



# DIGITAL RECORDING STUDIO BR-1600CD

## Version 2

### Additional Functions

#### Additional functions in Version 2

##### ■ Effect Algorithms Inherited from the BOSS GT-6B

The BC-1600CD incorporates algorithms—virtually unaltered—from the world-famous BOSS GT-6B bass multi-effects processor. Now bassists also can enjoy using COSM Amp Modeling, COSM Overdrive/Distortion, and other high-quality modeling effects.

##### ■ More Powerful Vocal Tool Box Functions

Pitch correction enables you to specify any desired time and corrective pitch within the song. And with Harmony Sequence, you can also specify the time and pitch for each of the harmony voices.

##### ■ Simplified Mastering Adjustments with the VALUE Dials

You can adjust the amount and sonic quality of the Mastering Tool Kit, as well as the naturalness of the effect, simply and easily with the VALUE dials.

##### ■ MIDI Slave Sync Function

You can use the BR-1600CD as a slave device, with playback time and speed synchronized to the MIDI Time Code (MTC) received at MIDI IN.

##### ■ Import Songs from the BR-1180CD/1200CD

You can now convert BR-1180CD/1200CD song data and import it to the BR-1600CD. Without having additional operation, you can import BR-1180CD/1200CD songs as BR-1600CD songs simply and easily via CD-R/CD-RW discs to which the BR-1180CD/1200CD songs have been backed up (users already working with Version 1.10 should note that BR-1180CD song convert function is also featured in Version 1.10).

##### ■ Export All Tracks in Waveform Files at One Time Via USB

Whereas exporting WAV or AIFF files via USB used to require exportation of individual tracks one at a time, with Version 2, you can now export all tracks together in a single pass.

#### Other enhancements

##### ■ Check the Drum Sounds Easily

About to use the track buttons to check a drum sound? Now you can play drum sounds simply by switching to the drum Edit screen.

##### ■ SMF import can be done up to 999 measures

When you import SMF data via CD-R/RW discs or USB, it is possible to import up to 999 measures.

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# Algorithms From the GT-6B (COSM OD BASS AMP)

Version 2 now includes effects algorithms from the BOSS GT-6B multi-effects processor that can be used for bass guitars.

These algorithms are referred to by the title

"COSM OVERDRIVE BASS AMP (COSM OD BASS AMP)."

COSM OD BASS AMP incorporates the BOSS GT-6B's amp modeling and COSM overdrive and distortion effects virtually unaltered to provide you with a variety of distortion and bass amp sounds.

The following effects blocks include the COSM OD BASS AMP algorithms.



COSM Comp/Limiter

COSM Overdrive/Distortion

COSM PreAmp&Speaker

Equalizer/Wah

- 3 Band Equalizer
- Wah

Noise Suppressor

Foot Volume

FX

- Octave
- Enhancer
- Slow Gear
- Defretter
- Ring Modulator
- Phaser
- Flanger
- Pitch Shifter
- 2x2 Chorus
- Short Delay
- Vibrato
- Humanizer
- Tremolo
- Pan

Chorus

Delay

You can rearrange the connection sequence of these effects however you like. The settings are changed in the same way as with other effects algorithms.

For more details, refer to p. 77 in the Owner's Manual.

There are 20 new patches using these algorithms (P101–P120) now included as presets. Pick a patch to check out these effects.

## Patch List

No.	Patch Name	Algorithm
P101	Mtown LoDown	COSM OD BASS AMP
P102	Liverpool	COSM OD BASS AMP
P103	B-M Exposed	COSM OD BASS AMP
P104	Geddy's	COSM OD BASS AMP
P105	No.1 Player	COSM OD BASS AMP
P106	Bare Bass360	COSM OD BASS AMP
P107	Brite Isle	COSM OD BASS AMP
P108	Roto Drive	COSM OD BASS AMP
P109	CloseSession	COSM OD BASS AMP
P110	Fieldy's	COSM OD BASS AMP
P111	Deep&Throaty	COSM OD BASS AMP
P112	Grunge GT-6B	COSM OD BASS AMP
P113	Anthony FLNG	COSM OD BASS AMP
P114	Pitch Double	COSM OD BASS AMP
P115	PseudoDefret	COSM OD BASS AMP
P116	Graham Slap	COSM OD BASS AMP
P117	Lowdown	COSM OD BASS AMP
P118	EnhancedSlap	COSM OD BASS AMP
P119	Demon Child	COSM OD BASS AMP
P120	Funkadelic	COSM OD BASS AMP

# Making Detailed Settings for Pitch Correction (Correction Event Map)

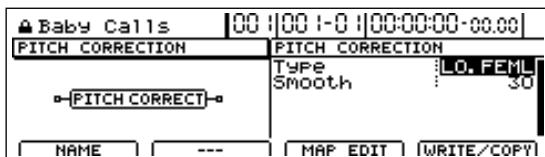
In Version 2, you can now specify the precise time and level of pitch correction used when editing the pitch with the Pitch Correction function. This allows you to select and edit just those portions of the vocals you want to correct.

When detailed corrections are made to the pitch, the correction start point and the corrected pitch are specified together. This information is referred to collectively as the **“Correction Event Map.”**

To edit pitches with the Edit Event Map, use the following procedure.

1. Selecting the patch to which pitch correction is to be applied.
2. Press [F2] (EDIT) in the Vocal Tool Box pitch selection screen.

The Pitch Correction Edit screen appears.



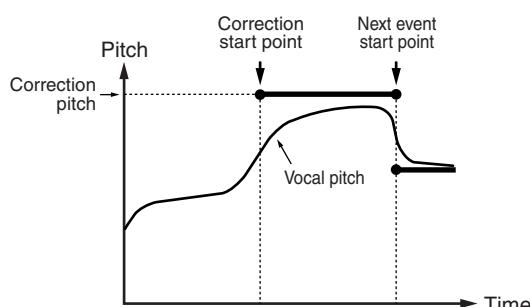
3. Press [F3] (MAP EDIT).

The Correction Event Map screen appears.



In the Correction Event Map screen, you can input the time at which you want the pitch correction to start as well as the pitch.

Taken together, this timing and pitch data is referred to as a **“correction event.”**



You can make corrections freely at the desired points in the song by arranging correction events in the sequence they occur.

The sequence of correction events with the information they contain is called a **“correction event map.”**

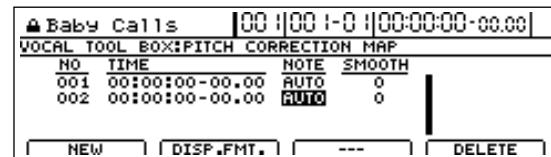
Initially, only one correction event, “AUTO,” is input at the beginning of the correction event map.

## AUTO:

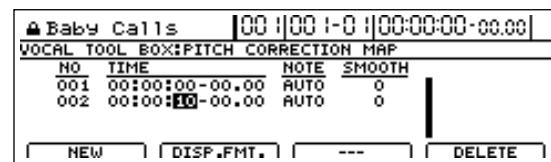
After the specified point in the song, all pitches are corrected in semitone increments. (This functions the same way as Pitch Correction in versions prior to Version 1.10.)

4. Press [F1] (NEW).

A new correction event is inserted.

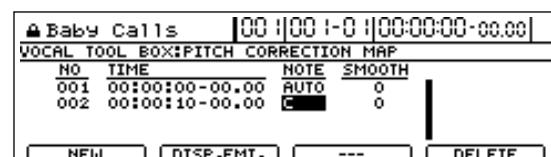


5. Move the cursor to “TIME” and specify the time at which you want the correction to start with the TIME/VALUE dial.



\* You cannot change the time of the correction event at the start of the song.

6. Move the cursor to “NOTE” and specify the pitch you want to correct with the TIME/VALUE dial.



## NOTE:

### OFF

No correction is made after the specified point in the song. The song is played using the original pitch.

### AUTO

After the specified point in the song, all pitches are corrected in semitone increments.

(This functions the same way as Pitch Correction in versions prior to Version 1.10.)

### C, C#, -A#, B

The performance after the specified point in the song is adjusted to the specified pitch.

## Making Detailed Settings for Pitch Correction (Correction Event Map)

7. Move the cursor to "SMOOTH" and specify the correction speed.

Baby Calls			
VOCAL TOOL BOX:PITCH CORRECTION MAP			
NO	TIME	NOTE	SMOOTH
001	00:00:00-00.00	AUTO	0
002	00:00:10-00.00	C	+5

**SMOOTH**                    **-100 – +100**

The value set here is added to the value of the "Smooth" patch parameter (p. 118 in Owner's Manual).

When set to "0," the correction speed is the same as that set in the patch's "Smooth" setting.

As the value increases in the negative direction, the pitch correction is executed more rapidly than it would be according to the value set in the patch, whereas the correction is applied more smoothly as the selected value is increased in the positive direction.

- \* Set the value so that the sum of the values is in a range from 0 to 100. The pitch correction produces no effect when the value is set below 0 or over 100.

8. Press [F1] (NEW).

Another new correction event is inserted.

9. Move the cursor to "TIME" and specify the time at which you want the correction to end with the TIME/VALUE dial.

Baby Calls			
VOCAL TOOL BOX:PITCH CORRECTION MAP			
NO	TIME	NOTE	SMOOTH
001	00:00:00-00.00	AUTO	0
002	00:00:10-00.00	C	+5
003	00:00:12-00.00	C	+5

10. Move the cursor to "NOTE" and specify "OFF."

Baby Calls			
VOCAL TOOL BOX:PITCH CORRECTION MAP			
NO	TIME	NOTE	SMOOTH
001	00:00:00-00.00	AUTO	0
002	00:00:10-00.00	C	+5
003	00:00:12-00.00	OFF	+5

11. Have the Recorder play the song from the beginning.

When a correction event specifies the note name in NOTE, the correction is first applied at the point in the song specified in Step 5, with the correction ending at the point specified in Step 9.

12. To delete any unnecessary correction events, move the cursor to the event and press [F4] (DELETE).

The correction event is deleted.

\* You cannot delete the correction event at the beginning of the song. If this correction event is unneeded, rather than deleting it, just set the function to "OFF."

13. Repeat Steps 4–12 as needed to specify the edited range.

14. To save the correction events you have input, save the song (p. 72 in Owner's Manual).

### NOTE

You can only save a Correction Event Map to a single song. Even if you switch the patch with the pitch correction, the Correction Event Map remains unchanged.

# Making More Detailed Backing Chorus Settings (Harmony Event Map)

In Version 2, when applying backing chorus, you can now specify precisely the time and pitches in the harmony and the backing chorus ON/OFF status. This allows you, for example, to freely add harmonies to solo vocals. In adding detailed backing chorus, the time at which the backing chorus starts and stops and the pitches used in the harmonies are specified together. This timing and pitch data is referred to as the **“Harmony Event Map.”**

Use the following procedure to edit pitches using the Harmony Event Map.

- Selecting the patch to which you want to apply the harmony sequence.**
- Press [F2] (EDIT) in the Vocal Tool Box pitch selection screen.**

The Harmony Sequence Edit screen appears.



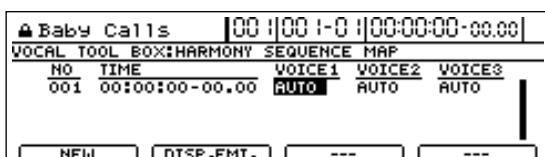
- Press [F3] (=> PRM.).**

The Harmony Sequence Parameter screen appears.



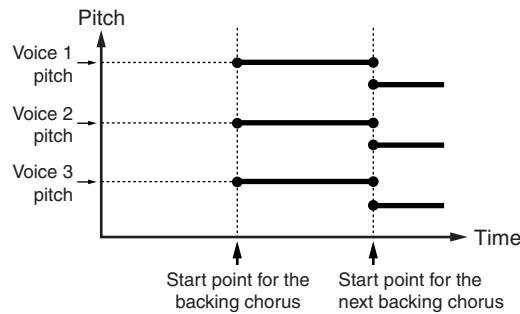
- Press [F2] (MAP EDIT).**

The Harmony Event Map screen appears.



In the Harmony Event Map screen, you can input the time at which you want addition of the backing chorus to start as well as the pitch for each of the three voices comprising the harmony.

Taken together, this timing and pitch data is referred to as a **“harmony event.”**



You can freely add backing chorus wherever you want in the song by arranging harmony events in the preferred sequence.

The sequence of harmony events with the information they contain is called a **“harmony event map.”**

Initially, only one harmony event, “AUTO,” is input at the beginning of the harmony event map.

## AUTO:

After the specified point in the song, the backing chorus is automatically added in accordance with the rhythm arrangement’s chord map.

- Press [F1] (NEW).**

A new harmony event is inserted.

Baby Calls 100 1-0 00:00:00-00.00		VOCAL TOOL BOX:HARMONY SEQUENCE MAP		
NO	TIME	VOICE1	VOICE2	VOICES
001	00:00:00-00.00	AUTO	AUTO	AUTO
002	00:00:00-00.00	AUTO	AUTO	AUTO
[NEW]	[DISP.FMT.]	[---	[---	[DELETE]

- Move the cursor to “TIME” and specify the time at which you want the backing chorus to start with the TIME/VALUE dial.**

Baby Calls 100 1-0 00:00:00-00.00		VOCAL TOOL BOX:HARMONY SEQUENCE MAP		
NO	TIME	VOICE1	VOICE2	VOICES
001	00:00:00-00.00	AUTO	AUTO	AUTO
002	00:00:20-00.00	AUTO	OFF	OFF
[NEW]	[DISP.FMT.]	[---	[---	[DELETE]

\* You cannot change the time of the harmony event at the start of the song.

- Move the cursor to “VOICE1” and specify the pitch for the first voice with the TIME/VALUE dial.**

Baby Calls 100 1-0 00:00:00-00.00		VOCAL TOOL BOX:HARMONY SEQUENCE MAP		
NO	TIME	VOICE1	VOICE2	VOICES
001	00:00:00-00.00	AUTO	AUTO	AUTO
002	00:00:20-00.00	C	OFF	OFF
[NEW]	[DISP.FMT.]	[---	[---	[DELETE]

## Making More Detailed Backing Chorus Settings (Harmony Event Map)

### VOICE1:

#### OFF

The first voice is not played after the specified point in the song.

#### AUTO

After the specified point in the song, the voice is played in accordance with the rhythm arrangement's chord map. (This functions the same way as Harmony Sequence in versions prior to Version 1.10.)

#### C, C#, -A#, B

After the specified point in the song, the voice is played at the specified pitch.

In case of "+" is added to "AUTO" or note, it sounds one octave up.

In case of "-" is added to "AUTO" or note, it sounds one octave down.

### 8. Specify the settings for "VOICE2" and "VOICE3" in the same manner.

### 9. Press [F1] (NEW).

Another new harmony event is inserted.

### 10. Move the cursor to "TIME" and specify the time at which you want the backing chorus to end with the TIME/VALUE dial.

Baby Calls				
VOCAL TOOL BOX:HARMONY SEQUENCE MAP				
NO	TIME	VOICE1	VOICE2	VOICES
001	00:00:00-00.00	AUTO	AUTO	AUTO
002	00:00:20-00.00	C	E	G
003	00:00:50-00.00	C	E	G

### 11. Move the cursor to "VOICE1" and specify "OFF."

Baby Calls				
VOCAL TOOL BOX:HARMONY SEQUENCE MAP				
NO	TIME	VOICE1	VOICE2	VOICES
001	00:00:00-00.00	AUTO	AUTO	AUTO
002	00:00:20-00.00	C	E	G
003	00:00:50-00.00	OFF	E	G

### 12. Specify "OFF" for "VOICE2" and "VOICE3" in the same manner.

### 13. Have the Recorder play the song from the beginning.

When the harmony event specifies the note name in VOICE (1-3), the backing chorus is first added at the point in the song specified in Step 5, then ends at the point specified in Step 10.

### 14. To delete any unnecessary harmony events, move the cursor to the event and press [F4] (DELETE).

The harmony event is deleted.

\* You cannot delete the harmony event at the beginning of the song. If this harmony event is unneeded, rather than deleting it, just set the function to "OFF."

### 15. Repeat Steps 5-14 as needed to specify the backing chorus.

### 16. To save the harmony events you have input, save the song (p. 72 in Owner's Manual).

#### NOTE

You can only save a Harmony Event Map to a single song. Even if you switch the patch with the harmony sequence, the Harmony Event Map remains unchanged.

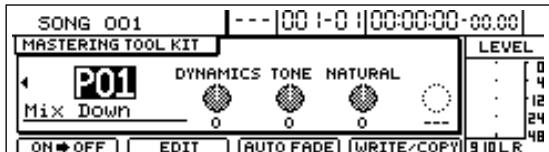
# Adjusting the Mastering Tool Kit Effects and Volume

In Version 2, not only can you select Mastering Tool Kit patches, but you can now also make adjustments to the patches with VALUE knobs 1–3.

## 1. Select a Mastering Tool Kit patch.

## 2. Press PAGE SCROLL button [ ► ].

The VALUE knob (1–3) icons appears.



## 3. Adjust the VALUE 1–3 knobs while playing back Track 15/16 to get the sound you want.

### VALUE 1 Knob: DYNAMICS

This adjusts the difference between the high and low volume levels during the performance. The range in volume decreases as the knob is turned to the right (clockwise). Although this is convenient for achieving an overall volume level, it results in a loss of some of the natural dynamics of music.

The range in volume increases as the knob is turned to the left (counterclockwise). Although this results in a loss of the overall volume level, it provides a natural dynamic range that is close to that of the actual performance.

Setting this to the center position maintains the patch's original effect.

### VALUE 2 Knob: TONE

Turning this knob to the right boosts the low-frequency and high-frequency ranges.

Turning this knob to the left produces a more subdued tone whereby the low-frequency and high-frequency ranges are not emphasized.

Setting this to the center position maintains the patch's original effect.

### VALUE 3 Knob: NATURAL

Turning this knob to the right causes the Mastering Tool Kit to be applied more slowly for a more natural effect. Since sudden peaks in volume are played back as is, this condition makes it more difficult to achieve a good overall volume level.

When the knob is turned to the left, the Mastering Tool Kit is applied more rapidly in response to sudden volume peaks. However, this negatively impacts the naturalness of the sound.

Setting this to the center position maintains the patch's original effect.

- \* *The VALUE 1–3 Knob settings are not saved to the patches, but rather are applied to all patches.*

#### NOTE

The sound may be distorted depending on your setting. Use your ears as well when adjusting the VALUE 1–3 knobs to achieve the sound you want while confirming there is no distortion.

# Importing BR-1180CD/1200CD Songs Via CD-R/RW Discs (BR-1180CD/1200CD Song Convert)

With Version 2, without having additional operation, you can convert songs created with the BR-1180CD/1200CD and import them to the BR-1600CD.

## NOTE

- Users already working with Version 1.10 should note that BR-1180CD song convert function is already featured in Version 1.10).
- Importing BR-1180CD/1200CD songs requires that the songs first be backed up to a CD-R/RW disc using the "Song Backup" function. Note that songs cannot be imported from discs made with the "HDD Backup" function.

## 1. Insert a CD-R/RW disc containing backup BR-1180CD/1200CD's songs into the BR-1600CD's CD-R/RW drive.

The drive's access indicator will begin to flash. Wait until this indicator stops flashing and turns off before proceeding.

## 2. Press CD-R/RW [DATA SAVE/LOAD].

The Data CD screen will appear.



## 3. Press [F2] (RECOVER) or move the cursor to RECOVER, and then press [ENTER/YES].

The Recover screen will appear.



## 4. Press [F1] (SONG) or move the cursor to SONG, and then press [ENTER/YES].

A list of the CD-R/RW disc's backup songs will be displayed.

BR-1180CD's Songs

SONG 001		---			---	
DATA CD:RECOVER:SONG BR-1180/CD CONVERTER						
1	SONG 001	-				
2	SONG 002	-				
3	SONG 003	-				
4	SONG 004	-				
<input type="button" value="SELECT"/>	<input type="button" value="ALL"/>	<input type="button" value="---"/>	<input type="button" value="CONVERT"/>			

BR-1200CD's Songs

SONG 001		---			---	
DATA CD:RECOVER:SONG						
1	SONG 001	-				
2	SONG 002	-				
3	SONG 003	-				
4	SONG 004	-				
<input type="button" value="SELECT"/>	<input type="button" value="ALL"/>	<input type="button" value="---"/>	<input type="button" value="GO"/>			

## 5. Move the cursor to the song you want to convert and press [F1] (SELECT).

The song will selected for convert.

A number of songs can be selected in this way for convert, and an asterisk (\*) will be displayed for each selected song. To cancel this selection, press [F1] once again.

If you would like to convert all of the songs on the CD-R/RW disc in a single operation, press [F2] (ALL). All songs will be selected for convert.

To cancel this selection, press [F2] once again. This deselects all songs.

## 6. When you have selected all of the songs you want to convert, press [F4] (CONVERT or GO).

The BR-1600CD will start the convert process.

When the message "Complete!" appears, it indicates that the convert has been completed successfully.

## NOTE

Note that if you are using the BR-1180 (without the CD-R/RW drive), you will not be able to back up the songs to CD-R/RW discs, and thus cannot import these songs.

The following data can be imported from the BR-1180CD.

## ■ Each track

- Recorded data
- PAN/EQ
- CHORUS/REVERB SEND LEVEL

## ■ The following data of the song bank

- Effect patches (except for patches using the EG MULTI 1 algorithm)
- Rhythm arrangements (arrangements using Preset/User patterns are left blank)
- Rhythm patterns
- Loop Phrases

## ■ Markers

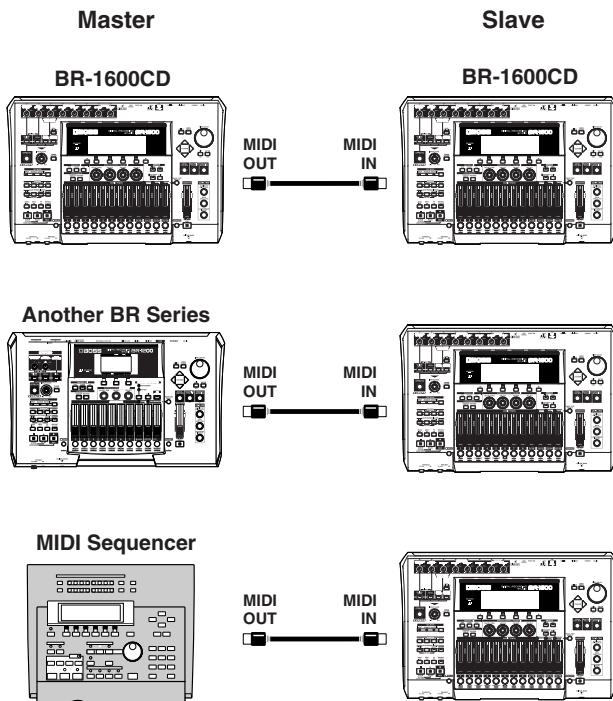
Scenes and their links are deleted.

- \* Data that was recorded on the BR-1180CD in MT1/MT2/LV1/LV2 modes will all be converted to LIN.

# Synchronizing the BR-1600CD to Another BR Series Device or MIDI Sequencer (MTC Slave)

With Version 2, the BR-1600CD can receive synchronization messages known as "MIDI Time Code" (MTC), which allows you to synchronize its playback timing with an external device. In such setups, another BR Series unit (BR-8/532/864/900CD/1180/1180CD/1200CD) or a MIDI sequencer serves as the master while the BR-1600CD acts as a slave device.

1. As shown in the figure, use a MIDI cable to connect the master device to the BR-1600CD (slave).



2. Set the master device and the BR-1600CD (slave) as follows.

## ■ When BR-1600CDs are used as both master and slave:

- \* In this case, the signal from the master BR-1600CD's DIGITAL OUT connector can be input to the slave BR-1600CD's DIGITAL OUT connector.

### ● Master:

- 1) Press [UTILITY].  
The Utility Menu screen will appear.
- 2) Move the cursor to the SYNC icon and press [ENTER/YES].  
Alternatively, you can press [F2] (SYNC) if the SYNC icon is currently displayed.  
The synchronization setting (SYNC) screen will appear.
- 3) Move the cursor to "Sync Generator" and select "MTC" using the TIME/VALUE dial.

### ● Slave:

Go through the same process used with the master device, but set "MTC Type" so it matches the master device setting, and "MTC Slave" to "ON".

## ■ When using a BR Series device as the master:

### ● Master:

Set "Sync Generator" to "MTC".

### ● Slave (BR-1600CD):

- 1) Press [UTILITY].  
The Utility Menu screen will appear.
- 2) Move the cursor to the SYNC icon and press [ENTER/YES].  
Alternatively, you can press [F2] (SYNC) if the SYNC icon is currently displayed.  
The synchronization setting (SYNC) screen will appear.
- 3) Move the cursor to "MTC Type" and set it using the TIME/VALUE dial so it matches the master device setting.
- 4) Move the cursor to "MTC Slave" and select "ON" using the TIME/VALUE dial.

## ■ When using a MIDI sequencer as the master:

### ● Master:

After referring to the owner's manual for the MIDI sequencer, set the sequencer to transmit MTC.

- \* You cannot synchronize the devices if the MIDI sequencer does not support MTC.

### ● Slave (BR-1600CD):

- 1) Press [UTILITY].  
The Utility Menu screen will appear.
- 2) Move the cursor to the SYNC icon and press [ENTER/YES].  
Alternatively, you can press [F2] (SYNC) if the SYNC icon is currently displayed.  
The synchronization setting (SYNC) screen will appear.
- 3) Move the cursor to "MTC Type" and set it using the TIME/VALUE dial so it matches the master device setting.
- 4) Move the cursor to "MTC Slave" and select "ON" using the TIME/VALUE dial.

## MTC Slave

### OFF:

No MTC signals will be received.

### ON:

Upon receipt of MTC, MTC type will be recognized automatically and sync.

## Synchronizing the BR-1600CD to Another BR Series Device or MIDI Sequencer

3. Press [EXIT/NO] several times to return to the top screen.
4. If you want to record using the slave device, press [REC] on the slave BR-1600CD at this point so the button flashes red (recording standby mode).  
Do not press [PLAY] at this time.  
Additionally, you do not need to press [REC] if you only want to play back the data.
5. Start playback with the master device (press [PLAY] on the BR Series device).  
By receiving MTC from Master unit and recognizing automatically, and synchronized playback also starts on the slave BR-1600CD. If the slave was put in recording standby in Step 4, then recording also begins.

**NOTE**

It may take several seconds immediately after playback starts for synchronization to stabilize. The pitches of sounds recorded or played back during this interval may be unstable. Leave about one measure of blank space before the beginning of songs or other such points at which you want synchronization to start.

6. To stop playback or recording, stop the MIDI sequencer.

The slave BR-1600CD stops simultaneously.

# **Saving Recorded Data for All Tracks at One Time in WAV/AIFF Format**

When saving recorded track data to a computer via USB in WAV or AIFF format, Version 2 now enables you to save all of the tracks in one operation.

## **If using Windows:**

At Step 5 of the procedure on p. 248 in the Owner's Manual, rotate the TIME/VALUE dial to the right to select \*-\* rather than a track number. The rest of the procedure is identical to that described on p. 248–249.

## **If using Macintosh:**

At Step 5 of the procedure on p. 250 in the Owner's Manual, rotate the TIME/VALUE dial to the right to select \*-\* rather than a track number. The rest of the procedure is identical to that described on p. 250–251.



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