

YAMAHA

MUSIC SEQUENCER

QY20

OWNER'S MANUAL

SPECIAL MESSAGE SECTION

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist. **IMPORTANT:** The louder the sound, the shorter the time period before damage occurs.

NOTICE:

Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:

Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice: This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix old batteries with new, or with batteries of a different type. Batteries **MUST** be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning: Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice: Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION:

The name plate is located on the bottom of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model _____

Serial No. _____

Purchase Date _____

YAMAHA

MUSIC SEQUENCER

QY20

OWNER'S MANUAL

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
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
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
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
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
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
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Precautions

Your QY20 will give you years of reliable service if you follow the simple rules given below:

■ Location

Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage.

- Direct sunlight (e.g. near a window).
- High temperatures (e.g. near a heat source, outside, or in a car during the daytime).
- Excessive humidity.
- Excessive dust.
- Strong vibration.

■ Power Supply

- Turn the power switch OFF when the instrument is not in use.
- If you use an AC power adaptor, unplug the adaptor from the AC outlet if the instrument is not to be used for an extended period of time.
- Unplug the AC power adaptor during electric storms.

- Avoid plugging an AC power adaptor used with the QY20 into the same AC outlet as appliances with high power consumption, such as electric heaters or ovens. Also avoid using multi-plug adaptors since these can result in reduced sound quality and possibly damage.

■ Turn Power OFF When Making Connections

- To avoid damage to the instrument and other devices to which it is connected (a sound system, for example), turn the power switches of all related devices OFF prior to connecting or disconnecting audio and MIDI cables.

■ Handling and Transport

- Never apply excessive force to the controls, connectors or other parts of the instrument.
- Always unplug cables by gripping the plug firmly, not by pulling on the cable.
- Disconnect all cables before moving the instrument.

- Physical shocks caused by dropping, bumping, or placing heavy objects on the instrument can result in scratches and more serious damage.

■ **Cleaning**

- Clean the cabinet and panel with a dry soft cloth.
- A slightly damp cloth may be used to remove stubborn grime and dirt.
- Never use cleaners such as alcohol or thinner.
- Avoid placing vinyl objects on top of the instrument (vinyl can stick to and discolor the surface).

■ **Electrical Interference**

- This instrument contains digital circuitry and may cause interference if placed too close to radio or television receivers. If this occurs, move the instrument further away from the affected equipment.

■ **Data Backup**

- The QY20 contains a special long-life battery that retains the contents of its internal RAM memory even when the power is turned OFF.

The backup battery should last for several years. When the backup battery needs to be replaced “Backup Batt. Low!” will appear on the display when the power is turned on. When this happens, have the backup battery replaced by qualified Yamaha service personnel. **DO NOT ATTEMPT TO REPLACE THE BACKUP BATTERY YOURSELF!**

- Internal memory data can be corrupted due to incorrect operation. We recommend that you use the QY20 MIDI bulk dump utility (see page 163 for details) to transfer important data to a MIDI data recorder such as the Yamaha MDF2 for safe long-term storage. Yamaha cannot be held responsible for data loss caused by battery failure or improper operation of the QY20!

■ **Service and Modification**

- The QY20 contains no user serviceable parts. Opening it or tampering with it in anyway can lead to irreparable damage and possibly electric shock. Refer all servicing to qualified YAMAHA personnel.

YAMAHA is not responsible for damage caused by improper handling or operation.

About This Manual

The following simple icons are used throughout this manual to draw attention to important points and information where necessary. The icons also make it easier to differentiate between information that you should read immediately and information that can be skipped until later, hopefully helping you to become familiar with the QY20 in the quickest, most efficient manner possible.



This icon warns of possible hardware damage, software malfunction, or any other serious problem that may occur due to improper operation or set up.



This icon marks information that you **must read** — i.e. important steps or procedures that are essential for proper, efficient, or easy operation.



The magnifying-glass icon indicates information that may not be essential for general operation, but is a more detailed explanation of a feature, a description of the principle involved, etc. You can skip this information if full details are not required immediately.



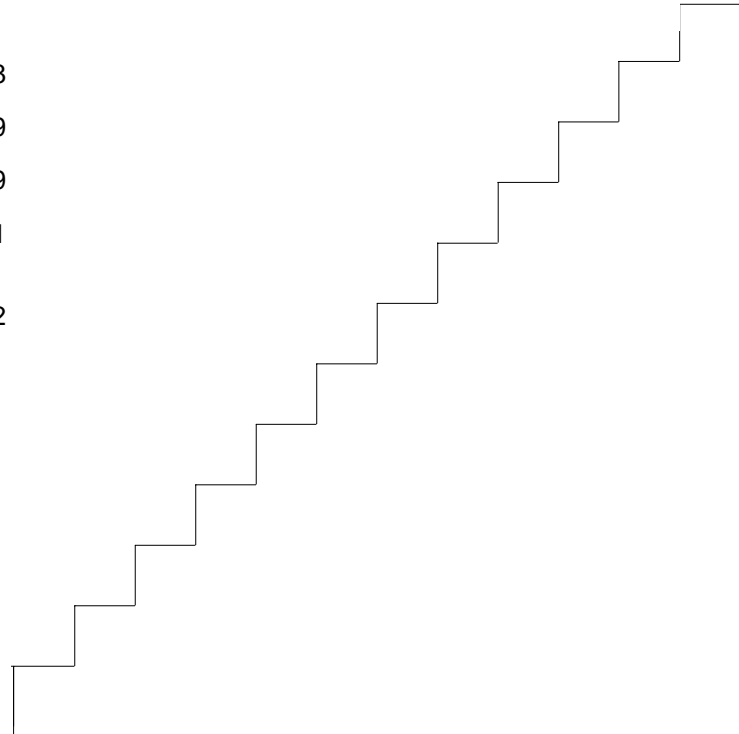
Suggestions as to how a feature or function can be applied musically are identified by this icon.



Hints or ideas that are not specifically musical but may make operation easier or more interesting are marked by the lightbulb icon.

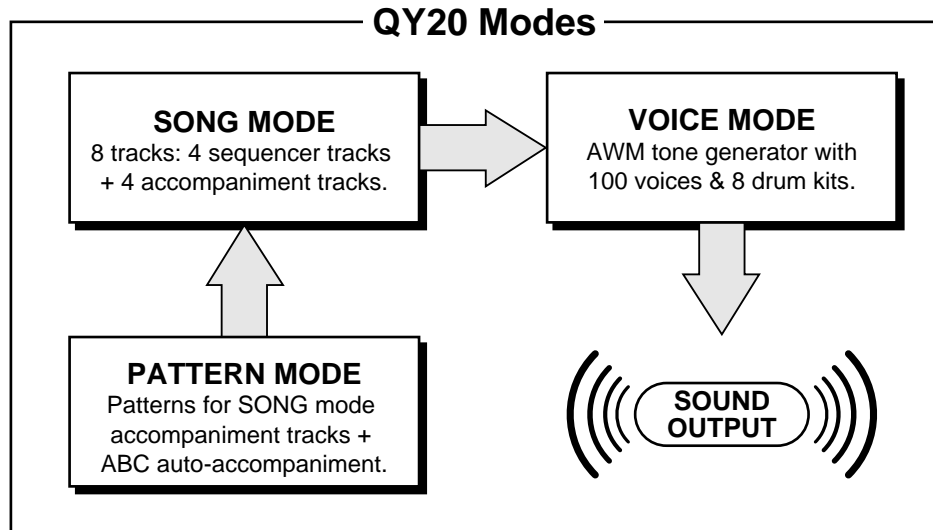
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What It Is ...

The QY20 is a complete music production system with tone generator, sequencer, and auto-accompaniment capability all integrated with a sophisticated control interface. It has 3 **modes** that provide access to its 3 main functional blocks: the **VOICE** mode, the **SONG** mode, and the **PATTERN** mode.



VOICE Mode

The QY20's internal AWM tone generator provides 100 top-quality **voices** plus 8 complete **drum kits** with different drum and percussion instruments assigned to different notes. You can assign any of these voices to the internal sequencer tracks (⇔ page 38), or play them directly from an external keyboard or other MIDI controller via the MIDI interface (⇔ page 168).



See the Appendix (page 172) for a complete list of the QY20 voices.

SONG Mode

Think of the QY20 SONG mode as an 8-track tape recorder or 8-part score that lets you record different parts of a musical composition one at a time, and then play them back all together. You can even edit certain parts after they've been recorded to correct mistakes and fine-tune the overall sound. The QY20 has an internal memory that will hold up to 20 complete **songs**. For extra storage capacity you can use the MIDI **bulk dump** utility to transmit the song data to a MIDI data recorder such as the Yamaha MDF2 (⇔ page 163).

The SONG mode's 8 tracks are actually divided into 2 4-track groups: tracks 1 through 4 are the **sequencer tracks**, while the remaining 4 tracks are the **accompaniment tracks**. The difference is described below.

● The Sequencer Tracks

SONG Mode Tracks

Sequencer tracks.	Sequencer track 1 ("TR1")
	Sequencer track 2 ("TR2")
	Sequencer track 3 ("TR3")
	Sequencer track 4 ("TR4")
Accomp. tracks	Accompaniment chord 1 ("C1")
	Accompaniment chord 2 ("C2")
	Accompaniment bass ("Ba")
	Accompaniment drums ("Dr")

The QY20 sequencer has 4 “normal” sequencer tracks to which you can individually assign any of the 100 internal voices (or 8 drum kits if desired), and record just about anything you like either via the QY20’s own **micro keyboard** or an external keyboard connected to the QY20 MIDI IN connector. You can use the **real-time record** mode (⇔ page 109) so that the QY20 records exactly what you play as you play it, or the **step record** mode (⇔ page 115) in which notes can be entered one at a time. The step record mode lets you record extremely fast or complex passages that would be impossible to play in real time.

● The Accompaniment Tracks

The remaining four tracks are dedicated to producing accompaniment: the **chord 1** and **chord 2** tracks, a **bass track**, and a **drum track**. The accompaniment tracks differ from the sequencer tracks in 2 ways:

1. Accompaniments are produced by specifying a sequence of **patterns** to be played rather than by recording individual notes or chords (⇔ page 52). The QY20 has 100 preset patterns that you can simply select and use, and can store up to 100 original patterns you create in the PATTERN mode (⇔ page 78).

2. The accompaniment tracks feature Yamaha's advanced **ABC (Auto Bass Chord)** auto-accompaniment system (⇔ page 47). Of course, you can create accompaniments without using ABC if you like.

PATTERN Mode

The QY20 PATTERN mode produces the accompaniment patterns that are used by the SONG mode accompaniment tracks. 100 preset patterns are provided (each with 6 variations: Intro, Normal, Variation, Fill-in 1, Fill-in 2, and Ending) that you can simply select and use to create accompaniments in a wide variety of styles (⇔ page 42). In the PATTERN mode you can also record entirely original patterns that you'll later string together in the SONG mode to create a complete accompaniment track (⇔ page 52). The ABC auto-accompaniment feature can be applied to your own patterns. The QY20 can store up to 100 original patterns, and you can use the MIDI bulk dump utility to transmit pattern data to a MIDI data recorder such as the Yamaha MDF2 if you want extra storage capacity (⇔ page 163).



See the Appendix (page 178) for a complete list of the preset patterns.

What It Can Do ...

Here are a few ideas on how you can use the QY20. There's no way we can cover all possibilities, but the ideas presented might help to spark some new and interesting applications.

- **A Super Practice Tool**

Create accompaniments that you can practice with on your guitar, keyboard, or any other instrument (vocals too, of course). That way you have the advantage of practicing with a bass line and chords instead of just a metronome or drum machine (⇔ page 52).

- **Use It As A Drum Machine**

Use the drum kit voices to record on the sequencer tracks, or record drum-only patterns in the PATTERN mode that you can later string together in the SONG mode. You can also use the drum tracks from the preset patterns (⇔ page 75).

- **Compose & Arrange**

The QY20's outstanding voices, versatile sequencing capability, and in-depth editing features make it a perfect tool for trying out musical ideas and arrangements. It's also a great way to present your ideas to others (⇨ page 108).

- **Serious Music Production**

Use the QY20 as an adjunct to serious music recording and production. It can, for example, be MIDI-clock synchronized to other MIDI equipment in order to add extra tracks to an arrangement (⇨ page 160).

- **Use It As a Tone Generator**

The QY20's AWM tone generator is in no way a compromise. You get outstanding AWM sound quality that's on a par with some of the finest full-size synthesizers. You can select and play the QY20 voices remotely from just about any MIDI keyboard, computer, or other controller (⇨ page 168).

- **Add ABC Capability to Your MIDI Keyboard**

Use the QY20 as an "ABC expander" for your MIDI keyboard. Auto-accompaniment can make playing at home more fun, and it can be a tremendous sound-booster at 1-performer live gigs (⇨ page 170).

Setting Up: Power & Connections

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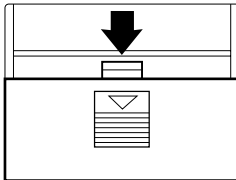
Power Supply

Your QY20 will run either from batteries or an optional AC adaptor. Follow the instructions below according to the power source you intend to use.

Using Batteries

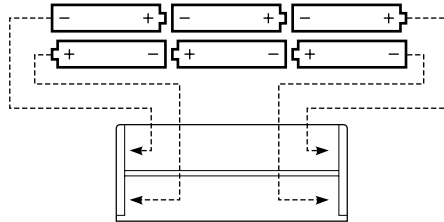
Six 1.5V AA size (SUM-3 or R6P) or equivalent alkaline batteries must first be installed in the battery compartment.

1 Open Battery Compartment Cover



Open the battery compartment cover — located on the instrument's bottom panel — by pressing down on the grooved section of the cover and sliding in the direction of the arrow, as shown in the illustration.

2 Insert Batteries

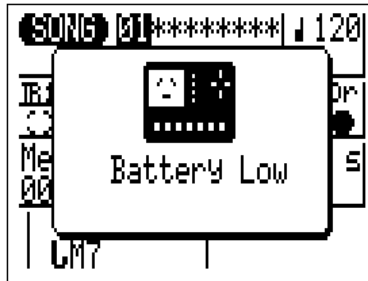


Insert the six batteries, being careful to follow the polarity markings on the bottom panel.

3 Replace Cover

Replace the compartment cover, making sure that it locks firmly in place.

When to Replace the Batteries



When the batteries run down and are no longer able to operate the QY20, the sound may become distorted and the display shown to the left will appear.

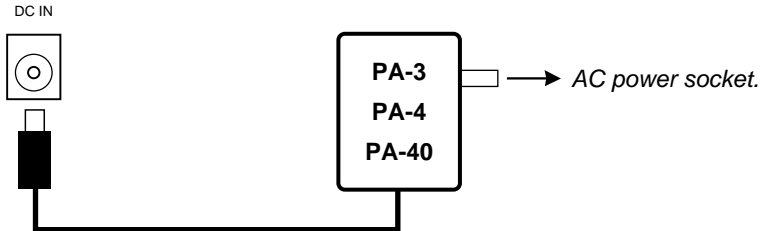
When this display appears, replace the batteries with a complete set of six new batteries. **NEVER mix old and new, or different types of batteries (e.g. alkaline and manganese)!**



To prevent possible damage due to battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.

Using a Power Adaptor

Plug the DC output cable from a Yamaha PA-3, PA-4, or PA-40 AC Adaptor (available from your Yamaha dealer) into the DC IN jack on the rear panel, then plug the adaptor into a convenient wall AC power socket.



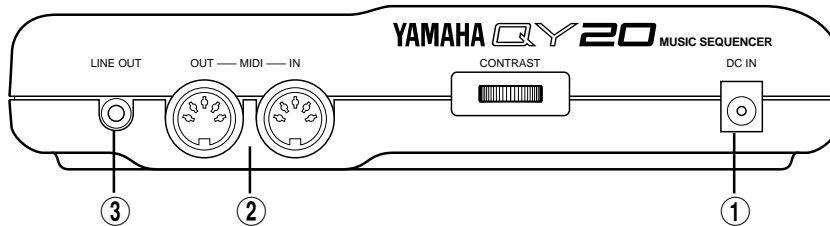
Do not attempt to use an AC adaptor other than the specified unit or an appropriate replacement provided by your Yamaha dealer to power the QY20. The use of an incompatible adaptor may cause irreparable damage to the QY20, and might pose a serious shock hazard! Be sure to unplug the AC adaptor from the AC mains socket when the QY20 is not in use.

Setting Up Your System

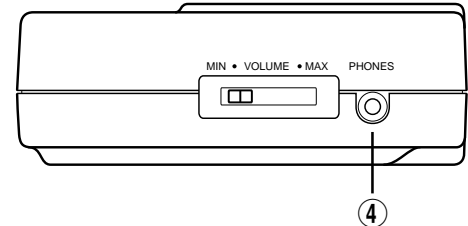
What you will connect the QY20 to, and what you will connect to the QY20, will depend entirely on your individual requirements, and it would be impossible to cover all possibilities here. A few examples are provided below to help you get started.

The Connectors

Rear Panel



Right Side Panel



2 Setting Up: Power & Connections

① DC IN Jack

This jack is only used when you are powering the QY20 from an optional AC adaptor instead of batteries. The DC output cable from an optional Yamaha PA-3, PA-4, or PA-40 AC Power Adaptor is plugged in here.



The batteries are automatically disconnected when a plug is inserted into the DC IN jack.

② MIDI IN & OUT Connectors

If you plan to use a MIDI keyboard or other instrument to play and program the QY20, it should be connected to QY20 MIDI IN connector (see “MIDI Connections,” below). The MIDI OUT connector can be connected to an external tone generator if you want to drive external voices from the QY20 sequencer, or a MIDI data recorder such as the Yamaha MDF2 if you want to store your songs and patterns to floppy disk (⇨ page 163).

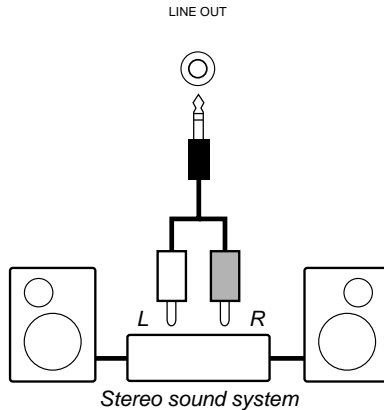
③ LINE OUT Jack

This miniature stereo phone plug delivers a line-level stereo output signal from the QY20 for connection to a stereo sound system (see “Audio Connections,” below). The output level is adjusted via the VOLUME control on the right side panel.

④ PHONES Jack

Any pair of stereo headphones with the miniature stereo phone plug can be plugged in here for convenient monitoring. The PHONES output level is adjusted via the VOLUME control on the right side panel.

Audio Connections

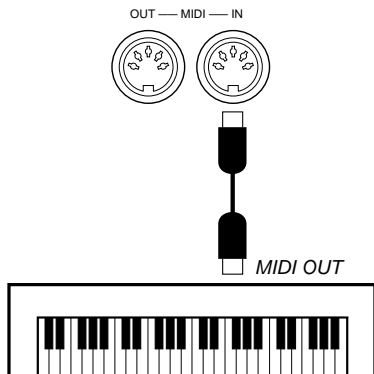


The simplest way to monitor the QY20 sound is via a pair of stereo headphones (miniature stereo phone plug type) plugged into the PHONES jack. If you want to use an external stereo sound system, however, use the LINE OUT jack and the supplied “Y” cable (miniature stereo phone plug to dual RCA pin plugs). The white RCA pin plug goes to the left-channel input of your stereo sound system and the red plug goes to the right-channel input.



Make sure that both the QY20 and your sound system are turned OFF when making connections.

MIDI Connections



Although the QY20 can be played and programmed from the built-in micro keyboard, an external MIDI keyboard connected to the MIDI IN connector provides the added advantages of standard keyboard size and key velocity sensitivity (if your keyboard has a velocity-sensitive keyboard). Connect the MIDI OUT connector of the keyboard to the MIDI IN connector of the QY20, and make sure that your keyboard is set to transmit on the appropriate MIDI channel. The QY20 MIDI channel assignments are as follows:

MIDI Channel	Voice
1.....	Sequencer track TR1
2.....	Sequencer track TR2
3.....	Sequencer track TR3
4.....	Sequencer track TR4
5.....	Accompaniment track C1 (Chord 1)
6.....	Accompaniment track C2 (Chord 2)
7.....	Accompaniment track Ba (Bass)
10.....	Accompaniment track Dr (Drums)

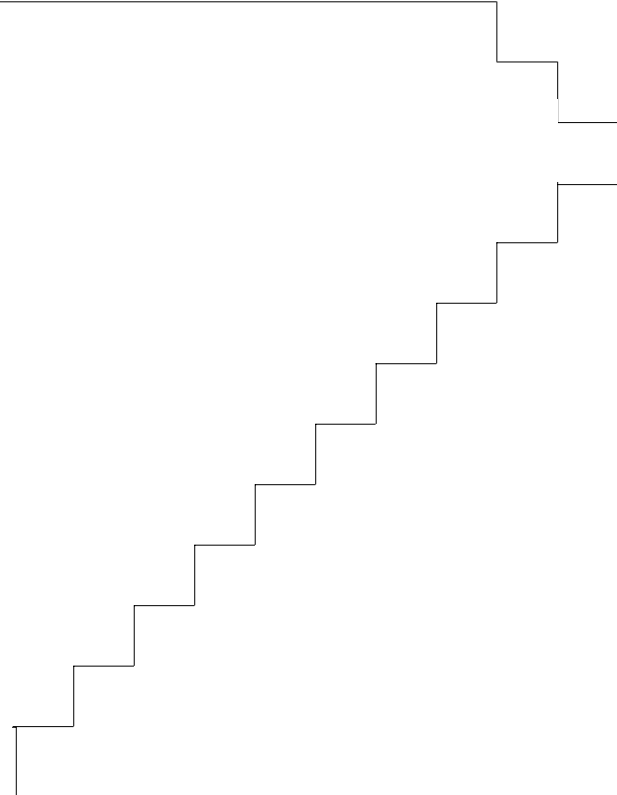
This simply means that if your keyboard transmits on MIDI channel 1, it will control the QY20 voice that is currently assigned to sequencer track 1, and so on. See page 38 for instructions on how to assign different voices to the SONG mode tracks.



Data received on MIDI channels other than those listed above also produce sound, according to the selected "Pgc Mode" (page 162) and received MIDI program change messages (see the "MIDI Data Format" booklet).

Getting to Know the QY20: How the Controls Work

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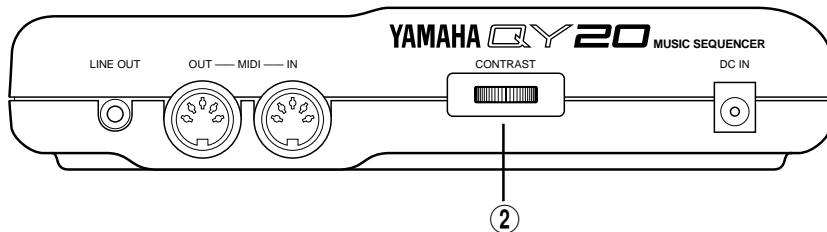


3 Getting to Know the QY20: How the Controls Work

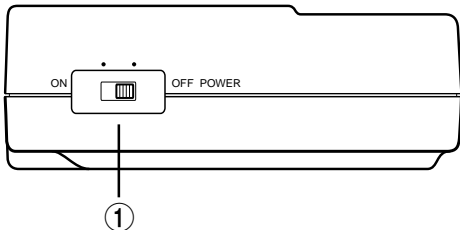
The QY20 has fairly simple, consistent control interface that, once understood, makes operation fast and easy, no matter what operation you are performing. If you read through this section carefully, and try out the procedures in the **Try This:** sections, you should have no problem accessing and operating the QY20's many advanced features.

The Controls

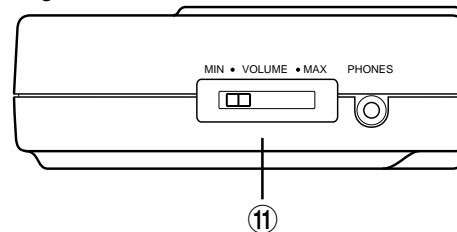
Rear Panel



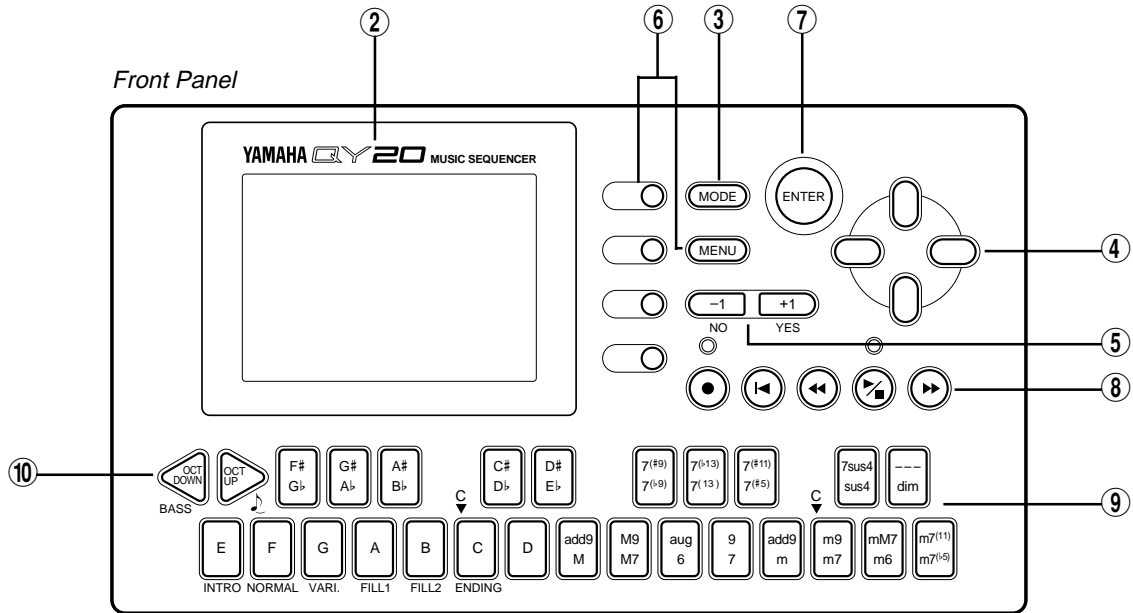
Left Side Panel



Right Side Panel

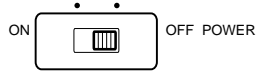


3 Getting to Know the QY20: How the Controls Work



3 Getting to Know the QY20: How the Controls Work

① POWER Switch

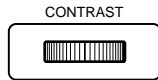


Slide to the “ON” position to turn the QY20 on, and to the “OFF” position to turn it off.



Always turn the power switch off when not using your QY20.

② LCD Display & CONTRAST Control



This large multi-function liquid crystal display panel shows all parameters and prompts you need to operate the QY20 with optimum ease and efficiency.

Use the CONTRAST control on the rear panel to achieve the best display visibility (LCD visibility varies greatly with viewing angle and lighting).

③ [MODE] Key

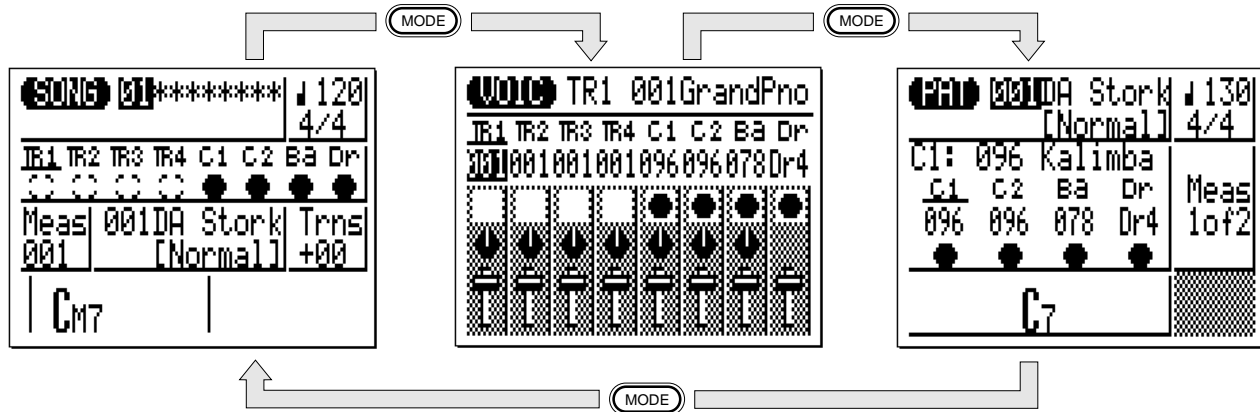


Use this key to switch between the QY20’s SONG, VOICE, and PATTERN modes.

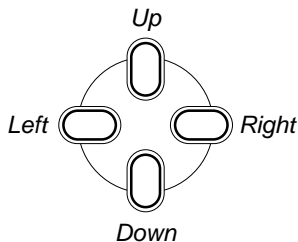
Try This:

Turn your QY20 on (the power switch is on the left side), then press the [MODE] key a few times and watch how the display changes. The [MODE] key calls the SONG, VOICE, and PATTERN mode displays in sequence.

3 Getting to Know the QY20: How the Controls Work



4 Cursor Keys



These 4 keys move the “cursor” around the display screen, highlighting the various parameters that are available for editing (the QY20 cursor appears as a dark block with inverse characters).

Try This: Select the SONG mode display (use the [MODE] key, as described above), then try using the cursor keys to move the cursor around the screen.

3 Getting to Know the QY20: How the Controls Work

⑤ [-1/NO] and [+1/YES] Keys

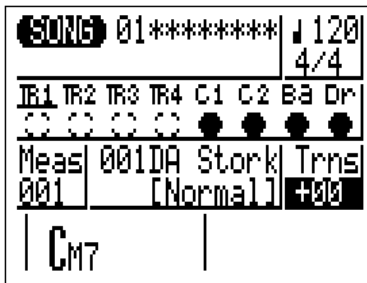


These keys are used to edit (change the value of) the parameter at which the cursor is currently located. The [-1/NO] key **decrements** (decreases stepwise) the value of the selected parameter, while the [+1/YES] key **increments** (increases stepwise) the parameter. Press either key briefly to decrement or increment the parameter by one, or hold the key for continuous decrementing or incrementing in the specified direction.

The [-1/NO] and [+1/YES] keys are also used to respond to “Are you sure?” prompts when they appear. Press [+1/YES] to go ahead with the operation, or [-1/NO] to cancel.



For even faster decrementing or incrementing, press the opposite increment/decrement key while holding the key corresponding to the direction you want to increment/decrement in.



← This is the transpose parameter.

Use  to set.

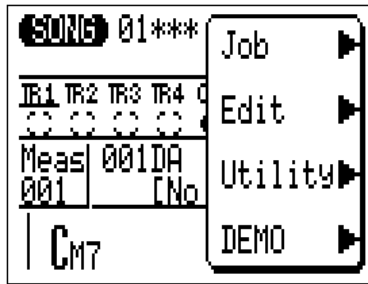
⑥ [MENU] and Function Keys



The [MENU] key calls a menu of functions or sub-modes that can be accessed from the current QY20 mode, and the function keys (the small round yellow keys) select the corresponding item from the menu that appears on the display.

Try This:

Select the SONG mode display (use the [MODE] key, as described above), then press the [MENU] key. You should see the menu shown to the left.

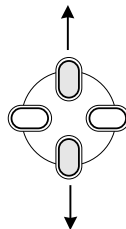


Press to see
job list.

Next press the top function key (the one immediately to the right of “Job” on the menu) to call the SONG mode Job List:



Move cursor up.

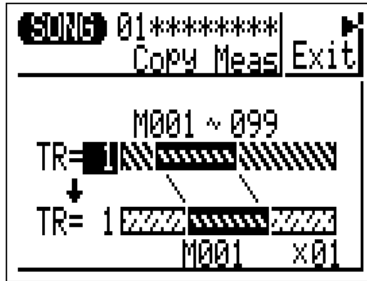


Move cursor down.

You can now use the cursor keys (up and down only) to select the various items in the Job List. Leave the display as it is for now, and read about the [ENTER] key, below.

3 Getting to Know the QY20: How the Controls Work

⑦ [ENTER] Key



In addition to “entering” chords in SONG and PATTERN modes (which we’ll learn about later), the [ENTER] key is used to “enter” a selected menu function.

Try This:

Assuming that you’ve gone through the “Try this:” procedure for the [MENU] and Function keys, above, you should now have the SONG mode Job List on your QY20 screen. Use the cursor keys (up and down only) to select job number 2 “Copy Meas”. Now press the [ENTER] key to actually engage the copy measure job — the display should appear as shown to the left.

Since we don’t really want to use the copy measure job, press the [MODE] key to go back to the SONG mode. You could also press the top function key (next to “Exit ►” on the display) to first move back to the Job List, and then again to return to the SONG mode.

⑧ Sequencer Keys

The sequencer keys control recording and playback in the SONG and PATTERN modes, and allow you to locate a specific measure within a song or pattern. Their layout and functions are similar to the transport controls on a tape recorder.

3 Getting to Know the QY20: How the Controls Work

RECORD READY

Press this key to engage the record ready mode. You have to press START/STOP to actually start recording.

GO TO TOP

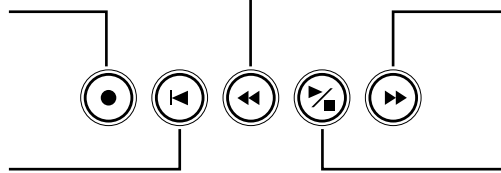
This key takes you straight to the first measure ("top") of the current song or pattern.

MOVE BACK

Press briefly to move back one measure, or hold for continuous scrolling.

MOVE FORWARD

Press briefly to move forward one measure, or hold for continuous scrolling.

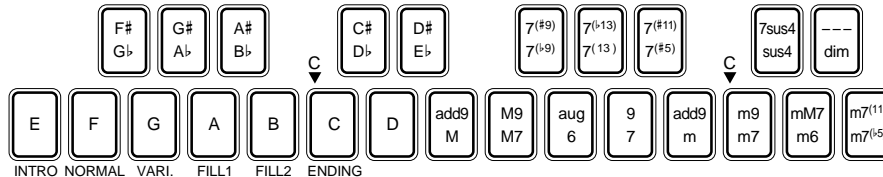


START/STOP

Press to start or stop recording or playback.

9 Micro Keyboard

This tiny 2-octave keyboard makes it possible to program the QY20 anywhere, anytime, without having to connect an external MIDI keyboard. It's even polyphonic, so you can directly enter chords as well as single notes. The only thing it lacks is velocity sensitivity. The QY20 does, however, accept velocity information from an external MIDI keyboard.

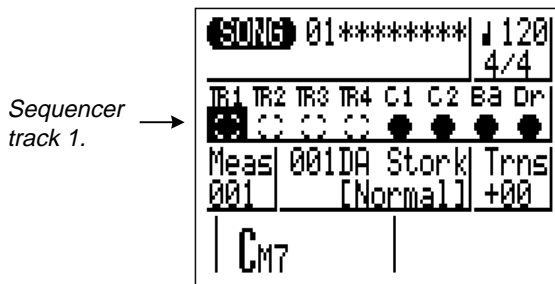


When programming the accompaniment tracks the micro-keyboard is also used to specify the chord roots and types to be entered.

3 Getting to Know the QY20: How the Controls Work

Try This:

In the SONG mode, use the cursor keys to place the cursor at the sequencer track 1 position (“TR1” on the display).



Now play the micro keyboard. You should hear the voice that is currently assigned to sequencer track 1. Also try moving the cursor to the accompaniment bass (“Ba”) and drum (“Dr”) tracks and playing the currently assigned bass and drum voices. In the SONG mode, the micro keyboard plays the voice assigned to the currently selected track (unless you’re recording the accompaniment chord tracks, in which case it is used to specify chords).

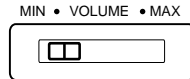
10 Octave Keys



Since the 2-octave range of the micro-keyboard is not enough for serious music programming, the [OCT DOWN] and [OCT UP] keys allow the pitch of the keyboard to be shifted up or down in octave steps, over a range of 8 octaves. Each time the [OCT DOWN] key is pressed the pitch of the keyboard is shifted down by one octave, until the lower limit is reached. The [OCT UP] key shifts the pitch of the keyboard up in the same way.

When recording the accompaniment chord tracks in the step mode, the [OCT DOWN] key is used to specify the bass note for chords, while the [OCT UP] key is used to enter syncopated chords.

⑪ VOLUME Control



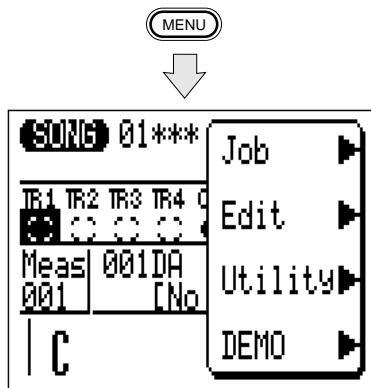
The VOLUME control adjusts the volume of the sound delivered via both the LINE OUT and PHONES jacks. Slide the control toward “MAX.” to increase the volume or toward “MIN.” to decrease the volume.



Set the VOLUME control to “MIN.” when connecting the QY20 to a sound system for the first time, then gradually raise the volume level until the required listening level is reached. This simple precaution can prevent unexpectedly high volume levels from damaging your speaker system (and maybe even your ears!).

Play the Demo

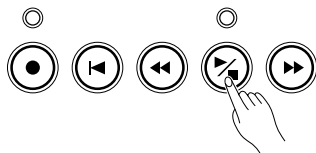
Once you've set up your QY20 and become familiar with the controls, you might like to play back the pre-programmed demonstration to hear what the QY20 can do.



- 1 From the SONG or VOICE mode display (use the [MODE] key to select) press the [MENU] key.



- 2 Press the function key immediately next to "DEMO" on the display. The initial demo display should appear.



- 3 Press the [▶/■] key to start demo playback. The demo will play repeatedly until stopped.
- 4 Press the [▶/■] key to stop the demo, then press the [MODE] key to return to the mode from which the demo was engaged.

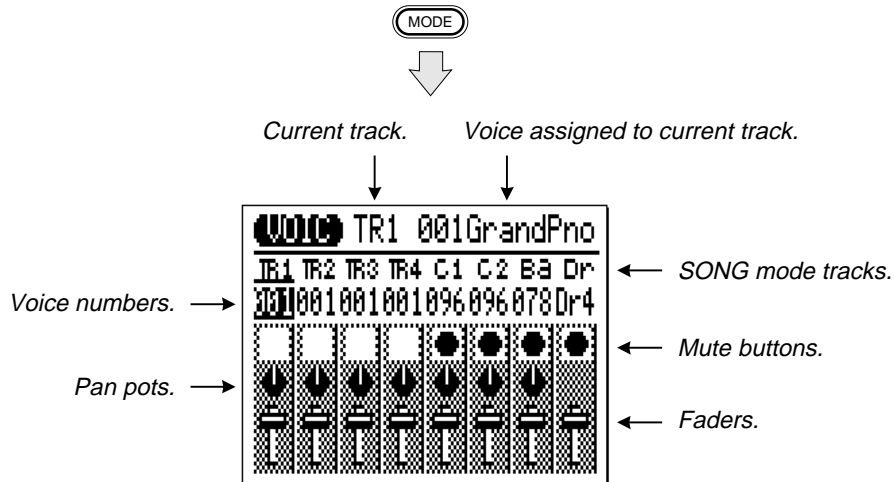
The VOICE Mode: Selecting, Playing, & Assigning the QY20 Voices & Drums

Try Out the Voices	37
Making Voice-to-Track Assignments	38
The Mute Buttons	38
The Pan Pots	39
The Faders	40

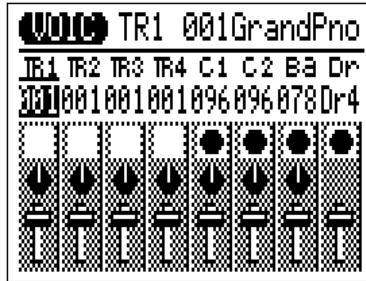
4 The VOICE Mode: Selecting, Playing, & Assigning the QY20 Voices & Drums



The QY20 has 100 voices and 8 drum kits that can be selected, played, and assigned to the SONG mode tracks in the VOICE mode. The voice mode also features a graphic on-screen “mixer” that has mute buttons, pan pots, and faders for each track (the drum track does not have a pan pot).

Use the **[MODE]** key to select the VOICE mode display.



Try Out the Voices



Use   to select voice numbers.

Move the cursor to the voice number immediately below “TR1” on the display (as in the display shown to the left). Note that the name of the voice currently assigned to TR1 appears in the upper right corner of the display. Play the micro keyboard and you’ll hear that voice.



*In any QY20 mode, the micro keyboard plays the voice assigned to the currently selected track. A MIDI keyboard connected to the MIDI IN connector, however, will only play the voice assigned to the track that receives on the MIDI channel that the external keyboard is transmitting on: MIDI channel 1 plays **TR1**, channel 2 plays **TR2**, channel 3 plays **TR3**, channel 4 plays **TR4**, channel 5 plays **C1**, channel 6 plays **C2**, channel 7 plays **Ba**, and channel 10 plays **Dr**. Channel 10 also plays any other track to which a drum voice (“Dr1” through “Dr8”) is assigned.*

Use the [+1/YES] key to step through the QY20’s 100 voices (you can use the [-1/NO] key to step backward, too), trying out each voice on the keyboard.

Keep incrementing past voice number 100 and you’ll select drum kits 1 through 8 (“Dr1” through “Dr8” on the display). Try these out on the keyboard, too.

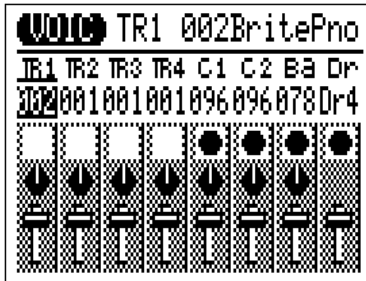


See the Appendix (page 174) for a complete list of note assignments (i.e. which drum instruments are assigned to which notes) for all 8 drum kits.



If you’re playing the micro keyboard, use the octave keys to access the full range of instruments in each drum kit.

Making Voice-to-Track Assignments

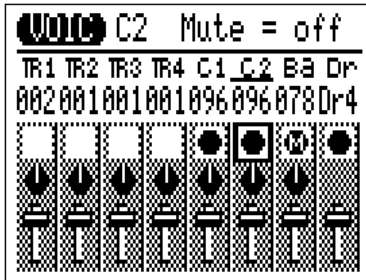


When you record accompaniments (⇔ page 52) or complete songs (⇔ page 108) in the SONG mode, you'll need to specify which voices are to be played by which tracks. These assignments are made in the VOICE mode. To assign voices to the sequencer and accompaniment tracks, simply move the cursor to the voice number of the desired track, then use the [-1/NO] and [+1/YES] keys to select the voice (or drum kit) for that track.



When a different pattern is selected in the SONG mode, the voice assignments for that pattern are automatically recalled, overriding any voice assignments made in the VOICE mode (the pan and volume settings are not changed).

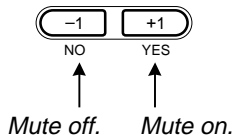
The Mute Buttons



The mute “buttons” below the voice number for each track can be used to mute (turn off) the corresponding track. Move the cursor to the appropriate mute button, then press [+1/YES] to mute that track, or press [-1/NO] to turn a muted track back on.

The letter “M” appears in the mute buttons of tracks that are muted. Tracks that do not contain data cannot be muted, and their mute buttons appear as white rather than dark blocks. In the display to the left, for example, TR1 through TR4 contain no data and are therefore white. The Ba track has been muted, and the cursor is currently over

4 The VOICE Mode: Selecting, Playing, & Assigning the QY20 Voices & Drums

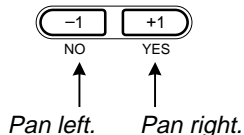
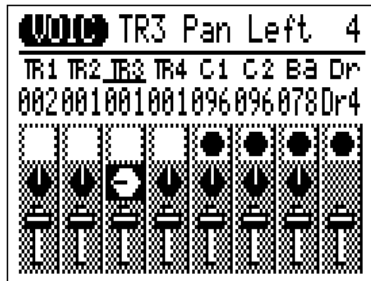


the C2 track mute button. Note that the status of the mute button over which the cursor is located is also indicated in the upper right corner of the display (in this example, “Mute = off” for the C2 track).



The mute buttons are a handy way to simply turn tracks that you don't want to hear off. When recording songs or patterns, they also make it possible to mute a “busy” track that might make it difficult to hear an important accompaniment track.

The Pan Pots

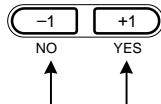
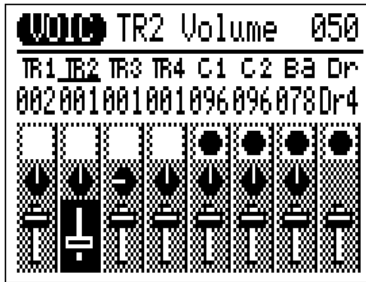


Like the pan pots on a mixing console, the VOICE mode pan pots can be used to position the sound of the corresponding track anywhere from left to right in the stereo sound field. Position the cursor at the pan pot, then use the [-1/NO] and [+1/YES] keys to set the pan position. The graphic pan pot will rotate to the corresponding position. The pan positions also have numeric values (1 through 7) that appear in the upper right corner of the display: “Left 7” is full left and “Right 7” is full right. In the display to the left, TR3 is panned about half way to the left (“Left 4”).



*The **Dr** track doesn't have a pan pot because the drum kit voices consist of a number of instruments, each of which has a preset stereo position. These have been set to produce an appropriate “stereo image” of the drum kit.*

The Faders



Lower volume. Raise volume.

Each track has a graphic “fader” that can be set to produce the best “mix” (balance) between the various voices. Position the cursor at a fader, then use the [-1/NO] and [+1/YES] keys to set the fader level. The graphic fader will move to the corresponding position (higher for higher volume, and lower for lower volume). The fader positions also have numeric values (000 through 127) that appear in the upper right corner of the display: “000” is minimum volume (no sound) and “127” is maximum volume. The default setting is “100” for all tracks. In the display to the left, the TR2 fader has been set to a quiet “50.”



You can switch back and forth between the SONG and VOICE modes even while a song is playing, so you can adjust all VOICE mode parameters (change voices, mute tracks, pan, and change volume settings) while listening to the results in real time!

Easy Accompaniment for Other Instruments

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Using the QY20 As a Drum Machine	75

Selecting & Playing the Preset Patterns

Using the QY20 preset patterns you can easily create accompaniments that you can play or sing along with.

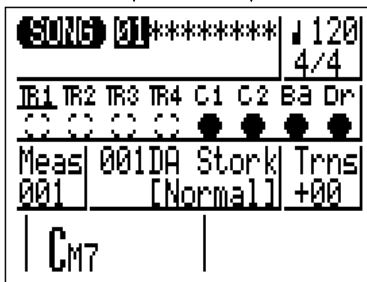
The QY20 has 100 preset accompaniment patterns covering a wide variety of musical styles. Here's how you can select and play the patterns while in the SONG mode.

1 Select the SONG mode and an "empty" song.

Song number (1 ... 20).

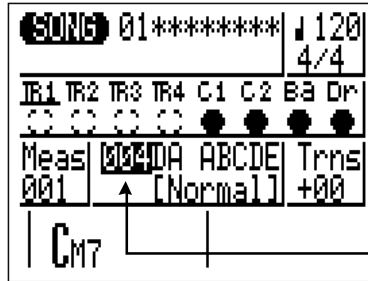
Asterisks (*) indicate an empty song.

Use   to set.



In order to select and play the patterns as described in this section you must select an empty song (i.e. one in which nothing has been recorded). Empty songs are indicated by a row of asterisks ("*****") following the song number. Different song numbers (1 through 20) are selected simply by moving the cursor to the song number and using the [-1] and [+1] keys.

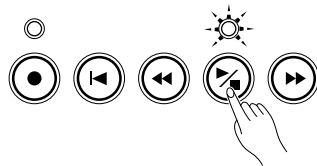
2 Select a pattern number.



Use the cursor keys to move the cursor to the accompaniment pattern number, then use the [-1] and [+1] buttons to select the pattern you want to play. The preset patterns are numbers 001 through 100.

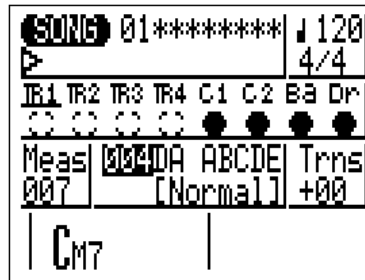
Place the cursor here (this is the accompaniment pattern number).

3 Start playback.



Play indicator. →

Measure number. →



Press the [▶/■] key to start playback of the selected accompaniment pattern. The play indicator will appear in the display and the green LED above the [▶/■] key will flash at the current playback tempo.



Note that the “Meas” (measure) number on the display advances as each measure is played. In this mode playback will continue up to measure “999” and then repeat from measure “001”.

5 Easy Accompaniment for Other Instruments

4 Listen to the pattern's variations.

Each preset pattern has 6 variations or “sections” — INTRO, NORMAL, VARI., FILL1, FILL2, and ENDING.

INTRO introduction

NORMAL normal pattern, used for the “verse” of a song.

VARI. variation, normally used as a chorus or bridge.

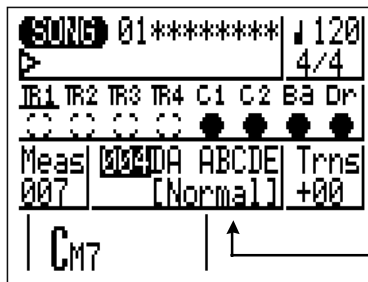
FILL1 fill-in 1, transition from normal to variation.

FILL2 fill-in 2, transition from variation to normal.

ENDING ending pattern.



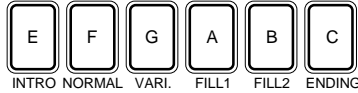
When the INTRO, FILL1, and FILL2 sections are selected while playing a pattern in the SONG mode, the section plays through once and is automatically followed by either the NORMAL or VARI. pattern. INTRO is followed by NORMAL, FILL1 is followed by VARI. and FILL2 is followed by NORM. The FILL1 and FILL2 patterns automatically provide smooth, “musical” transitions between the NORMAL and VARI. sections. Playback stops automatically after the ENDING section.



The currently selected section is shown between square brackets below the pattern number and name.

The “Normal” selection is currently playing.

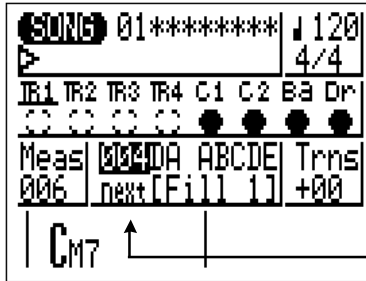
5 Easy Accompaniment for Other Instruments



You can change patterns directly by pressing the appropriate key on the micro-keyboard while the cursor is located at either the pattern number or the section name on the display.

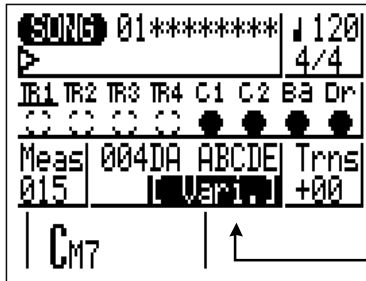


The micro-keyboard section keys do not produce any sound when used to switch sections.



The newly selected section will begin playing from the top of the next measure. “next” will appear below the pattern number until the new section actually begins playing.

“Fill1” has been selected and will begin playing from the top of the next measure.



You can also change sections by placing the cursor over the section name and using the [-1] and [+1] keys.

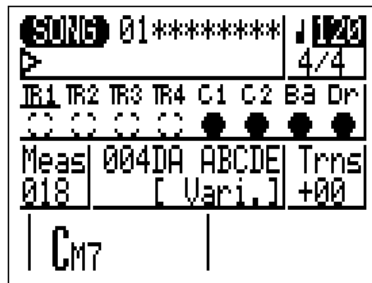


to select sections.

5 Easy Accompaniment for Other Instruments

5 Select different patterns & sections.

With the cursor positioned over the pattern number you can use the [-1] and [+1] keys to select different patterns, and use the micro-keyboard section keys to select different sections during playback. In all cases the newly selected pattern or section will begin playing from the top of the next measure. “next” will appear below the pattern number until the new pattern or section actually begins playing.

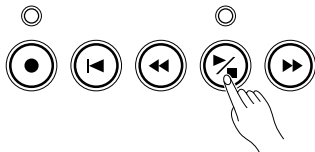


If you move the cursor to the tempo parameter (indicated by a note symbol and a number in the upper right corner of the display), you can use the [-1] and [+1] buttons to set the playback tempo to anywhere from 30 to 250 beats per minute. Please note, however, that if you play a pattern that has a slow default tempo at a fast tempo, some notes may be un-naturally cut off.



to set tempo from 30 to 250 beats per minute.

6 Stop playback when done.



Stop playback at any time by pressing the [▶/■] key. For a more musical ending, select the ENDING section. Playback will stop automatically after the ENDING section.



Depending on the selected pattern, some voices may not sound if a pattern is started from a point in the middle of the pattern rather than at the beginning.

Changing Chords

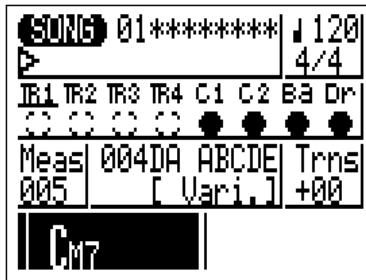
The QY20 features a sophisticated ABC (Auto Bass Chord) system that automatically re-harmonizes the chord and bass tracks to match chords you specify. This makes creating complete accompaniment tracks fast and easy ... just select a pattern, then specify the required chord changes (details in the next section). Here's how you use the micro-keyboard to specify chord changes.

1 Play a pattern.

Select and play one of the preset patterns, as described in the preceding section.

2 Move the cursor to the chord symbol.

The micro-keyboard can be used to enter chords only when the cursor is located over the chord symbol on the display. Use the cursor keys to move the cursor to the chord symbol at the bottom of the display.

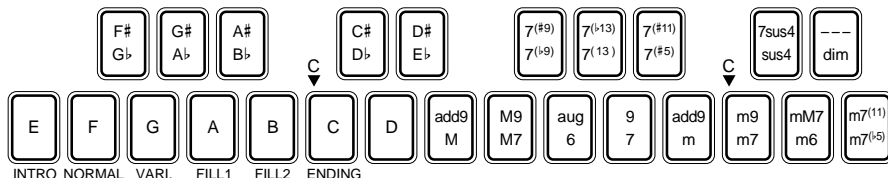


Chord symbol.

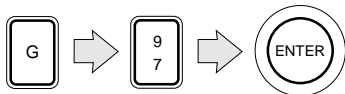
5 Easy Accompaniment for Other Instruments

3 Enter a chord.

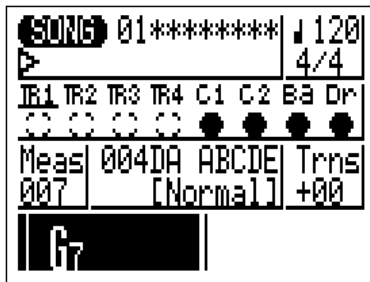
Note that the lower octave of the micro-keyboard has chord root names “E” through “D” marked on the keys, and the upper octave keys are marked with a variety of chord types.



Example: Enter a G7 chord.



To enter a chord, press the key corresponding to the desired chord root, then the key corresponding to the desired chord type (the chord type keys alternately select the lower and upper chord types marked ... watch the display), and finally the [ENTER] key.



The chord is actually entered only when the [ENTER] key is pressed. Until the [ENTER] key is pressed, the newly specified chord root and type will flash on the display.



Actually, you can press the chord type key and then the root key, the order doesn't matter.

The Chord Types

add9	major added ninth.	m7(11) ..	minor seven eleven.
M	major.	m7(♭5) ..	minor seven flat five.
M9	major ninth.	7(#9)	seventh sharp nine.
M7	major seventh.	7(♭9)	seventh flat nine.
aug	augmented.	7(♭13) ...	seventh flat thirteen.
6	sixth.	7(13)	seventh thirteen.
9	ninth.	7(#11) ...	seventh sharp eleven.
7	seventh.	7(#5)	seventh sharp five.
add9	minor added ninth.	7sus4	seventh suspended four.
m	minor	sus4	suspended four.
m9	minor ninth.	- - -	non-ABC (see “DETAIL” below).
m7	minor seventh.	dim	diminished.
mM7	minor major seventh.		
m6	minor sixth.		



The “- -” chord type marking is a special “non-ABC” type that can be used to create accompaniment patterns without the harmonic limitations of the ABC system. See page 95 for details.



If you enter only the chord root without a chord type, the result will be a major chord.

5 Easy Accompaniment for Other Instruments

4 Try out the various chords with different patterns.

During playback you can move the cursor up to the pattern number, select a different pattern, then move the cursor back to the chord symbol and try different chords with the new pattern.

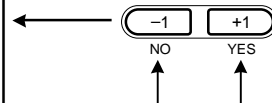
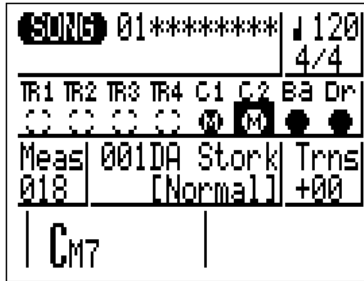


If you move the cursor to the “Trns” (transpose) parameter, you can use then [-1] and [+1] buttons to transpose the pitch of the entire pattern up or down in semitone increments over a range of two octaves. A transpose setting of “+00” produces normal pitch.

5 Stop playback when done.

Stop playback by pressing the [▶/■] key. You can also stop playback after an appropriate ending by selecting the ENDING section (the cursor must be on the pattern number or section name to do this).

Muting Tracks



Mute off. Mute on.

The letter “M” appears in the mute buttons of tracks that are muted. Tracks that do not contain data cannot be muted, and their mute buttons appear as white rather than dark blocks. Please note that a dark mute button will appear reversed when the cursor is placed over it (white against the dark cursor). In the display to the left, for example, TR1 through TR4 contain no data and are therefore white. The C1 and C2 tracks have been muted, and the cursor is currently over the C2 track mute button.



The mute buttons are a handy way to turn tracks that you don't want to hear off. In the example above, for example, the C1 and C2 tracks have been turned off, leaving only the bass and drum accompaniment. You could also mute the bass track if you just want drums.

Record a Complete Accompaniment

The QY20 provides two ways to record an accompaniment by specifying patterns and chords: “realtime” and “step” recording. The realtime method is the fastest and easiest, letting you record pattern and chord changes “on the fly.” The step method gives you more detailed control, and is an excellent way to add the finishing touches to an accompaniment recorded in real time.

Realtime Accompaniment Recording

Once you know how to select patterns, sections, and enter chords in the SONG mode (see the preceding sections), recording a basic accompaniment in real time is easy. Repeats and tempo changes can be added later using the step record method (page 59).

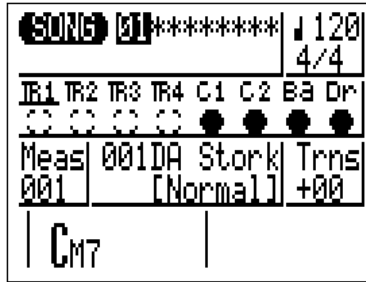
1 Select the SONG mode & an empty song.

Use the [MODE] key to select the SONG mode and, with the cursor located over the song number at the top of the display, use the [-1] and [+1] keys to select an empty song number if necessary. Empty songs are indicated by a row of asterisks (“*****”) following the song number.

MODE

Song number (1 ... 20).

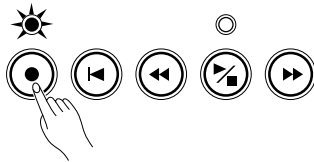
Asterisks (*) indicate an empty song.



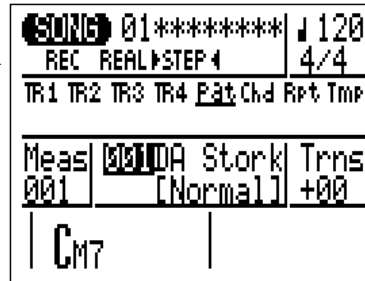
If for some reason all 20 songs contain data, use the "Clear Song" function described on page 137 to clear a song for recording.

2 Engage the record ready mode.

Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.



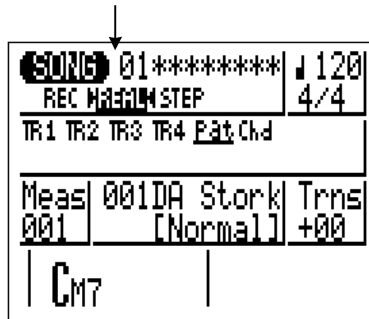
"REC" appears when the record mode is engaged.



5 Easy Accompaniment for Other Instruments

3 Select the realtime record mode.

Place cursor here to select the realtime record mode.



4 Select the starting pattern, section, chord, & tempo.

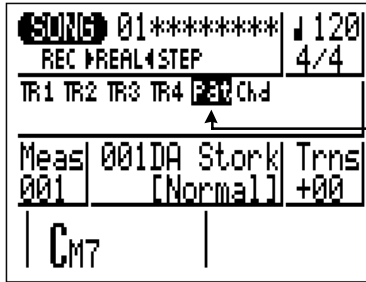
Move the cursor to the “REC REAL STEP” area of the display, then press the left cursor key to select the “REAL” mode (if it isn’t already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. “▶REAL◀”. Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode no matter where you move the cursor.

Move the cursor to the pattern number, section, chord, and tempo parameters, and set as required.



It’s sometimes easier to set a slow tempo for realtime recording, so you have plenty of time to enter pattern and chord changes.

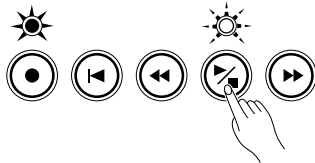
- 5** Select the “Pat” track to record pattern & section changes.



Select “Pat” to record pattern changes.

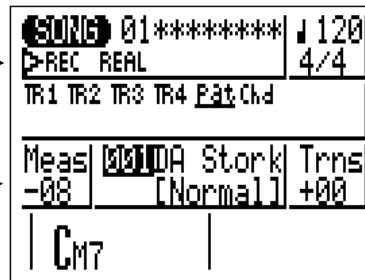
Move the cursor to the track area of the display, and then shift the cursor sideways to select “Pat.” Once selected, move the cursor vertically to move to other areas of the screen. An underline will remain below the selected track no matter where you move the cursor.

- 6** Record.



Realtime recording in progress.

Minus measure numbers during count-in.



Press the [▶/■] key to begin recording pattern changes. The metronome will sound and you’ll be given a two-measure count-in prior to the first measure actually recorded. The count-in is also indicated by negative numbers in the “Meas” parameter. If a 4/4 pattern is selected, for example, the count-in will run from measure “-08” to “-01”, then recording will begin from measure “001”.

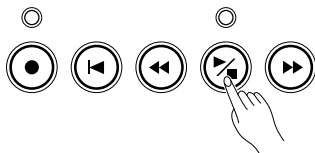
5 Easy Accompaniment for Other Instruments


Since you selected “Pat” recording, the cursor will automatically move to the pattern number when you start recording. All you have to do to record pattern and section changes is to select the required pattern numbers via the [-1] and [+1] keys, and section changes via the appropriate micro-keyboard keys. Remember that all pattern and section changes occur from the top of the next measure after the change is entered. Also keep in mind that the INTRO will automatically switch to the NORMAL pattern, FILL1 will automatically switch to the VARI. pattern, and FILL2 will automatically switch to the NORMAL pattern.



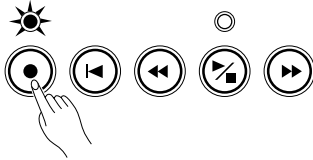
The sequencer tracks (TR1 through TR4) will not sound during accompaniment track recording even if they contain data.

7 Stop recording.



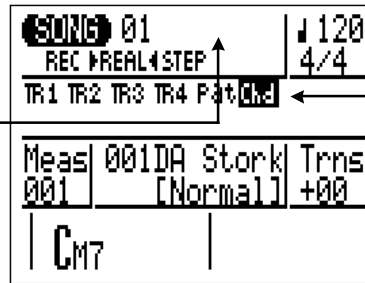
Stop recording either by pressing the [] key or by selecting the ENDING section. The normal SONG play mode is automatically re-selected when you stop recording.

8 Engage record ready again and select “Chd”.



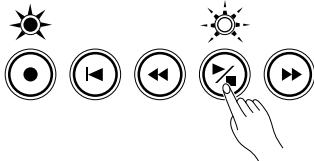
Asterisks have disappeared because the song now contains data. Use the “Song Name” job (page 135) to enter an original name.

Press the [●] key to engage the record ready mode again (the “REAL” mode will still be selected), then move the cursor to the track section of the display and select “Chd” in order to record chord changes.



Select “Chd” to record chord changes.

9 Record.



Press the [▶/■] key to begin recording chord changes. The metronome will sound and you’ll be given a two-measure count-in.

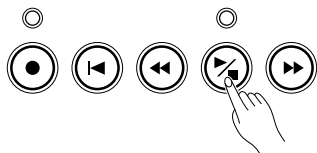
Since you selected “Chd” recording, the cursor will automatically move to the chord when you start recording. All you have to do to record chord changes is to enter the required chords as described in the “Changing Chords” section (page 47).



Chord changes actually occur on quarter-note divisions, so try to press the [ENTER] key to enter each chord either exactly on the beat or a fraction of a section before the beat on which you want the chord change to occur.

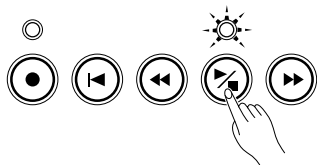
5 Easy Accompaniment for Other Instruments

10 Stop recording.



Press the [] key to stop recording when all the required chord changes have been entered. The normal SONG play mode is automatically re-selected when you stop recording.

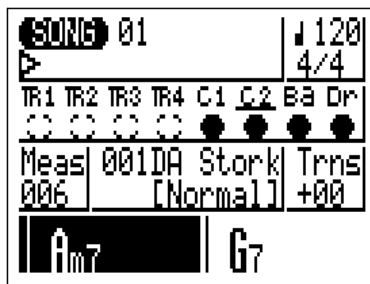
11 Listen to the results.



Press the [] key to play back and check out the accompaniment you've just recorded.



Note that the chord currently playing is shown in the normal chord symbol location on the display, while the next chord is shown to its right. If the same chord continues for more than 2 measures, however, the next chord is not shown.



↑
"Am7" currently playing.

↑
The next chord is "G7".



Don't worry if you've made a few mistakes. Simple slip-ups made in the realtime record mode can usually be corrected in the step record mode ... described next.

Step Accompaniment Recording

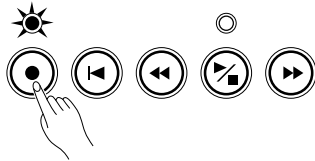
The STEP record mode provides four different accompaniment-track data-entry displays: “Pat” (pattern changes), “Chd” (chord changes), “Rpt” (repeats), and “Tmp” (tempo changes). In each of these you can individually enter or delete pattern, chord, repeat, and tempo changes at precisely the required locations.

1 Select a song to record.

Select an empty song if you want to record a new song in the step record mode, or select a song that already contains data if you want to make changes or additions.

2 Engage the record ready mode.

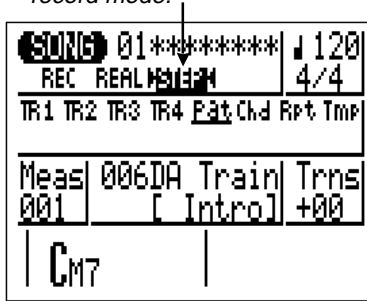
Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.



5 Easy Accompaniment for Other Instruments

3 Select the step record mode.

Cursor here to select the step record mode.



Move the cursor to the “REC REAL STEP” area of the display, then press the right cursor key to select the “STEP” mode (if it isn’t already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. “▶STEP◀”. Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode no matter where you move the cursor.

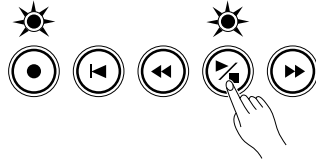
4 Select “Pat”, “Chd”, “Rpt”, or “Tmp”.



Move the cursor to the track area of the display, and then shift the cursor sideways to select “Pat”, “Chd”, “Rpt”, or “Tmp”. Once selected, move the cursor vertically if you want to move to other areas of the screen. An underline will remain below the selected track no matter where you move the cursor.

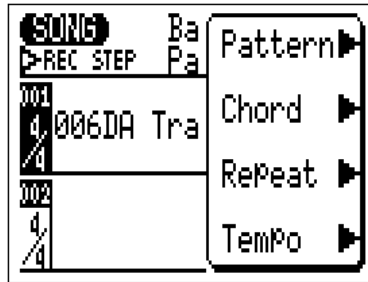
Select “Pat” to record pattern changes, “Chd” to record chord changes, “Rpt” to record repeats, or “Tmp” to record tempo changes.

5 Start recording.



Press the [▶] key to call the selected step record display.

6 Enter the required pattern, chord, repeat, and tempo data.



← Go to "Pat" screen.

← Go to "Chd" screen.

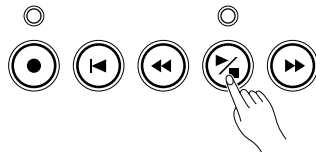
← Go to "Rpt" screen.

← Go to "Tmp" screen.



You can switch directly between the pattern, chord, repeat, and tempo data-entry displays while the record mode is engaged by simply pressing the [MENU] key to call the menu shown here, and then the function key corresponding to the display you want to go to.

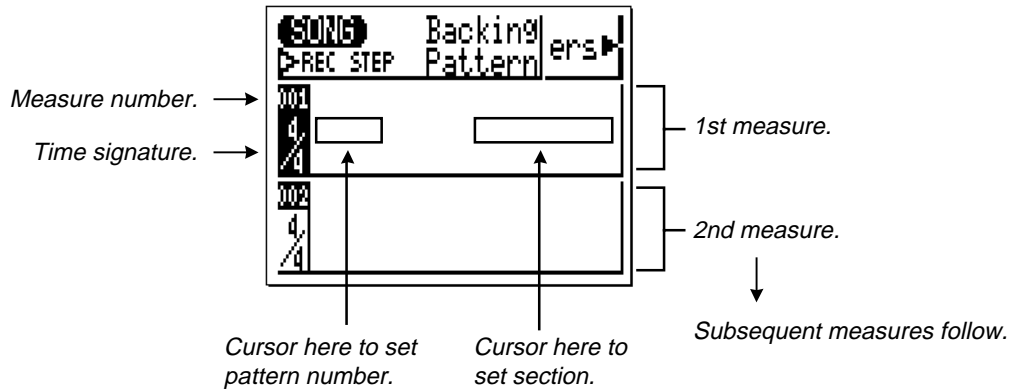
7 Stop recording.



Press the [▶] key to exit from the step record mode and return to the normal SONG play mode.

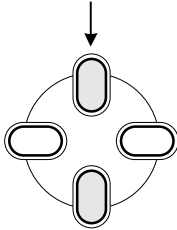
“Pat” — Step Record Pattern Changes

Here’s how the STEP record pattern display will look if you’ve selected an empty song (the appropriate pattern data will appear if the selected song contains data).



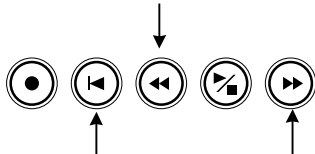
● Moving Around & Entering Data

Scroll up (see lower measure numbers).



Scroll down (see higher measure numbers).

Scroll up (see lower measure numbers).



Go to first measure.

Scroll down (see higher measure numbers).

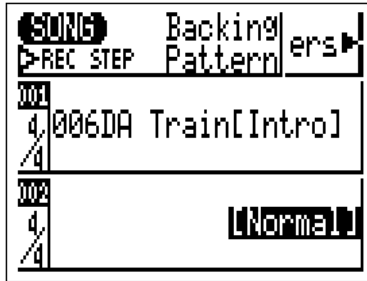
As usual, the cursor keys are used to move the cursor to the location at which you want to enter data, and the [-1] and [+1] keys are used to actually enter or change data.

The cursor keys also move you forward or backward through the song: moving the cursor past the bottom of the screen accesses subsequent measures, while moving it above the top of the screen accesses the preceding measures (if there are any). In the pattern display moving sideways takes you to the time signature, pattern number, and section parameters.

In all of the STEP record displays the sequencer keys can also be used to move forward or backward through the song. The [◀] key takes you directly to the first measure.

5 Easy Accompaniment for Other Instruments

● Pattern Number and Section



Any pattern number from 001 through 200 (presets and user patterns) can be entered for each measure. Only the preset patterns, however, have sections. The pattern name appears to the right of the pattern number. Only one pattern & section can be entered per measure, and that pattern will begin playing from the beginning of the measure at which it is entered.

A pattern entered once will continue to play until a different pattern is entered. If you want to change sections without changing the pattern number, only the section need be entered.

In the example display to the left the intro section of pattern 006 plays for the first measure, the normal section of the same pattern is selected in measure 2.

● Time Signature

Although the default time signature for the selected pattern is automatically selected, the time signature value for each measure can be changed as required. The available time signatures are:

1/16 16/16
1/8 16/8
1/4 8/4

If a time signature is selected that results in shorter measures than the pattern default, the pattern will be truncated (cut short) accordingly. If the selected time signature results in longer measures than the pattern default, the pattern will be repeated to fill the specified measure length.

● Erasing Pattern Changes

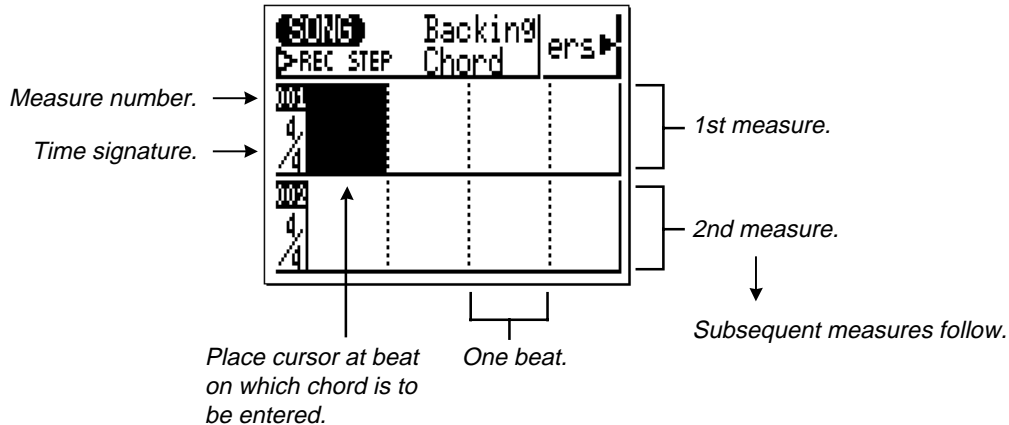
The function key immediately to the right of “ers” on the display can be used to erase the time signature, pattern number, or section data at which the cursor is located. If you erase a time signature change, the default time signature value for the current pattern will be automatically re-selected.



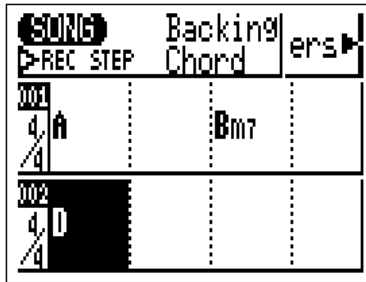
← Press to erase pattern, section, or time signature change at cursor location.

“Chd” — Step Record Chord Changes

Here’s how the STEP record chord display will look if you’ve selected an empty song (the appropriate chord data will appear if the selected song contains data).



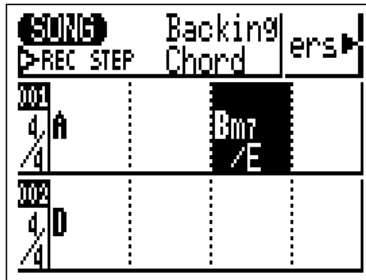
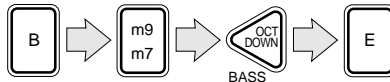
● Chords



One chord can be entered per quarter note. Place the cursor at the required quarter-note division on the display and enter the chord via the micro-keyboard in the normal way (see page 48). In the example display to the left, an A major chord is entered on the first beat of the first measure, a B minor seventh on the third beat of the first measure, and a D major on the first beat of the second measure.

● Specifying the Bass Note For a Chord

Example: Enter a Bm7 chord with E in the bass.



You can specify the bass note to be used with any chord by using the [OCT DOWN] key (note the “BASS” marking below the key). Enter the chord in the normal way, press the [OCT DOWN/BASS] key (a slash will appear below the chord name), then press the key on the micro-keyboard corresponding to the desired bass note (the bass note will appear to the right of the slash).

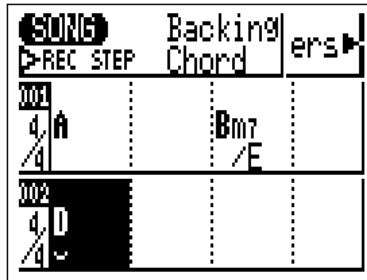
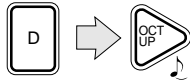


You can add bass notes to existing chords without having to re-enter the entire chord by simply moving the cursor to the chord and using the [OCT DOWN/BASS] key to specify the bass note. A bass note can be removed from a chord by placing the cursor at the chord and either re-entering the chord or pressing the [OCT DOWN/BASS] key twice.

5 Easy Accompaniment for Other Instruments

● Syncopated Chords

Example: Enter a syncopated D chord.

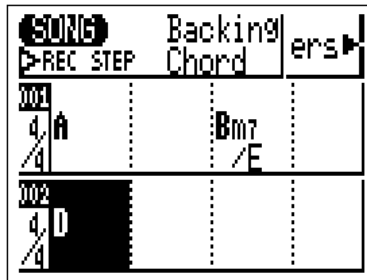


Chords can be syncopated (i.e. the chord actually begins an eighth-note before the beat on which it is entered) by using the [OCT UP] key (note the “♪” marking below the key). Enter the chord in the normal way, then press the [OCT UP] key (a syncopation symbol will appear below the chord name).



You can add syncopation to existing chords without having to re-enter the entire chord by simply moving the cursor to the chord and pressing the [OCT UP] key. Syncopation can be removed from a chord by placing the cursor at the chord and pressing the [OCT UP] key.

● Erasing Chords



The function key immediately to the right of “ers” on the display can be used to erase the chord at which the cursor is located.



↑
Press to erase chord at cursor location.

● The Chord Display During Playback

Chord bass notes and syncopation marks appear on the display as shown in the SONG playback mode.

Half-note indicates length of chord. →

SONG 01		4/4					
TR1	TR2	TR3	TR4	C1	C2	Ba	Dr
○	○	○	○	●	●	●	●
Meas	006DA	Train	Trns				
001	[Normal]	+00					
A		Bm7		/E			

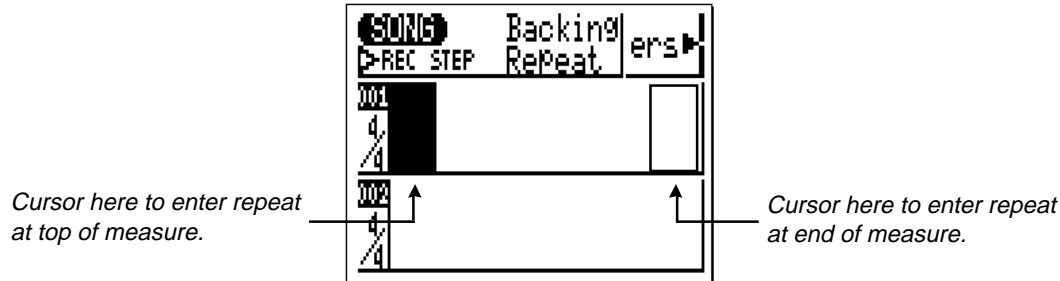
← "E" indicates that Bm7 is played with E bass.

Syncopation mark. Chord actually begins 1/8-note earlier. →

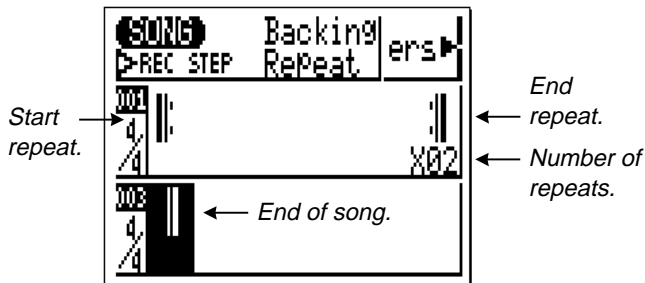
SONG 01		4/4					
TR1	TR2	TR3	TR4	C1	C2	Ba	Dr
○	○	○	○	●	●	●	●
Meas	006DA	Train	Trns				
002	[Normal]	+00					
↓ D							

“Rpt” — Step Record Repeats

The STEP record “Rpt” display allows three different types of repeats to be entered at appropriate points during the song: start repeat, end/number of repeats, and end song.



● Repeats



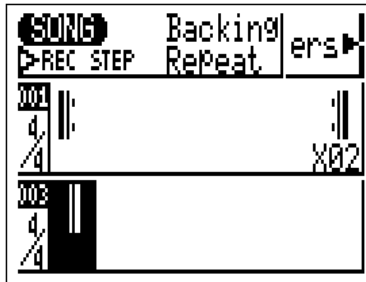
The start repeat (||:) or end of song mark (||) can be selected via the [-1] and [+1] keys when the cursor is located at the top of the measure, and the end repeat mark (:||) can be selected when the cursor is placed at the end of the measure. When the end of repeat mark is selected the [-1] and [+1] keys are also used to select any number of repeats from 02 to 99. When “X02” is selected, for example, the sec-

tion of the song between the “||:” and “:||” marks is played twice (repeated once), then the song continues until the next repeat section or the end of the song.



You can even enter repeats within repeats (this is known as “nesting” repeats). Up to 10 repeats can be nested.

● Erasing Repeats



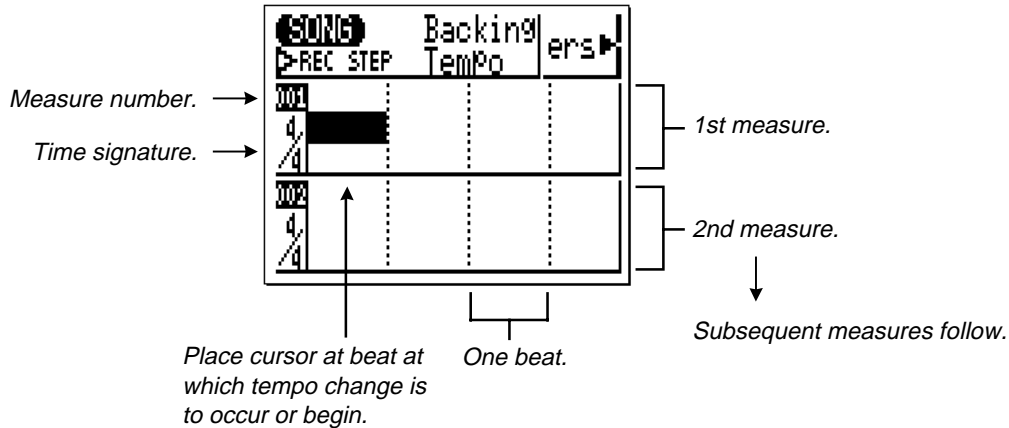
Press to erase repeat at cursor location.



Any material recorded to the accompaniment tracks in the realtime record mode after insertion of repeats will not be affected by those repeats.

“Tmp” — Step Record Tempo Changes

The STEP record mode “Tmp” display can be used to enter instantaneous tempo changes as well as gradual ritardando and accelerando tempo changes.



● Tempo Changes

SONG		Backing	ers ▶
▷-REC STEP	Tempo		
001		accel	
4	010		
4	00		
002		rit	
4	015		
4	00		

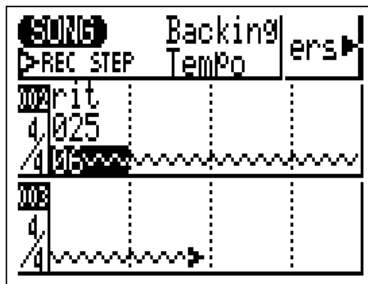
← “accel” or “rit”.
 ← Amount of tempo change.
 ← Number of beats over which tempo change occurs.

SONG		Backing	ers ▶
▷-REC STEP	Tempo		
001	accel		
4	012		
4	02		
002			
4			
4			

To enter gradual accelerando or ritardando changes, first set the amount of “accel” or “rit” change required, as described above, then move the cursor to the lower number and use the [−1] and [+1] keys to enter the number of beats over which you want the tempo change to occur. In the sample display to the left, the tempo will increase by 12 over two beats (the wiggly arrow extends for the specified number of beats).

Place the cursor in the center of the measure/beat at which you want the tempo change to begin, then use the [−1] key to enter a “rit” (tempo decrease) value or the [+1] key to enter an “accel” (tempo increase) value. The amount of tempo change is specified in beats per minute, so if the starting tempo is 120 and you enter an “accel” value of 10, the tempo will increase by 10 beats per minute to 130. The only limitation is that you can’t enter tempo changes that result in a tempo slower than 30 or higher than 250.

5 Easy Accompaniment for Other Instruments

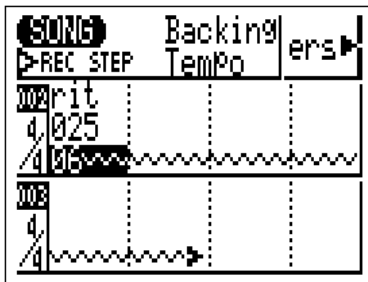


In the next sample display a ritardando of 25 beats per minute is set to occur over six beats.



The wiggly arrow that represents the duration of the tempo change only appears within the two measures shown on the display. You can enter much longer tempo change lengths (up to a maximum of 99 measures), but the arrow will not appear when you scroll the screen to see subsequent measures.

● Erasing Tempo Changes



Press to erase tempo change at cursor location.

The function key immediately to the right of “ers” on the display can be used to erase the tempo change at which the cursor is located.

Using the QY20 As a Drum Machine

Although you can create complete accompaniments using the preset patterns as described in the preceding section, you can also mute the C1, C2, and Ba tracks, leaving only the Dr track, so the QY20 functions as a drum machine. You can create drum-only accompaniments using the drum tracks from the preset patterns, or record original drum tracks for your own patterns, as described in the following chapter.

It's also possible to record drum voices to the sequencer tracks as described in the "Creating a Complete Song" chapter (page 108).

Creating Original Patterns

Recording an Original ABC Pattern 78

Realtime Pattern Recording 78

Step Pattern Recording 86

Playback In the Pattern Mode 94

Accompaniment Without the Limitations of ABC 95

The Pattern Jobs 96

1: Copy Pattern 98

2: Quantize 99

3: Transpose 100

4: Modify Velocity 101

5: Modify Gate Time 102

6: Pattern Name 103

7: Clear Track 104

8: Clear Pattern 105

Recording an Original ABC Pattern

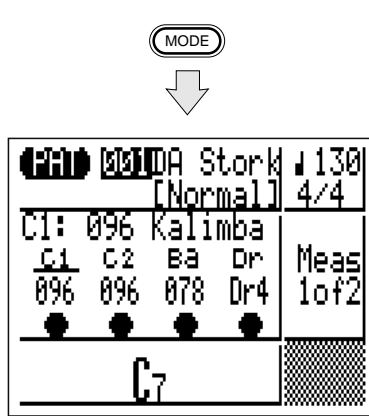
The QY20 makes it easy to create original accompaniment patterns. In addition to the pre-set patterns residing in pattern memory locations 001 through 100, the QY20 has 100 more pattern memory locations (101 through 200) which can be used to store your own creations. Like the SONG mode, the PATTERN mode provides two ways to create original patterns: realtime and step recording.

Realtime Pattern Recording

In the realtime record mode you select the track you want to record (C1, C2, Ba, or Dr), and then play the part on the micro-keyboard or an external MIDI keyboard in real time.

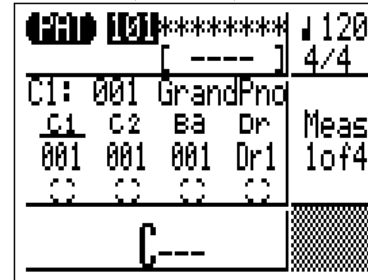
1 Select the PATTERN mode & an empty user pattern.

Use the [MODE] key to select the PAT (pattern) mode and, with the cursor located over the pattern number at the top of the display, use the [-1] and [+1] keys to select an empty user pattern number (the programmable user patterns are numbered 101 through 200). Empty patterns are indicated by a row of asterisks (“*****”) following the pattern number.



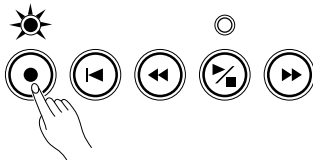
Select user pattern number (101 ... 200).

Asterisks (*) indicate an empty pattern.



If for some reason all 100 user patterns contain data, use the "Clear Pattern" function described on page 105 to clear a pattern for recording.

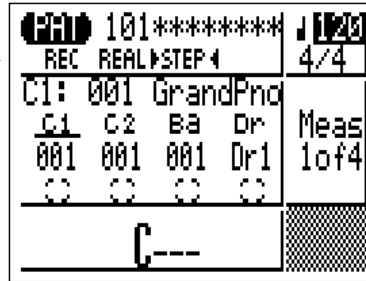
2 Engage the record ready mode.



Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.

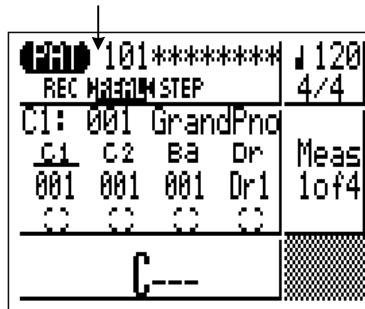
6 Creating Original Patterns

"REC" appears when the record mode is engaged.



3 Select the realtime record mode.

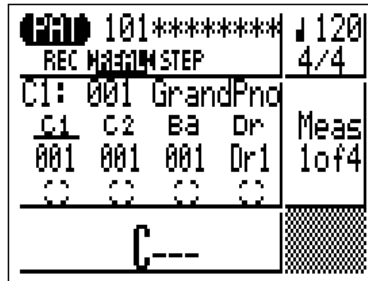
Place cursor here to select the realtime record mode.



Move the cursor to the "REC REAL STEP" area of the display, then press the left cursor key to select the "REAL" mode (if isn't already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. "▶REAL◀". Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode.

- 4** Select the record tempo, time signature, and pattern length.

Move the cursor to the tempo, time signature, and pattern length parameters and set as required using the [-1] and [+1] keys.



- ← Record tempo.
- ← Time signature: 1/16 ... 16/16,
1/8 ... 16/8,
1/4 ... 8/4.
- ← Length of pattern: "1of1" ... "1 of 8"
(max. length 8 measures).



It's sometimes easier to set a slow tempo for realtime recording, so you have plenty of time to enter the data.

- 5** Select the track to record and the voice for that track.

Move the cursor to the track area of the display, and then shift the cursor sideways to select the track you want to record: "C1" = chord 1, "C2" = chord 2, "Ba" = bass, "Dr" = drums. Once the track has been selected use the [-1] and [+1] keys to select the voice you want to use for that track. If you don't intend to use a track, set the voice number to "OFF."

Move the cursor vertically to move to other areas of the screen. An underline will remain below the selected track.

6 Creating Original Patterns

Cursor here to select the C1 (Chord 1) track.



to select C1 voice (001 ... 100, Dr1 ... Dr8, OFF). The same applies to the C2, Ba, and Dr tracks, except that only the Dr1 ... Dr8 voices and "OFF" can be assigned to the Dr track.

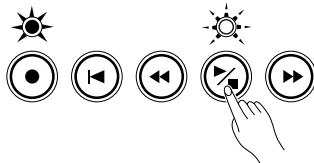


Number & name of voice assigned to current track shown here.



You can also change the voice assignments later in the same way.

6 Record.



Press the [▶/■] key to begin recording. The metronome will sound and you'll be given a two-measure count-in prior to the first measure actually recorded. The count-in is also indicated by negative numbers in the "Meas" parameter. If a 4/4 time signature is selected, for example, the count-in will run from measure "-08" to "-01", then recording will begin from measure "001".

Realtime recording
in progress.

P10 101*****				120
REC REAL				4/4
C1: 023 Jazz Gtr				Meas
C1	C2	Ba	Dr	-08
023	001	001	Dr1	
C2	C2	C2	C2	
C---				Del

Minus measure numbers
during count-in.

Patterns can only be recorded in the key of C. Play the required part either on the micro-keyboard or via an external MIDI keyboard transmitting on the appropriate MIDI channel:

MIDI Channel	Track
5	C1 (Chord 1)
6	C2 (Chord 2)
7	Ba (Bass)
10	Dr (Drums)

The pattern will continue to repeat from the first to last measure, so you can continue to add notes until the current part is complete.

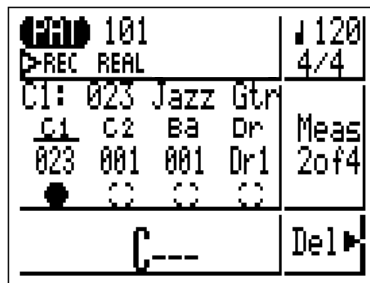
6 Creating Original Patterns



Since your original ABC pattern will be automatically re-harmonized as required by the QY20 ABC system, there are a few rules you should follow to ensure the best results:

- 1: You're recording in C, so think in C.
- 2: Use primarily the root, 3rd, 5th, and major 7th.
- 3: Keep it rhythmic ... avoid melodic lines.

7 Delete mistakes as required.

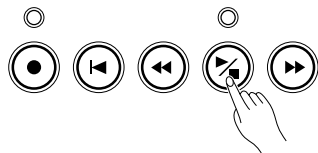


To delete mistakes, simply play the note to be deleted on the micro-keyboard while holding the function key next to “Del” on the display. All corresponding notes that occur while the micro-keyboard key is held will be deleted.

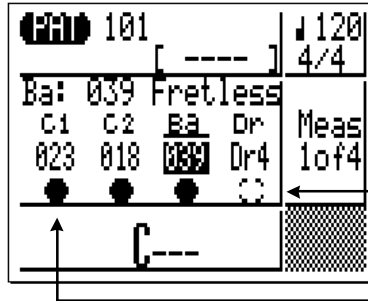
Press while holding a note on the micro-keyboard to delete all occurrences of that note for as long as the note is held.



8 Stop recording.



Press the [▶■] key to stop recording. The normal PAT play mode is automatically re-selected when you stop recording.



Note that when you return to the PAT play mode the block below each track that contains data will be filled (dark) while the blocks below empty tracks are empty (outline only).

9 Record the remaining tracks.

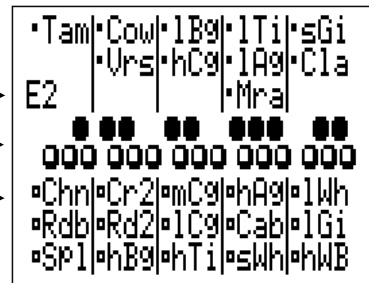
Complete the pattern by selecting the remaining tracks, assigning the required voices, and recording as described in steps 5 through 8, above.

The pitch of the lowest micro-keyboard key (changes when the octave keys are used).

Micro-keyboard.

Drum instruments currently played by the corresponding micro-keyboard keys.

Hold **[MENU]** and press **[MODE]**



As long as the record mode is not engaged you can press the **[MODE]** key while holding the **[MENU]** key to see the current pitch of the micro-keyboard as determined by the **[OCT DOWN]** and **[OCT UP]** keys, and a list of the drum instruments currently played by the micro-keyboard keys.



See the "Editing Songs & Patterns" section, page 140, for information on how to edit recorded pattern data.

Step Pattern Recording

The step pattern record mode lets you enter each track note-by-note, with precise control over the timing, length, and loudness of each note. You can record entire tracks using the step mode, or use it to brush-up and add data to an existing track.

1 Select the PATTERN mode & a user pattern.

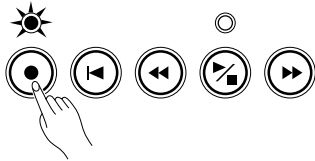
The diagram illustrates the steps to select a pattern mode and user pattern. At the top, a button labeled "MODE" has a downward arrow pointing to a control with two buttons: "-1" (labeled "NO") and "+1" (labeled "YES"). Below this control, text reads "Select user pattern (101 ... 200)". To the right, text reads "Asterisks (*) indicate an empty pattern." Below this text, another downward arrow points to a screenshot of the device's display. The display shows a pattern number "101" followed by asterisks, a tempo of "120", and a time signature of "4/4". Below this, it shows "C1: 001 GrandPnd" and a table of notes:

C1	C2	B3	Dr	Meas
001	001	001	Dr1	1of4
00	00	00	00	

At the bottom of the display, there is a "C---" indicator and a shaded area.

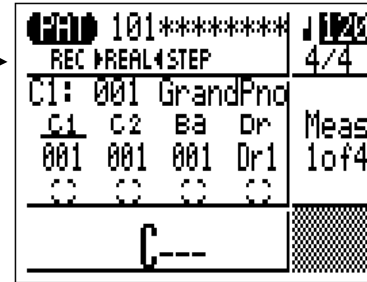
Use the [MODE] key to select the PAT (pattern) mode and, with the cursor located over the pattern number at the top of the display, use the [-1] and [+1] keys to select the pattern you want to record (the programmable user patterns are numbered 101 through 200). You can select an empty pattern if you want to record a new pattern using the STEP mode, or a pattern that already contains data if you want to edit or add new data to the pattern.

2 Engage the record ready mode.



Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.

"REC" appears when the record mode is engaged.



3 Select the step record mode.

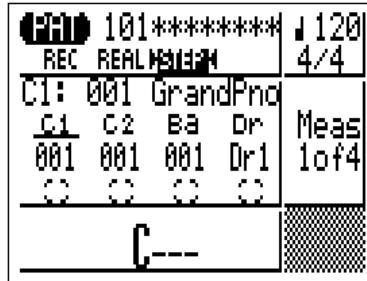
Place cursor here to select the step record mode.



Move the cursor to the “REC REAL STEP” area of the display, then press the right cursor key to select the “STEP” mode (if it isn’t already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. “▶STEP◀”. Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode.

6 Creating Original Patterns

4 Set time signature and pattern length (new patterns only).



If you are recording a new pattern, move the cursor to the time signature and pattern length parameters and set as required.

← Time signature: 1/16 ... 16/16,
1/8 ... 16/8,
1/4 ... 8/4.

← Length of pattern: "1of1" ... "1 of 8"
(max. length 8 measures).



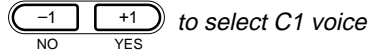
The time signature and pattern length parameters can not be changed if the selected pattern already contains data.

5 Select the track to record and the voice for that track.

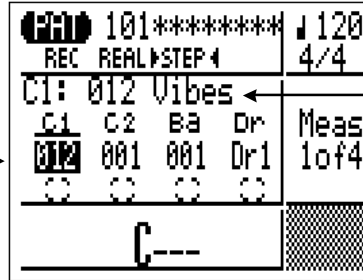
Move the cursor to the track area of the display, and then shift the cursor sideways to select the track you want to record: "C1" = chord 1, "C2" = chord 2, "Ba" = bass, "Dr" = drums. If you are recording a new pattern or track, use the [-1] and [+1] keys to select the voice you want to use for that track once the track has been selected. If you don't intend to use a track, set the voice number to "OFF."

Move the cursor vertically to move to other areas of the screen. An underline will remain below the selected track.

Cursor here to select the C1
(Chord 1) track.



to select C1 voice
(001 ... 100, Dr1 ... Dr8, OFF).
The same applies to the C2, Ba,
and Dr tracks, except that only the
Dr1 ... Dr8 voices and "OFF" can
be assigned to the Dr track.

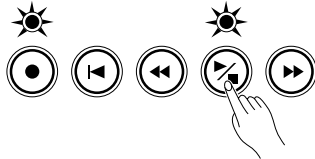


Number & name of voice assigned
to current track shown here.



You can also change the voice as-
signments later in the same way.

6 Record.

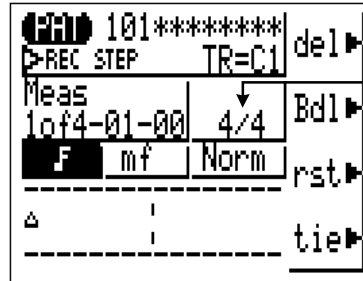


Press the [▶/■] key to begin recording. The step record display
shown below will appear.

Measure/beat/clock display. →

Note parameters. →

Note display. →

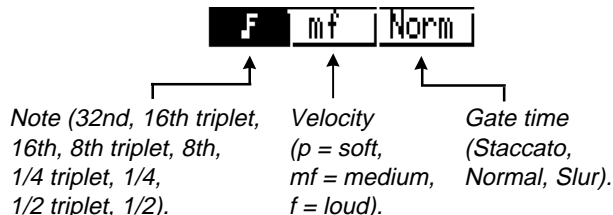


Time signature.

6 Creating Original Patterns

7 Set the note parameters as required.

Move the cursor to the note, velocity, and gate time parameters and set as required using the [-1] and [+1] keys for the first (or next) note to be entered.

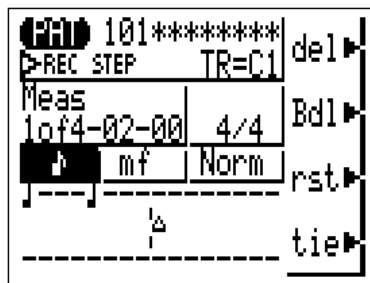


The velocity and gate time settings in the step record display correspond to the following numeric values in the edit displays (to be described later):

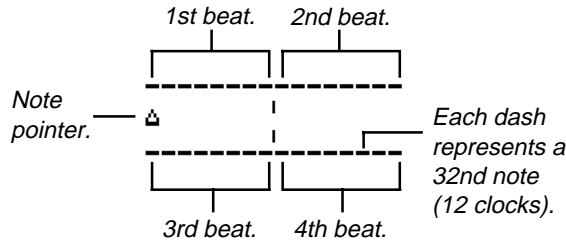
Velocity “p” = 56
 “mf” = 88
 “f” = 120

Gate Time “Staccato” = 50% normal note length.
 “Normal” = 90% normal note length.
 “Slur” = 99% normal note length.

8 Enter a note.

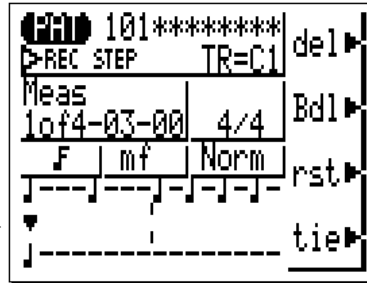


Once the note parameters have been specified, the note can be entered simply by playing the appropriate key on the micro-keyboard (or on your external MIDI keyboard). A note symbol appears on the note display and the note pointer advances to the next note position. The note symbol always appears as a 1/4-note, regardless of the actual note entered (chords are also indicated by the 1/4-note symbol). Here’s how the display will look after two 8th notes have been entered.



The Note Display

The note display shows up to four 1/4-notes worth of data at once (that's one measure in 4/4 time). If the selected time signature results in more than four 1/4 notes per measure, then the display will scroll to show the extra notes. On the other hand, if the time signature is 3/4, then the 4th beat is not used and appears as double dashes on the display ("=====").



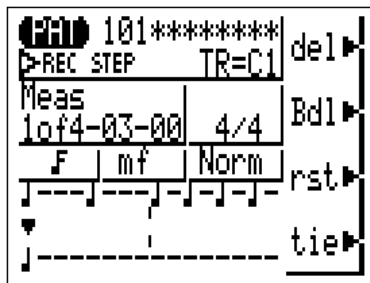
Cursor moved to note pointer (pointer filled). Note that the pointer points up to notes in the upper row and down to notes in the lower row.

Moving Around In the Note Display

You can move the cursor down to the note display (the note pointer will appear filled) and move the note pointer to any position at which you want to enter a note, or to any note that you want to delete. You will actually hear the appropriate note or chord when the note pointer is moved to an existing note symbol. When you move the note pointer past the end of the note display, the next measure will appear. If you move past the last measure in the pattern, the first measure of the pattern will appear.

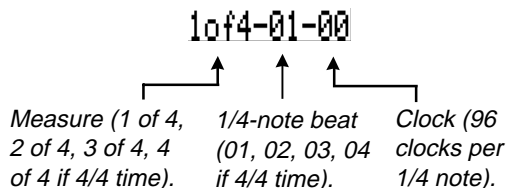
The Step Mode Function Keys

The four function keys immediately to the right of the display provide access to a number of handy functions in the step record mode. The “del” key deletes the note or chord at the



- ← *Delete note at note pointer.*
- ← *Step back by current note length and delete.*
- ← *Enter rest of current note length.*
- ← *Enter a note of the same length as the last note, tied to the last note (this effectively lengthens the last note).*

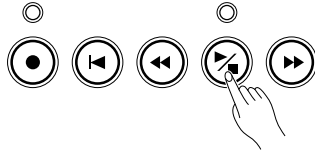
note pointer. The “Bdl” key moves the note pointer backward by the currently selected note length and deletes any notes that exist at that location. The “rst” key enters a rest of the currently selected note length at the note pointer position. And the “tie” key lengthens the previously entered note by “tying” another note of the same length and pitch to it (the “tie” key only works immediately after entering a note).



The Measure/Beat/Clock Display

The “Meas” area of the step record display shows the current position of the note pointer in measures, 1/4-note beats, and clocks (there are 96 clocks per 1/4 note). If you’re not sure what measure you’re seeing on the note display while recording, check the measure/beat/clock display.

9 Complete the pattern.



Repeat steps 7 and 8 until the current track of the pattern is complete, then press [▶/■] to stop recording and go back to step 5 to record the next track, as necessary.



See the “Editing Songs & Patterns” section , page 140, for information on how to edit recorded pattern data.

Playback In the Pattern Mode

Patterns can be played in the PATTERN mode in much the same way as they are in the SONG mode.

Pattern number. Sections can be changed via micro-keyboard when cursor here or on section name.*

Section name.*

Voice numbers.

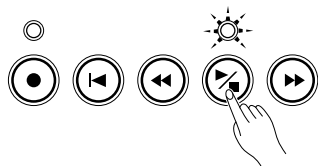
Mute buttons. Operation is the same as in the SONG mode.

Chords can be changed via micro-keyboard when cursor here.

Annotations for the screenshot:

- Pattern number: PATT 0010A
- Section name: Stork
- Tempo: #130
- Section name: [Normal]
- Tempo: 4/4
- Voice numbers: C1, C2, Ba, Dr
- Mute buttons: 096, 096, 078, Dr4
- Measure: Meas 1of2
- Chord: C7

* Only preset patterns have sections. No section name appears when a user pattern is selected.



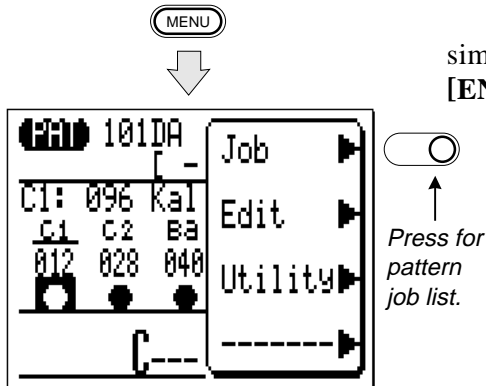
Use the [▶/■] key to start and stop playback. The main different between playback in the PATTERN mode and playback in the SONG mode is that in the PATTERN mode the sections don't switch automatically. If you select "Fill1", for example, "Fill1" will play repeatedly until a different section is selected (in the SONG mode "Vari." is automatically selected after "Fill1" plays through once). Also, only the accompaniment tracks are available for playback in the PATTERN mode.

Accompaniment Without the Limitations of ABC

If you want total harmonic freedom in your accompaniment tracks, unrestrained by the limits of the ABC system, simply record the accompaniment for your song in sections, recording the required chord/harmonic changes directly into as many patterns as your song requires (remember, patterns can be up to 8 measures long). Then, when recording the accompaniment tracks in the SONG mode, use the “- - -” chord type so that the pattern data is played back unmodified. You might need to record several patterns containing the various chord changes you need for your song, but you don’t have to worry about how the ABC system might alter your accompaniment when it is played back.

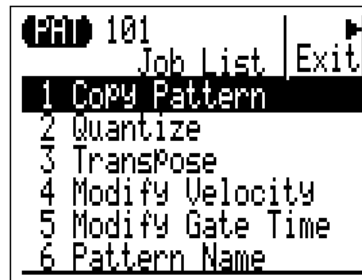
The Pattern Jobs

The pattern mode includes 8 pattern “jobs” that perform a variety of important functions. To access and use the pattern jobs, press the **[MENU]** key while in the normal PATTERN play mode, and then press the function key next to “Job” on the display.



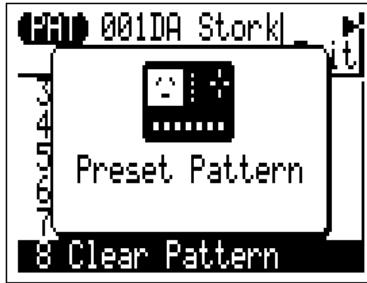
This calls the pattern job list. You can select any job on the list simply by moving the cursor to the required job and pressing **[ENTER]**.

*Pattern jobs 1 ... 6
(cursor at top of list).*



*Pattern jobs 3 ... 8
(cursor at bottom of list).*



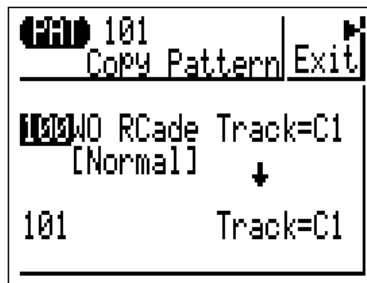


User Patterns Only!

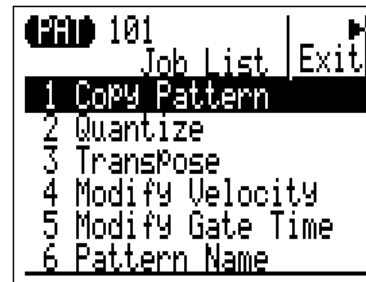
Since all of the pattern jobs modify the pattern data in some way, they can only be used on user patterns (numbers 101 through 200). If you attempt to use a pattern job while a preset pattern is selected, the error display shown to the left will appear. Press any key (except the micro-keyboard) to return to the job list.

Returning to the Pattern Play Mode

The function button next to “Exit” on the display can be used to exit from any pattern job, and then from the job list thereby returning you to the normal pattern play mode.



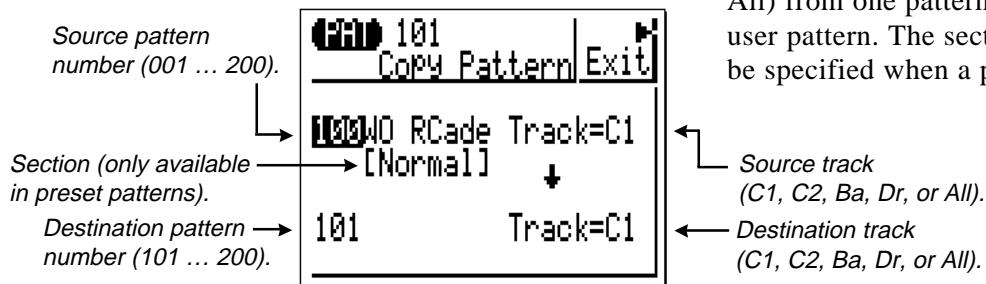
↑
*Press to exit
to job list.*



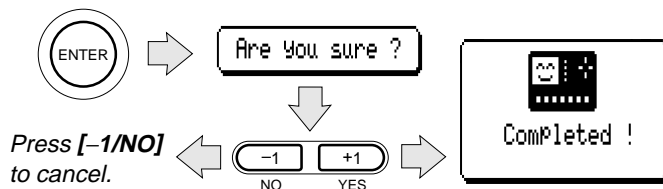
↑
*Press to exit to pattern
play mode.*

6 Creating Original Patterns

1: Copy Pattern



Copies a specified track (C1, C2, Ba, Dr, or All) from one pattern to the specified track in a user pattern. The section to be copied can also be specified when a preset pattern is the source.



After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the copy operation (which will overwrite data in the destination track), or press **[-1/NO]** to cancel.



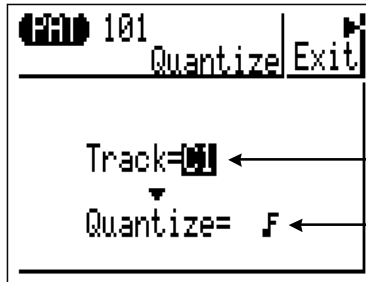
The Copy Pattern job makes it possible to use tracks from other patterns as “building blocks” to create new patterns. You can, for example, combine different tracks from different preset patterns to create a completely new “hybrid” pattern. Of course, you can also copy just one or two existing tracks and record the remaining tracks yourself. Copied tracks can be edited using the edit mode (page 140) to fit them to the pattern you are creating.



Depending on the selected pattern, some voices may not sound if a preset pattern is copied to a user pattern.

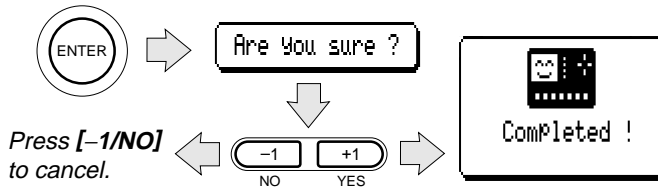
2: Quantize

Aligns notes in the specified track to the nearest specified beat.



Track to be quantized (C1, C2, Ba, or Dr).

Quantize note length (32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4-note triplet, 1/4-note, 1/2-note triplet, 1/2-note).



After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the quantize operation (which will irreversibly modify the data in the specified track), or press [-1/NO] to cancel.

One measure of 8th notes before quantization.



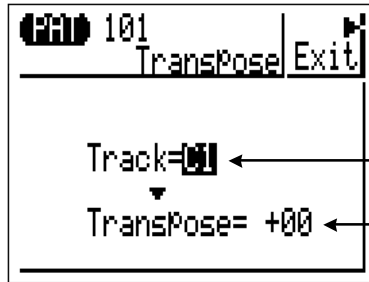
After quantization.



Quantization is generally used to tighten up sloppy timing. Use it judiciously, however, because timing that is too perfect can sound cold and mechanical — unless, of course, you’re specifically aiming for a cold, mechanical feel. Always use a quantize value that is at least as “short” as the shortest notes in the track to be quantized. If you quantize a track containing 16th notes to 1/8 (8th notes), for example, some of the 16th notes will be aligned with 8th note beats, thus ruining the track.

6 Creating Original Patterns

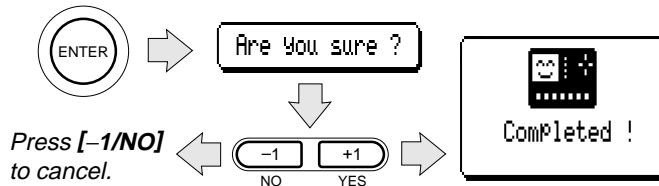
3: Transpose



Transposes all notes in the specified track up or down by the specified number of semitones. Minus (-) values transpose down while plus (+) values transpose up.

Track to be transposed
(C1, C2 or Ba).

Amount or transposition in
semitones (-12 ... +00 ... +12).



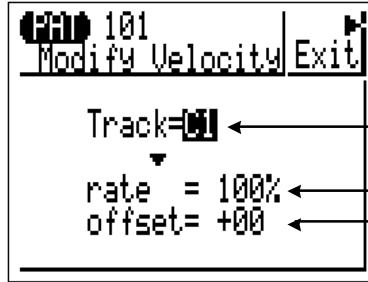
After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the transpose operation, or press [-1/NO] to cancel.



Of course, you can transpose all tracks as required to shift the entire pattern to a different key, but you could also transpose only the C2 track, for example, to produce an interval (and therefore harmony) between the C1 and C2 tracks.

4: Modify Velocity

Increases or decreases the velocity values of all notes in the specified track and range of measures.



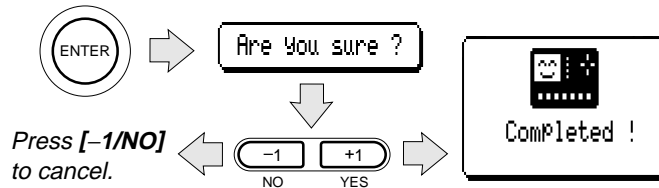
Track to be modified
(C1, C2, Ba, or Dr).

Velocity ratio
(000% ... 200%).

Amount of velocity
change
(-99 ... +00 ... +99).

The **“rate”** parameter sets the ratio between the lower and higher velocity values. A setting of “100%” maintains the original relationship between the notes, lower values produce a narrower dynamic range, and higher values produce a broader dynamic range.

The **“offset”** parameter determines the amount of velocity change. “-” settings reduce the velocity while “+” settings increase the velocity.



After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the modify velocity operation, or press [-1/NO] to cancel.

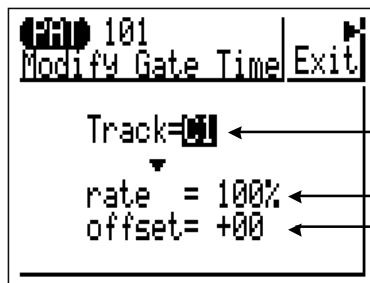


The Modify Velocity job is a great way to “soften” the sound of a pattern that has too great a variation between the softest and loudest notes, or, conversely, to add extra punch to a dull-sounding pattern. Experiment with the parameters to get a feel for what they do.

6 Creating Original Patterns

5: Modify Gate Time

Increases or decreases the gate times (length) of all notes in the specified track and range of measures.



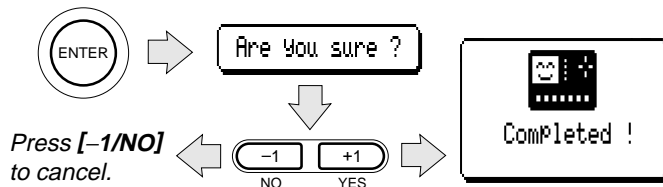
Track to be modified
(C1, C2, Ba, or Dr).

Gate time ratio
(000% ... 200%).

Amount of gate time
change
(-99 ... +00 ... +99).

The “**rate**” parameter sets the ratio between the shorter and longer gate time values. A setting of “100%” maintains the original relationship between the notes, lower values produce a narrower gate time range, and higher values produce a broader gate time range.

The “**offset**” parameter determines the amount of gate time modification. “-” settings shorten the gate time while “+” settings increase the gate time.



After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the modify gate time operation, or press [-1/NO] to cancel.



The Modify Gate Time job can be used to give the entire pattern a more staccato or legato feel, as required. Experiment with the parameters to get a feel for what they do.

6: Pattern Name

Character cursor. Moves forward as each character is entered, or backward when a character is deleted.



Name area.

Characters and DEL function.

Allows an original name of up to 8 characters to be assigned to the current pattern.

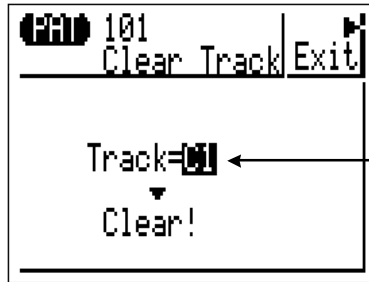
To enter a character, use the cursor keys to move the cursor to the character to be entered, then press the **[ENTER]** key. The character will appear at the character cursor location and the character cursor will advance to the next character position.

To delete the last character entered place the cursor over “DEL” at the bottom of the display and press **[ENTER]**. The character will be deleted and character cursor will move back to the last character position.

When the entire name has been entered, press the top function button next to “Exit” on the display. The new name will appear next to the pattern number at the top of the PATTERN mode display.

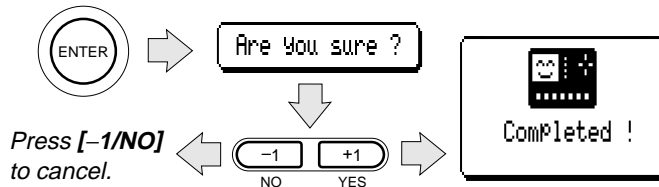
6 Creating Original Patterns

7: Clear Track



Completely clears the specified track from the currently selected pattern.

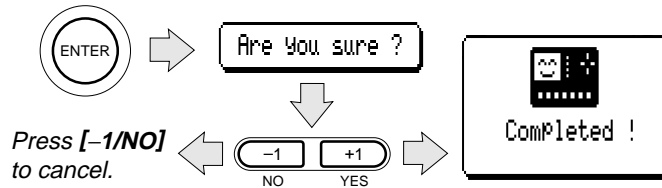
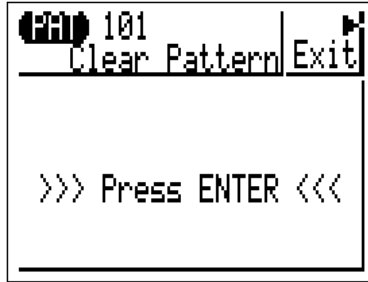
Track to be cleared (C1, C2, Ba, or Dr).



Select the track to be cleared and press `[ENTER]`. “Are you sure?” will appear on the display. Press `[+1/YES]` to confirm that you want to go ahead with the Clear Track operation (Clear Track is irreversible), or press `[-1/NO]` to cancel.

8: Clear Pattern

Completely clears the currently selected user pattern.



After selecting the Clear Pattern job, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the Clear Pattern operation (Clear Pattern is irreversible), or press **[-1/NO]** to cancel.

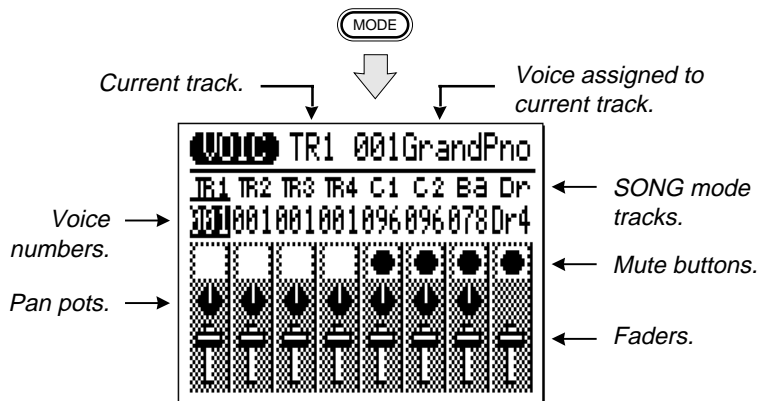
Creating a Complete Song

Recording the Sequencer Tracks .	108	5: Delete Measure	128
Preparing to Record —		6: Erase Measure	129
Voice Assignments	108	7: Transpose	130
Realtime Sequencer Track		8: Move Clock	131
Recording	109	9: Remove Event	132
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The Song Jobs	122	11: Modify Gate Time	134
1: Mix Track	124	12: Song Name	135
2: Copy Measure	125	13: Clear Track	136
3: Create Measure	126	14: Clear Song	137
4: Quantize	127		

Recording the Sequencer Tracks

After recording the accompaniment tracks in the SONG mode using either the preset patterns (chapter 5, page 52) or original patterns you have created in the PATTERN mode (chapter 6, page 78), record melody lines, harmony parts, counter-melodies, or any other parts required to complete your composition on the SONG mode sequencer tracks (TR1, TR2, TR3, and TR4). The SONG mode provides realtime and step recording modes for the sequencer tracks as well as the accompaniment tracks.

Preparing to Record — Voice Assignments

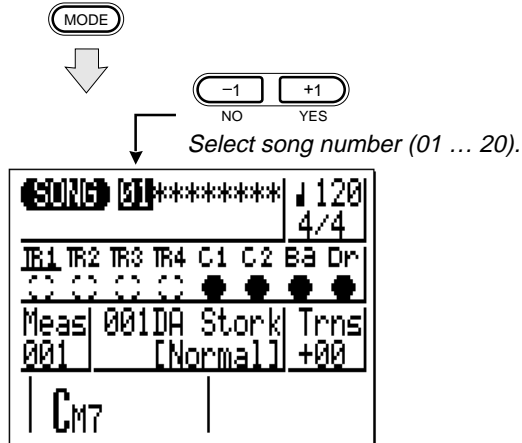


Before actually beginning to record you should switch to the VOICE mode and assign the desired voices to the SONG mode sequencer tracks (page 38). Of course, you can make these assignments later but it's better to record with the voices you actually intend to use in the song.

Realtime Sequencer Track Recording

In the realtime record mode you select the track you want to record (TR1, TR2, TR3, or TR4), and then play the part on the micro-keyboard or an external MIDI keyboard in real time.

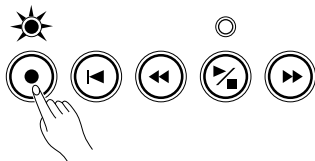
1 Select the SONG mode & the song to be recorded



Use the **[MODE]** key to select the SONG mode and, with the cursor located over the song number at the top of the display, use the **[-1]** and **[+1]** keys to select the song you intend to record.

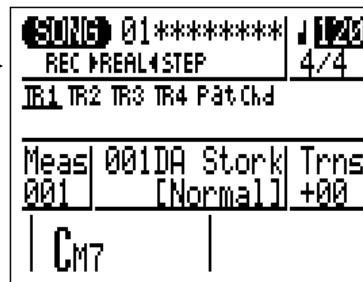
7 Creating a Complete Song

2 Engage the record ready mode.



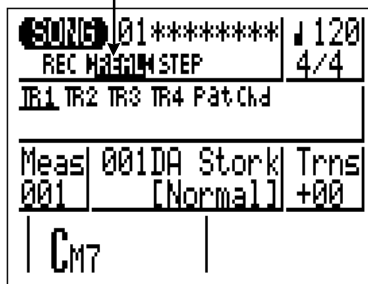
Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.

“REC” appears when the record mode is engaged.



3 Select the realtime record mode.

Place cursor here to select the realtime record mode.



Move the cursor to the “REC REAL STEP” area of the display, then press the left cursor key to select the “REAL” mode (if it isn’t already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. “►REAL◀”. Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode.

4 Select tempo and transpose parameters as required.

Move the cursor to the tempo and transpose parameters and set as required using the [-1] and [+1] keys (since you've probably already recorded the accompaniment tracks, the time signature can't be changed).

SONG 01*****		120
REC PREAL4STEP		4/4
TR1	TR2	TR3 TR4 PatChd
Meas	001DA	Stork Trns
001	[Normal]	+00
CM7		

Record tempo.

Transpose.



It's sometimes easier to set a slow tempo for realtime recording, so you have plenty of time to enter the data.

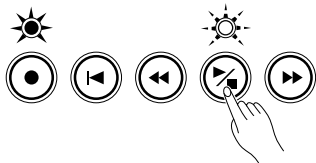
5 Select the track to record.

Cursor here to select TR1 for recording.

SONG 01*****		120
REC PREAL4STEP		4/4
<u>TR1</u>	TR2	TR3 TR4 PatChd
Meas	001DA	Stork Trns
001	[Normal]	+00
CM7		

Move the cursor to the track area of the display, and then shift the cursor sideways to select the track you want to record: TR1, TR2, TR3, or TR4. Move the cursor vertically to move to other areas of the screen. An underline will remain below the selected track.

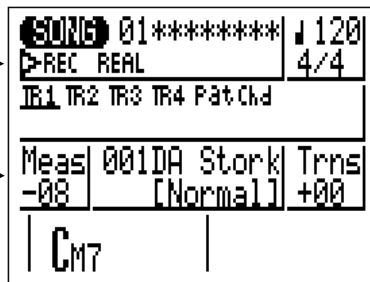
6 Record.



Press the [▶] key to begin recording. The metronome will sound and you'll be given a two-measure count-in prior to the first measure actually recorded. The count-in is also indicated by negative numbers in the "Meas" parameter. If a 4/4 time signature is selected, for example, the count-in will run from measure "-08" to "-01", then recording will begin from measure "001".

Realtime recording in progress.

Minus measure numbers during count-in.



Play the required part either on the micro-keyboard or via an external MIDI keyboard transmitting on the appropriate MIDI channel:

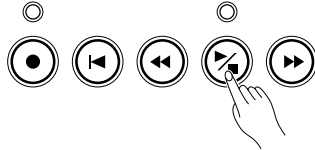
MIDI Channel	Track
1	TR1
2	TR2
3	TR3
4	TR4



If the track selected for recording contains previously-recorded data, the old data will be erased and replaced by the new data. If you want to record several separate parts to the same track (using the same voice, of course), use the "Mix Track" song job (page 124) to combine separately recorded tracks.

7 Stop recording.

Press the [▶/■] key to stop recording. The normal SONG play mode is automatically re-selected when you stop recording.



Track empty.

Track contains data.

SONG 01				120			
				4/4			
TR1	TR2	TR3	TR4	C1	C2	Ba	Dr
●	●	●	●	●	●	●	●
Meas	001	DA	Stork	Trns			
001		[Normal]	+00				
Cm7							

Note that when you return to the SONG play mode the block below each track that contains data will be filled (dark) while the blocks below empty tracks are empty (outline only).

8 Record the remaining tracks.

Complete the song by re-engaging the record mode, selecting the next track to be recorded, and recording as described in steps 2 and 5 through 7, above.

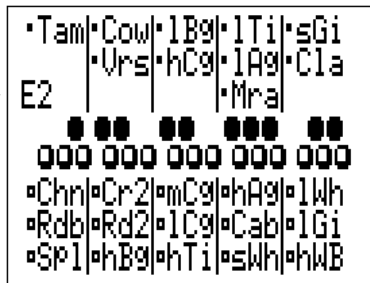
7 Creating a Complete Song

The pitch of the lowest micro-keyboard key (changes when the octave keys are used).

Micro-keyboard.

Drum instruments currently played by the corresponding micro-keyboard keys.

Hold **[MENU]** and press **[MODE]**

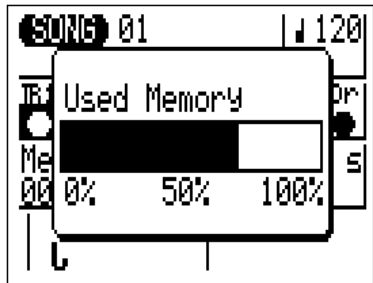


As long as the record mode is not engaged you can press the **[MODE]** key while holding the **[MENU]** key to see the current pitch of the micro-keyboard as determined by the **[OCT DOWN]** and **[OCT UP]** keys, and a list of the drum instruments currently played by the micro-keyboard keys.



See the “Editing Songs & Patterns” section, page 140, for information on how to edit recorded song data.

● The “Used Memory” Display



Press the **[OCT DOWN]** and **[OCT UP]** keys simultaneously at any time when the record mode is not engaged to see how much of the QY20’s memory has been used.

When the bar reaches “100%” the QY20 memory is full (or almost full) and further recording may not be possible unless you delete some unwanted data or transfer some data to an external data storage device using the MIDI bulk dump function (see page 163).



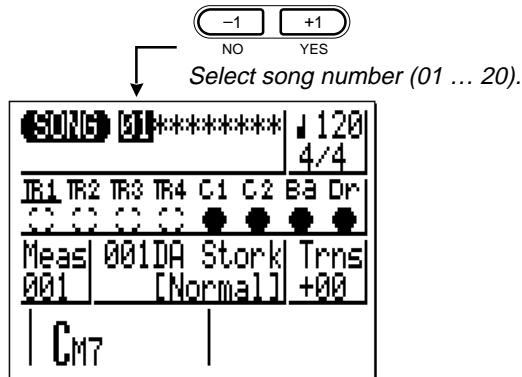
If the memory becomes full during realtime recording the “Memory Full” error message will appear and recording will stop automatically. Although the used memory display may not show “100%” at this point, further recording will not be possible until some data is deleted.

Step Sequencer Track Recording

The step pattern record mode lets you enter each track note-by-note, with precise control over the timing, length, and loudness of each note. You can record entire tracks using the step mode, or use it to brush-up and add data to an existing track.

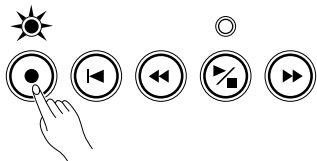
1 Select the SONG mode & the song to be recorded

Use the [MODE] key to select the SONG mode and, with the cursor located over the song number at the top of the display, use the [-1] and [+1] keys to select the song you intend to record.



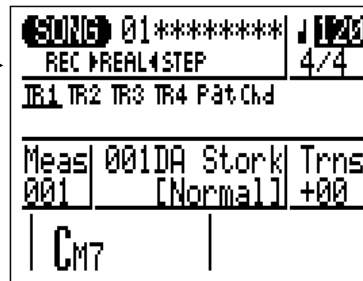
7 Creating a Complete Song

2 Engage the record ready mode.



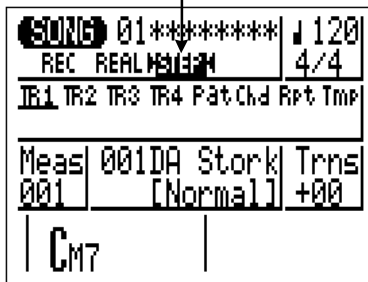
Press the [●] key to engage the record ready mode. The red LED above the [●] key will light.

“REC” appears when the record mode is engaged.



3 Select the step record mode.

Place cursor here to select the step record mode.

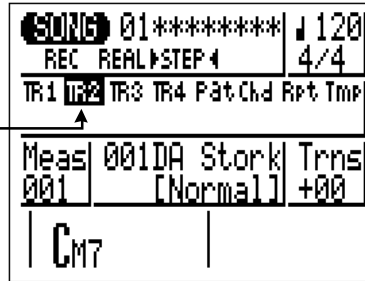


Move the cursor to the “REC REAL STEP” area of the display, then press the right cursor key to select the “STEP” mode (if it isn’t already selected). The selected record mode is indicated by a pair of arrows on either side of the mode name — i.e. “▶STEP◀”. Once selected, move the cursor vertically to move to other areas of the screen. The arrows will remain positioned at the selected mode.

4 Select the track to record.

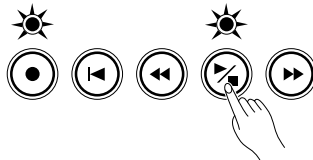
Move the cursor to the track area of the display, and then shift the cursor sideways to select the track you want to record: TR1, TR2, TR3, or TR4. Move the cursor vertically to move to other areas of the screen. An underline will remain below the selected track.

TR2 selected for step recording.



5 Record.

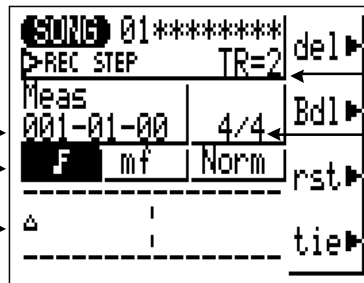
Press the [▶/■] key to begin recording. The step record display shown below will appear.



Measure/beat/clock display. →

Note parameters. →

Note display. →



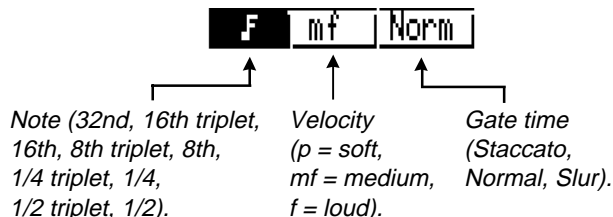
Current record track.

Time signature.

7 Creating a Complete Song

6 Set the note parameters as required.

Move the cursor to the note, velocity, and gate time parameters and set as required using the [-1] and [+1] keys for the first (or next) note to be entered.

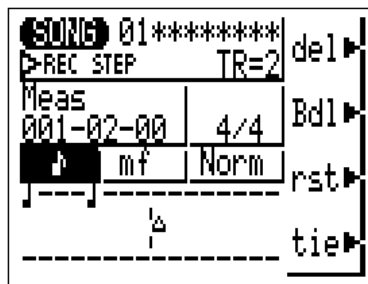


The velocity and gate time settings in the step record display correspond to the following numeric values in the edit displays (to be described later):

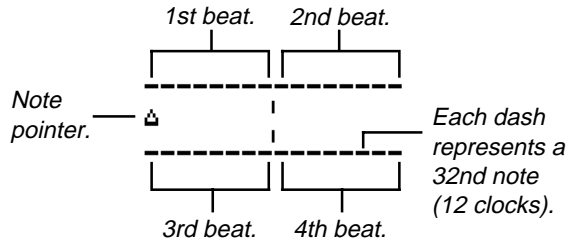
Velocity "p" = 56
 "mf" = 88
 "f" = 120

Gate Time "Staccato" = 50% normal note length.
 "Normal" = 90% normal note length.
 "Slur" = 99% normal note length.

7 Enter a note.

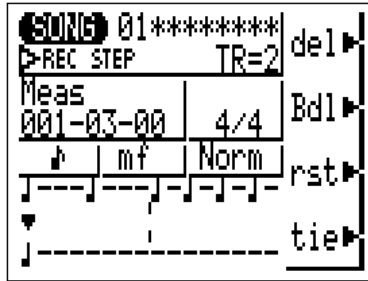


Once the note parameter have been specified, the note can be entered simply by playing the appropriate key on the micro-keyboard (or on your external MIDI keyboard). A note symbol appears on the note display and the note pointer advances to the next note position. The note symbol always appears as a 1/4-note, regardless of the actual note entered (chords are also indicated by the 1/4-note symbol). Here's how the display will look after two 8th notes have been entered.



The Note Display

The note display shows up to four 1/4-notes worth of data at once (that's one measure in 4/4 time). If the selected time signature results in more than four 1/4 notes per measure, then the display will scroll to show the extra notes. On the other hand, if the time signature is 3/4, then the 4th beat is not used and appears as double dashes on the display ("=====").



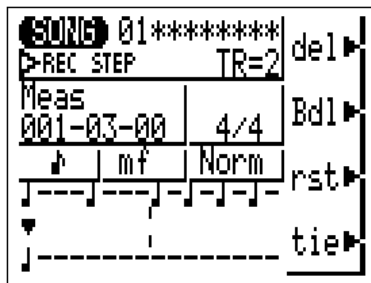
Cursor moved to note pointer (pointer filled).
Note that the pointer points up to notes in the upper row and down to notes in the lower row.

Moving Around In the Note Display

You can move the cursor down to the note display (the note pointer will appear filled) and move the note pointer to any position at which you want to enter a note, or to any note that you want to delete. You will actually hear the appropriate note or chord when the note pointer is moved to an existing note symbol. When you move the note pointer past the end of the note display, the next measure will appear.

The Step Mode Function Keys

The four function keys immediately to the right of the display provide access to a number of handy functions in the step record mode. The “del” key deletes the note or chord at the note pointer. The “Bdl” key moves the note pointer backward by the currently selected note length and deletes any notes that exist at that location. The “rst” key enters a rest of the currently selected note length at the note pointer position. And the “tie” key lengthens the previously entered note by “tying” another note of the same length and pitch to it (the “tie” key only works immediately after entering a note).



Delete note at note pointer.

Step back by current note length and delete.

Enter rest of current note length.

Enter a note of the same length as the last note, tied to the last note (this effectively lengthens the last note).

001-03-00

Measure number
(001 ... 999).

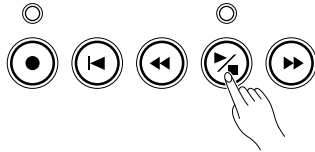
1/4-note beat
(01, 02, 03, 04
if 4/4 time).

Clock (96
clocks per
1/4 note).

The Measure/Beat/Clock Display

The “Meas” area of the step record display shows the current position of the note pointer in measures, 1/4-note beats, and clocks (there are 96 clocks per 1/4 note). If you’re not sure what measure you’re seeing on the note display while recording, check the measure/beat/clock display.

8 Complete the song.



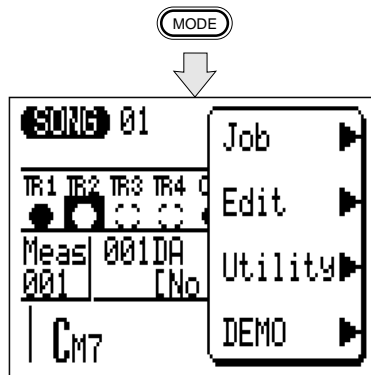
Repeat steps 7 and 8 until the current track of the song is complete, then press [▶/■] to stop recording and go back to step 5 to record the next track, as necessary.



See the “Editing Songs & Patterns” section , page 140, for information on how to edit recorded song data.

The Song Jobs

The song mode includes 14 song “jobs” that perform a variety of important functions. To access and use the song jobs, press the **[MENU]** key while in the normal SONG play mode, and then press the function key next to “Job” on the display.



This calls the song job list. You can select any job on the list simply by moving the cursor to the required job and pressing **[ENTER]**.

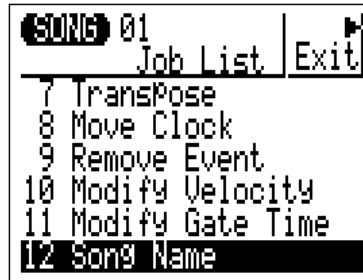


Press for song job list.

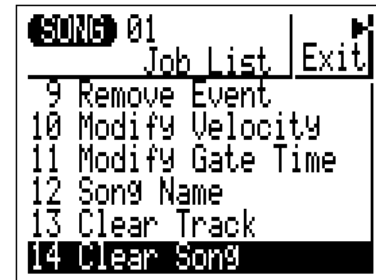
Song jobs 1 ... 6.



Song jobs 7 ... 12.

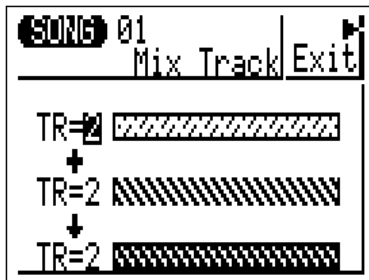


Song jobs 9 ... 14.



Returning to the Song Play Mode

The function button next to “Exit” on the display can be used to exit from any song job, and then from the job list thereby returning you to the normal song play mode.



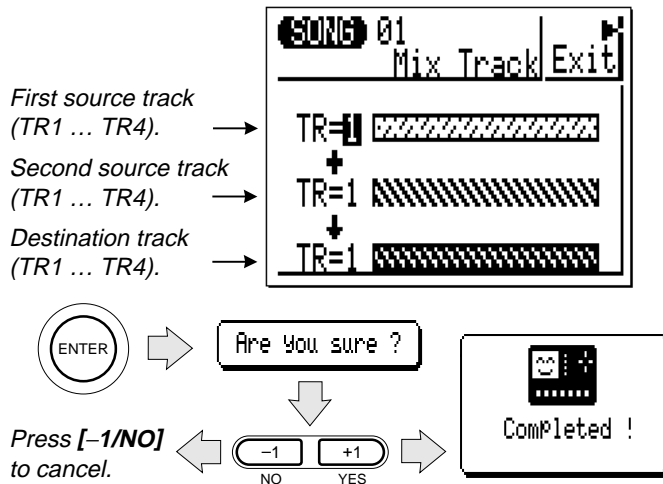
↑
Press to exit
to job list.



↑
Press to exit to
song play mode.

7 Creating a Complete Song

1: Mix Track



Combines the data contained in two specified source tracks and places the result in a third destination track. The destination track can be the same as either of the source tracks.

After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the Mix Track operation (which will overwrite data in the destination track), or press **[-1/NO]** to cancel.



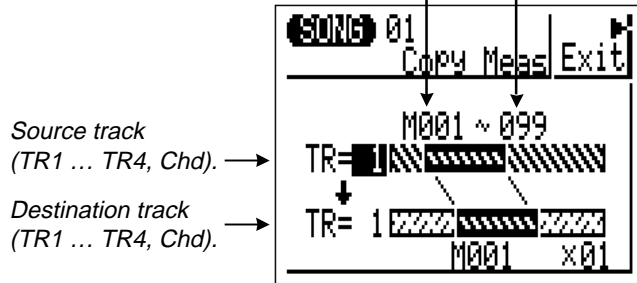
In many situations you may want to “overdub,” or add new material to a single track without deleting the previous material. This is dangerous, however, since you can ruin one or more layers of good material by making a mistake during a later overdub. The QY20 eliminates this possibility by allowing only “replace” recording (i.e. all material recorded to a track erases and replaces any previous material on that track). In order to record more than one layer of material to a single track (using the same voice, of course), first record the layers on separate tracks, then after ensuring that there are no mistakes, use the Mix Track job to combine these separate tracks onto a single track.

Please note that if both source tracks are set to the same track number, the data from that track will simply be copied to the destination track.

2: Copy Measure

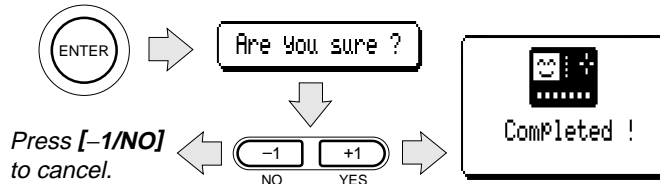
First measure in range to be copied (001 ... 999).

Last measure in range to be copied (001 ... 999).



Measure to which source measures are to be copied (001 ... 999).

Number of times specified range of measures is to be copied (01 ... 99).



Copies a specified range of measures from one track to the specified measure in another track. This operation overwrites the data from the beginning of the specified destination measure with the data from the source measure. Previous data in the overwritten measures is therefore lost. If the “Chd” track is selected, the corresponding chord progression is copied.

After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the Copy Measure operation (Copy Measure is irreversible), or press [-1/NO] to cancel.

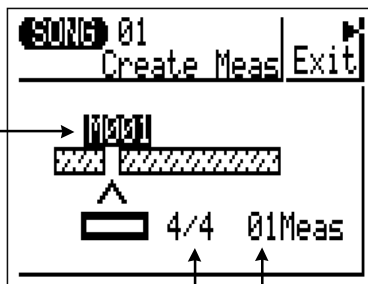


The Copy Measure job makes it easy to use phrases or even complete sections (an entire chorus, for example) in more than one place in a song. You can copy a phrase played by one voice, and have it repeated by a different voice later in the song. You can always edit the copied sections to create variations.

7 Creating a Complete Song

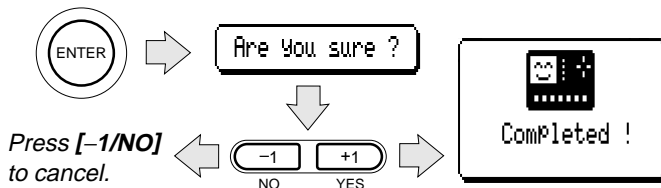
3: Create Measure

Measure at which created measures are to be inserted (001 ... 999).



Time signature of measures to be created (1/4 ... 8/4, 1/8 ... 16/8, 1/16 ... 16/16).

Number of measures to be created (01 ... 99).



Creates a specified number of blank measures having the specified time signature for all sequencer tracks (TR1 ... TR4). The accompaniment tracks are not affected. The created measures are inserted at a specified measure number, and all subsequent measures are moved forward to make room. Always set the time signature parameter to the same time signature as the song, otherwise the difference between the specified time signature and that of the accompaniment

tracks makes it impossible to properly create the specified measures.

After setting the parameters as required, press [ENTER]. "Are you sure?" will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the Create Measure operation, or press [-1/NO] to cancel.

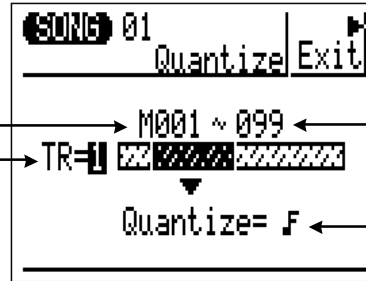


Use create measure when you want to add new material somewhere in the middle of data you've already recorded, without erasing the existing data. First create the required measures, then either copy the data from existing measures using the Copy Measure function, or record new data as required.

4: Quantize

First measure in range to be modified (001 ... 999).

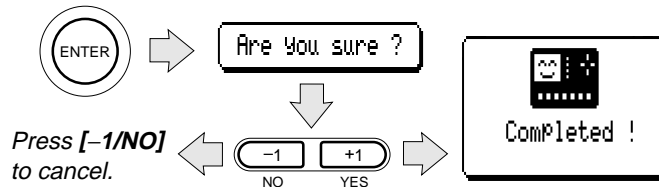
Track (TR1 ... TR4).



Aligns notes in the specified track to the nearest specified beat.

Last measure in range to be modified (001 ... 999).

Quantize note length (32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4-note triplet, 1/4-note, 1/2-note triplet, 1/2-note).



After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the quantize operation (which will irreversibly modify the data in the specified track), or press **[-1/NO]** to cancel.

One measure of 8th notes before quantization.



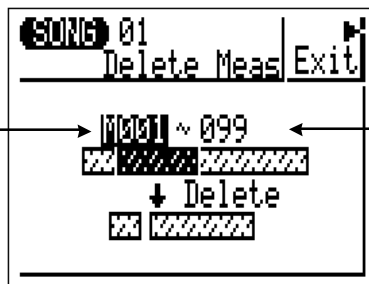
After quantization.



Quantization is generally used to tighten up sloppy timing. Use it judiciously, however, because timing that is too perfect can sound cold and mechanical — unless, of course, you’re specifically aiming for a cold, mechanical feel. Always use a quantize value that is at least as “short” as the shortest notes in the track to be quantized. If you quantize a track containing 16th notes to 1/8 (8th notes), for example, some of the 16th notes will be aligned with 8th note beats, thus ruining the track.

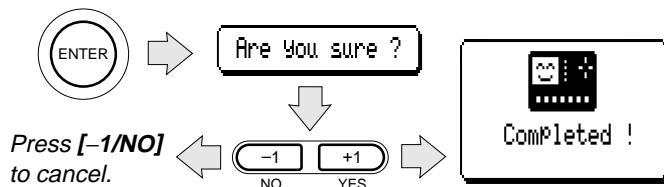
5: Delete Measure

First measure in range to be deleted (001 ... 999).



Last measure in range to be deleted (001 ... 999).

Deletes the specified range of measures from all sequencer tracks (TR1 ... TR4) simultaneously. The accompaniment tracks are not affected. Please note that if the Delete Measure job is used to delete a measure or measures that have a different time signature from the rest of the song, the specified measure or measures may not be properly deleted due to the resulting difference between the time signatures of the sequencer and accompaniment tracks.

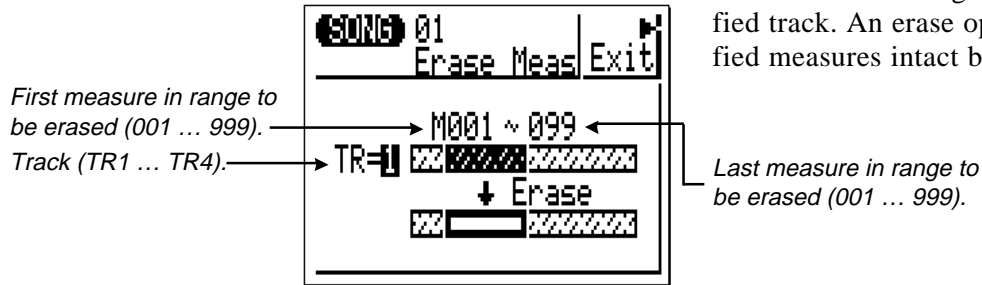


After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the Delete Measure operation (Delete Measure is irreversible), or press [-1/NO] to cancel.

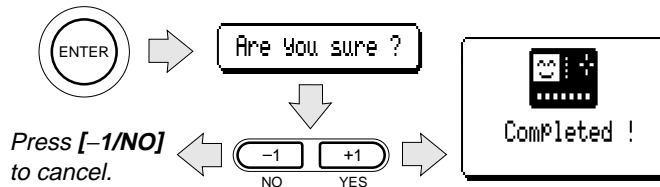


Delete Measure is a great way to completely cut out unwanted data from the song. It's important to remember, however, that a delete operation affects all tracks simultaneously, and that measures following the deleted range are moved back to take the place of the deleted measures.

6: Erase Measure



Erases all note and event data from the specified measure or range of measures in the specified track. An erase operation leaves the specified measures intact but blank.



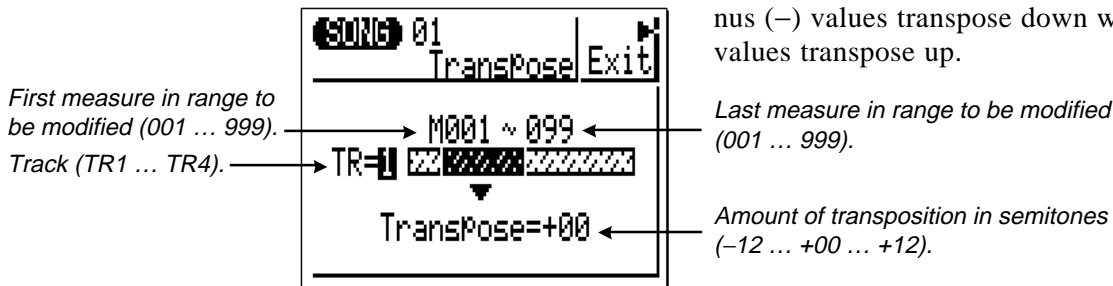
After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the Erase Measure operation (Erase Measure is irreversible), or press **[-1/NO]** to cancel.



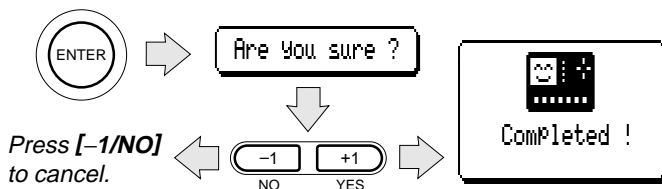
Unlike the Delete Measure job, the Erase Measure job erases the data from the specified measures only in the specified track. Also, the data is erased but the measures remain intact (i.e. the subsequent measures are not moved back). After an erase operation you can record new material in the resulting blank measures as required.

7 Creating a Complete Song

7: Transpose



Transposes all notes in the specified part up or down by the specified number of semitones. Minus (-) values transpose down while plus (+) values transpose up.



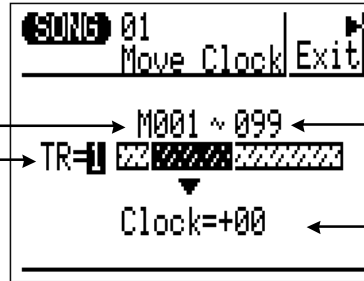
After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the transpose operation, or press **[-1/NO]** to cancel.



Of course, you can transpose all tracks as required to shift the entire song to a different key, but the Transpose job is actually more suited to changing the pitch of a section of a single track. This can be done to produce temporary “modulations” to another key, or to create harmony with another track.

8: Move Clock

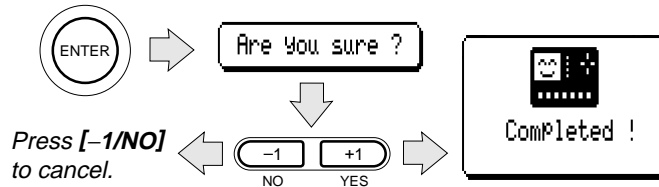
First measure in range to be modified (001 ... 999).
Track (TR1 ... TR4).



Moves all notes and events in the specified track and range of measures forward or backward by the specified number of clocks (96 clocks per 1/4 note).

Last measure in range to be modified (001 ... 999).

Number of clocks by which data in specified range are to be moved (-99 ... +00 ... +99).

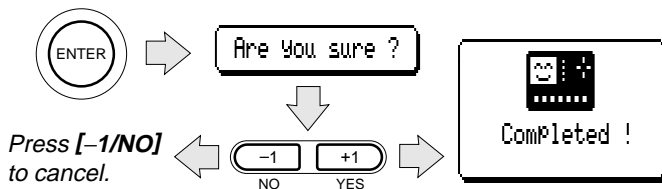
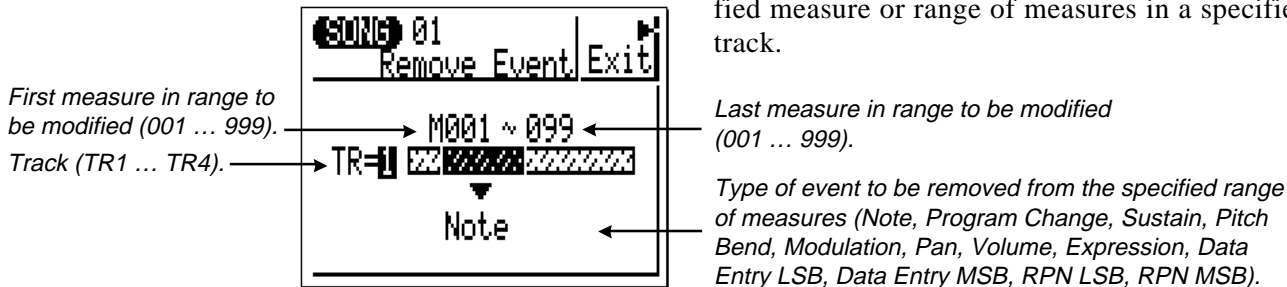


After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the Move Clock operation, or press [-1/NO] to cancel.



Since the Move Clock job actually shifts the timing of all notes and other events in the specified measures forward or backward, it can significantly alter the “feel” of the song. You could move the notes forward (“+” settings) to create a more “laid back” feel, or backward (“-” settings) to produce a more “driving” feel. Of course, you can also use Clock Move to correct timing that is off in the first place.

9: Remove Event



Allows pitch bend, program change, or control change events (data) to be removed from a specified measure or range of measures in a specified track.

Last measure in range to be modified (001 ... 999).

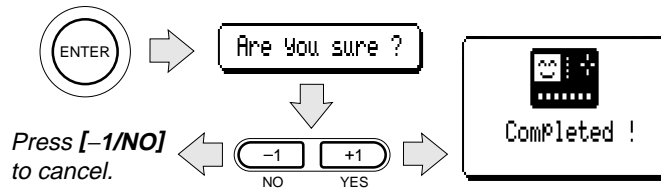
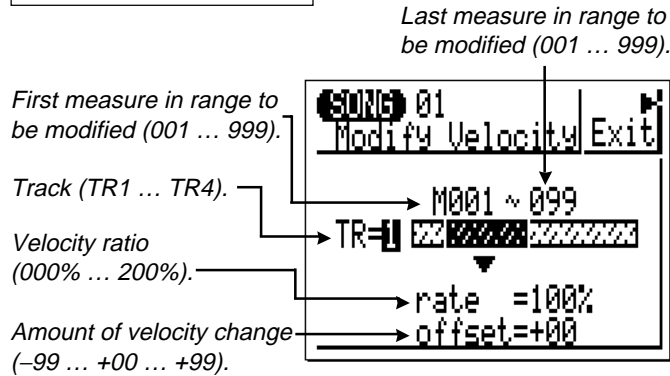
Type of event to be removed from the specified range of measures (Note, Program Change, Sustain, Pitch Bend, Modulation, Pan, Volume, Expression, Data Entry LSB, Data Entry MSB, RPN LSB, RPN MSB).

After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the Remove Event operation (Remove Event is irreversible), or press **[-1/NO]** to cancel.



Although you can remove events individually in the edit mode (page 145), the Remove Event job makes it simple to remove all occurrences of the specified event within the specified measure range in one operation. This is particularly convenient when removing slow pitch bends or volume changes that may employ many individual events to create a single effect.

10: Modify Velocity



Increases or decreases the velocity values of all notes in the specified track and range of measures.

The “**rate**” parameter sets the ratio between the lower and higher velocity values. A setting of “100%” maintains the original relationship between the notes, lower values produce a narrower dynamic range, and higher values produce a broader dynamic range.

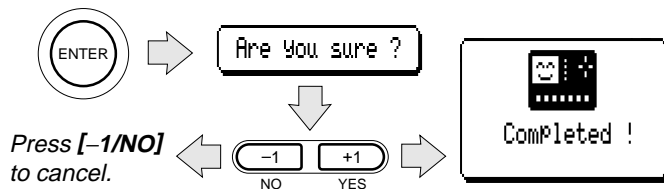
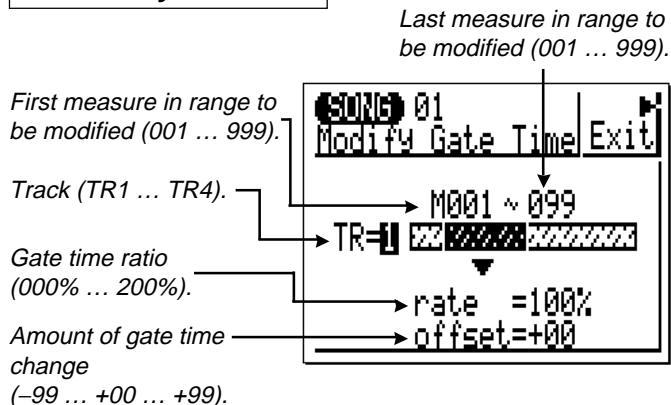
The “**offset**” parameters determines the amount of velocity change. “-” settings reduce the velocity while “+” settings increase the velocity.

After setting the parameters as required, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the modify velocity operation, or press **[-1/NO]** to cancel.



The *Modify Velocity* job is a great way to “soften” the sound of material that has too great a variation between the softest and loudest notes, or, conversely, to add extra punch to dull-sounding material. Experiment with the parameters to get a feel for what they do.

11: Modify Gate Time



Increases or decreases the gate times (length) of all notes in the specified track and range of measures.

The “**rate**” parameter sets the ratio between the shorter and longer gate time values. A setting of “100%” maintains the original relationship between the notes, lower values produce a narrower gate time range, and higher values produce a broader gate time range.

The “**offset**” parameter determines the amount of gate time modification. “-” settings shorten the gate time while “+” settings increase the gate time.

After setting the parameters as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the modify gate time operation, or press [-1/NO] to cancel.



The Modify Gate Time job can be used to produce a more staccato or legato feel, as required. Experiment with the parameters to get a feel for what they do.

12: Song Name

Character cursor. Moves forward as each character is entered, or backward when a character is deleted.

Name area.



Characters and DEL function.

Allows an original name of up to 8 characters to be assigned to the current song.

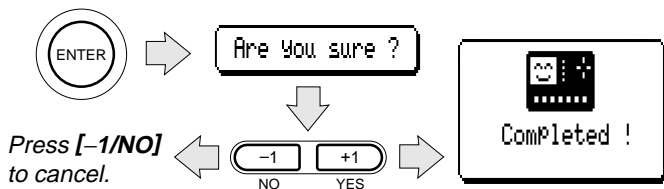
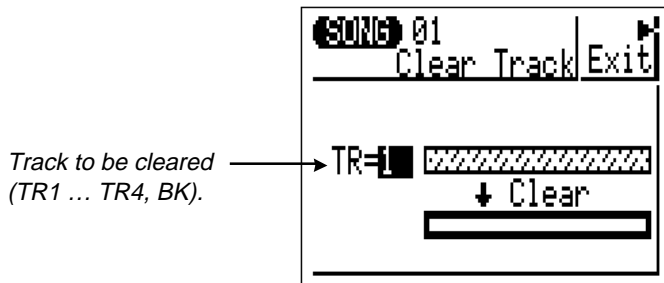
To enter a character, use the cursor keys to move the cursor to the character to be entered, then press the **[ENTER]** key. The character will appear at the character cursor location and the character cursor will advance to the next character position.

To delete the last character entered place the cursor over “DEL” at the bottom of the display and press **[ENTER]**. The character will be deleted and character cursor will move back to the last character position.

When the entire name has been entered, press the top function button next to “Exit” on the display. The new name will appear next to the song number at the top of the SONG mode display.

13: Clear Track

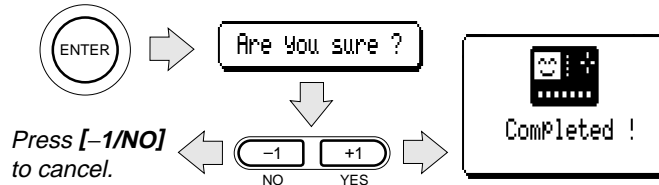
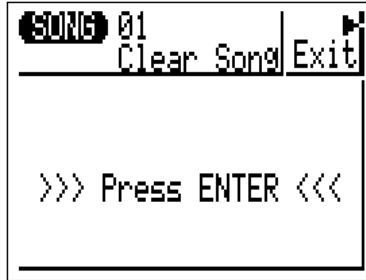
Completely clears the specified track from the currently selected song. If “BK” is selected, all accompaniment tracks are cleared.



Select the track to be cleared and press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to confirm that you want to go ahead with the Clear Track operation (Clear Track is irreversible), or press [-1/NO] to cancel.

14: Clear Song

Completely clears the currently selected song.



After selecting the Clear Song job, press **[ENTER]**. “Are you sure?” will appear on the display. Press **[+1/YES]** to confirm that you want to go ahead with the Clear Song operation (Clear Song is irreversible), or press **[-1/NO]** to cancel.

Editing Songs & Patterns

Engaging the Edit Mode	140
Change Mode Editing	143
Insert Mode Editing	146

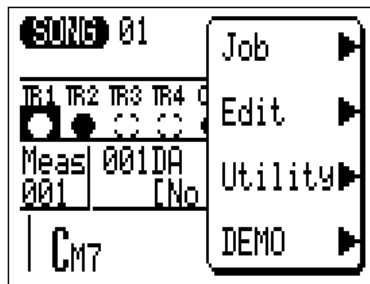
The QY20's editing capability makes it easy to correct mistakes made when recording song or pattern data, and to generally refine your sound.

The song and pattern edit “change” mode lets you individually modify the timing, pitch, gate time (length) and velocity (loudness) of each note in the pattern. There's also an edit “insert” mode that allows insertion of note, program change, sustain on/off, pitch bend, modulation, pan, volume, expression, and other events at any point in the pattern.

Engaging the Edit Mode

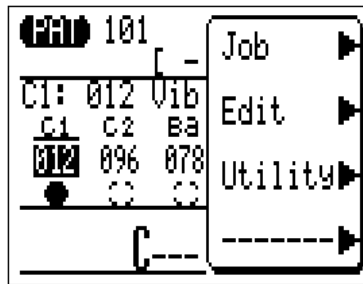
To engage the edit mode, place the cursor at the track you want to edit in the normal SONG or PATTERN play mode, press the [MENU] key, and then the function key next to “Edit” on the display.

From the
SONG mode:



Press to enter
song edit mode
for current track.

From the
PATTERN
mode:



Press to enter
pattern edit mode
for current track.

Track being edited.

Edit "change" mode (this is the default mode).

SONG		TR=1	Del
Edit Change			
M001	4/4	Gate	Vel
=== TOP ===			
01-00	C 3	00-86	088
02-00	E 3	00-86	088
03-00	G 3	00-86	088
04-00	C 4	00-86	088

Top of song.

One note per line.

Beat-clock. Note (pitch). Gate time (beat-clock). Velocity.

The edit display will look something like this (of course, the note data will be different).

P01		TR=C1	Del
Edit Change			
M001	4/4		
=== TOP ===			
01-00	C 3	00-86	088
02-00	D 3	00-86	088
03-00	E 3	00-86	088
04-00	G 3	00-86	088

The pattern edit display is almost exactly the same. The only difference is that the part being edited (C1, C2, Ba, or Dr) is displayed in the upper right corner instead of the track.

● Moving Around

The timing, pitch, gate time, and velocity values for each note are shown on a single line of the display. The notes are arranged in order from top to bottom. You can move around within the pattern by simply moving the cursor. Move below the bottom of the display and the note data will scroll up, moving towards the end of the pattern. The opposite occurs when you move up above the top of the display.

In addition to the lines of note data, there are markers for the top of the song, measure lines, and the end of the song.

Cursor currently in measure 002. →

Measure line. →

SONG		TR=1	Del ▶
Edit Change			
M002	4/4	Gate	Vel
03-00	G 3	00-86	088
04-00	C 4	00-86	088
===	Meas 002	===	
01-00	G 3	00-86	088
02-00	E 3	00-86	088

SONG		TR=1	Del ▶
Edit Change			
M003	4/4		
01-00	B 2	00-86	088
02-00	C 3	00-86	088
03-00	G 3	00-86	088
04-00	C 4	00-86	088
===	E 10	===	← End of song.

Change Mode Editing

SONG		TR=1	Del
Edit Change			
MM	CC	Gate	Vel
03-00	G 3	00-86	088
04-00	C 4	00-86	088
==	Meas	002	==
01-00	G 3	00-86	088
02-00	E 3	00-86	088



For example, you would place the cursor here if you wanted to change the pitch of the second note in the second measure.

01-00 C 3 00-86 088

The “Change” edit mode is initially selected when the edit mode is engaged. To edit any note in the song or pattern, simply move the cursor to the appropriate line, and then to the required parameter within that line. The [-1] and [+1] keys can then be used to select a new value for the selected parameter. The edited line will flash when any parameter within it is changed. This indicates that a change has been made but has not yet been entered. Press the [ENTER] key to actually enter the changes, or move the cursor to another line to cancel the changes.

Beat-clock

The first column contains the note timing data. The left number is the 1/4-note beat within the current measure (1 through 4 in a 4/4 measure), and the right number is the clock within that beat (00 through 95). The beat and clock values can be selected and edited independently.

01-00 C 3 00-86 088

Pitch

This is the actual pitch of the note. The range is from C-2 to G8.

01-00 C 3 00-86 088

Gate Time

Gate time is the length of the note in clocks. A normal 1/4 note, for example, is 86 clocks long. This is about 90% of the actual length of a 1/4-note division, which is 96 clocks. The “normal” length of the note is slightly shortened to prevent notes from running into each other and sounding slurred (a slur is produced by setting the full note length). The left number is 1/4-note beats (96-clock units) and the right number is clocks. The range is from 00-01 to 99-95.

01-00 C 3 00-86 088

Velocity

This parameter controls the velocity (loudness) of the note. The range is from 001 to 127.

● Deleting Events

Notes and other events (sustain on/off, pitch bend, etc.) can be deleted by placing the cursor at the line corresponding to the event to be deleted, and then pressing the function key next to “Del” on the display.

SONG		TR=1		Del
Edit	Change			
NO02	4/4	Gate	Vel	
03-00	G 3	00-86	088	
04-00	C 4	00-86	088	
===	Meas	002	===	
01-00	G 3	00-86	088	
02-00	E 3	00-86	088	



← Press to delete line at cursor location
(note or other event).

Insert Mode Editing

The edit insert mode is used to insert new notes and other events at a specified location in the pattern.

1 Place the cursor at the insert location.

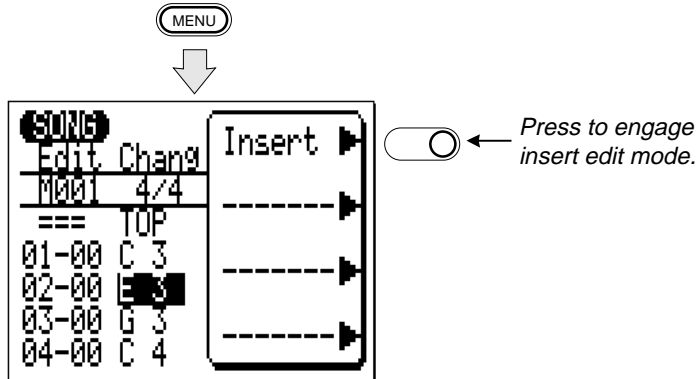
Move the cursor to the edit line corresponding to (or near to) the location at which you want to insert the new data.

Place cursor at
insert location. →

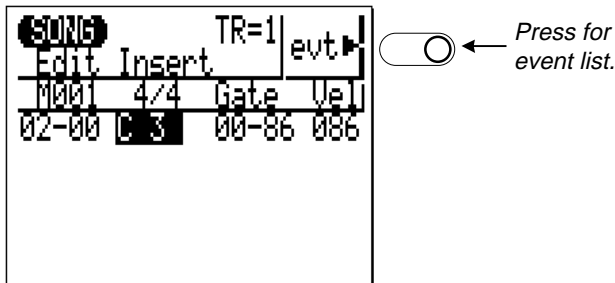
SONG	TR=1	Del
Edit Change		
M001	4/4	Gate Uell
===	TOP	===
01-00	C 3	00-86 088
02-00	E 3	00-86 088
03-00	G 3	00-86 088
04-00	C 4	00-86 088

2 Engage the insert edit mode.

Press the [MENU] key and then the function key next to “Insert” on the display to switch to the insert edit mode.



3 Call the event list.

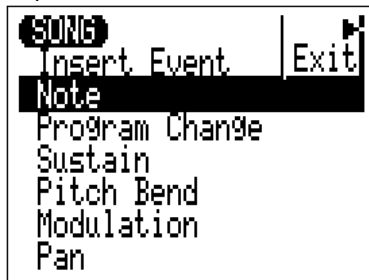


If the display corresponding to the type of event you want to insert does not appear immediately (the last selected event type will appear), press the function key next to “evt” on the display to call the insert edit mode event list.

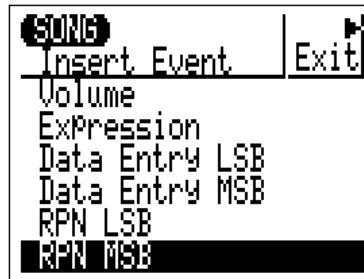
4 Select the type of event to be inserted.

Move the cursor to the type of event you want to insert (see descriptions below), then press the [ENTER] key to call the display for the selected event.

Top half of event list.



Bottom half of event list.



5 Set the event parameters.

All events have at least two parameters — usually the location of the event (Beat-clock) and the event value. Move the cursor to the event parameters and set as required by using the [-1] and [+1] keys. Note that the measure number above the event line will change to indicate the event locations as you change the beat-clock location value (M001 ... M999).

SONG		TR=1	evt▶
Edit	Insert		
M001	4/4	Gate	Vel
02-00	03	00-86	086

Location. Pitch. Gate time. Velocity.

Note

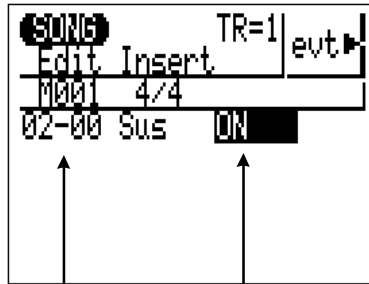
New notes can be inserted at any specified location. The note range is from “C-2” to “G8”. Gate time and velocity can also be specified.

SONG		TR=1	evt▶
Edit	Insert		
M001	4/4		
02-00	001	GrandPno	

Location. Voice number. Voice name (changes according to voice number selected).

Program Change

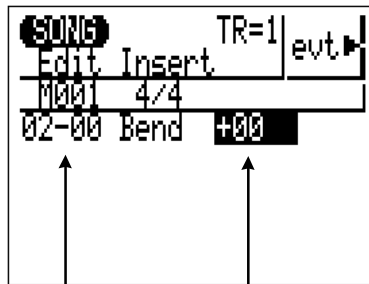
Program change events can be used to switch voices at any point in the track. You can select voices “001” through “100”, and drum kits “Dr1” through “Dr8”.



Location. ON or OFF.

Sustain

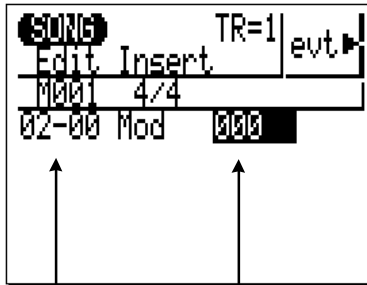
Inserting a sustain ON event has the same effect as pressing the sustain pedal on a keyboard. All subsequent notes will be sustained (applicable voices only) until a sustain OFF event is encountered. Be sure to select “ON” or “OFF”, as required, before entering a sustain event.



Location. Amount of pitch
change.

Pitch Bend

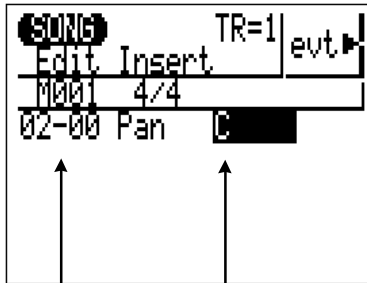
Pitch bend events can be used to produce pitch bend effects. The amount of pitch bend produced by each event can be set from “-64” through “+00” to “+63”. To produce smooth pitch bends, you’ll need to insert several appropriately-spaced small pitch bend events. Remember to use more pitch bend effects to return the pitch to normal after a bend.



Location. Amount of modulation.

Modulation

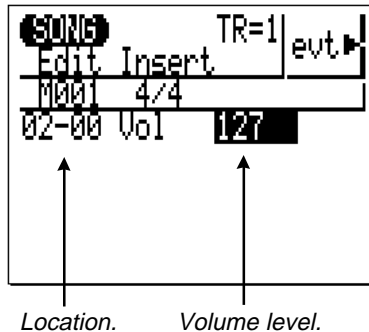
Modulation events apply pitch modulation (vibrato) to the voice. The amount of modulation applied can be set from “000” (no modulation) to “127” (maximum modulation). Modulation remains in effect until a “000” modulation event is encountered.



Location. Pan position.

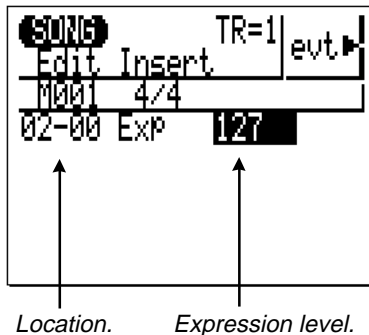
Pan

Pan events can be used to pan the current voice to a specified position in the output stereo sound field (drum voices cannot be panned). The pan position can be set from “L7” (full left) through “C” (center) to “R7” (full right).



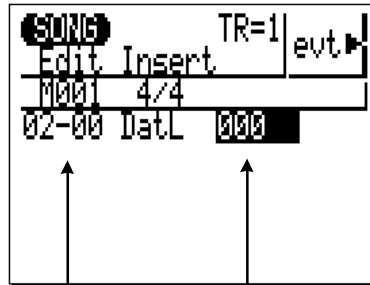
Volume

Volume events can be used to produce sudden volume changes or gradual crescendos and decrescendos. The volume range is from “000” (minimum volume) to “127” (maximum volume). Use a number of small volume events spaced at appropriate intervals to create gradual volume changes.

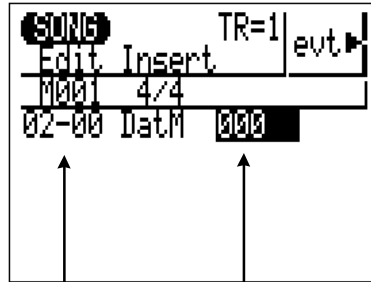


Expression

Expression events function in much the same way as volume events, but can be used to produce “finer” volume variations. The expression range is from “000” (lower volume) to “127” (higher volume). Use a number of small expression events spaced at appropriate intervals to create gradual expression “swells” and other volume changes.



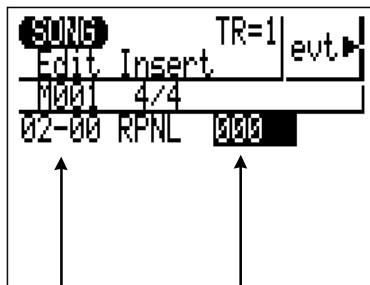
Location. Data entry LSB value.



Location. Data entry MSB value.

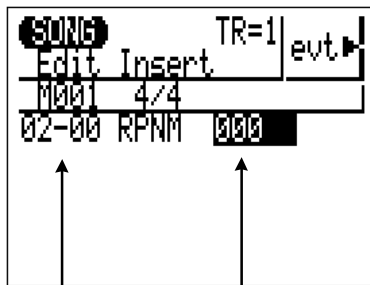
Data Entry LSB & Data Entry MSB

Data entry events can be used in conjunction with RPN events (described below) to control a wide variety of parameters. An RPN event is used to specify the parameter to be controlled, then a data entry event supplies the control value. A single data entry event consists of two bytes of data — the LSB (Least Significant Byte) and the MSB (Most Significant Byte). See the “MIDI Data Format” booklet for technical details.



Location.

RPN LSB value.



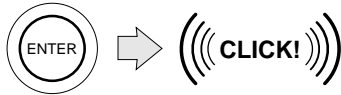
Location.

RPN MSB value.

RPN LSB & RPN MSB

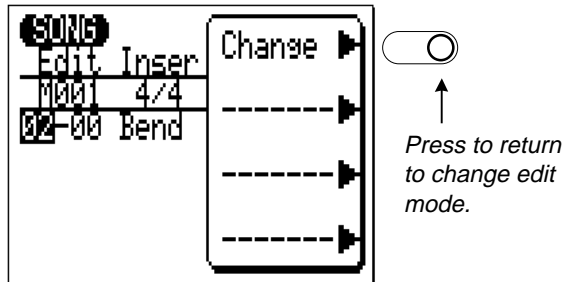
RPN (Registered Parameter Number) events can be used in conjunction with data entry events (described above) to control pitch bend sensitivity, tuning, and other basic tone generator settings. An RPN event is used to specify the parameter to be controlled, then a data entry event supplies the control value. A single RPN event consists of two bytes of data — the LSB (Least Significant Byte) and the MSB (Most Significant Byte). See the “MIDI Data Format” booklet for technical details.

6 Enter the specified event.

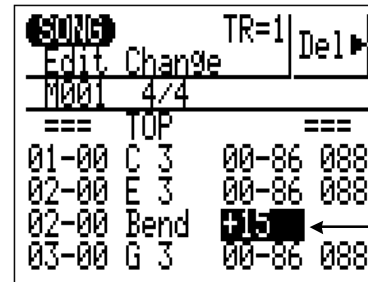


Press the [ENTER] key to enter the event as specified. A click will be heard as the event is entered. Please note that the click sound will not be heard if no drum voice is assigned to the drum track, or if the volume is set to “0”.

7 Return to the change edit mode.



Press the [MENU] key and then the function key next to “Change” on the display to return to the change edit display, and continue editing as required.



Pitch bend event inserted. Once inserted, you can edit the event's location and value in the change mode.

8 Exit from the edit mode.



Press the [MODE] key to exit from either the change or insert edit mode and return to the normal SONG or PATTERN play mode.

Utility Functions

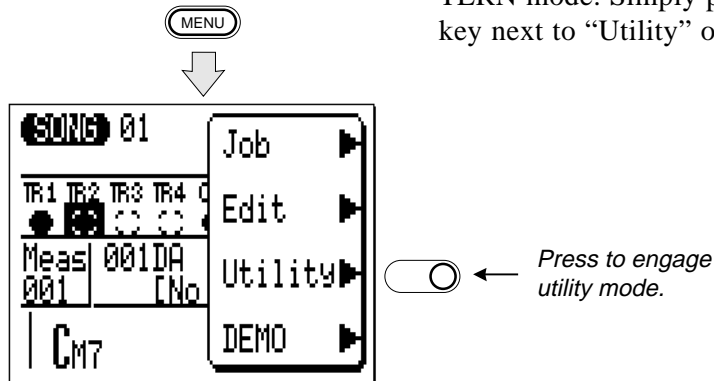
Accessing the Utility Mode	158
System Parameters	160
Bulk Dump	163
ABC Zone	165
Memory Initialize	166

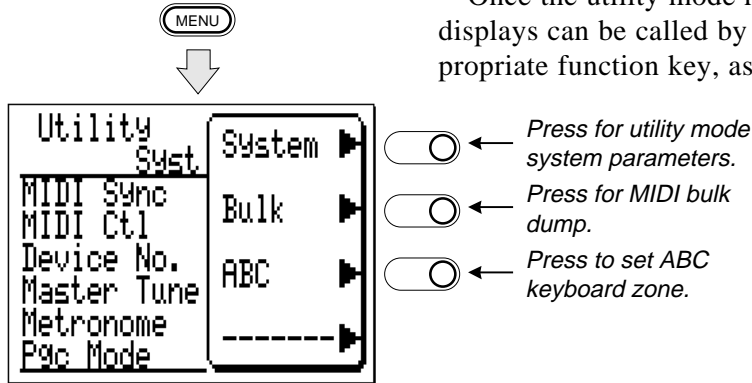
9 Utility Functions

The QY20 utility mode includes a number of functions that are important for general operation — e.g. MIDI data handling, interfacing with external equipment, saving song and pattern data to an external storage device, ABC system operation, etc.

Accessing the Utility Mode

The utility mode can be accessed from the SONG, VOICE, or PATTERN mode. Simply press the [MENU] key and then the function key next to “Utility” on the display.



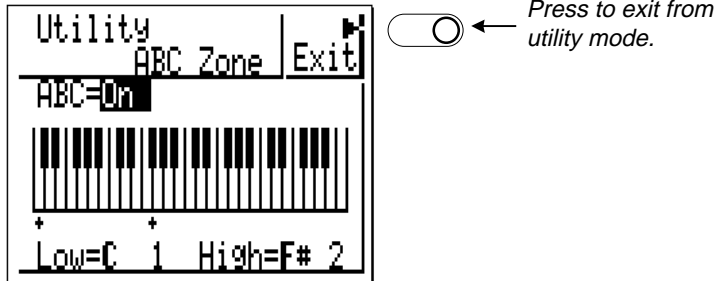


Once the utility mode has been selected, any of the three utility displays can be called by pressing the [MENU] key and then the appropriate function key, as shown below.



When the utility mode is first engaged from the SONG, PATTERN, or VOICE mode, the last utility display selected will initially appear.

● Exiting From the Utility Mode



The function key next to “Exit” on the display can be used to exit from any utility display and return to the SONG, VOICE, or PATTERN mode.

System Parameters

Utility	System	Exit
MIDI Sync	= Int	
MIDI Ctl	= On	
Device No.	= All	
Master Tune	= +00	
Metronome	= Record	
Pgc Mode	= Normal	

The “System” display includes 6 parameters that affect the basic operation of the QY20. Move the cursor to the parameter to be adjusted and set as required by using the [-1] and [+1] keys.

MIDI Sync

(MIDI synchronization mode)

Settings: Int, Ext

When this parameter is set to “**Int**” the QY20 is controlled by its own internal clock.

When set to “**Ext**” the QY20 is controlled by a MIDI clock signal received from an external device such as a sequencer or music computer. Please note that the QY20 will not run on its own when this parameter is set to “Ext.”

MIDI Ctl

(MIDI control)

Settings: On, Off

This parameter simply turns MIDI control of the QY20 on or off. “**On**” is the normal setting, and with this setting the QY20 receives note, program change, and control change data from an external MIDI keyboard or other controlling device. Transmission and reception of start, stop, and continue commands is also active, as is MIDI clock transmission.

When set to “**Off**” the QY20 will not respond to external MIDI control.

Device No.

(MIDI device number)

Settings: Off, 1 ... 16, All

The Device Number setting determines the MIDI channel via which MIDI exclusive data will be transmitted when a Bulk Dump operation is executed (page 163) or received when bulk data is received from an external device.

When set to “**Off**” no bulk data transfer occurs.

When set to a channel number between **1** and **16** the bulk data transfers occur via the specified channel.

When set to “**All**” bulk data is transmitted and received on all channels.

Master Tune

Settings: -64 ... +00 ...
+63

Tunes the overall pitch of the QY20 sound. The Master Tune range is from “**-64**” through “**+00**” to “**+63**”. Each increment corresponds to approximately 2 cents (a cent is 1/100th of a semitone). A setting of “**+00**” produces normal pitch: A4 = 440 Hz.

Metronome

Settings: Off, Record,
Rec/Ply, Always

Determines when the QY20 metronome will sound. Normally the QY20 metronome sounds only during realtime recording — the “**Record**” setting. With this parameter, however, you can turn the metronome “**Off**” so that it never sounds, set it to “**Rec/Ply**” so that it sounds during realtime recording and playback, or set it to “**Always**” so that the metronome sounds at all times.



Internal data may be corrupted if the power is turned off while the metronome display is showing!

Pgc Mode

(Program change table mode)

Settings: Normal, GM

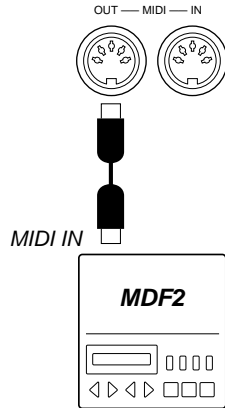
The Program Change Table Mode parameter determines which QY20 voices are played on which MIDI channels.

With the “**Normal**” the voices assigned to the various QY20 tracks are played via the corresponding MIDI channels:

MIDI Channel	Voice
1	Sequencer track TR1
2	Sequencer track TR2
3	Sequencer track TR3
4	Sequencer track TR4
5	Accompaniment track C1 (Chord 1)
6	Accompaniment track C2 (Chord 2)
7	Accompaniment track Ba (Bass)
10	Accompaniment track Dr (Drums)

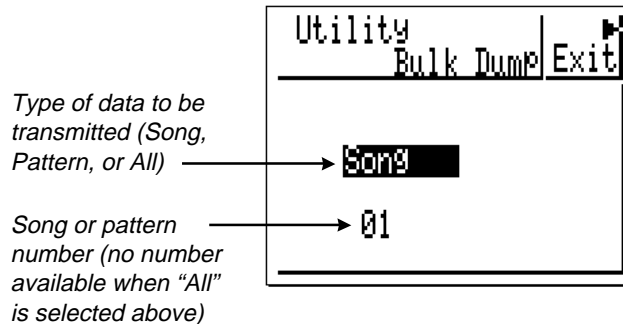
When the “**GM**” (General MIDI) mode is selected, each MIDI channel controls the type of voice specified by the General MIDI Level 1 standard. This means that you can use the QY20 as a GM tone generator with sequencers, keyboards with built-in sequencer, or computer music software designed for use with GM-standard MIDI equipment.

Bulk Dump



Although the QY20 has memory for 20 songs and 100 user patterns, you might want to save your song and pattern data to an external device to allow greater storage capacity or simply to protect your data from accidental erasure or corruption. An ideal storage device for use with the QY20 is the Yamaha MDF2 MIDI Data Filer.

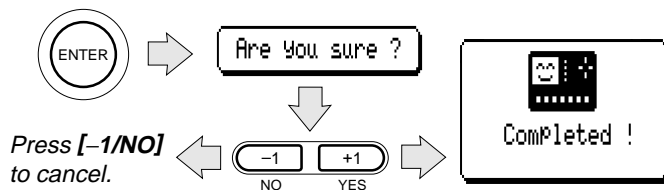
To save data from the QY20 to the MDF2, first connect the QY20 MIDI OUT to the MDF2 MIDI IN via a MIDI cable, and prepare the MDF2 for reception (refer to the MDF2 operation manual). Also make sure that the Device Number parameter in the utility System screen is set to the appropriate device number or "All."



Next, select the utility mode Bulk Dump screen, select "Song" if you want to save the data for one song or all songs, "Pattern" if you want to save the data for one pattern or all patterns, or "All" if you want to save all song and pattern data.

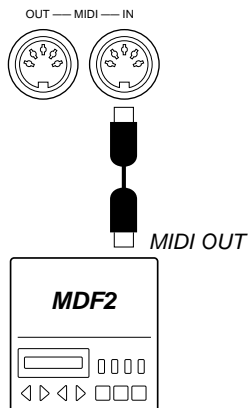
If you select "Song", move the cursor to the song number parameter and select a song number (01 ... 20), or "All" to save all songs.

If you select "Pattern", move the cursor to the pattern number parameter and select a pattern number (101 ... 200), or "All" to save all patterns.



When the parameters have been set as required, press [ENTER]. “Are you sure?” will appear on the display. Press [+1/YES] to go ahead with the bulk dump operation, or [-1/NO] to cancel. “Transmitting” will appear on the display while the data is being transmitted, and “Completed!” will appear when the transmission is complete. Press any key (other than the micro-keyboard) to return to the Bulk Dump display.

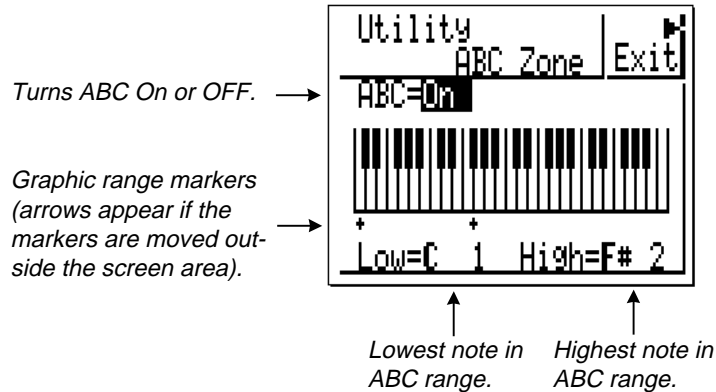
● Bulk Reception of Song & Pattern Data



If no other operation is currently in progress (recording, for example) the QY20 will automatically receive bulk song and pattern data transmitted from the MDF2. Make sure the QY20 song play mode is selected when receiving song data, and that the pattern play mode is selected when receiving pattern data. “ALL” data files including both song and pattern data can be received in the song play, pattern play, or voice mode.

To receive bulk data make sure that the MIDI OUT of the MDF2 (or other device) is connected to the MIDI IN of the QY20. Also make sure that the Device Number parameter in the utility System screen is set to the appropriate device number or “All.”

ABC Zone



This utility function sets the range of notes in which chords played will be recognized by the QY20 ABC system (see “10: The QY20 As a Tone Generator/ABC Expander”, page 170).

Use then “ABC” parameter to turn the QY20 ABC system “On” or “Off” as required.

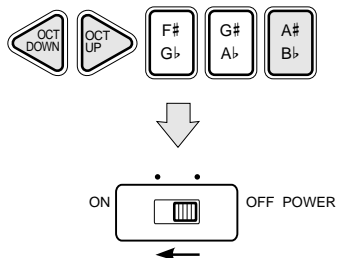
The “Low” and “High” parameters at the bottom of the display set the ABC range. The maximum range is from C-2 to G8 (the “High” parameter cannot be set lower than the “Low” parameter). When ABC is turned

“On”, chords played within the specified ABC range will be recognized by the ABC system and the accompaniment chord will change accordingly during song playback or chord-track recording. To ensure reliable chord detection and recognition use an external MIDI keyboard to play the ABC system. The built-in micro-keyboard can be used, but because of its small size and necessarily simplified construction, chord detection is less reliable. Notes played below the low limit are interpreted as “on bass” notes. A chart of the chords recognized by the QY20 is provided in the Appendix (page 179).



When ABC is ON, notes played below the specified high limit are not played, or recorded in the realtime or step record modes.

Memory Initialize



Although not on the utility mode job list, this function makes it possible to clear and initialize all internal song and pattern memory and reset all parameters in one single operation.

To initialize the QY20 memory, turn the power switch on while holding the **[OCT DOWN]**, **[OCT UP]** and **[A#/B♭]** keys simultaneously — then release the keys as soon as the initial power-on display appears.

Since all data in the internal memory will be erased, make sure any data you want to keep has been saved to an external data storage device (page 163) before initializing the memory.

The QY20 As A Tone Generator/ ABC Expander

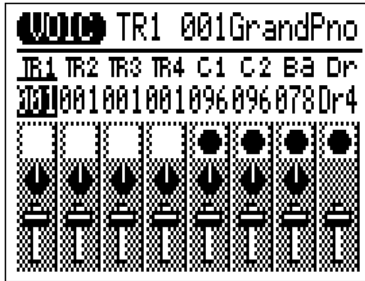
As a Tone generator Module 168

As an ABC Expander 170

In addition to being played from its own keyboard and internal sequencer, the QY20 can be controlled from an external keyboard, sequencer, or music computer.

As a Tone generator Module

Use -1 +1 to select voice numbers.



Used as a tone generator module, the QY20 allows 8 different voices (7 normal voices and one drum voice) to be played via different MIDI channels. The MIDI channel/voice assignments are normally determined by the voice-to-track voice assignments made in the VOICE mode.

Each of the QY20 tracks is controlled by a different MIDI channel, as listed below.

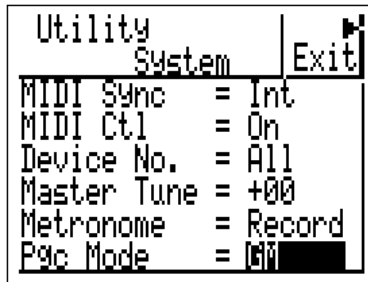
MIDI Channel	Voice
1	Sequencer track TR1
2	Sequencer track TR2
3	Sequencer track TR3
4	Sequencer track TR4
5	Accompaniment track C1 (Chord 1)
6	Accompaniment track C2 (Chord 2)
7	Accompaniment track Ba (Bass)
10	Accompaniment track Dr (Drums)



Data received on MIDI channels other than those listed above also produce sound, according to the selected "Pgc Mode" (page 162) and received MIDI program change messages (see the "MIDI Data Format" booklet).

You can assign any of the QY20's 100 voices and 8 drum kits to the tracks controlled via MIDI channels 1 through 7, but only drum kit voices can be assigned to the "Dr" track, controlled via MIDI channel 10.

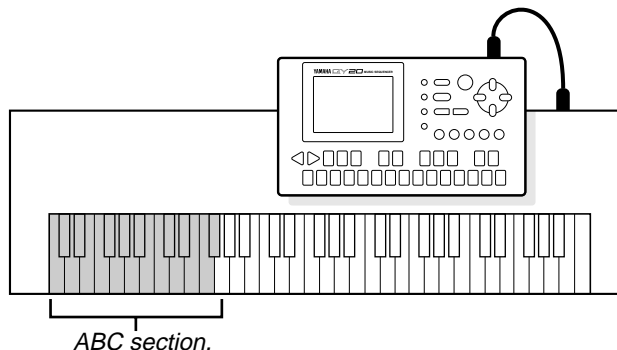
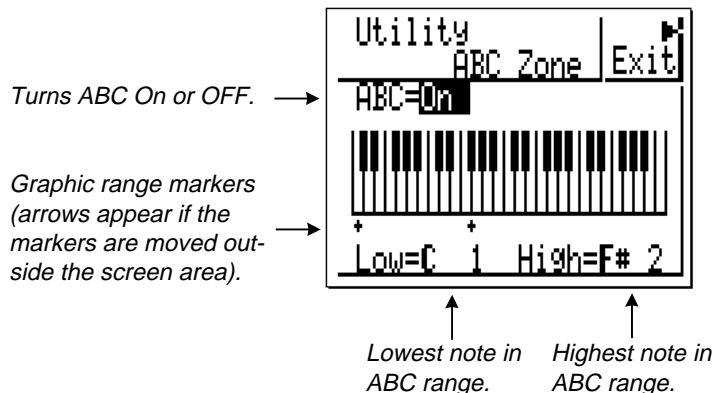
● The General MIDI Mode



Set the "Pgc Mode" to "GM" for General MIDI Level 1 compatibility.

Make sure the "Pgc Mode" parameter is set to "Normal" if you do not need General MIDI compatibility, otherwise the voices you assign may not be played as expected.

As an ABC Expander



The QY20's advanced ABC system can also be controlled from an external keyboard, making it useful as an ABC expander module. Use the utility mode "ABC Zone" function (page 165) to specify the range of notes in which you want the QY20 ABC system to recognize chords. Then you can change accompaniment chords during song playback simply by playing the appropriate chord in the specified section of the keyboard. See the "ABC Fingering Chart" in the Appendix (page 179) for a list of the chords that can be recognized by the QY20 ABC system.



If you place the cursor at the pattern number or section name during song playback, you can use the micro-keyboard section keys to change sections as you play.

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Voice List

The numbers in the “Normal” and “GM” columns are the program change numbers that select the corresponding voices in the Normal and GM modes.

Voice#	Voice Name	Normal	GM
Piano			
001	Acoustic Grand Piano	001	001
002	Bright Acoustic Piano	002	002
003	Electric Grand Piano	003	003
004	Honkey-tonk Piano	004	004
005	Electric Piano 1	005	
006	Electric Piano 2	006	005
007	Electric Piano 3	007	
008	Electric Piano 4	008	006
009	Clavi	009	008
Chromatic Percussion			
010	Glockenspiel	010	010
011	Music Box	011	011
012	Vibraphone	012	009,012
013	Marimba	013	013,014
014	Drawbar Organ 1	014	020
Organ			
015	Drawbar Organ 2	015	017
016	Percussive Organ	016	018
017	Rock Organ	017	019
018	Accordion	018	021,022,024
019	Harmonica	019	023
Guitar			
020	Acoustic Guitar (nylon)	020	025,108
021	Acoustic Guitar (steel)	021	026

Voice#	Voice Name	Normal	GM
022	Acoustic Guitar (12strings)	022	007,016,105
023	Electric Guitar (jazz)	023	027
024	Electric Guitar (clean1)	024	028
025	Electric Guitar (clean2)	025	
026	Electric Guitar (clean3)	026	
027	Electric Guitar (12strings)	027	
028	Electric Guitar (muted1)	028	029,107
029	Electric Guitar (muted2)	029	
030	Overdriven Guitar	030	030
031	Distortion Guitar 1	031	031
032	Distortion Guitar 2	032	110
033	Distortion Guitar 3	033	
034	Guitar Harmonics	034	032
Bass			
035	Acoustic Bass	035	033
036	Electric Bass (finger1)	036	034
037	Electric Bass (finger2)	037	
038	Electric Bass (pick)	038	035
039	Fretless Bass	039	036
040	Slap Bass	040	037,038
041	Synth Bass 1	041	
042	Synth Bass 2	042	040
043	Synth Bass 3	043	
044	Synth Bass 4	044	039
045	Synth Bass 5	045	

Voice#	Voice Name	Normal	GM
Strings			
046	Violin	046	041,042,043,044
047	Tremolo Strings	047	045
048	Pizzicato Strings	048	046
Ensemble			
049	String Ensemble 1	049	
050	String Ensemble 2	050	049
051	String Ensemble 3	051	050
052	Synth Strings	052	051,052,102
053	Choir Aahs	053	053
054	Voice Oohs	054	054
055	Synth Voice	055	055
056	Orchestra Hit	056	056
Brass			
057	Trumpet	057	057
058	Trombone	058	058,059,061
059	Muted Trumpet	059	060
060	Brass Section	060	062
061	Synth Brass 1	061	
062	Synth Brass 2	062	
063	Synth Brass 3	063	063
064	Synth Brass 4	064	064,097
Reed			
065	Alto Sax	065	065,066,112
066	Tenor Sax	066	067

Voice #	Voice Name	Normal	GM
067	Baritone Sax	067	068
068	Clarinet	068	069,070,071,072
Pipe			
069	Flute	069	073,074
070	Shakuhachi	070	076,077,078
071	Ocarina	071	075,079,080
Synth Lead			
072	Lead 1 (square)	072	081,084
073	Lead 2 (saw tooth)	073	082
074	Lead 3 (calliope)	074	083
075	Lead 4 (charang)	075	085
076	Lead 5 (voice)	076	086
077	Lead 6 (fifth)	077	087
078	Lead 7 (bass+lead)	078	088
Synth Pad			
079	Pad 1 (bell strings)	079	
080	Pad 2 (piano)	080	
081	Pad 3 (seq)	081	
082	Pad 4 (new age)	082	089
083	Pad 5 (warm)	083	090
084	Pad 6 (polysynth)	084	091
085	Pad 7 (choir)	085	092
086	Pad 8 (bowed)	086	093
087	Pad 9 (halo)	087	094,095
088	Pad 10 (sweep)	088	096

Voice #	Voice Name	Normal	GM
Synth Effects			
089	FX1 (soundtrack)	089	098
090	FX2 (crystal)	090	099
091	FX3 (atmosphere)	091	047,100
092	FX4 (brightness)	092	101
093	FX5 (echoes)	093	103
094	FX6 (sci-fi)	094	104
Ethnic			
095	Banjo	095	106
096	Kalimba	096	109
097	Fiddle	097	111
Percussive			
098	Tinkle Bell	098	015,113
099	Steel Drums	099	115
100	Reverse Cymbal	100	120
Drum Set			
Dr1	GM Standard Set	101	001~016,049~128
Dr2	Pop Set	102	
Dr3	Power Set	103	
Dr4	Process Set	104	017~024
Dr5	Analog Set 1	105	026
Dr6	Analog Set 2	106	025,027~032
Dr7	Jazz Set	107	033~040
Dr8	Brush Set	108	041~048

Voice #	Voice Name	Normal	GM
Sound OFF			
OFF	No Sound	109	048
	No Sound	110	
	No Sound	111	
	No Sound	112	
	No Sound	113	
	No Sound	114	114
	No Sound	115	
	No Sound	116	116
	No Sound	117	117
	No Sound	118	118
	No Sound	119	119
	No Sound	120	
	No Sound	121	121
	No Sound	122	122
	No Sound	123	123
	No Sound	124	124
	No Sound	125	125
	No Sound	126	126
	No Sound	127	127
	No Sound	128	128

Drum Kit List (Note# 29 — 55)

	pgm#	1	9	17	25	26
Note#	Note	Dr1/Standard Set	Dr2/Pop Set	Dr3/Power Set	Dr4/Process Set	Dr5/Analog Set 1
29	F0	Scratch Push	<—	<—	<—	<—
30	F#0	Scratch Pull	<—	<—	<—	<—
31	G0	Stick	<—	<—	<—	<—
32	G#0	Metronome Click L	<—	<—	<—	<—
33	A0	Metronome Click M	<—	<—	<—	<—
34	A#0	Metronome Click H	<—	<—	<—	<—
35	B0	Acoustic Bass Drum	Bass Drum 2	Bass Drum 1	Gated Bass Drum 1	Bass Drum 3
36	C1	Bass Drum 1	<—	Gated Bass Drum 1	Gated Bass Drum 2	Analog Bass Drum 1
37	C#1	Side Stick	<—	<—	<—	<—
38	D1	Acoustic Snare	Light Snare	Power Snare	Gated Snare	Analog Snare 1
39	D#1	Hand Clap	<—	<—	<—	<—
40	E1	Electric Snare	Rim Snare	Reverb Rim Snare 1	Power Rim Snare	Reverb Rim Snare 2
41	F1	Low Floor Tom	Room Low Tom 2	Power Low Tom 2	Power Low Tom 2	Power Mid Tom 3
42	F#1	Closed Hi-Hat	<—	<—	<—	Analog CHH 1
43	G1	High Floor Tom	Room Low Tom 1	Power Low Tom 1	Power Low Tom 1	Analog Low Tom 1
44	G#1	Pedal Hi-Hat	<—	<—	<—	Analog CHH 2
45	A1	Low Tom	Room Mid Tom 2	Power Mid Tom 2	Power Mid Tom 2	Power Mid Tom 1
46	A#1	Open Hi-Hat	<—	<—	<—	Analog OHH
47	B1	Low Mid Tom	Room Mid Tom 1	Power Mid Tom 1	Power Mid Tom 1	Analog Mid Tom 1
48	C2	Hi Mid Tom	Room Hi Tom 2	Power Hi Tom 2	Power Hi Tom 2	Power Hi Tom 1
49	C#2	Crash Cymbal 1	<—	<—	<—	<—
50	D2	High Tom	Room Hi Tom 1	Power Hi Tom 1	Power Hi Tom 1	Analog Hi Tom 1
51	D#2	Ride Cymbal 1	<—	<—	<—	<—
52	E2	Chinese Cymbal	<—	<—	<—	<—
53	F2	Ride Bell	<—	<—	<—	<—
54	F#2	Tambourine	<—	<—	<—	<—
55	G2	Splash Cymbal	<—	<—	<—	<—

	pgm#	1	33	41	49
Note#	Note	Dr1/Standard Set	Dr6/Analog Set 2	Dr7/Jazz Set	Dr8/Brush Set
29	F0	Scratch Push	<—	<—	<—
30	F#0	Scratch Pull	<—	<—	<—
31	G0	Stick	<—	<—	<—
32	G#0	Metronome Click L	<—	<—	<—
33	A0	Metronome Click M	<—	<—	<—
34	A#0	Metronome Click H	<—	<—	<—
35	B0	Acoustic Bass Drum	Analog Bass Drum 1	Acoustic Bass Drum	Acoustic Bass Drum
36	C1	Bass Drum 1	Analog Bass Drum 2	Bass Drum 4	Bass Drum 4
37	C#1	Side Stick	<—	<—	<—
38	D1	Acoustic Snare	Electric Snare	Acoustic Snare Soft	Brush Swish
39	D#1	Hand Clap	<—	<—	Brush Slap
40	E1	Electric Snare	Analog Snare 2	Acoustic Snare	Brush Roll
41	F1	Low Floor Tom	Analog Low Tom 2	Low Floor Tom	Low Floor Tom
42	F#1	Closed Hi-Hat	Analog CHH 1	Closed Hi Hat	Closed Hi Hat
43	G1	High Floor Tom	Analog Low Tom 1	High Floor Tom	High Floor Tom
44	G#1	Pedal Hi-Hat	Analog CHH 2	Pedal Hi-Hat	Pedal Hi-Hat
45	A1	Low Tom	Analog Mid Tom 2	Low Tom	Low Tom
46	A#1	Open Hi-Hat	Analog OHH	Open Hi-Hat	Open Hi-Hat
47	B1	Low Mid Tom	Analog Mid Tom 1	Low-Mid Tom	Low-Mid Tom
48	C2	Hi Mid Tom	Analog Hi Tom 2	Hi Mid Tom	Hi Mid Tom
49	C#2	Crash Cymbal 1	<—	<—	<—
50	D2	High Tom	Analog Hi Tom 1	High Tom	High Tom
51	D#2	Ride Cymbal 1	<—	<—	<—
52	E2	Chinese Cymbal	<—	<—	<—
53	F2	Ride Bell	<—	<—	<—
54	F#2	Tambourine	<—	<—	<—
55	G2	Splash Cymbal	<—	<—	<—

11 Appendix

Drum Kit List (Note# 56 — 82)

	pgm#	1	9	17	25	26
Note#	Note	Dr1/Standard Set	Dr2/Pop Set	Dr3/Power Set	Dr4/Process Set	Dr5/Analog Set 1
56	G#2	Cowbell	<—	<—	<—	Analog Cowbell
57	A2	Crash Cymbal 2	<—	<—	<—	
58	A#2	Vibraslap	<—	<—	<—	<—
59	B2	Ride Cymbal 2	<—	<—	<—	<—
60	C3	Hi Bongo	<—	<—	<—	<—
61	C#3	Low Bongo	<—	<—	<—	<—
62	D3	Mute Hi Conga	<—	<—	<—	Analog Hi Conga
63	D#3	OpenHi Conga	<—	<—	<—	Analog Mid Conga
64	E3	Low Conga	<—	<—	<—	Analog Low Conga
65	F3	High Timbale	<—	<—	<—	<—
66	F#3	Low Timbale	<—	<—	<—	<—
67	G3	High Agogo	<—	<—	<—	<—
68	G#3	Low Agogo	<—	<—	<—	<—
69	A3	Cabasa	<—	<—	<—	<—
70	A#3	Maracas	<—	<—	<—	<—
71	B3	Short Whistle	<—	<—	<—	<—
72	C4	Long Whistle	<—	<—	<—	<—
73	C#4	Short Guiro	<—	<—	<—	<—
74	D4	Long Guiro	<—	<—	<—	<—
75	D#4	Claves	<—	<—	<—	<—
76	E4	Hi Wood Block	<—	<—	<—	<—
77	F4	Low Wood Block	<—	<—	<—	<—
78	F#4	Mute Cuica	<—	<—	<—	<—
79	G4	Open Cuica	<—	<—	<—	<—
80	G#4	Mute Triangle	<—	<—	<—	<—
81	A4	Open Triangle	<—	<—	<—	<—
82	A#4	Shaker	<—	<—	<—	<—

	pgm#	1	33	41	49
Note#	Note	Dr1/Standard Set	Dr6/Analog Set 2	Dr7/Jazz Set	Dr8/Brush Set
56	G#2	Cowbell	Analog Cowbell	Cowbell	Cowbell
57	A2	Crash Cymbal 2	<←	<←	<←
58	A#2	Vibraslap	<←	<←	<←
59	B2	Ride Cymbal 2	<←	<←	<←
60	C3	Hi Bongo	<←	<←	<←
61	C#3	Low Bongo	<←	<←	<←
62	D3	Mute Hi Conga	Analog Hi Conga	Mute Hi Conga	Mute Hi Conga
63	D#3	OpenHi Conga	Analog Mid Conga	OpenHi Conga	OpenHi Conga
64	E3	Low Conga	Analog Low Conga	Low Conga	Low Conga
65	F3	High Timbale	<←	<←	<←
66	F#3	Low Timbale	<←	<←	<←
67	G3	High Agogo	<←	<←	<←
68	G#3	Low Agogo	<←	<←	<←
69	A3	Cabasa	<←	<←	<←
70	A#3	Maracas	<←	<←	<←
71	B3	Short Whistle	<←	<←	<←
72	C4	Long Whistle	<←	<←	<←
73	C#4	Short Guiro	<←	<←	<←
74	D4	Long Guiro	<←	<←	<←
75	D#4	Claves	<←	<←	<←
76	E4	Hi Wood Block	<←	<←	<←
77	F4	Low Wood Block	<←	<←	<←
78	F#4	Mute Cuica	<←	<←	<←
79	G4	Open Cuica	<←	<←	<←
80	G#4	Mute Triangle	<←	<←	<←
81	A4	Open Triangle	<←	<←	<←
82	A#4	Shaker	<←	<←	<←

Preset Pattern List

#	Pattern Name		#	Pattern Name		#	Pattern Name		#	Pattern Name	
Dance											
1	DA Stork	Dance	29	BA Witby	6/8 Ballad	52	RB Motor	Detroit R&B	76	JA BeBop	Bebop
2	DA Mage!	Dance	30	BA RWalz	R&B Waltz	53	RB Going	Soul	77	JA Dixie	Dixie
3	DA Frame	Dance	31	BA CWalz	Country Ballad Waltz	54	RB Brass	San Fransisco R&B funk	78	JA Zzz..	Jazz Ballad
4	DA ABCDE	Dance	32	BA EWalz	Slow Waltz				79	JA Foxy!	Slow Fox
			Rock & Pop			55	RB NFunk	Modern Funk	80	JA Vince	Jazz Waltz
5	DA Disco	Disco	33	RP Mouth	'70s Country Rock Pop	56	RB Skunk	R&B Funk	81	JA WFuse	West Coast
6	DA Train	Disco	34	RP GetUp	'70s Rock Pop	57	RB CFS01	R&B (Country-fied Shuffle feel)	82	JA EFuse	'80s Fusion
7	DA Tekno	Tekno	35	RP Rozza	'80s Mid-Tempo Rock Pop				Latin		
8	DA Craze	House	36	RP Faces	'80s Synth Rock Pop	58	RB Lucky	Bluesy R&B	83	LA Salsa	Salsa
9	DA Ibiza	House	37	RP Urple	'80s Dance Rock Pop	59	RB Moo!!	New York Funk Shuffle	84	LA Bamba	Pop Salsa
10	DA Light	House	38	RP Rhino	Philly Rock Pop	60	RB South	Southern Gospel	85	LA Latin	Pop Latin
11	DA Chuck	Rap	39	RP N.Y.!	New York Rock Pop	Hard Rock			86	LA Samba	Jazz Samba
12	DA Quiri	Rap	40	RP Lady?	'80s German Rock Pop	61	HR Speed	Hi-Tempo Hard Rock	87	LA Bossa	Bossa Nova
13	DA Funky	Funk Shuffle	41	RP Start	'70s Country Rock Pop Shuffle	62	HR Drive	Mid-Tempo Hard Rock.	88	LA ChCha	Cha Cha
14	DA GitUp	Dance Shuffle	42	RP Troll	Philly Rock Pop Shuffle	63	HR HurtN	Hard Rock Ballad	89	LA Rumba	Rhumba
15	DA Queen	Rap Shuffle	43	RP Stash	Guitar Rock Pop Shuffle	64	HR Nervs	Funk Metal.	90	LA Tango	Tango
16	DA Dark?	Rap Shuffle	44	RP Earth	'80s British Rock Pop Shuffle	65	HR Piles	Slash Metal	Reggae		
17	DA Mitch	Rap Shuffle	45	RP Candy	New York Rock Pop Shuffle	66	HR BoogE	Hard Rock Shuffle	91	RE Cycle	24 Beat Reggae
18	DA Weigh	Rap Shuffle	46	RP SeeYa	'80s American Rock Pop Shuffle	67	HR Help!	Six eight Progressive Rock.	92	RE Tired	24 Beat Pop Reggae
Ballad						Rock & Roll			93	RE Gular	16 Beat Reggae
19	BA Llade	Pop Ballad	47	RP River	'80s Southern Rock Pop	68	RR Beach	Surf Rock	World		
20	BA Group	R&B Ballad	48	RP Judge	'80s DC GoGo Rock Pop	69	RR Gravy	'60s British Rock & Roll	94	WO Ethno	African Pop
21	BA Gofer	Soul Ballad	49	RP Slap!	European Funk Shuffle	70	RR Tongz	'70s British Rock & Roll	95	WO Grass	Bluegrass
22	BA Quiet	Folk Ballad	50	RP Sink!	British Three-beat Rock	71	RR Crock	Prom Rock	96	WO Polka	Polka
23	BA Lovlt	Country Ballad	Rhythm&Bules			72	RR Billy	Rockabilly	97	WO Mrch1	March
24	BA Magma	Newage Ballad	51	RB Shore	Slow R&B	73	RR Kling	'50s Rock & Roll Shuffle	98	WO Mrch2	6/8 March
25	BA Venus	16-Beat Pop Ballad				Jazz			99	WO Waltz	Vienna Waltz
26	BA Human	16-Beat Soul Ballad				74	JA Dook!	'40s Jazz	100	WO RCade	Game over
27	BA RioDJ	Latin Ballad				75	JA Swing	Big Band swing			
28	BA Grand	Soul Ballad Shuffle									

ABC Fingering Chart

This chart shows the chord fingerings recognized by the QY20 ABC system. 3-, 4-, and 5-note fingerings can be used, depending on the inversion and tensions required. In the fingerings “1” is the root, “3” is the 3rd, “7” is the seventh, and so on. The “Comments” column indicates inversions that should be avoided because they produce a different chord.

Chord Type	3-note Chord	4-note Chord	5-note Chord	Comments (for C chords)
Maj7	1+3+7			Amadd9 when E is the lowest note.
	1+5+7			
Maj	1+3+5	1+3+5+7		
6	3+5+6			Am7 when lowest note is not C.
		1+3+5+6		
Maj9		1+3+7+9		
			1+3+5+7+9	
add9		1+3+5+9		Em7 when E is the lowest note.
	3+5+9			
min	1+♭3+5			
min6		1+♭3+5+6		F9 when E♭ is the lowest note, Am7(♭5) when G or A is the lowest note.
	1+♭3+6			
min7	1+♭3+♭7			A♭add9 when E♭ or B♭ is the lowest note. E♭6 when E♭ is the lowest note.
		1+♭3+5+♭7		
min7(♭5)		1+♭3+♭5+♭7		E♭m6 when E♭ is the lowest note, A♭9 when G♭ is the lowest note.
mMaj7	1+♭3+7			
		1+♭3+5+7		
min9		1+♭3+♭7+9		
			1+♭3+5+♭7+9	
minadd9		1+♭3+5+9		E♭Maj7 when E♭ or D is the lowest note.
	♭3+5+9			

11 Appendix

ABC Fingering Chart

Chord Type	3-note Chord	4-note Chord	5-note Chord	Comments (for C chords)
min7(11)		1+ \flat 3+ \flat 7+11		F7sus4 when F or B \flat is the lowest note.
7	1+3+ \flat 7		1+ \flat 3+5+ \flat 7+11	
		1+3+5+ \flat 7		
7(#5)	3+ \sharp 5+ \flat 7			
7(\flat 9)		1+3+ \sharp 5+ \flat 7		
		1+3+ \flat 7+ \flat 9	1+3+5+ \flat 7+ \flat 9	
9		1+3+ \flat 7+9		
		3+5+ \flat 7+9		Em7(\flat 5) when E or D is the lowest note, Gm6 when G is the lowest note.
			1+3+5+ \flat 7+9	
7(#9)	3+ \flat 7+ \sharp 9			
		1+3+ \flat 7+ \sharp 9		
		3+5+ \flat 7+ \sharp 9		
7(#11)			1+3+5+ \flat 7+ \sharp 9	
		1+3+ \flat 7+ \sharp 11	1+3+5+ \flat 7+ \sharp 11	F#7(#11) when F# or E is the lowest note.
7(\flat 13)		3+5+ \flat 7+ \flat 13		
			1+3+5+ \flat 7+ \flat 13	
			1+3+ \flat 7+ \flat 9+ \flat 13	
			1+3+ \flat 7+9+ \flat 13	
			1+3+ \flat 7+ \sharp 9+ \flat 13	
7(13)		1+3+ \flat 7+13		
		3+5+ \flat 7+13		
		3+ \flat 7+9+13		
			1+3+5+ \flat 7+13	
			1+3+ \flat 7+ \flat 9+13	
7sus4	1+4+ \flat 7			Fsus4 when lowest note is not C.
		1+4+5+ \flat 7		Gm7(11) when G or B \flat is the lowest note.
sus4	1+4+5			G7sus4 when G is the lowest note.
dim		1+ \flat 3+ \flat 5+6		Only C (root) accepted as lowest note.
aug	1+3+ \sharp 5			Only C (root) accepted as lowest note.

Troubleshooting

If something doesn't seem to be working right, please check the following points before assuming that your QY20 is faulty.

Symptom	Possible Causes
Power won't turn on.	If you are using an AC adaptor, is the adaptor properly plugged into both the AC outlet and the QY20? See page 18.
	If you are using batteries, is a fresh set of batteries properly installed in the battery compartment? See page 16.
No sound.	Is the volume control set to an appropriate level? See page 33.
	Are the volume parameters for each track set to appropriate levels? See page 40.
Wrong pitch.	Is the transpose parameter set to the normal value ("0")? See page 111.
Notes are cut off or omitted.	Is the maximum polyphony of the QY20 being exceeded? The QY20 can play no more than 28 notes at once.
Playback doesn't begin when the [▶/■] key is pressed.	You may have selected a song or pattern that contains no data? See page 42.
	Playback can not be controlled from the QY20 panel when the MIDI Sync parameter is set to "Ext". See page 160.

Troubleshooting

Symptom	Possible Causes
The time signature cannot be changed.	The time signature cannot be changed for songs or patterns that already contain data.
Playback stops in the middle of a song.	Have you inserted an end marker in the song? See page 70.
	Have you inserted an ending section of a preset pattern in the middle of the song? See page 62.
ABC doesn't work.	The ABC Zone function may be turned OFF. See page 165.
	Are the ABC Zone high and low limits set to appropriate notes? See page 165.
	Is the cursor placed at a location other than the chord display? See page 47.
The time signature and/or pattern changes when the song is started.	Most likely the time signature and pattern changes have been recorded onto the accompaniment tracks. See page 62.
Bulk data not received.	Is the QY20 device number set to match that of the transmitting device? See page 161.
	Is the song play or pattern play display showing? See page 164.
	If you are receiving a 1-song or 1-pattern bulk dump, is the currently select song or pattern empty and therefore available to receive the data?
	Bulk data cannot be received during song or pattern playback.

Error Messages

Errors do occur from time to time, and when they do the QY20 will usually display a message that indicates what type of problem has occurred so you can rectify it and return to normal operation as quickly as possible.

Illegal Input

This error appears if you attempt to enter a value that is out of range or otherwise unacceptable in the current situation.

Memory Full

The QY20 memory is full or almost full and the specified operation cannot be performed. Delete unwanted song and/or pattern data to make more memory available.

Battery Low

The battery voltage is too low for proper operation. The sound may also become distorted when this display appears. Replace the old batteries with a set of new ones as soon as possible. Internal data will be retained while the batteries are replaced.

Backup Batt. Low

Appears when the power is turned on if the internal memory backup battery is too low to maintain the internal memory data. Have the backup battery replaced by qualified Yamaha service personnel.

Now Working

This error may appear if a data error is detected when the QY20 power is turned on. The “Now Working” display indicates that the data is being repaired ... wait a few moments until the error message disappears.

Preset Pattern

Since the preset patterns cannot be changed in any way, this error message will appear if you attempt to execute any operation that is intended to alter the pattern data while a preset pattern is selected.

Repeat Exist

This error message will appear if you copy a chord part using the song job copy measure function while one or more repeats exist in the accompaniment tracks. Delete all repeats in the step record mode and then execute the copy measure function as required.

MIDI Data

An error has been detected in the MIDI data received by the QY20. Check all relevant settings, then try receiving the data again.

Check Sum

An error has been detected in a MIDI bulk dump received by the QY20. Check all relevant settings, then try receiving the data again.

Buffer Full

Too much MIDI data is being received by the QY20 at one time. Reduce the amount of data that is being sent to the QY20.

Illegal Data

Unrecognizable bulk data has been received by the QY20. Make sure that all bulk data sent to the QY20 conforms with QY20 MIDI specifications.

Device# Off

Bulk data could not be transmitted or received because the device number parameter is set to "Off". Set an appropriate device number before transmitting or receiving bulk data.

Device# Mismatch

Bulk data could not be received because the device number of the QY20 does not match that of the data. Set the QY20 device number parameter to the appropriate number (or "All"), then try receiving the data again.

Now Running

A MIDI bulk dump has been received during song or pattern playback (in this case the bulk data is lost). Stop playback and try receiving the bulk data again.

Data Exist

A 1-song or 1-pattern bulk dump has been received but the currently selected song or pattern already contains data so the received data was not loaded. Make sure an empty song or pattern is selected when receiving this type of data.

Bulk Ignored

Bulk data was transmitted to the QY20 while it was in a mode in which bulk data reception is not possible. The QY20 can only receive bulk data while the song or pattern play display is showing.

Specifications

Sequencer

No. of Tracks	Song mode: 8 (TR1 ... TR4, Accompaniment x 4) Pattern mode: 4 (C1, C2, Ba, Dr)
Record Modes	Realtime, Step
Data Capacity	Approximately 28,000 notes 20 songs 100 user patterns
Preset Patterns	600 (100 patterns x 6 sections: intro, normal, variation, fill 1, fill 2, ending)
Preset Chords	25 types
Note Resolution	96 clocks per quarter note
Polyphony	32 notes

Tone Generator

Type	AWM (Advanced Wave Memory)
Max. Polyphony	28 notes
Multi-timbre Parts	16 (with dynamic voice allocation)
Preset Voices	100 pitched voices 100 drum voices (8 drum kits)

Display	128 x 64 dot graphic liquid crystal display
Connectors	Output (mini stereo phone jack) Headphone (mini stereo phone jack) DC IN MIDI IN MIDI OUT
Power Supply	Six 1.5V AA size (SUM-3 or R6P) or equivalent alkaline batteries Optional PA-3, PA-4, or PA-40 AC Adaptor
Dimensions (W x H x D)	188 x 37 x 104 mm 7-3/8" x 1-1/2" x 4-1/8"
Weight	Approx. 400 g (14 oz) without batteries

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FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

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- Ceci ne s'applique qu'aux produits distribués par Yamaha Canada Music Ltd.

ADVARSEL!

Lithiumbatteri—Eksplussionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandoren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

For details of products, please contact your nearest Yamaha or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

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Yamaha De Mexico S.A. De C.V.,
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Javier Rojo Gomez No.1149, Col. Gpe Del
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Tel: 686-00-33

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Yamaha Musical Do Brasil LTDA.
Ave. Rebouças 2636, São Paulo, Brasil
Tel: 55-11 853-1377

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Yamaha De Panama S.A.
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Yamaha Music Benelux B.V.,
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Yamaha Musique France,
Division Instruments Electroniques et de Scène
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Yamaha Musica Italia S.P.A.,
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Tel: 01-364-7111

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Yamaha Scandinavia AB
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Göteborg, Sweden
Tel: 031-496090

DENMARK

YS Copenhagen Liaison Office
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Tel: 31-87 30 88

FINLAND

Fazer Music Inc.
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Tel: 0435 011

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Narud Yamaha AS
Østerndalen 29, 1345 Østerås
Tel: 02-24 47 90

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