to "f", then go to the normal rhythm playing. To insert the whole Fill-in pattern from the beginning of the bar, push the Fill-in Key at any position between "e" and "f".

A Fill-in pattern always begins from the beginning of the beat and stops at the end of bar. To continue to insert a Fill-in pattern, release the Fill-in Key once, then push it again between "e" and "f".

When an Ending pattern is added, no matter where you push the Stop Key between "START" and "f", it plays the normal rhythm patterns up to "f", then the Ending pattern is played, then it stops.

Timing of Start/Continue/Stop (in MIDI Sync Mode)

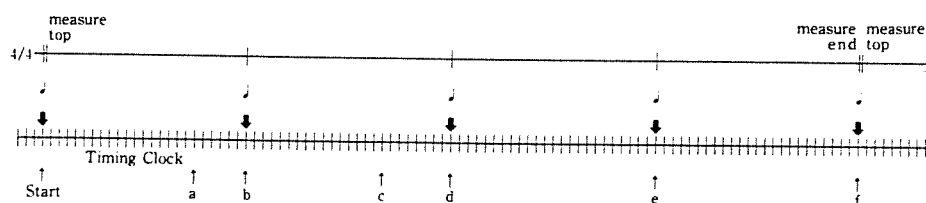


In above example, rhythm starts at Timing Clock 1, and stops at Timing Clock 11. And when Continue Start is received, it starts playing from Timing Clock 11.

When an Ending pattern is added, the music plays up to the last bar, then the Ending pattern is played and stops. (So, Continue Start is impossible here.)

* MIDI Timing Clock is always sent in the timing of $\text{♩} = 24$.

Timing of Fill-in/Ending (in MIDI Sync Mode)



In above example (4/4 rhythm is playing), if FILL IN A(MIDI Program Change #) is received at the position of "a", the last three beats of the Fill-in pattern will be inserted from "b" to "f".

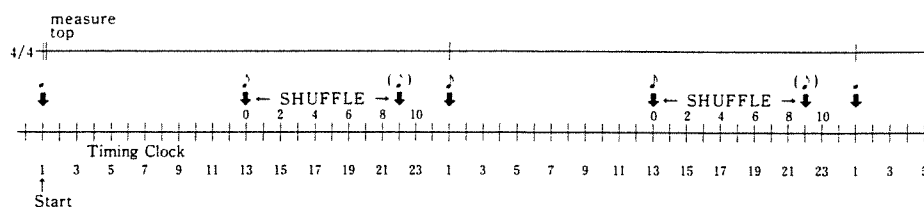
Likewise, if FILL IN A is received at "c", the last two beats of the Fill-in pattern will be inserted from "f", then it goes back to the normal rhythm playing.

To insert the whole Fill-in pattern, send the FILL IN at any position between "e" and "f". A Fill-in pattern always begins from the beginning of the beat and stops at the end of a bar.

When ENDING ON(MIDI Program #) has been received, no matter where you push the Stop Key between "START" and "f", it plays the normal rhythm patterns up to "f", then the Ending pattern is played, then it stops. This means that when Ending pattern is set on the CR-1000, using Continue Start function will make synchronization to the master device (e.g. sequencer) impossible. (The master device stops immediately, while the CR-1000 plays the Ending pattern.)

Timing of Shuffle Beat

1) Timing of Eighth Note Shuffle Beat

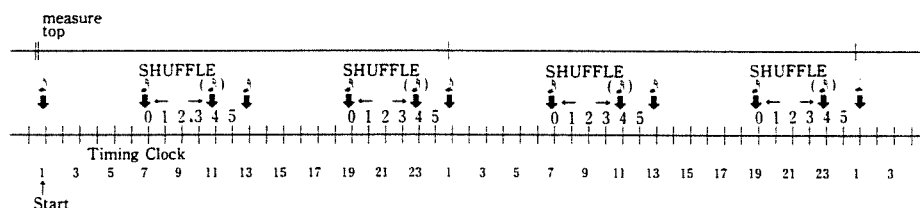


In the above example, the eighth note of the Back Beat shifts 0 to 9 position depending on the position of the Shuffle Knob.

When the Shuffle Knob is set to the ♩ position, it moves to 0, and when at ♩ position, moves to 9. This means that one of the nine shuffle timings can be selected with the Shuffle Knob. In the pattern which already contains shuffle beat the eighth note is located at about position 3 even if the Shuffle Knob is set to ♩ position. That is, it roughly moves within 2 to 9 positions.

A timing clock is divided in timing of $\text{♩} = 24$. So, a shuffle beat has a resolution of $1/24$ of a quarter note.

2) Timing of Sixteenth Note Shuffle Beat



In the above example, the sixteenth note of the Back Beat shifts 0 to 4 position depending on the position of the Shuffle Knob.

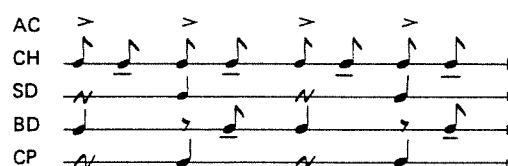
When the Shuffle Knob is set to the ♩ position, it moves to 0, and when at ♩ position, moves to 4. This means that one of the four shuffle timings can be selected with the Shuffle Knob.

CR-1000'S RHYTHM PATTERN SCORES

*AC : ACCENT	*HT : HI TOM
*RD : RIDE CYMBAL	MT : MID TOM
CR : CRASH CYMBAL	LT : LOW TOM
*OH : OPEN HI - HAT	TB : TIMBALE
CH : CLOSED HI - HAT	*BD : BASS DRUM
*SD : SNARE DRUM	*CV : CLAVES
*RS : RIM SHOT	CB : COWBELL
CP : HAND CLAP	*HC : HI CONGA
	LC : LOW CONGA

*The note with underline will shift backward in Shuffle.

ROCK 1



ROCK 1 (Variation)



ROCK 2



ROCK 2 (Variation)



ROCK 3

AC > > > > >
 CH > > > > >
 SD > > > > >
 BD > > > > >
 CP > > > > >

ROCK 3 (Variation)

AC > > > > >
 RD > > > > >
 SD > > > > >
 BD > > > > >
 CP > > > > >

ROCK 4

AC > > > > > > >
 CH > > > > > > >
 SD > > > > > > >
 BD > > > > > > >
 CP > > > > > > >

ROCK 4 (Variation)

AC > > > > > > >
 RD > > > > > > >
 SD > > > > > > >
 BD > > > > > > >
 CP > > > > > > >

DISCO 1

AC > > > > > > > >
 OH > > > > > > > >
 CH > > > > > > > >
 SD > > > > > > > >
 BD > > > > > > > >
 CP > > > > > > > >

DISCO 1 (Variation)

AC > > > > > > > > > > > > > > > >
 CH > > > > > > > > > > > > > > > >
 SD > > > > > > > > > > > > > > > >
 BD > > > > > > > > > > > > > > > >
 CP > > > > > > > > > > > > > > > >

DISCO 2

AC > > > > > > > >
 CH > > > > > > > >
 SD > > > > > > > >
 BD > > > > > > > >
 CB > > > > > > > >
 CP > > > > > > > >

DISCO 2 (Variation)

AC > > > > > > > > > > > > > > > >
 CH > > > > > > > > > > > > > > > >
 SD > > > > > > > > > > > > > > > >
 BD > > > > > > > > > > > > > > > >
 CB > > > > > > > > > > > > > > > >
 CP > > > > > > > > > > > > > > > >

16 BEAT 1

16 BEAT 1 (Variation)

The musical score for the 'Piano' section of 'The Sound of Music' is presented on five staves, labeled AC, CH, SD, BD, and CP. The notation includes various musical symbols such as notes, rests, and dynamic markings. The score is written in a style that includes both standard musical notation and simplified notation for the lower voices (SD, BD, CP). The AC and CH staves use a simplified notation with vertical lines and dots, while the SD, BD, and CP staves use standard musical notation with notes and rests. The score is divided into measures by vertical bar lines, and there are repeat signs at the beginning and end of the section.

16 BEAT 2

16 BEAT 2 (Variation)

WALTZ

AC >

RD

CH

SD

BD

CP

WALTZ (Variation)

AC > > >

RD

CH

SD

BD

CP

SWING 1

AC > >

OH

CH

BD

CP

SWING 1 (Variation)

AC > > > >

OH

CH

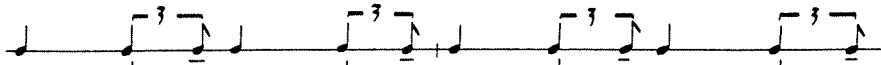
SD

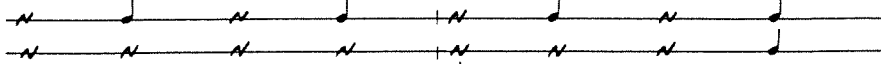
BD

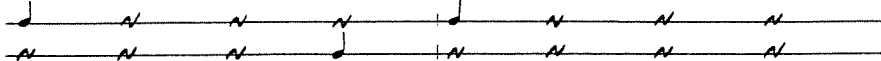
CP

SWING 2

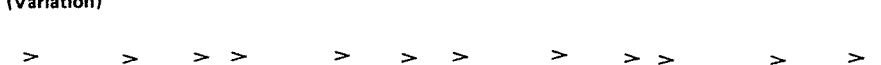
AC > > > > > > > > > >

RD 

CH 

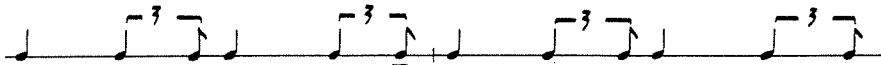
RS 

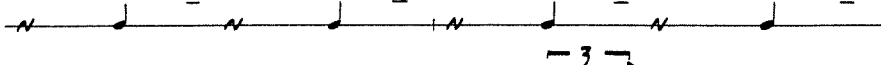
BD 

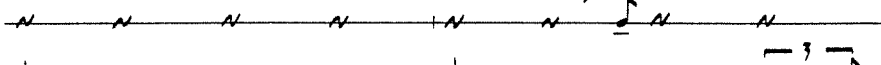
CP 

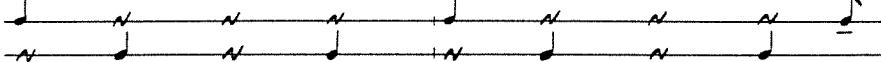
SWING 2 (Variation)

AC > > > > > > > > > >

RD 

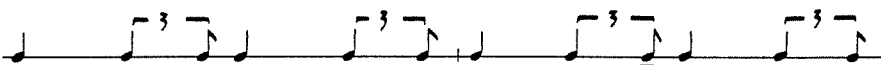
CH 

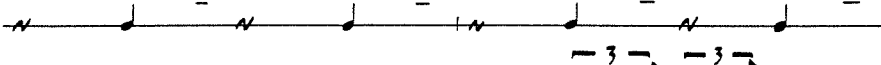
SD 

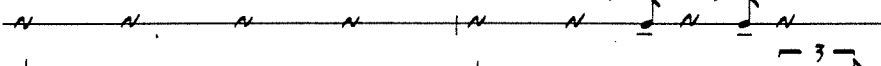
BD 

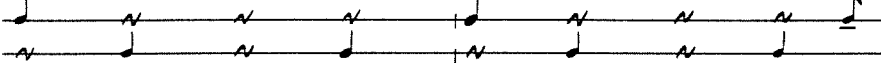
CP 

AC > > > > > > > > > >

RD 

CH 

SD 

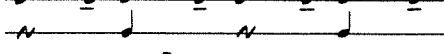
BD 

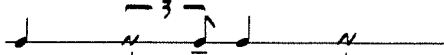
CP 

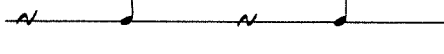
SHUFFLE

AC > >

CH 

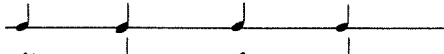
SD 

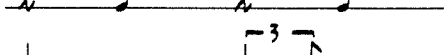
BD 

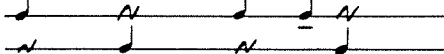
CP 

SHUFFLE (Variation)

AC > > > >

RD 

SD 

BD 

CP 

CHARLESTON

AC > > > > > > > >

OH

CH

SD

HT

LT

BD

CP

AC > > > > > > >

OH

CH

SD

HT

LT

BD

CP

BALLAD

AC > > > >

CH

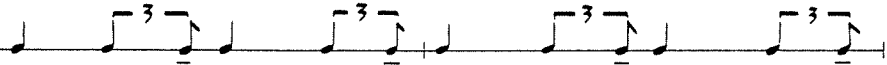
SD

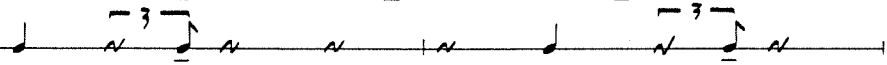
BD

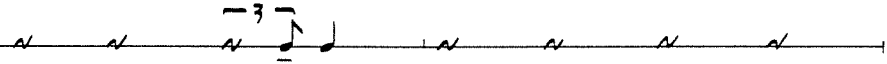
CP

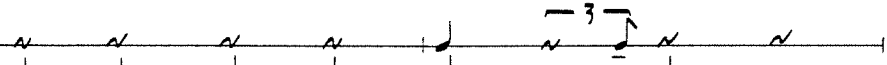
CHARLESTON (Variation)

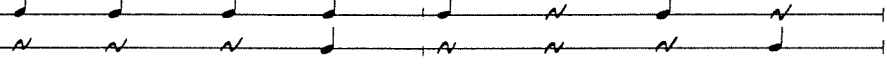
AC > > > > >

RD 

SD 

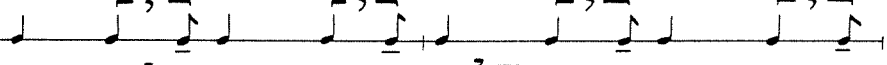
HT 

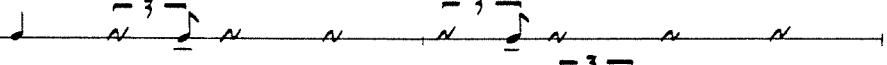
LT 

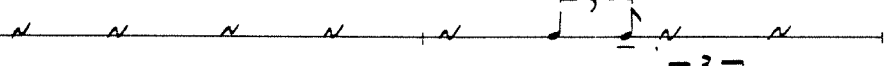
BD 

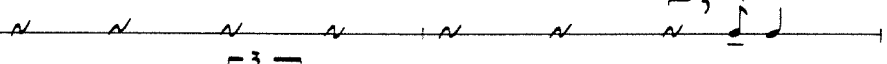
CP 

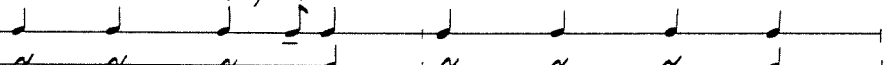
AC > > > > > > >

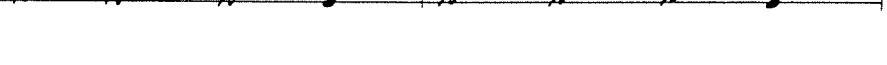
RD 

SD 

HT 

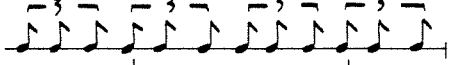
LT 

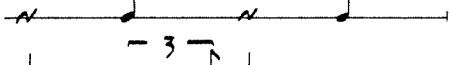
BD 

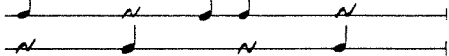
CP 

BALLAD (Variation)

AC > > > >

RD 

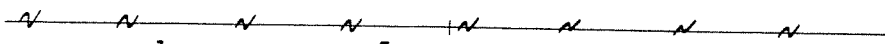
SD 

BD 

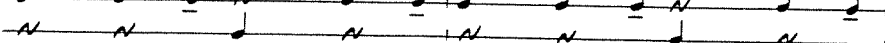
CP 

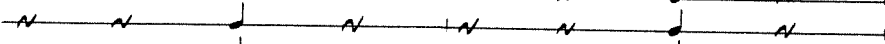
REGGAE

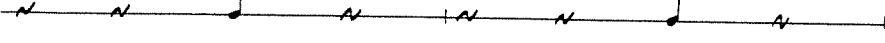
AC > > > > > >

OH 

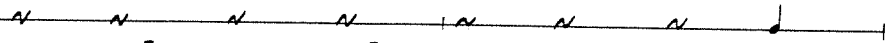
CH 

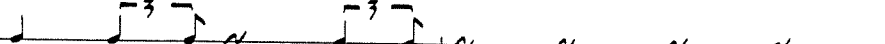
SD 

BD 

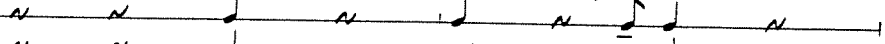
CP 

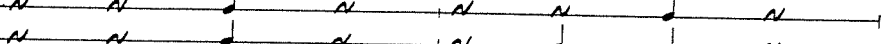
AC > > > > > >

OH 

CH 

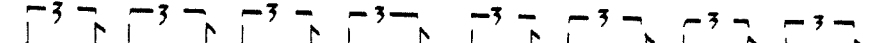
SD 

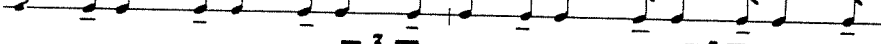
BD 

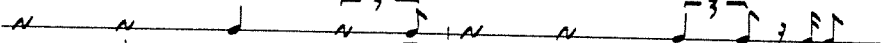
CP 

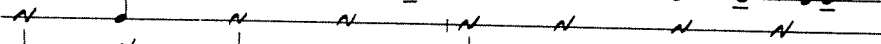
REGGAE (Variation)

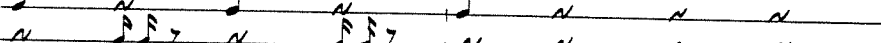
AC > > > > > >

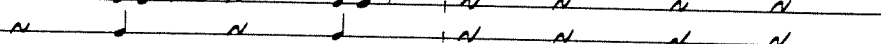
CH 

SD 

MT 

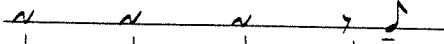
BD 

LCB 

CP 

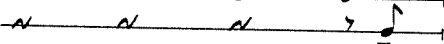
TANGO

AC >

OH 

CH 

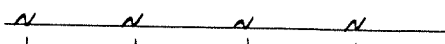
SD 

BD 

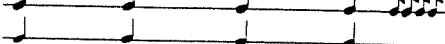
CP 

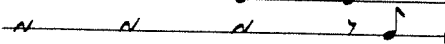
TANGO (Variation)

AC > > > >

OH 

CH 

SD 

BD 

CP 

SAMBA 1

SAMBA 1 (Variation)

The musical notation for the 'Piano' section is presented on eight staves, labeled AC through CP. The notation is complex, featuring many beamed sixteenth and thirty-second notes, often with accents (>) above them. The staves are arranged vertically, with AC at the top and CP at the bottom. The notation is dense and rhythmic, typical of a piano accompaniment for a dramatic scene.

SAMBA 2

The musical notation for the 'Piano' section is presented on ten staves, each labeled with an instrument abbreviation on the left: AC, OH, CH, SD, BD, CB, HC, LC, and CP. Above the staves, there are several musical symbols: a series of greater-than signs (>) and a series of eighth notes. The notation itself consists of various musical notes (quarter, eighth, and sixteenth notes), rests, and bar lines, indicating the timing and pitch for each instrument.

SAMBA 2 (Variation)

The musical notation for the 'Piano' section is presented on ten staves, each labeled with an instrument abbreviation on the left: AC, RD, OH, CH, SD, BD, CV, HC, LC, and CP. The notation includes various musical symbols such as notes, rests, and dynamic markings like '>' and '<'. The staves are arranged vertically, with AC at the top and CP at the bottom.

MERENGUE

AC >

CH

BD

CB

HC

LC

CP

MERENGUE (Variation)

AC >

CH

BD

CB

HC

LC

CP

MAMBO

AC >

CH

BD

CB

HC

LC

CP

MAMBO (Variation)

AC >

CH

OH

BD

CV

HC

LC

CP

CHA CHA

AC >

CH

BD

CB

LC

CP

CHA CHA (Variation)

AC >

CH

MT

BD

CB

HC

LC

CP

RHUMBA

AC >

CH

BD

CV

HC

LC

CP

RHUMBA (Variation)

AC >

CH

BD

CV

HC

LC

CP

BEGUINE

AC > > > > > > >

OH > > > > > > >

CH > > > > > > >

BD > > > > > > >

CV > > > > > > >

HC > > > > > > >

LC > > > > > > >

CP > > > > > > >

BEGUINE (Variation)

AC > > > > > > >

OH > > > > > > >

CH > > > > > > >

BD > > > > > > >

CV > > > > > > >

CP > > > > > > >

BOSSANOVA

AC > > > > > > >

CH > > > > > > >

RS > > > > > > >

BD > > > > > > >

CP > > > > > > >

BOSSANOVA (Variation)

AC > > > > > > >

RD > > > > > > >

OH > > > > > > >

RS > > > > > > >

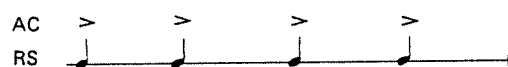
BD > > > > > > >

CP > > > > > > >

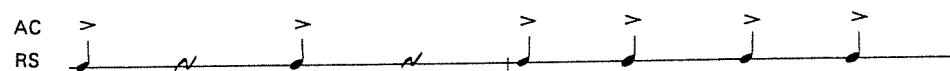
CR-1000'S INTRO PATTERN SCORES

BANK 1 (ROCK 1, ROCK 2, ROCK 3, ROCK 4, DISCO 1, DISCO 2, 16 BEAT 1, 16 BEAT 2)

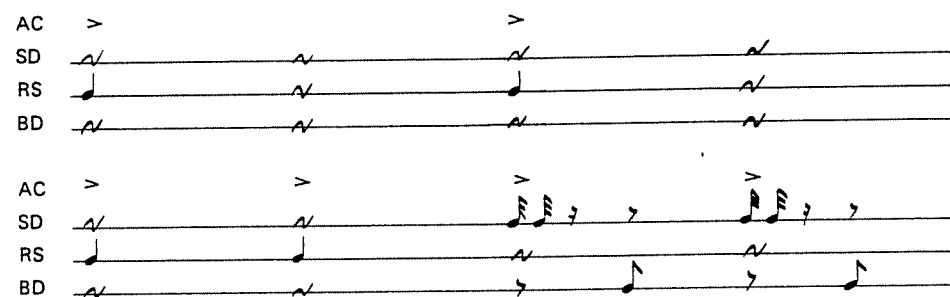
INTRO A



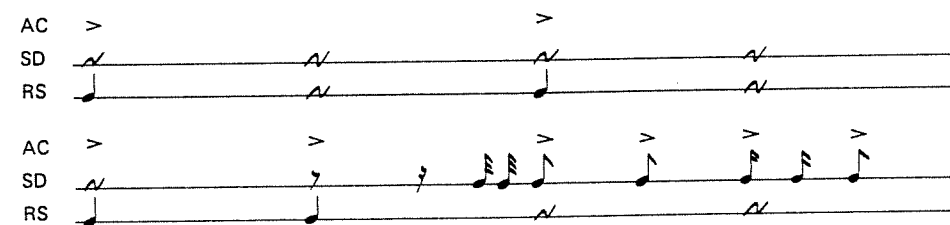
INTRO B



INTRO C

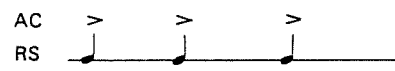


INTRO D

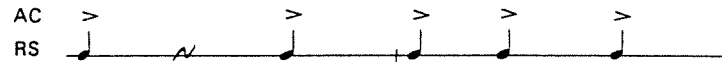


BANK 2 (WALTZ)

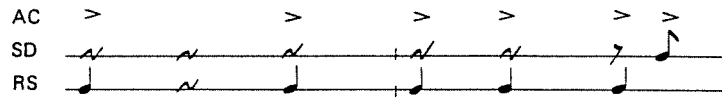
INTRO A



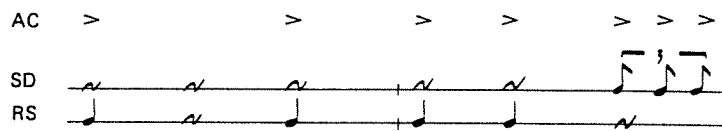
INTRO B



INTRO C



INTRO D



BANK 2 (SWING 1, SWING 2, SHUFFLE, CHARLESTON, BALLAD, REGGAE, TANGO)

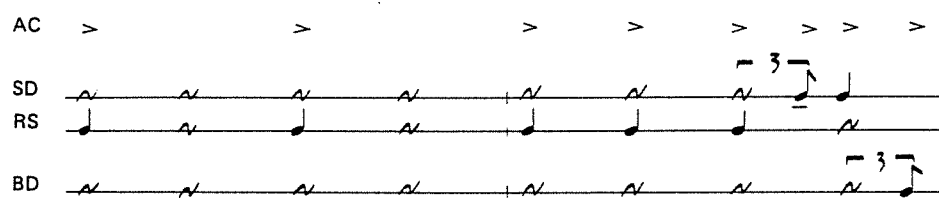
INTRO A



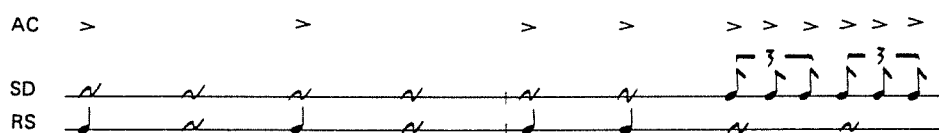
INTRO B



INTRO C



INTRO D



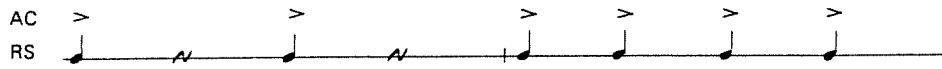
* Excellent Matches
INTRO C with Shuffle
INTRO D with Shuffle, Ballad

BANK 3 (SAMBA 1, SAMBA 2, MERENGUE, MAMBO, CHA CHA, RHUMBA, BEGUINE, BOSSANOVA)

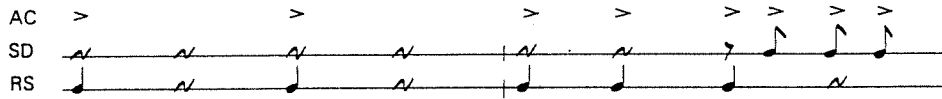
INTRO A



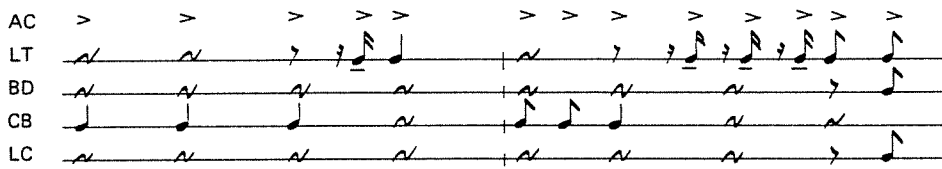
INTRO B



INTRO C



INTRO D

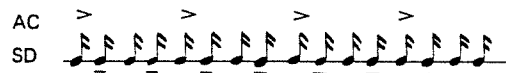


* Excellent Match
INTRO D with Samba 1, Samba 2

CR-1000'S FILL IN PATTERN SCORES

BANK 1 (ROCK 1, ROCK 2, ROCK 3, ROCK 4, DISCO 1, DISCO 2, 16BEAT 1, 16BEAT 2)

FILL IN A



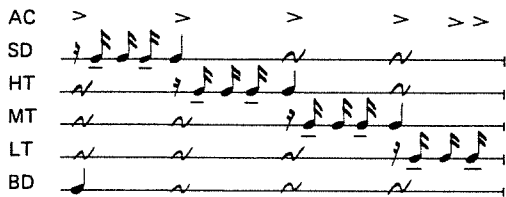
FILL IN A (Variation)



FILL IN B



FILL IN B (Variation)



*Excellent Match
FILL IN A (Variation) with ROCK 4

FILL IN C

AC > > > > > > > > >
 OH > > > > > > > > >
 CH > > > > > > > > >
 SD > > > > > > > > >
 BD > > > > > > > > >

FILL IN C (Variation)

AC > > > > > > > > >
 OH > > > > > > > > >
 SD > > > > > > > > >
 BD > > > > > > > > >
 CB > > > > > > > > >
 CP > > > > > > > > >

FILL IN D

AC >
 CH >
 SD >
 MT >
 BD >

FILL IN D (Variation)

AC >
 CR >
 OH >
 SD >
 BD >

*Excellent Matches

FILL IN C with Disco 1

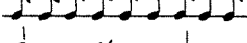
FILL IN C (Variation) with Disco 2

BANK 2 (WALTZ)

FILL IN A

AC > > > >

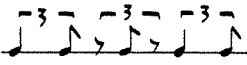
CH 

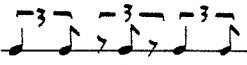
SD 

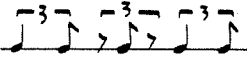
BD 

FILL IN A (Variation)

AC > > > > >

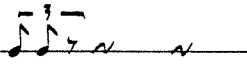
RD 

SD 

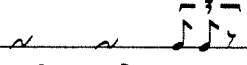
BD 

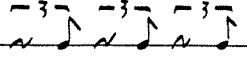
FILL IN B

AC > > >

SD 

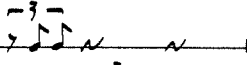
HT 

MT 

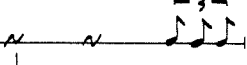
BD 

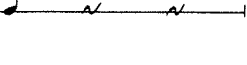
FILL IN B (Variation)

AC > > >

SD 

HT 

MT 

BD 

FILL IN C

AC >

CH

SD

BD

FILL IN C (Variation)

AC > > >

CH

HT

MT

BD

FILL IN D

AC >

CH

RS

BD

FILL IN D (Variation)

AC >

CH

RS

BD

FILL IN A

AC > > > > >

CH

SD 3 3 3 3

BD

[illegible]

45

FILL IN C

AC > >

CR

OH

CH

SD

BD

FILL IN C (Variation)

AC > > > > >

CH

HT

MT

LT

BD

FILL IN D

AC > >

CH

RS

BD

FILL IN D (Variation)

AC > >

CH

SD

BD

*Excellent Matches
 FILL IN C with Shuffle
 FILL IN C (Variation) with Shuffle, Reggae

FILL IN A

AC

CH

SD

BD

HC

LC

FILL IN A (Variation)

The musical score for the 'Trio' section is presented on six staves, labeled AC, LT, TB, BD, CB, and LC from top to bottom. The notation includes various musical symbols such as notes, rests, and dynamic markings. Above the staves, there are several accent marks (>) and a 'p' (piano) marking. The score is written in a single system, indicating a continuous musical piece.

FILL IN B

The first system of the musical score features five staves labeled AC, CH, BD, CB, and HC. Above the staves, there are four greater-than symbols (>) positioned over the first, second, fourth, and fifth measures. The notation includes various musical symbols such as eighth notes, sixteenth notes, and rests, indicating a complex rhythmic structure.

FILL IN B (Variation)

* Excellent Matches

FILL IN A with Samba 1, 2

FILL IN A (Variation) with Samba 1, 2

FILL IN B with CHA CHA

FILL IN B (Variation) with CHA CHA

FILL IN C

AC > > > > > >

OH > > > > > >

CH > > > > > >

RS > > > > > >

BD > > > > > >

FILL IN C (Variation)

AC > > > > > >

RD > > > > > >

RS > > > > > >

BD > > > > > >

FILL IN D

AC >

CH >

LT >

BD >

LC >

FILL IN D (Variation)

AC >

OH >

CH >

RS >

BD >

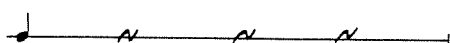
*Excellent Matches
 FILL IN C with Bossanova
 FILL IN C (Variation) with Bossanova

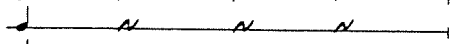
CR-1000'S ENDING PATTERN SCORES

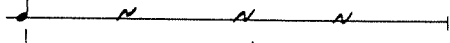
BANK 1 (ROCK 1, ROCK 2, ROCK 3, ROCK 4, DISCO 1, DISCO 2, 16 BEAT 1, 16 BEAT 2)

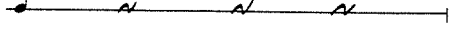
ENDING A

AC >

CR 

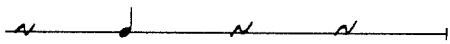
CH 

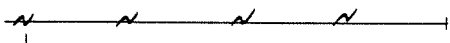
SD 

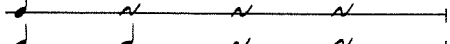
BD 

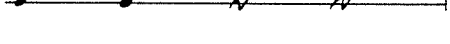
ENDING B

AC > >

CR 

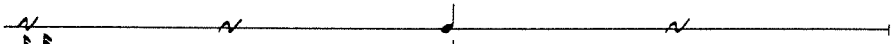
CH 

SD 

BD 

ENDING C

AC > > > >

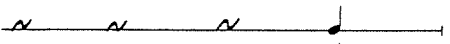
CR 

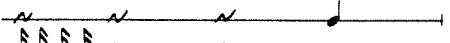
SD 

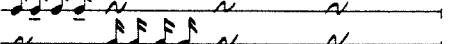
BD 

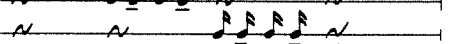
ENDING D

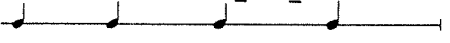
AC > > > >

CR 

SD 

HT 

MT 

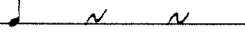
LT 

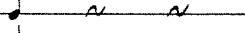
BD 

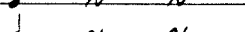
BANK 2 (WALTZ)

ENDING A

AC >

CR 

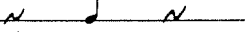
CH 

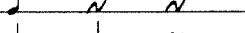
SD 

BD 

ENDING B

AC > >

CR 

SD 

BD 

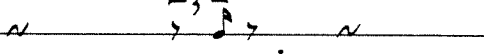
ENDING C

AC > > >

CR 

SD 

HT 

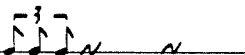
MT 

LT 

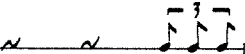
BD 

ENDING D

AC > > >

HT 

MT 

LT 

BD 

BANK 2 (SWING 1, SWING 2, SHUFFLE, CHARLESTON, BALLAD, REGGAE, TANGO)

ENDING A

AC >

CR

CH

SD

BD

ENDING B

AC > >

CR

SD

BD

ENDING C

AC > > >

CR

SD

HT

MT

LT

BD

ENDING D

AC > > > >

CR

SD

HT

MT

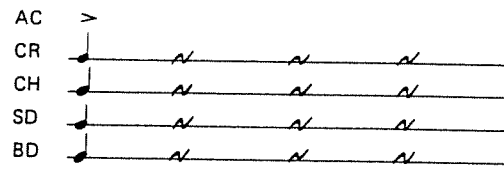
LT

BD

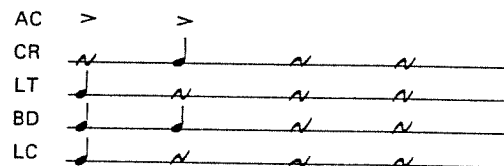
*Excellent Match
ENDING C with Ballad

BANK 3 (SAMBA 1, SAMBA 2, MERENGUE, MAMBO, CHA CHA, RHUMBA, BEGUINE, BOSSANOVA)

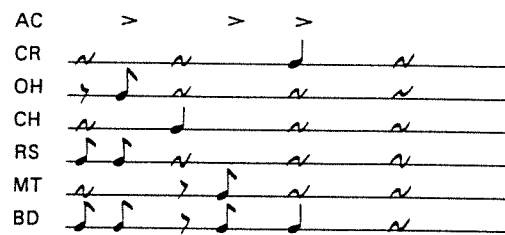
ENDING A



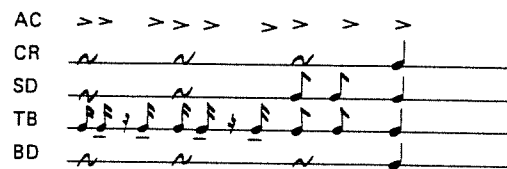
ENDING B



ENDING C



ENDING D



*Excellent Matches
ENDING C with Bossanova
ENDING D with Samba 1, 2

6 SPECIFICATIONS

DIGITAL DRUMMER CR-1000

- **Preset Rhythms** 24
ROCK 1, ROCK 2, ROCK 3, ROCK 4,
DISCO 1, DISCO 2, 16 BEAT 1, 16 BEAT 2,
WALTZ, SWING 1, SWING 2, SHUFFLE,
CHARLESTON, BALLAD, REGGAE,
TANGO, SAMBA 1, SAMBA 2, MERENGUE,
MANBO, CHA-CHA, RHUMBA, BEGUINE,
BOSSANOVA
 - **Drum Voices (8 types)** 16
BASS DRUM,
SNARE DRUM,
LOW TOM/MID TOM/HI TOM/TIMBALE,
CLOSED HI-HAT/OPEN HI-HAT,
CRASH CYMBAL/RIDE CYMBAL,
RIM SHOT/HAND CLAP,
LOW CONGA/HI CONGA,
COWBELL/CLAVES
The drum voices listed on the same line do not
sound at the same time.
 - **Tempo**
♩ = 40 ~ 240 (beat/minute)
* At Memory Mode:
♩ = 30 ~ 270 (beat/minute)
 - **Controls and Indicators**
Bank Selector Keys (1 to 3)
Preset Rhythm Selector Key (1 to 8)
Key Start Key
Variation Key
Hand Clap Key
Intro/Fill-in/Ending Pattern Selector Key
Memory Mode Key
Start/Stop Key
Fill-in Key
Ending Key
Intro Key
Voice Level Knobs (x 6)
Accent Knob
Shuffle Knob
Volume Knob
Tempo Knob
Tempo Display
 - **Rear Panel**
Power Switch
AC Adaptor Jack (9.V)
MIDI IN Connector
MIDI THRU Connector
Start/Stop Jack (DP-2)
Fill-in Jack (DP-2)
Restart Jack (DP-2)
Output Jack
-
- **Consumption:** 100 mA
 - **Dimensions:** 304(W) x 176(D) x 60(H) mm/
12" x 6-15/16" x 2-3/8"
 - **Weight:** 930g/2 lb (with batteries)
 - **Accessories:** AC Adaptor
(PSA-120, 220 or 240)
Connection Cable (LP-25: 1)
Owner's Manual
 - **OPTIONS:** Pedal Switch DP-2

 Roland®

10670

UPC

10670



10991

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CT-11111

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