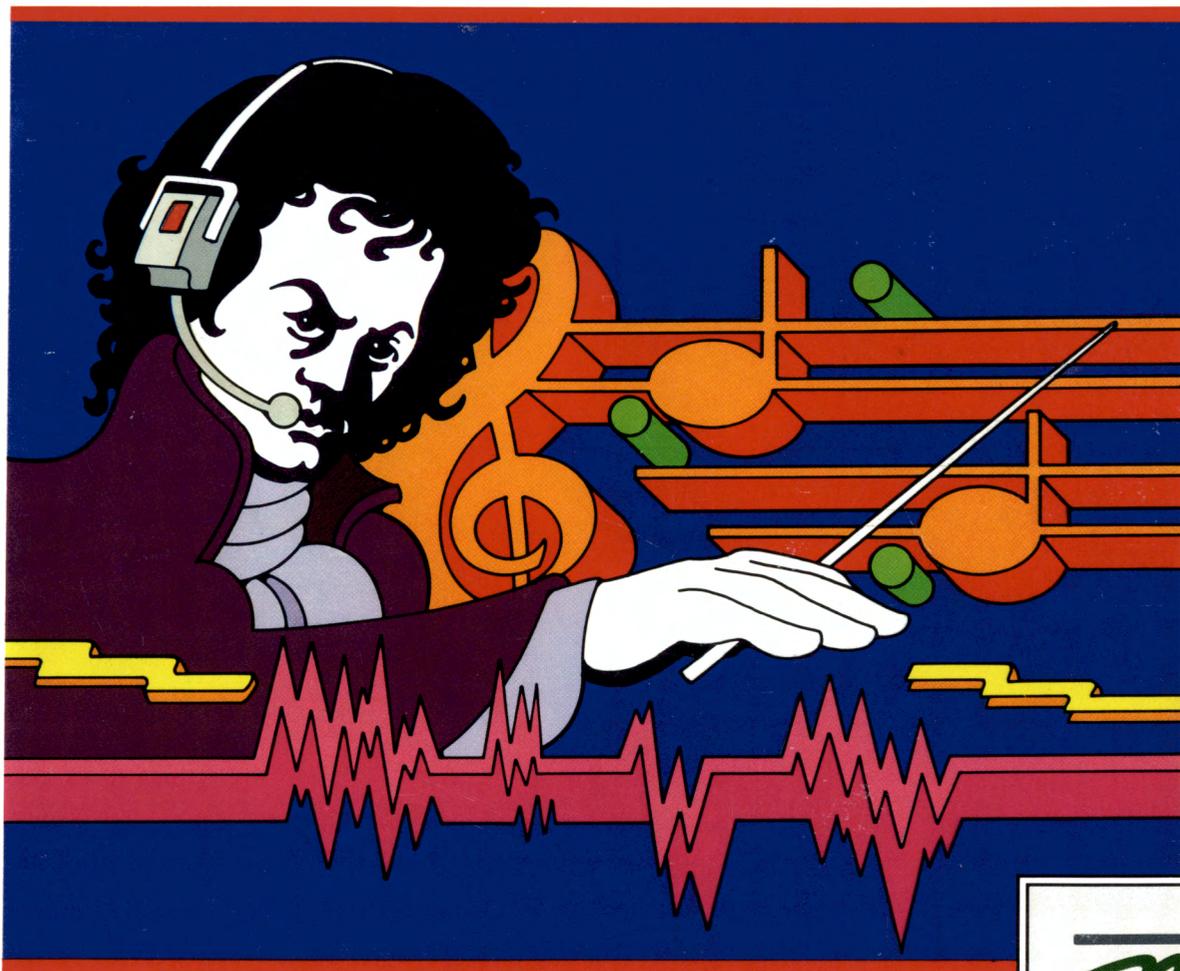


Bank Street™

MUSIC *Writers*™



by Glen Clancy

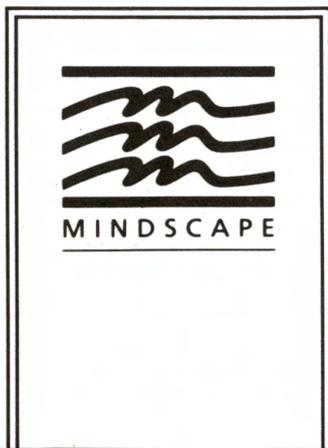




Bank Street™

MUSIC
Writers

by Glen Clancy



Mindscape Inc.
3444 Dundee Road
Northbrook, IL 60062

Manual written by Judith Oksner and Marietta Benevento with Glen Clancy, Bank Street College of Education, and Mindscape, Inc.

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Introduction

MusicWriter is a powerful tool for multi-part musical composition, editing, and instant playback. This easy-to-use program allows the composer (beginner, amateur, or professional) to enter and edit anything from simple melodies to multi-part harmonies and complicated rhythmic variations.

MusicWriter handles musical notation the way a fine word processor handles text. Some of its outstanding features include:

- A powerful music editor. Simple keystrokes are used to enter, delete, insert, or copy musical notation.
- Instant playback to hear a work at any point—in progress or completely finished.
- Multiple voices: six separate voices on the IBM PC or the Tandy 1000 with the Mindscape Music Board; three separate voices on the PCjr or the Tandy 1000 with its built-in sound generator.
- Individual control of voices by volume, articulation, and sound envelope.
- On the PC with the Mindscape Music Board: capability to produce percussion sounds (snare and cymbal).
- High-resolution graphics for visual feedback—notes light up as they play.
- “Piano-quality” printouts of compositions—all voices or just one voice at a time.

Whether your musical taste runs to Leonard Bernstein or Billy Joel, Bach or Rock, MusicWriter is at your service. It works with you and it is as versatile as you are. You can start at the do-re-mi level by learning the difference between a whole note and a quarter note; or you can plunge right in to create a complex multi-part composition. You don't have to be a professional musician or a computer programmer—if you love music, you'll love Bank Street MusicWriter by Glen Clancy!

Using This Manual

This manual contains four sections dealing with the musical features of the program. Each of the four is appropriate to a different level of musicianship and learning preference:

- **MusicWriter's Functions:** This section explains each of MusicWriter's features. If you know a lot about music, you may want to begin here.
- **Tutorial:** This section takes you step-by-step through most of MusicWriter's major features. You begin by entering the notes of the familiar melody “On Top of Old Smokey,” and finish with a full arrangement containing melody, harmony, and rhythmic variation.
- **Music Fundamentals:** This section is for beginners, to help them get started with the program. Some fundamentals of music—notation, melody, harmony, and rhythm—are briefly explained.
- **Advanced Techniques:** This section is for advanced users. It offers tips for getting the most out of MusicWriter.

A special section, entitled **Disk Management**, presents the non-musical functions of the program. Read through this section for information about such utility functions as loading, saving, and renaming your compositions, formatting

and copying disks, and so forth.

In general, MusicWriter works the same whether you have an IBM PC or a PCjr. But these machines aren't exactly alike. **Appendix A**, at the end of the manual, summarizes all PC-PCjr differences and gives instructions for transferring music files from PC to PCjr and vice versa. Differences are also noted throughout the manual, wherever they affect the use of particular features of the program.

Getting Started

What You Need

1. IBM PC, PCjr, Tandy 1000 or compatible computer with at least 128K of memory.
2. One or two disk drives.
3. PC-DOS (MS-DOS) version 2.0 or later.
4. Sound cable.

PC Users only:

5. Color monitor, or green or amber composite display, connected to a color adaptor board.
6. External amplifier and speaker(s).
Note: Many monitors and all TVs have a built-in speaker which will play music created by MusicWriter. For better sound and more volume, use an external amplifier.
7. Mindscape Music Board.
You'll need an RCA plug at one end of the sound cable to fit into the Music Board.

PCjr users only:

8. Color monitor or TV connected to your computer's video port.

Tandy Model 1000 users only:

9. Mindscape Music Board connected to an external amplifier and speakers for six-voice music exactly like the PC.

OR

External amplifier and speakers connected directly to the audio port on the back of the computer for three-voice music like a PCjr.

OR

No music board or external amplifier or speakers. The program will use the computer's built-in amplifier and speaker for three-voice music like the PCjr.

Optional for all computers:

10. Dot matrix printer with graphics capability.

The PC: Installing Your Soundboard

1. Make sure your computer is **off**. Remove your computer's cover, following the instructions in its accompanying documentation (or consult your dealer, if necessary).
2. Check that the dip switches on the sound board are properly set, as follows:

switches 1-2 Open
switches 3-8 Closed

3. Locate an empty slot. (Any slot will do.)
4. Remove the metal plate on the back panel of the system unit opposite the slot you have chosen for the soundboard.
5. Firmly press the soundboard down into the slot.
6. Replace the screw to secure the bracket and soundboard.
7. Attach the leads from the soundboard to your external speaker(s) or amplifier. You'll need a cable with an RCA plug or adapter at one end to fit into the soundboard. At the other end of the cable, you'll need an RCA plug or a "mini" plug. Check the jack on your speaker or amplifier to see which you need.

Note: If you load MusicWriter into a PC without a soundboard, you can use the program to enter and edit music, but there will be no sound. This means the important option to hear your music won't be available.

Installing DOS On Your MusicWriter Disk

MusicWriter uses the PC Disk Operating System (DOS) to "communicate" with the computer. MusicWriter requires PC DOS version 2.0, or higher. A copy of the PC DOS program is on the DOS disk you received with your computer. To make loading and other disk functions more convenient, you will want to copy the PC DOS program from your DOS disk onto the MusicWriter disk. This process is called **installing PC DOS**, and it is done just once, when you first use MusicWriter. Follow these steps:

1. Start up your computer as usual, using your DOS disk. After the computer self-tests and loads DOS, you will see the **A>** prompt.
2. **If you have two drives:** leave the PC DOS disk in drive A and insert the MusicWriter disk in Drive B. Type **B:INSTALL2** and installation proceeds automatically.
If you have one drive: Remove the PC DOS disk and place the MusicWriter disk in drive A. Type **INSTALL1**. You will be prompted to swap disks several times during the installation procedure. Follow the instructions to put first one and then the other disk in the drive, and then press any key to continue.

Once DOS has been installed on your MusicWriter disk, you can run it without first having to start up your computer with your PC DOS disk. When the computer starts up with a disk in drive A, it first runs a program called AUTOEXEC.BAT. This program is already on your MusicWriter disk and will run the editor as it is. However, if you have a clock in your system and want the program to read the time automatically, or if you have other commands that you wish to execute before the program is run, you can change the AUTOEXEC.BAT file to include your own instructions. See your IBM manual for an explanation of the AUTOEXEC.BAT file.

Loading MusicWriter into Your Computer

Once DOS is permanently installed on your MusicWriter program disk (see **Installing DOS on your MusicWriter Disk**, above, for details), loading is simple:

If the computer is turned off:

1. Place the MusicWriter program disk in drive A and close the drive door. Turn the computer on. MusicWriter loads and goes to the main menu.

If the computer is already on:

1. Place the MusicWriter program disk in drive A and close the drive door. From DOS prompt **A>**, type **A:BSMW** and press [Enter]. MusicWriter loads and goes to the main menu.

If there's a problem: This method of loading MusicWriter requires that the

file ANSI.SYS was included in the CONFIG.SYS file on the disk you originally used to boot your computer. You can use the DOS EDLIN program to add ANSI.SYS to the CONFIG.SYS file on your boot disk. The command to add is: **DEVICE=ANSI.SYS**. For further details, consult your DOS manual.

Hard disk users: You can install the MusicWriter program on your hard disk and can store your musical compositions on your hard disk if you choose. See the special "Hard Disk" Card in this package for details.

You can also load MusicWriter into the computer without first installing DOS on your program disk. If DOS is not installed on your MusicWriter disk, follow these steps to load the program:

If the computer is turned off:

1. Place your DOS disk in Drive A and close the drive door. Turn the computer on. In a moment you will see messages asking you to enter the date and time. Type in the appropriate information or press [Enter] twice until you see the DOS prompt **A>**.
2. Remove the DOS disk and insert the MusicWriter disk. Close the drive door. At the **A>** prompt, type **A:BSMW** and press [Enter]. MusicWriter loads and goes to the main menu.

If the computer is already on:

1. Place the MusicWriter disk in Drive A and close the drive door. From the DOS prompt **A>**, type **A:BSMW** and press [Enter]. MusicWriter loads and goes to the main menu.

Sample Music

There are several pieces of music saved on the MusicWriter disk as examples of the many kinds of music you can write with MusicWriter. To listen to these samples, turn to page 22 in the manual for information about how to play music.

Formatting a Data Disk

Before you start using MusicWriter, you may first want to format (prepare) a disk to save your music. For information about how to format a disk, turn to page 25 in the manual.

Printer Set Up

You may print your music if you have an IBM-compatible dot matrix printer connected to your computer's parallel printer port (LPT1). A partial list of compatible printers follows: IBM Graphics; Epson RX, MX, FX 80, 100; Okidata 192, 193; C. Itoh 8510 (Prowriter). Other printers may also work. Follow the instructions in your printer's documentation manual for attaching and using the printer with your computer.

Leaving MusicWriter

When you finish using MusicWriter, you may quit the program and go immediately to PC DOS. To leave MusicWriter:

1. From the main menu, press [Esc].
2. An on-screen prompt appears:

**Ready to leave MUSICWRITER
OK to proceed (Y/N)?**

Press [Y] to leave MusicWriter and go to PC DOS. Press [N] to remain at MusicWriter's main menu.



MusicWriter's Functions

This section describes the functions and features of MusicWriter, following the order of the main menu—the first screen you see after the program loads. First, the basic features that involve entering, editing, and playing back music are explained. Next, this section explains features that add power to the composing process, such as inserting, deleting, or copying musical passages; checking for accuracy of time signature; and varying the dynamics of your music. Last, this section explains the help feature that provides convenient prompts and information about using the program.

Main Menu

After the program loads, the first screen displays the main menu. This menu leads to all of MusicWriter's functions. This section of the manual, however, explains only the EDIT and NEW PIECE functions. All other functions are explained in the Disk Management section, beginning on page 21.

To get to the main menu from anywhere in the program, press [Esc]:

LOAD	Load music saved on disk into computer's memory	RENAME PIECE	Change name of a piece of music saved on disk
SAVE	Save music in computer's memory on disk	DELETE PIECE	Remove a piece of music saved on disk
EDIT	Rework, or add to, music in computer's memory	MEDLEY CHAIN	Link two pieces of music in memory and save on disk
NEW PIECE	Start a new piece of music	PRINT PIECE	Print out a hard copy of music
ALBUM	Play all music saved on disk	DOS FUNCTIONS	Go to PC DOS program. Here you can format disks, copy pieces from one disk to another, or duplicate disks.
JUKEBOX	Select and play a piece of music saved on disk		
INDEX	See list of music saved on disk		

Use [↑] or [↓] to move the highlighter to the function you want; then press [Enter] to select it.

New Piece

To begin a new composition, highlight NEW PIECE on the main menu. Press [Enter] to select it.

Follow the on-screen prompts:

**Music Memory will be erased
OK to proceed? (Y/N)**

If you've just loaded the program, no music is in the computer's memory, so you can go ahead and press [Y].

If you're choosing NEW PIECE again after writing some music, and want to

keep your work, press [N]. Save your music and then proceed. (See Save on page 21.)
If you don't want to keep your work, press [Y] to clear out memory.
Note that erasing memory does not affect any music saved on disk.
Pressing [Y] takes you to the KEY SELECTION screen.

Key Selection Screen

Entry: From the main menu, highlight NEW PIECE and press [Enter]; then press [Y] to answer the prompt.

From the EDIT MODE screen, hold down [Ctrl] and press [K].

Exit: [Enter] or [Esc] takes you to the EDIT MODE screen.

When you first go to this screen, the key of C is highlighted. If you want C, press [Enter] to select it. To change the key, press [↑] or [↓] to move the highlighter to the key signature you want; then press [Enter]. Pressing [Enter] selects the key and takes you to the EDIT MODE screen.

To change the key in the middle of a piece, press [Ctrl]-[K] from the EDIT MODE screen; this takes you to the KEY SELECTION screen where you can choose another key signature. Be sure the cursor is located where you want the key change to occur, since the new key signature is entered at the cursor.

Edit Mode Screen

This mode is the main part of the MusicWriter program. All other modes (KEY SELECTION, PLAY, SLUR, BLOCK, TIME, HELP and OPTION) can be entered from here.

Entry: From the main menu, highlight EDIT and press [Enter].

From the KEY SELECTION screen, press [Enter].

Exit: [Esc] takes you to the main menu.

Note these things on the EDIT MODE screen:

- Two grand staves, each with a treble and a bass clef.
- The cursor (→), located at the upper left of the screen. The cursor points to where the next note, rest, bar line, or other musical marker will be entered on the staves. Cursor location also controls the pitch, key, and staff number.
- The pitch prompt, indicating the current pitch.
- The key signature prompt, indicating the current key.
- The staff prompt, indicating staff number—from 1 to 99.
- The voice prompt, indicating the current voice.

Each of the above is explained more fully later in the manual, as are the remaining two prompts, Drums and Stem.

Cursor

Cursor location points to where the next note, rest, bar line, or key signature is entered. Cursor location also indicates the current staff.

The cursor is moved with arrow keys:

[↑] = up; [↓] = down; [←] = left; [→] = right

To rapidly move the cursor, press and hold down an arrow key in the direction you want to go.

To move the cursor one full staff:

[Pg up] = Up to the previous staff

[Pg Dn] = Down to the next staff

[Home] = Left to the beginning of the staff

[End] = Right to the end of the staff

To move the cursor in one step to the first or last staff of music, hold down [Ctrl] and press [Home] or [End].

PCjr users: Hold down [Function] key when using [Pg Up], [Pg Dn], [Home], and [End].

Pitch

The prompt at the top of the screen indicates the pitch where the cursor is located. As the cursor moves up and down a staff, the prompt changes accordingly.

To hear the pitch where the cursor is located, press [P].

Entering Notes

Notes are entered where the cursor is pointing, directly from the keyboard:

Note		Key to Press
Whole note		[1]
Half note		[2]
Quarter note		[4]
Eighth note		[8]
Sixteenth note		[6]
Thirty-second note		[3]

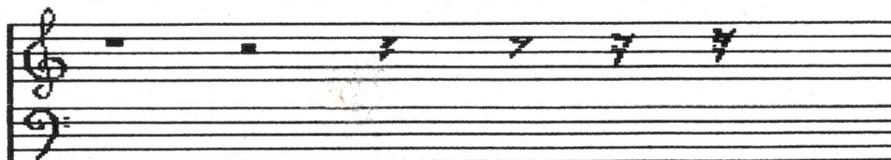
When you enter a note, the cursor moves over to the right. The distance the cursor moves depends on note value. For example, a whole note moves the cursor over eight steps, and an eighth note moves it over one step. This is to allow room for the same number of beats per measure in different voices; for example, one whole note takes up the same amount of space on the staff as eight eighth notes, four quarter notes, or two half notes. However, you can move the cursor with the arrow keys to put notes as far apart or close together as you want.

To erase a note, point the cursor directly at it (in front of it) and press [Spacebar]. (For more information regarding erasing notes, see Erasing Mistakes on page 12.)

To play notes—no matter how many or few are entered—press [F2] or [Ctrl]-[P].

Rests

To enter a rest, press [R] and then its duration. To enter a quarter-note rest, for example, press [R] and then [4]. Rests appear on the screen as shown below:



whole half quarter eighth sixteenth 32nd

If you change your mind after pressing [R], press [Backspace] to clear the Rest command.

Voice

MusicWriter offers six voices for composing on the PC, and three voices for composing on the PCjr. The current voice is indicated next to the prompt at the bottom of the screen. To choose a particular voice, press [V] to cycle through all the voices. Stop when the voice you want appears next to the prompt.

When music plays, the notes for each voice light up in a different color, making it easy to follow each voice.

Tracking the current voice: You can also go note-by-note through a composition for each voice. To do this, first press [V] to get the voice you want to track. Then hold down [Ctrl] and press [←] or [→] to move the cursor from note to note.

Which voice is that note in? You can easily determine which voice contains a particular note or symbol. Just point the cursor directly in front of the note or symbol in question. Then hold down [Shift] and press [?]. A prompt appears at the bottom of the screen telling you which voice the note or symbol belongs to.

Erasing Mistakes

To erase a mistake, point the cursor at the note, rest, bar line, or other musical marker you want to remove and press [Spacebar]. The cursor must be in front of the note you want to delete.

An on-screen prompt—**Erase Error**—lets you know when something has to be changed before a mistake can be erased with the [Spacebar]. If you get this message, either move the cursor to point directly at a symbol in the current voice, or change the current voice by pressing [V].

(For information about erasing whole passages of music, see Block Mode on p. 15).

Replacing notes: To replace a note with another note, both notes must be in the same voice. The cursor must also be pointing directly at the note you want to replace. If both of these conditions are met, just enter the new note. You don't have to first erase the old note.

Replace Error: You get this message if the following two conditions aren't met when replacing notes or rests: The note or rest you want to replace and the new note or rest you want to enter must be in the current voice; the cursor must point directly at the note or rest you want to replace. If these conditions are met, the new entry is accepted. You don't have to first erase the note or rest before entering the new one.

You also get this message if bar lines, repeats, and other musical markers are entered incorrectly.

Octave

MusicWriter provides six octaves of music. You can enter any note at the normal pitch, or up an octave, or down an octave. Press [H] to enter notes an octave higher (the symbol 8↑ appears on your music). Press [L] to enter notes an octave lower (the symbol 8↓ appears on your music). The position of the notes remains unchanged on the staff, but they sound an octave higher or lower when played.

Press [A] to restore pitch to as-is (the symbol 8→ appears on your music).

Note to PCjr users: The PCjr's range of sound is higher than the PC's (all notes play an octave up). And, some of the lowest notes on the bass clef (low A♭ down to low C) can't play down an octave (instead they sound at their usual pitch). These differences will only be noticeable when you are playing music; they shouldn't have any effect on the way you compose.

Accidentals

To enter accidentals, hold down [SHIFT] and press [#] for sharps, press [F] for flats, and [N] for naturals before you enter the note. To enter a flatted quarter note, for example, press [F] and then [4]. The prompt at the bottom of the screen indicates that the next note entered will be an accidental.

If you change your mind after pressing [Shift]-[#], [F], or [N], press [Backspace] to clear the Sharp, Flat or Natural command.

Pitch changed by an accidental remains that way until the next bar line. For instance, if you change an F-sharp to F-natural, all notes entered at F will be naturals until the next bar line, or until the original pitch is restored. To restore the original pitch in the same measure, use another accidental. For example, if you pressed [N] to change a B-flat to B-natural, return to B-flat by pressing [F] and entering a note.

Drums: PC Users Only

PC users have the option to write music for drums and cymbals. The prompt at the bottom of the screen indicates whether drums are off, or set for snare, or set for cymbal, in the current voice. To choose a drum setting, press [D] to cycle through OFF, SNARE, and CYMBAL. Stop when the setting you want appears next to the prompt.

You may choose snare or cymbal for any of the six voices available. Note that Voice 5 is automatically set for snare, and Voice 6 is automatically set for cymbal. You may change the settings for these and all other voices whenever you like by pressing [D].

Notice that notes for snare and cymbal appear different than notes for tones:

Cymbal

Snare

Whole Half Quarter Eighth Sixteenth Thirty-Second

Stem

Generally, MusicWriter enters notes in Voices 1, 3, and 5 with stems up, and notes in Voices 2, 4, and 6 with stems down. You can change stem direction individually by voice by pressing [S]. Pressing [S] only changes notes you're about to enter; it doesn't change stem direction of notes already on the screen. Stem direction stays the same until you press [S] again. The prompt at the bottom of the screen indicates stem direction.

Stem direction is generally a matter of personal preference. However, it's a good idea to plan stem direction so that the score is uncluttered and easy to read.

Dotted Notes

To enter a dotted note, enter the dot first and then the note. To enter a dotted quarter note, for instance, press [.] and then [4]. The prompt at the bottom of the screen indicates that the next note entered will be dotted.

If you change your mind after pressing [.] , press [Backspace] to clear the Dot command.

Ties

To enter a tied note, enter the tie first and then the note. To enter a tied quarter note, for example, press [/] and then [4]. The prompt at the bottom of the screen indicates that the next note entered will be tied to the note following it.

When a tied note is entered, a little "tail" appears on the note. If the note following the tied note is at the same pitch, a bar connects the two notes. If the following note is at a different pitch, the tail remains on the tied note.

Staff 1

Tied notes of different pitches are slurs. If you want to enter a long section of slurred notes, use the SLUR MODE screen (see page 15).

If you change your mind after pressing [/], press [Backspace] to clear the Tie command.

Triplets

To enter a triplet, press [T] before each note. A small "3" appears above each triplet note to indicate the note is two-thirds of its normal value. The prompt Triplet at the bottom of the screen indicates that the next note entered will be a triplet.

If you change your mind after pressing [T], press [Backspace] to clear the Triplet command.

Bar Lines

To mark the end of a measure with a bar line, press [B]. Bar lines keep the voices together when the music plays. For example, if you've put four beats for one voice in a measure, and only two beats in the same measure for another voice, a bar line keeps the second voice from going on until the first voice finishes all four beats.

To erase a bar line, point the cursor at it and press [Spacebar].

Repeats

To repeat music without reentering it, move the cursor to the beginning of the passage to be repeated; press [I]. Then move the cursor to the end of the passage; press [J].

When the music reaches the end (or close) repeat, it goes back to the beginning (or open) repeat and replays once. The next time the close repeat is reached, the music crosses it and goes on.

MusicWriter provides up to 16 levels of repeats, and they may be nested inside each other.

Endings

To indicate a first ending, hold down [Shift] and press [{] before you enter a phrase.

To indicate a second ending, hold down [Shift] and press [}] before the phrase.

Dynamics

Dynamics tell MusicWriter to raise or lower the volume of music when it's playing. To raise volume (*forte*), hold down [Shift] and press [F]. To lower volume (*piano*), hold down [Shift] and press [P]. A little *f* or *p* appears where the cursor is located.

Turning Off Voice

To turn off both the sound and the graphics of the current voice, hold down [Ctrl] and press [V]. This is helpful if you want to see and hear a particular voice or combination of voices. Just turn off the voice(s) you don't want. For example, to turn off Voice 2, press [V] to get Voice 2; then hold down [Ctrl] and press [V]. To restore a voice you turned off, press [Ctrl]-[V] again. One or more voices can be turned off at a time.

Note: When the current voice is turned off, you can't enter or change music in that voice.

Play Mode Screen

Entry: From EDIT MODE screen, hold down [Ctrl] and press [P] or press [F2].

Exit: When music ends, MusicWriter automatically returns to EDIT MODE screen. Press [Esc] to stop music.

You can play back your music any time—no matter how many or few notes are entered.

To change tempo as the music plays, press [F] to make it go faster and [S] to slow it down. The tempo changes at the next bar line after you press [F] or [S].

To play only at the staff where the cursor is located, hold down [Alt] and press [P].

Slur Mode Screen

Entry: From EDIT MODE screen, hold down [Ctrl] and press [S].

Exit: Press [Esc].

Use this screen when you want to enter slurred notes without having to enter a tie [/] before each note. Each note is automatically tied to the following note.

Inserting and Deleting

When you work on your music, you can insert space for more notes, as needed:

- To insert one space for the current voice only (and in the current measure only), press [Ins].
- To insert one space for all voices in the current staff, hold down [Shift] and press [Ins].
- To insert one staff for all voices, hold down [Ctrl] and press [I].

No room in Bar: You get this message when the position of the bar line prevents insertion of another space for the current voice.

You can delete notes and close up space as needed:

- To delete one space from the current voice only (and in the current measure only), press [Del].
- To delete one space from all voices in the current staff, hold down [Shift] and press [Del].

For information about deleting whole passages of music, see BLOCK MODE, below.

Block Mode Screen

Entry: From EDIT MODE screen, hold down [Ctrl] and press [B] or press [F4].

Exit: MusicWriter automatically returns to EDIT MODE when Block functions are completed. Press [Esc] to exit without completing a Block function.

The BLOCK MODE screen presents a menu of four functions for you to choose from: **Erase Passage**, **Delete Passage**, **Copy Passage**, and **Transpose Passage**.

Erase Passage

Removes music; leaves blank space behind.

To erase a passage of music:

1. On BLOCK MODE screen, highlight Erase Passage; press [Enter].
2. Highlight the voice (or all voices) carrying the passage you want to erase; press [Enter].
3. Move the cursor to the beginning of the passage you want to erase; press [Enter].
4. Move the cursor to the end of the passage you want to erase; press [Enter].
5. Press [Enter] once more to erase the passage and return to EDIT MODE.

Delete Passage

Removes music; closes up blank space.

To delete a passage of music:

1. On BLOCK MODE screen, highlight Delete Passage; press [Enter].
2. Highlight the voice (or all voices) carrying the passage you want to delete; press [Enter].

3. Move the cursor to the beginning of the passage you want to delete; press [Enter].
4. Move the cursor to the end of the passage you want to delete; press [Enter].
5. Press [Enter] once more to delete the passage and return to EDIT MODE.

Copy Passage

Copies music from one location to another (can be used within one voice, or from one voice to another).

To copy a passage of music:

1. On BLOCK MODE screen, highlight Copy Passage; press [Enter].
2. Highlight the voice to copy from; press [Enter].
3. Move the cursor to the beginning of the passage you want to copy; press [Enter].
4. Move the cursor to the end of the passage you want to copy; press [Enter].
5. Highlight the voice to copy to; press [Enter].
6. Move the cursor to the destination of the copy; press [Enter] to complete the copy and return to EDIT MODE.

Transpose Passage

Moves entire passage of music up or down in pitch (without changing relative pitches of notes inside the passage).

To transpose a passage of music:

1. On BLOCK MODE screen, highlight Transpose Passage; press [Enter].
2. Highlight the voice (or all voices) you want to transpose; press [Enter].
3. Move the cursor to the current starting pitch of the passage you want to transpose; press [Enter].
4. Move the cursor to the end of the passage you want to transpose; press [Enter].
5. Move the cursor to the new starting pitch for the passage; press [Enter] to complete the transposition and return to EDIT MODE.

Time Mode Screen

Entry: From EDIT MODE screen, hold down [Ctrl] and press [T] or press [F5].

Exit: MusicWriter automatically returns to Edit Mode when Time functions are completed. Press [Esc] to exit without completing a Time function.

The TIME MODE screen presents a menu of two functions for you to choose from: **Enter Time Signature** and **Time Checker**.

Enter Time Signature

You don't have to use a time signature with MusicWriter; but you may if you wish. MusicWriter offers eighteen different signatures for you to choose from.

To select and enter a time signature:

1. On TIME MODE screen, highlight Enter Time Signature; press [Enter].
2. Move the cursor to where you want the time signature to appear; press [Enter].
3. Highlight the time signature you want; press [Enter]. MusicWriter returns automatically to Edit Mode and the time signature appears on your music.

Time Checker

When you've finished composing, MusicWriter can check the accuracy of number of beats per measure in your music. You can use Time Check to identify measures that have too few or too many beats for the time signature you selected.

Time Checker goes through your music measure by measure. When it finds an error, the measure containing the error is highlighted and an on-screen prompt tells you whether the measure is too short (has too few beats) or too long (has too many beats). Then you choose what you want to do next:

Edit Music: Return to Edit Mode, where you can change the number of beats in that measure.

Continue Time Check: Leave the measure as is and go on to check time in following measures.

Restart Time Check: Start the time checking process over again.

To check time:

1. On TIME MODE screen, highlight Time Checker; press [Enter].
2. Move the cursor to where you want the time check to begin; press [Enter].
3. When an error is located, highlight what you want to do next (Edit Music, Continue Time Check, or Restart Time Check); press [Enter].

Some **Time Checker** tips:

- In order for Time Checker to function, you must have selected and entered a time signature.
- If at least one voice has the correct number of beats in a measure, and the other voices have too few, Time Checker doesn't count that as an error. It assumes the other voices are resting, even though you haven't entered rests for them in your score.
- A totally empty measure isn't counted as an error. It's acceptable if all the voices are resting, or have stopped.

Option Mode Screen

Entry: From EDIT MODE screen, hold down [Ctrl] and press [O] or press [F3].

Exit: Press [Esc].

This screen provides options for varying your music to create exciting and unusual interpretations and arrangements. You can also vary play staves. The options are: TEMPO, TONE-SHAPE, and PLAY-STAFFS.

Tempo

This option lets you vary tempo in your music. Use [↑] or [↓] to highlight TEMPO on the OPTION MODE screen; press [Enter].

The graph on the screen shows the tempo range. Use [→] and [←] to move the cursor and change tempo. An on-screen prompt displays the number of quarter notes per minute for each different tempo setting. When you've selected the tempo you want, press [Enter].

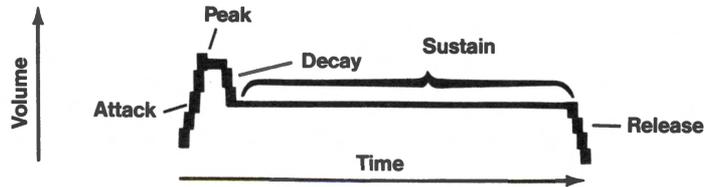
Tone-Shape

This option lets you adjust the quality of sound for each voice. Use [↑] or [↓] to highlight TONE-SHAPE on the OPTION MODE screen; press [Enter].

MusicWriter offers six tone-shaping options: VOLUME, ARTICULATION, PEAK, ATTACK, DECAY, and RELEASE. They make up the sound envelope—or the entire nature of the sound—of each note.

Every note starts from silence and builds to maximum volume. Volume then decays to a sustained (midpoint) volume, where it stays until just before sound returns to silence. Instruments go through this process naturally; a computer is programmed to go through it with split-second timing.

Each of MusicWriter's six tone-shaping options lets you alter different aspects of the sound envelope for each voice. Unless you change them, the sound envelopes for all four voices in this program are the same and look like this:



To change a sound envelope, first press [V] to select the voice you want. Next use [↑] or [↓] to highlight the option (VOLUME, ARTICULATION, PEAK, ATTACK, DECAY, and RELEASE) you want to change. Then use [←] and [→] to alter that option.

If you've changed the sound envelope of a voice and want to restore its original values, press [R] to reset the voice.

Volume controls the volume level for each voice. Each voice can be made more or less dominant, depending on the quality of the music you want.

Articulation controls the duration of sound for each note. If the articulation line is short, notes are *staccato* (short and choppy); if the line is longer, notes are more *legato* (smooth).

Peak controls the maximum volume a note can reach. Although overall volume is controlled for each voice with VOLUME, you can adjust PEAK for a slightly louder point that each note can reach.

Attack controls the time it takes for each note to reach peak volume. If the attack line is vertical, peak volume is reached quickly; if the line is more oblique, the peak is reached more slowly.

Decay controls the time a note takes to go from peak volume to sustained volume. If the decay line is vertical, the descent is fast; if the line is oblique, the descent is slower.

Release controls the time a note takes to go from the sustained volume down to silence. If the release line is vertical, notes end more abruptly; if the line is oblique, sound tapers off more slowly.

When you finish adjusting the sound envelopes, press [Esc].

PC users: The sound envelope for Drums:Snare is not adjustable; tone-shaping options do not apply to the snare sound. Tone-shaping options do apply when Drums:Cymbal is used in a voice, but the effects are a bit different than on voices playing regular tones.

The best way to hear how MusicWriter's tone-shaping options affect your music is to enter some short passages in at least two voices. Vary the sound envelope for each voice in different ways and listen to the results. By experimenting with tone-shaping, you'll be able to adjust the options to serve your creative needs.

Play-Staffs

Use [↑] or [↓] to highlight PLAY-STAFFS on the OPTION MODE screen; press [Enter].

Start Playing controls at which staff music begins playing. To change a staff number, move the highlighter over the old number and type the new number. There's no need to first erase the old number.

Stop Playing controls at which staff music stops playing. To change a staff number, move the highlighter over the old number and type the new number.

Total Staffs Used indicates the total number of staffs with music in the com-

puter's memory. In general, the only reason to change this number is to save or print a shorter version of the piece in the computer's memory.

When you finish setting PLAY-STAFF choices, press [Enter]. To leave this screen without changing settings, press [Esc].

Help Mode Screen

Entry: From EDIT MODE screen, hold down [Shift] and press [H] or press [F1].

Exit: Press [Esc].

You can use HELP MODE when you want quick reminders of keypresses and other information about using MusicWriter. The first HELP MODE screen is EDIT MODE HELP; it provides a menu of topics such as Entering Notes, Modes, Inserting and Deleting, and so forth. Highlight the topic that relates to your question and press [Enter]; a screen giving help for that topic appears. If you then want help for another topic, press any key (except [Esc]) to go back to the EDIT MODE HELP menu.

Disk Management and Printing

Except for EDIT and NEW PIECE, all functions listed on the main menu relate to disk management or printing. This section explains those functions that let you load, save, and print out your music; play your music in jukebox, album, or medley style; rename, copy, or delete music; and format and duplicate disks.

Selecting a File

Certain disk management functions—LOAD, JUKEBOX, RENAME PIECE, DELETE PIECE, and MEDLEY CHAIN—involve selecting a file. In other words, you are telling MusicWriter what piece of music you want to load, play, delete, and so forth. You have a choice of two methods of selecting a file: TYPING IN TITLE or GOING TO INDEX.

Typing in Title

1. From the main menu, use [↑] or [↓] to highlight the disk management function you want. Press [Enter] to select it.
2. On-screen is a dark band, with a letter indicating disk drive (A:, B:, C:, etc.). If the letter does not indicate the drive where the disk with your music is located, press [Backspace] and type in the correct letter.
3. Type in the title of your piece and press [Enter]. (You can use [Backspace] to edit any mistakes you make when typing.)

Going to Index

1. From the main menu, use [↑] or [↓] to highlight the disk management function you want. Press [Enter] to select it.
2. Press [Enter] again.
3. Use [←] or [→] to highlight the drive (A, B, C, or D) where the disk with your music is located. Press [Enter] to select it and go to the disk index.
4. Use [↑] or [↓] to highlight the piece you want. Press [Enter] to select it.

Load

This function lets you load music saved on a disk into the computer's memory. From the main menu, use [↑] or [↓] to highlight LOAD. Press [Enter] to select it. Next, select the file you want to load (for details, see Selecting a File, above). When the selection process is complete, MusicWriter automatically loads the piece you chose and goes to EDIT MODE.

To return to the main menu without loading a piece, press [Esc].

Save

This function lets you save a new piece for the first time, or resave a piece already saved on the disk that you have changed in some way. In order to save your music you must have a formatted disk in the disk drive. (See Format on page 25.) Or you can save music on the MusicWriter program disk.

1. From the main menu, use [↑] or [↓] to highlight SAVE. Press [Enter] to select it.
2. On-screen is a dark band, with a letter (A, B, C, etc.) indicating the disk drive where the save will take place. The title of the piece (if any) follows. You can use [Backspace] to edit the disk drive letter and/or the title, if you choose. If this is a new piece, type in a title. When the information in the band is as you want it, press [Enter].
3. When you resave a piece with exactly the same title, the new version replaces the old version on the disk. When this is the case, MusicWriter gives you an extra prompt:

Ready to resave: (title of piece)
OK to proceed (Y/N)?

Press [Y] to complete the resave (the new version replaces the old version). Press [N] if you want to edit the title before saving (and avoid saving over the previous version).

Album

Choose this function to play all music saved on a disk. From the main menu, use [↑] or [↓] to highlight ALBUM. Press [Enter] to select it.

Next, use [←] or [→] to highlight the drive (A, B, C, or D) where the disk with the music you want to play is located. Press [Enter] to select it. MusicWriter loads and plays each piece of music saved on the disk, from the first to the last.

To interrupt a piece that is currently playing and go on to the next one, press [Enter]. To stop the ALBUM and go back to the main menu, press [Esc].

Jukebox

This function lets you play any piece saved on a disk. From the main menu, use [↑] or [↓] to highlight JUKEBOX. Press [Enter] to select it.

Next, select the file you want to play (for details, see *Selecting a File*, p. 21). When the selection process is complete, MusicWriter automatically loads the piece and goes to PLAY MODE.

To return to the main menu without choosing a piece to play, press [Esc].

Index

This function lists the titles of all music saved on a disk. From the main menu, use [↑] or [↓] to highlight INDEX. Press [Enter] to select it.

Next, use [→] or [←] to highlight the drive (A, B, C, or D) where the disk you want to index is located. Press [Enter] to select it and go to the index screen.

Prompts on the index screen mark the "top" and "bottom" of the list, and tell you if there are more titles than are currently displayed. When you see the "More" prompt, use [↑] or [↓] to scroll and view the remaining titles.

Press [Esc] anytime you wish to exit the index and return to the main menu. (Or, when there are no more titles to see, any keypress returns you to the main menu.)

Rename Piece

Choose this function to rename a piece of music saved on a disk. From the main menu, use [↑] or [↓] to highlight RENAME PIECE. Press [Enter] to select it. Next,

select the file you want to rename (for details, see *Selecting a File*, p. 21). When the selection process is complete, you'll see an on-screen prompt, telling you to type in the new title.

Type the new name—up to eight characters—and press [Enter]. (You can use [Backspace] to edit any mistakes you make when typing.) You'll see this on-screen prompt:

**Ready to rename (old title) to (new title)
OK to proceed (Y/N)?**

Press [Y] to complete the renaming process; the new name is listed on the disk index. Press [N] to choose a different piece to rename. To go back to the main menu without renaming, press [Esc].

Delete Piece

This function lets you delete music saved on a disk.

From the main menu, use [↑] or [↓] to highlight DELETE PIECE. Press [Enter] to select it. Next, select the file you want to delete (for details, see *Selecting a File*, p. 21). When the selection process is complete, you'll see this on-screen prompt:

**Ready to delete (name of piece)
OK to proceed (Y/N)?**

Press [Y] to remove the piece from the disk and the disk index. Press [N] to choose a different piece to rename. To go back to the main menu without deleting, press [Esc].

Medley Chain

Choose this function to link one or more saved pieces from disk to a piece currently in memory. Or, if memory is currently empty, you can use MEDLEY CHAIN to load and link a succession of pieces.

To link a saved piece from disk to a piece currently in memory: From EDIT MODE, press [Esc] to go to the main menu. From the main menu, highlight MEDLEY CHAIN; press [Enter] to select it. Next, select the file you want to link to the piece currently in memory (for details, see *Selecting a File*, p. 21). When the selection process is complete, MusicWriter returns to the main menu.

To load and link a succession of pieces: From the main menu, highlight MEDLEY CHAIN. Press [Enter] to select it. Next, select the piece you want to be first in your medley (for details, see *Selecting a File*, p. 21). When the selection process is complete, MusicWriter returns to the main menu.

Notice that MEDLEY CHAIN always returns you to the main menu. From there you can choose MEDLEY CHAIN again to go on linking additional pieces (you can continue until memory is filled). Or, you can choose EDIT MODE to see the pieces you've linked; you can also hear the combined pieces by pressing [Ctrl]-[P] or [F2].

Once you've created a medley chain in memory, you can rename and save the chain as one composition, using MusicWriter's SAVE function (see p. 21).

Print Piece

This function allows you to print out your music on paper. In order to print out music, it must first be in the computer's memory. You can either load a piece of music from disk (see Load on page 21), or print out what you've just entered. It's a good idea, however, to first save your music on disk (see Save on page 21) before printing.

As you'll see, MusicWriter provides for both a title and a subtitle to appear on the 'sheet music' you print out. You don't have to specify a subtitle, but you may find it useful for labeling different instrumental or vocal parts for one composition, or different sections of a composition.

To print out music:

1. From the main menu, use [↑] or [↓] to highlight PRINT PIECE. Press [Enter] to select it.
2. Follow the on-screen prompts:

Enter title for top of page:
“(title of piece)”

Type in the title—up to 30 characters and spaces. You can use [Backspace] to edit any mistakes made while typing. When the title is as you want it, press [Enter]. Next, you'll see:

Enter subtitle, if desired:
“(subtitle of piece)”

Type in a subtitle if you want one—up to 30 characters and spaces. You can use [Backspace] to edit any mistakes made while typing. When the subtitle is as you want it, press [Enter]. Printing begins automatically.

If you change your mind before printing, or want to stop printing once it's begun, press [Esc] to return to the main menu.

DOS Functions

This feature lets you go to, and make use of, certain DOS functions while still holding MusicWriter in memory.

The DOS functions most important for MusicWriter are **Format**, **Dir**, **Copy**, and **Diskcopy**. You won't need your DOS disk to make use of these functions if you installed DOS on your MusicWriter disk. If so, DOS and several DOS utility programs should already be on your MusicWriter disk, (see Installing DOS on Your MusicWriter Disk, p. 7, for details). If DOS isn't on your MusicWriter disk, you will need your DOS disk.

Caution: DOS FUNCTIONS keeps MusicWriter and any music files in memory. This may interfere with loading and using programs other than those described here for use with MusicWriter. Therefore, when you want to return to DOS for the purpose of using additional programs, it is a good idea to first exit MusicWriter (see Leaving MusicWriter, p. 8, for details).

To go to DOS FUNCTIONS: From the main menu, use [↑] or [↓] to highlight DOS FUNCTIONS. Press [Enter] to select it. Next, answer the on-screen prompt:

Ready to enter DOS FUNCTIONS
OK to proceed (Y/N)?

Press [Y] to go to DOS.
Press [N] to return to the main menu without entering DOS.

When you enter DOS, the **A>** prompt is displayed. You may now proceed to use the DOS functions.

To return to MusicWriter: You may leave DOS FUNCTIONS and return to MusicWriter's main menu whenever you choose by pressing [Esc].

Format

The format process lets you prepare a disk for saving your music.

Warning: Formatting erases everything saved on a disk, so be sure to format a new disk or one with nothing on it you want to keep.

To format a disk:

If you have two drives:

1. From the **A>** prompt, with your MusicWriter (or DOS) disk in drive A:
type **format b:** and press [Enter].

2. You'll see this on-screen prompt:

**Insert new diskette for drive B:
and strike any key when ready.**

Insert the disk to be formatted in drive B. Press [Enter].

If you have one drive:

1. From the **A>** prompt, with your MusicWriter or DOS disk in the drive, type: **format** and press [Enter].

2. Remove your MusicWriter (or DOS) disk from the drive. Insert the disk to be formatted. Press [Enter].

3. As the formatting process begins, you see this message:

Formatting...

After a few seconds, you will see:

Formatting... Format complete

**xxxxxx bytes total disk space
xxxxxx bytes available on disk**

Format another (Y/N)?

4. Press [Y] if you wish to format additional disks.

Press [N] to leave the format program and return to the **A>** prompt.

DIR (Directory)

This function lets you see what files are on a disk. It is similar to MusicWriter's Index function (see Index, p. 22), but offers more information. When you use the Dir feature, the directory displays the **filename**, **extension**, **size**, and **date** of all files on the disk—including your music files, MusicWriter program files, or any other saved files.

To see a disk directory:

1. From the **A>** prompt, insert the disk with the directory you want to see in drive A.

2. Type **dir** and press [Enter].

The screen first displays the disk volume label and the name of the directory (if any). Then the files are listed. Notice that the titles (filenames)

of your music pieces are followed by an extension: BSM or BSJ.

Note: The "BSM" extension is for MusicWriter files created on an IBM PC. The "BSJ" extension is for MusicWriter files created on a PCjr. See Appendix A for details.

Hint: Hold down [Ctrl] and press [S] to 'freeze' the Dir display at any point you choose. Press [Ctrl]-[S] again to continue.

3. When all the files have been displayed, you automatically return to the DOS **A>** prompt.

Copy

This function lets you copy a piece of music saved on one disk directly onto another disk. The music does not have to be in memory in order to do so. However, you do need to know the exact form of the title and the extension (BSM or BSJ). If you're not sure of these, you can use Dir first to view them (see Dir, p. 25, for details).

From the **A>** prompt, to copy a piece of music:

If you have two drives:

1. Remove your MusicWriter (or DOS) disk and insert the disk with the music you want to copy (the source disk) in drive A.
2. Insert the disk you wish to copy to (the target disk) in drive B.
3. Type **copy title.BSM b:** or **copy title.BSJ b:** and press [Enter].
4. When the copy process is complete, you see this message: **1 File(s) copied.** Then the program automatically returns to the **A>** prompt.

If you have one drive:

5. Remove your MusicWriter (or DOS) disk and insert the disk with the music you want to copy (the source disk) in drive A.
6. Type **copy title.BSM b:** or **copy title.BSJ b:** and press [Enter].
7. You see this message:

Insert diskette for drive B: and strike any key when ready.

Remove the disk with the music you are copying (the source disk) from the drive. Insert the disk you want to copy to (the target disk). Press [Enter].

8. When the copy process is complete, you see this message: **1 File(s) copied.** Then the program automatically returns to the **A>** prompt.

Diskcopy

This function lets you copy the entire contents of one disk directly onto another. You will find this feature useful when you want to copy several music files to another disk. However, you cannot copy the MusicWriter program itself.

Warning: Diskcopy overwrites the entire contents of the disk you copy to (the destination disk), so be sure your destination disk is either new or contains nothing on it you want to keep. (See Copy, above, for information about copying individual files while preserving any contents of the destination disk.)

To copy a disk:

1. From the **A>** prompt, with your MusicWriter (or DOS) disk in drive A:

type **diskcopy a: b:** and press [Enter].

2. If you have two drives—you see this message:

Insert source diskette in drive A:

Insert target diskette in drive B:

Strike any key when ready

Remove your MusicWriter (or DOS) disk from drive A and insert the disk whose contents you want to copy (the source disk). Insert the disk you want to copy to (the target disk) in drive B. Press [Enter].

If you have one drive—you see this message:

**Insert source diskette in drive A:
Strike any key when ready**

Remove your MusicWriter (or DOS) disk from the drive and insert the disk whose contents you want to copy (the source disk). Press [Enter].

You'll be prompted to swap the source and target disks several times during the Diskcopy procedure. Follow the prompts to put first one and then the other in the drive, and press [Enter] to continue.

3. When all the contents of the source disk have been copied to the target disk, you see this message:

**Copy complete
Copy another (Y/N)?**

Press [Y] if you wish to make additional copies.

Press [N] to return to the **A>** prompt.

More About DOS

The functions we've described here are by no means all that DOS has to offer. Consult your DOS manual for information about other DOS options.



Tutorial



This Tutorial takes you through MusicWriter's main functions—starting with a simple, familiar melody and building to a three-part arrangement. The Tutorial progresses from simple tasks, such as entering notes and changing voices, to more complex functions such as adding rhythm and harmony, and changing tempo. You will add one feature at a time, making it easy to master MusicWriter's functions in an orderly way. It's important that you follow the tutorial instructions exactly, so that your composition is accurate and your music sounds right.

If you wish, you can hear a preview of the piece you'll compose while going through the Tutorial:

- Load MusicWriter into the computer (if you haven't already done so).
- From the main menu, use [↑] or [↓] to highlight JUKEBOX; press [Enter] to select it.
- Type SMOKEY and press [Enter].
- When the song is finished playing, you'll go back to the main menu screen.

If you want the results of your composition to be a surprise, start right away with the Tutorial.

From The Main Menu

Press [↑] or [↓] to highlight NEW PIECE. This is where you start a new piece of music. When it is highlighted, press [Enter] to select it.

The prompt, MUSIC MEMORY WILL BE ERASED, is a warning that any music currently in the computer's memory will be erased if you proceed. Don't worry if you just loaded SMOKEY to listen to it. Songs saved on the disk are not affected.

Saving Your Work

As you go through the Tutorial, you may want to save your work and then come back again to where you left off. Or, if you go through the entire Tutorial at one time, you'll probably want to save your finished work.

To save music on disk: You must first have a formatted disk. To format a disk, see page 25 in this manual. When you're ready to save your work in progress, or your finished music, turn to page 21 in this manual for instructions on how to save music on a disk.

Selecting A Key Signature

After selecting NEW PIECE, you go to the KEY SELECTION screen. The first task in composing music is usually selecting the key signature.

Our arrangement of SMOKEY is in the key of F(1♭). Use [↑] or [↓] to highlight F/d on the screen. Press [Enter] to select it.

Edit Mode Screen

After selecting a key, you go to the EDIT MODE screen. This screen is the central part of the program. All other musical functions are entered from this screen.

There are several features shown on this screen, but for now, note the following.

Grand staves: There are two grand staves on the screen, each with a treble and a bass clef. The music is entered on these.

Cursor: The cursor—in the upper left of the screen—shows where a note, rest, or bar line will be entered. The cursor also shows which staff you're on. You move the cursor with the arrow keys: [↑], [↓], [→], [←].

Pitch: The letter name of the pitch (sound) of any note is indicated next to the word Pitch at the top of the screen. As the cursor moves up and down the staves, the pitch indication changes to reflect the cursor's position. Any time you want to hear the pitch shown by the cursor, press [P].

Voice: MusicWriter offers six voices for composing music on the PC and three voices for composing music on the PCjr. You select a voice by pressing [V].

Enter A Time Signature

After the key signature, the time signature is the next marker to appear at the beginning of a piece of music. SMOKEY is written in 3/4 (waltz) time.

To enter the time signature for SMOKEY:

1. Hold down [Ctrl] and press [T] to go to the TIME MODE screen, where "Enter Time Signature" is already highlighted. Press [Enter] to select it.
2. Mark the position for the time signature (right after the \sharp and \flat at the beginning of the staff) by pressing [Enter] again.
3. Now use [↑] or [↓] to highlight 3/4 and press [Enter] to select it.

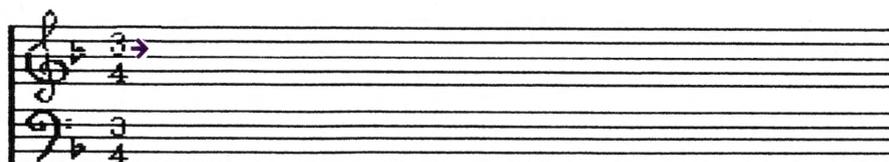
You automatically return to EDIT MODE, and the 3/4 time signature is in place.

Entering The Melody

Let's begin the arrangement by entering the melody, using voice 1. If 1 is not already next to Voice at the bottom of the screen, press [V] until it is.

Press [↑] to move the cursor up to the pitch of C as shown below.

Staff #1



Press [4] to enter a quarter note.

When you enter a note, you see it on the screen as well as hear it. Notice that the cursor moved to the right as you entered the quarter note. Each note value moves the cursor a different distance. For example, a whole note moves the cursor farther than a quarter note.

Erasing mistakes: If you make a mistake, use the arrow keys to point the cursor directly at the wrong note. The cursor must be on the same line or space as the note you want to erase. Press [Spacebar] to erase it. Then enter the note you want.

Bar lines

Bar lines mark the end of a measure. Depending on the time signature, measures may have a different number of beats. This arrangement of "On Top of Old Smokey" is written in 3/4 time. This means that each measure contains three beats, and a quarter note—or its equivalent—gets one beat.

STAFF #1

Intro phrase

So far, you've entered only one note of the song, which is a "pick-up." Although a pick-up isn't a full measure, you must enter a bar line so that only three beats will be in the next measure.

Enter a bar line by pressing [B]. Notice that the bar line crosses both the treble and bass staves; this ensures that all voices keep three beats to a measure.

Still at C, press [4] to enter another quarter note. Press [↑] twice to move the cursor up to the pitch of E; press [4] to enter a quarter note. Press [↑] twice more to move the cursor up to the pitch of G; press [4].

Now press [B] for another bar line to mark the end of a measure.

Your composition so far:

Staff #1



Intro phrase

Play back your music: To play back your music and listen to what you've done so far, hold down [Ctrl] and press [P]. Notice that each note lights up as it plays. When composing, you can press [Ctrl]-[P] or [F2] any time you wish to listen to your work in progress.

Dotted Notes

A dot beside a note extends the note's duration by half its value. For example, a half note gets two beats. Adding a dot increases the value of the half note from two beats to three beats.

STAFF #1

Measure 1

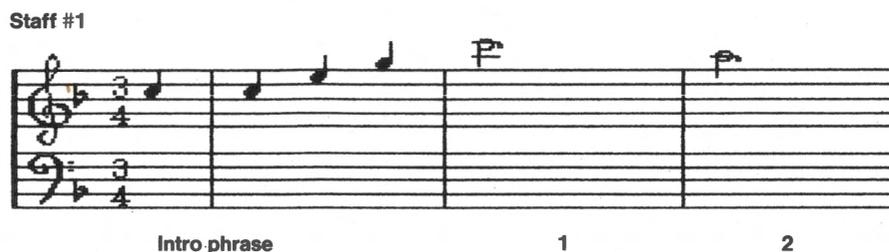
Use [→] to move the cursor across the last bar line of the Intro phrase. Press [↑] three times to move the cursor up to the pitch of C. Then press [.] to tell the computer to make the next note dotted. (The word Dot at the bottom of the screen tells you the next note will be dotted.) Now press [2] to enter a half note.

There are now three beats in the measure; press [B] to add another bar line.

Measure 2 Press [↓] twice to move the cursor down to the pitch of A; press [.] [2] to enter another dotted half note.

You've reached the end of another measure, but—since you're at the end of a staff—you don't need to enter another bar line. The cursor automatically jumps to the beginning of the next treble staff.

Your composition so far:



Rests

Rests indicate silence in music. A rest has a duration value, just as a note does.

STAFF #2

Measure 3 To make voice 1 rest (be silent) for two beats, first press [R] to tell the computer you want to enter a rest. (The word Rest at the bottom of the screen tells you that a rest will be entered next.) Now press [4] to enter a quarter-note rest. Repeat [R] [4] again to enter another rest.

(Notice that you didn't have to first move the cursor anywhere. Rests can be entered anywhere on a staff.)

With the cursor still at A, press [4] to enter a quarter note. Then press [B] to enter another bar line.

Measure 4 Enter three quarter notes: Move the cursor down to F and press [4]; move the cursor up to G and press [4]; move the cursor up again to A and press [4] again. Press [B] to enter a bar line.

Tied Notes

A tie eliminates the little silence between notes.

Measure 5 The next note is a tied, dotted half note. Press [↓] to move the cursor down to G. Press [/] to tell the computer to tie the next note. Then press [.] to indicate a dot. Finally, press [2] for a half note. (On screen, the G has a tail that tells you it's a tied note.)

Your composition so far:

Staff #1

Intro phrase

1

2

Staff #2

3

4

5

Press [Ctrl]-[P] or [F2] to play back and hear the piece so far.

Clearing commands from the computer: If you accidentally press a command such as [.] or [/], clear it from the computer by pressing [Backspace].

Emphasizing Rhythm and Adding Harmony

You've now entered the first five measures of melody using Voice 1. Instead of continuing with the melody, let's go back and emphasize the rhythm and add harmony, using Voice 3.

Press [V] until you see 3 at the bottom of the screen. In this arrangement, Voice 3 emphasizes the 3/4 time by generally playing the first beat of each measure.

Voice 3 also adds harmony to the arrangement by playing notes that blend with and support the music of the other two voices. Voice 3's part is wide-ranging in terms of pitch, so you may want to check art, where suggested, to be sure of entering the correct note.

Voice 3 doesn't play during the Intro phrase; it comes in at measure 1. Use [↑] and [→] to move the cursor to the pitch of F in the bass clef in measure 1, as shown below. Line up the cursor directly below the dotted half note C in Voice 1. Lining up notes as you enter new voices helps keep the score uncluttered and visually appealing.

Stems

Normally in MusicWriter, the stems for Voice 3 point up. However, in this arrangement, the stems for Voice 3 will look better pointing down.

Press [S] to change the direction of the stems from up to down. The stem direction is indicated by the prompt at the bottom right of the screen.

Staff #1

Intro phrase

1

2

STAFF #1 (Make sure you have Voice 3; if not, press [V] to get it. Stem direction should be down; if not, press [S].)

Measure 1 At F, press [4] to enter a quarter note; then move the cursor up to A (see art) and press [2] to enter a half note.

Measure 2 Move the cursor across the bar line and down to C. Press [4]. Move the cursor up to B \flat and press [2].

Staff #1

Musical notation for Staff #1, measures 1-2. The staff is in 3/4 time with a key signature of one flat (B \flat). Measure 1 contains a quarter note on F and a half note on A. Measure 2 contains a quarter note on C and a half note on B \flat . The notation includes a treble clef, a bass clef, and a 3/4 time signature. The notes are marked with 'P' for piano.

STAFF #2

Measure 3 (The cursor should have jumped down to the beginning of the bottom bass clef staff; if not, press [→] to get it there.) Move the cursor down to F (see art). Press [4]. Move the cursor up to A (see art); press [2].

Measure 4 Move the cursor across the bar line and down to A. Press [4]. Move the cursor up to C (see art) and press [2].

Measure 5 Move the cursor across the bar line and down to C. Press [4]. Move the cursor up to E and press [2].

Your composition so far:

Staff #1

Musical notation for Staff #1, measures 1-2. The staff is in 3/4 time with a key signature of one flat (B \flat). Measure 1 contains a quarter note on F and a half note on A. Measure 2 contains a quarter note on C and a half note on B \flat . The notation includes a treble clef, a bass clef, and a 3/4 time signature. The notes are marked with 'P' for piano.

Staff #2

Musical notation for Staff #2, measures 3-5. The staff is in 3/4 time with a key signature of one flat (B \flat). Measure 3 contains a quarter note on F and a half note on A. Measure 4 contains a quarter note on C and a half note on B \flat . Measure 5 contains a quarter note on C and a half note on E. The notation includes a treble clef, a bass clef, and a 3/4 time signature. The notes are marked with 'P' for piano.

Press [Ctrl]-[P] to play the piece from the beginning to hear the melody and rhythm together. It's a good idea to frequently stop and play back a piece while you're composing. This helps you hear how your piece is progressing, or listen for any changes you may wish to make.

Measure 2 Finally, move the cursor to where you want the passage to go: Move the cursor just past the bar line to measure 2.
Press [Enter] to copy the notes and go back to the EDIT MODE screen.

STAFF #2

Measure 3 Press [Control]-[B] again to go back to BLOCK MODE. Then repeat the copy process again to copy measure 2 to measure 3. Then use [→] to move the cursor just past the bar line to measure 4.

Measure 4 With the cursor at A, press [/] [8]. Go down to G and press [/] [8]. Go up to A and press [/] [8]. Go down to F and press [/] [8]. Go up again to A and press [/] [8]. Go up to B \flat and press [8].

Measure 5 Move the cursor across the bar line and down to G. Press [R] [8]. Then press [4]. Go down to F and press [8]. Go down to E and press [4].

Your composition so far:

Staff #1

Intro phrase 1 2

Staff #2

3 4 5

Now that all three voices have been entered, press [Ctrl]-[P] to play back all that you've written. Listen for the blend of melody, harmony, and rhythmic variations.

Scrolling

Note the Staff prompt at the top right of the screen and the number following it. It should say #2 if the cursor was left at the end of Voice 2's part. To continue on, you must scroll to the next, or third, staff.

To scroll down, press [Pg Dn]. Staff #1 moves up and off the screen. Staff #2 moves to the top of the screen, and Staff #3 comes up at the bottom. Notice that the cursor remained in the same place when you scrolled; the prompt now says #3 to indicate at which staff the cursor is located. You can scroll up or down through all 99 staves by pressing [Pg Up] or [Pg Dn].

To rapidly move the cursor: Press [Home] or [End] to "jump" the cursor to the beginning or end of any staff you're on. To "jump" the cursor to the first or last staff of music in a piece, hold down [Ctrl] and press [Home] or [End].

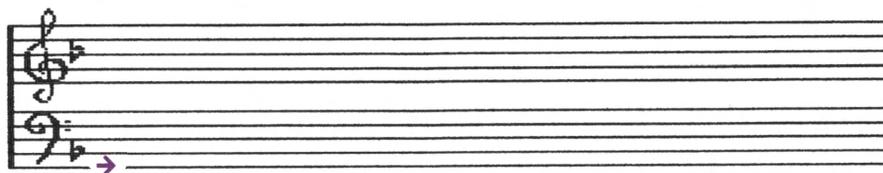
Finishing The Piece

Since you're now familiar with the basics of entering music with MusicWriter, the rest of the Tutorial uses a shorthand method of indicating which notes, rests, etc., to enter. When a new feature comes up, it is fully explained.

Continuing With Voice 3

Let's go on with "Smokey," using Voice 3. Press [V] to get that voice. At the beginning of Staff #3, move the cursor to the pitch of G, as shown below:

Staff #3



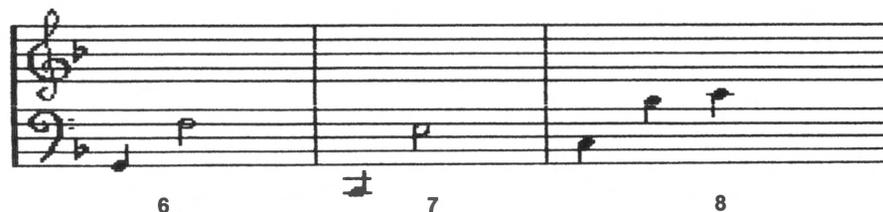
STAFF #3

Measure 6 G [4] – up to F [2] – [B]

Measure 7 Down to C (see art) [4] – up to E (see art) [2] – [B]

Measure 8 Down to C [4] – up to Bb [4] – up to C [4]

Staff #3



Accidentals

Accidentals change the pitch of a note to make it sharp, flat, or natural. A *sharp* makes the pitch half a step higher; a *flat* makes it half a step lower. A *natural* eliminates a sharp or flat. Just as with ties and dots, accidentals must be entered before the note. To enter an accidental, press [N] to make a note a natural; hold down [Shift] and press [#] to make a sharp; and press [F] to make a flat. The prompt at the bottom of the screen indicates what the next note will be.

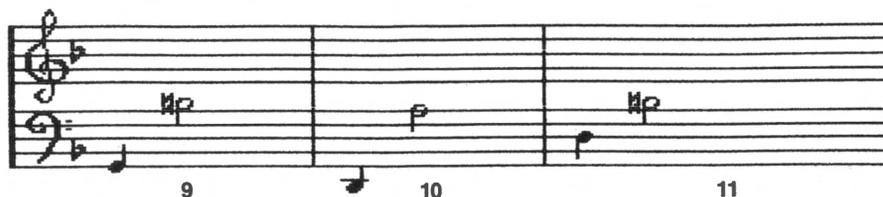
STAFF #4

Measure 9 Down to G (see art) [4]. The next note is a B natural; up to Bb (see art) [N] [2] – [B]

Measure 10 Down to D (see art) [4] – up to A (see art) [2] – [B]

Measure 11 Down to D [4] – up to B [N] [2]

Staff #4



First Ending

Composers often write more than one ending for their music to add variety. “Smokey” has two endings: Its first ending completes a musical phrase and introduces what’s to come, the second ending provides the final flourish to the music.

Measure 12 begins the first ending for “Smokey.”

STAFF #5 Scroll to beginning of staff.

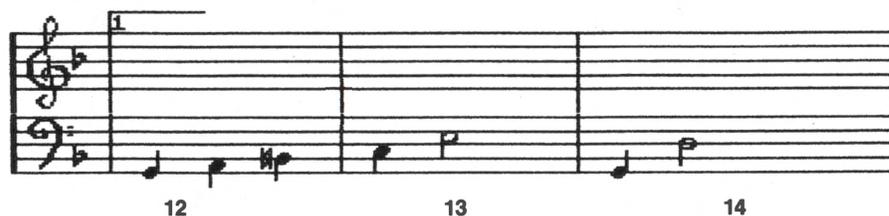
Measure 12 Hold down [Shift] and press [I] to indicate the first ending. (Note the bracket and number 1 above the staff.) Now enter the notes for the first ending:

Down to G (see art) [4] up to A [4] – up to Bb [N] [4] – [B]

Measure 13 Up to C [4] – up to E [2] – [B]

Measure 14 Down to G [4] – up to D [2]

Staff #5



STAFF #6 Scroll to beginning of staff.

Measure 15 Down to C [4] – [R] [4].

The next note is a D flat: up to D [F] [I] [4] – [B]

Measure 16 Down to C [4] – down to G [4] – down to E [4]

Staff #6



Continuing With Voice 1

Now let’s go on with “Smokey” by entering more of the other voices. Let’s start with Voice 1. Press [V] to get it.

Replace error: The bar lines are already in place, so you don’t have to enter them. Be sure to move the cursor over a bar line before entering notes in the next measure. If you try to enter a note on a bar line, you’ll get a REPLACE ERROR message on the screen. If that happens, just move the cursor across the bar line and enter the note. You also get this message if you try to enter two notes in the same voice directly above or below one another.

Scroll to the beginning of Staff #3. Place the cursor at G in measure 6, as shown below:

Staff #3

Musical notation for Staff #3, measures 6-8. The staff is in G major (one sharp) and 4/4 time. Measure 6: Bass clef, G4 quarter note. Measure 7: Bass clef, F4 quarter note. Measure 8: Bass clef, E4 quarter note, G4 quarter note. A red arrow points to the G in measure 6.

STAFF #3 (Make sure you have Voice 1; if not, press [V] to get it.)

Measure 6 G [/] [.] [2]

Measure 7 G [4] – down to F [R] [4] – down to C [4]

Measure 8 C [4] – up to E [4] – up to G [4]

Staff #3

Musical notation for Staff #3, measures 6-8. The staff is in G major (one sharp) and 4/4 time. Measure 6: Bass clef, G4 quarter note (p). Measure 7: Bass clef, F4 quarter note (p). Measure 8: Bass clef, E4 quarter note (p), G4 quarter note (p). A dynamic marking 'd' is above the staff in measure 6.

STAFF #4 Scroll to beginning of staff.

Measure 9 G [.] [2]

Measure 10 Down to D [/] [.] [2]

Measure 11 D [4] – [R] [4] – up to E [4]

Staff #4

Musical notation for Staff #4, measures 9-11. The staff is in G major (one sharp) and 4/4 time. Measure 9: Treble clef, G4 quarter note (mp). Measure 10: Treble clef, D5 quarter note (p). Measure 11: Treble clef, D5 quarter note (mp), E5 quarter note (mp). Dynamic markings 'mp' and 'p' are present.

STAFF #5 Scroll to beginning of staff.

Measure 12 Up to F [4] – down to E [4] – down to D [4]

Measure 13 Down to C [1][.] [2]

Measure 14 C [1][.] [2]

Staff #5

Musical notation for Staff #5, measures 12-14. The staff is in G major (one sharp) and 4/4 time. Measure 12: Treble clef has a quarter note G4, quarter note F4, quarter note E4, quarter note D4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2. Measure 13: Treble clef has a half note C4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2. Measure 14: Treble clef has a half note C4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2.

STAFF #6 Scroll to beginning of staff

Measure 15 C [4] – [R] [4] – down to B [N] [4]

Measure 16 Up to C [4] – up to E [4] – up to G [4]

Staff #6

Musical notation for Staff #6, measures 15-16. The staff is in G major (one sharp) and 4/4 time. Measure 15: Treble clef has a quarter note C4, quarter note B3, quarter note A3, quarter note G3. Bass clef has a quarter note C2, quarter note B1, quarter note A1, quarter note G1. Measure 16: Treble clef has a quarter note C4, quarter note E4, quarter note G4. Bass clef has a quarter note C2, quarter note B1, quarter note A1, quarter note G1.

Continuing With Voice 2

Press [V] to get Voice 2.

Scroll to the beginning of Staff #3. Place the cursor at G in measure 6, as shown below:

Staff #3

Musical notation for Staff #3, measures 6-8. The staff is in G major (one sharp) and 4/4 time. Measure 6: Treble clef has a half note G4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2. Measure 7: Treble clef has a quarter note G4, quarter note F4, quarter note E4, quarter note D4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2. Measure 8: Treble clef has a quarter note G4, quarter note F4, quarter note E4, quarter note D4. Bass clef has a quarter note G2, quarter note F2, quarter note E2, quarter note D2.

STAFF #3

Measure 6 G [R] [8] [4] – down to F [8] – down to E [4]

Measure 7 Up to G [R] [8] [4] – down to F [8] – down to E [4]

Measure 8 E [4] – up to G [4] – up to B \flat [4]

Staff #3

Musical notation for Staff #3, measures 6, 7, and 8. The staff is in G major (one sharp) and 4/4 time. Measure 6: Treble clef has a dotted quarter note G4, followed by eighth notes F4 and E4. Bass clef has a half note G3. Measure 7: Treble clef has a dotted quarter note G4, followed by eighth notes F4 and E4. Bass clef has a half note G3. Measure 8: Treble clef has a dotted quarter note E4, followed by eighth notes G4 and B \flat 4. Bass clef has a half note E3.

STAFF #4 Scroll to beginning of staff.

Measure 9 Down to F [R] [8] [4] – down to E [8] – down to D [4]

Measures 10 and 11 These measures are exact copies of measure 9. Use the BLOCK MODE to duplicate measure 9. (For a review of how to copy passages in BLOCK MODE, see p. 15.)

Staff #4

Musical notation for Staff #4, measures 9, 10, and 11. The staff is in G major (one sharp) and 4/4 time. Measure 9: Treble clef has a dotted quarter note F4, followed by eighth notes E4 and D4. Bass clef has a half note F3. Measure 10: Treble clef has a dotted quarter note F4, followed by eighth notes E4 and D4. Bass clef has a half note F3. Measure 11: Treble clef has a dotted quarter note F4, followed by eighth notes E4 and D4. Bass clef has a half note F3.

Slurs

In this arrangement of “Smokey,” some measures of Voice 2 have slurred notes. MusicWriter has a special SLUR MODE screen. All notes are automatically tied or slurred. This screen is a convenience so you don’t have to press [/] to tie or slur each note. Hold down [Ctrl] and press [S] to get the SLUR MODE screen.

STAFF #5 Scroll to beginning of staff.

Measure 12 At F [8] – down to E [8] – up to F [8] – down to E [8] – up to F [8] – up to G [8]. Press [Esc] to turn off SLUR MODE.

Measure 13 Down to C [8] – up to D [4] – up to E [4] – down to C [8]

Measure 14 Up to F [8] – up to G [4] – up to A [4] – down to F [8]

Staff #5

Musical notation for Staff #5, measures 12, 13, and 14. The staff is in G major (one sharp) and 4/4 time. Measure 12: Treble clef has a dotted quarter note F4, followed by eighth notes E4, F4, E4, F4, G4. Bass clef has a half note F3. Measure 13: Treble clef has a dotted quarter note C4, followed by eighth notes D4, E4, C4. Bass clef has a half note C3. Measure 14: Treble clef has a dotted quarter note F4, followed by eighth notes G4, A4, F4. Bass clef has a half note F3.

STAFF #6 Scroll to beginning of staff.

Measure 15 Down to E [4] – Up to F [R] [4] – up to A [F] [4]

Measure 16 Down to G [4] – down to F [4] – down to D [4].

Staff #6

Musical notation for Staff #6, measures 15 and 16. The staff is in treble clef with a key signature of one flat (Bb). Measure 15 contains a whole note chord of E2, F2, and A2. Measure 16 contains a whole note chord of G2, F2, and D2. The notes are written as whole notes on a grand staff.

The first ending is now complete. Press [Ctrl]-[P] to hear what you've written so far. Now we're ready for the second ending. Let's begin entering it with Voice 1. Press [V] to get Voice 1.

Second Ending

STAFF #6 Move the cursor to the end of measure 16, as shown below:

Staff #6

Musical notation for Staff #6, measures 15 and 16. The staff is in treble clef with a key signature of one flat (Bb). Measure 15 contains a whole note chord of E2, F2, and A2. Measure 16 contains a whole note chord of G2, F2, and D2. A purple arrow points to the end of measure 16.

Measure 17 Hold down [Shift] and press [}] to indicate the second ending. Note the bracket and the number 2 above the staff. (Also note the repeat dots to the left of the bracket, to be discussed later.)

Now enter the notes; place the cursor at F in measure 17, as shown below.

Staff #6

Musical notation for Staff #6, measures 15, 16, and 17. The staff is in treble clef with a key signature of one flat (Bb). Measure 15 contains a whole note chord of E2, F2, and A2. Measure 16 contains a whole note chord of G2, F2, and D2. Measure 17 is empty. A bracket with the number 2 above it spans the end of measure 16 and the beginning of measure 17. A purple arrow points to the beginning of measure 17.

Measure 17 (continued) At F [4] – up to G [4] – up to Bb [N] [4]

Staff #6

Musical notation for Staff #6, measures 15, 16, and 17. The staff is in treble clef with a key signature of one flat (Bb). Measure 15 contains a whole note chord of E2, F2, and A2. Measure 16 contains a whole note chord of G2, F2, and D2. Measure 17 contains a whole note chord of F2, G2, and Bb2. A bracket with the number 2 above it spans the end of measure 16 and the beginning of measure 17. A purple arrow points to the beginning of measure 17.

STAFF #7 Scroll to beginning of staff.

Measure 18 Up to C [/] [.] [2] – [B]

Measure 19 C [/] [.] [2] – [B]

Measure 20 C [4] – down to A [R] [4] – [R] [4] – [B]

Measure 21 Down to C [4]

Staff #7

Musical notation for Staff #7, measures 18-21. The staff is in treble clef with a key signature of one flat (Bb). Measure 18: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter). Measure 19: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter). Measure 20: C4 (quarter), A3 (quarter), R (quarter), C4 (quarter), R (quarter), B3 (quarter). Measure 21: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter).

Voice 1's part for the second ending is now complete. Let's enter Voice 2's part next. Press [V] to get Voice 2. Press [S] to change stem direction to down.

Scroll to the beginning of Staff #6. Move the cursor over to measure 17.

STAFF #6

Measure 17 This measure is an exact copy of measure 12. Move to the first note of Voice 2's part in measure 12 and use BLOCK MODE to copy the notes from measure 12 and enter them in measure 17. (For a review of copying passages, see page 16.)

STAFF #7

Scroll to beginning of staff.

Measure 18 At G [8] – up to A [4] – down to G [4] [8]

Measure 19 Up to A [8] – up to Bb [N] [4] – down to A [4] – up to D [8]

Measure 20 Down to C [4] – down to G [R] [4] – [R] [4]

Measure 21 Down to C [4]

Staff #6

Musical notation for Staff #6, measures 15-17. The staff is in treble clef with a key signature of one flat (Bb). Measure 15: G4 (quarter), A4 (quarter), Bb4 (quarter), A4 (quarter). Measure 16: G4 (quarter), A4 (quarter), Bb4 (quarter), A4 (quarter). Measure 17: G4 (quarter), A4 (quarter), Bb4 (quarter), A4 (quarter).

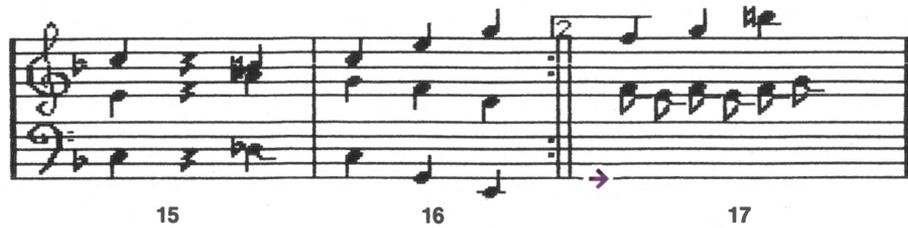
Staff #7

Musical notation for Staff #7, measures 18-21. The staff is in treble clef with a key signature of one flat (Bb). Measure 18: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter). Measure 19: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter). Measure 20: C4 (quarter), A3 (quarter), R (quarter), C4 (quarter), R (quarter), B3 (quarter). Measure 21: C4 (quarter), B3 (quarter), C4 (quarter), B3 (quarter).

Voice 2's part for the second ending is now complete. Let's go on to finish the Voice 3 part. Press [V] to get Voice 3.

Scroll to the beginning of Staff #6. Place the cursor at G in measure 17, as shown below.

Staff #6



STAFF #6

Measure 17 G [4] – down to F [4] – down to D [4]

STAFF #7 Scroll to the beginning of staff.

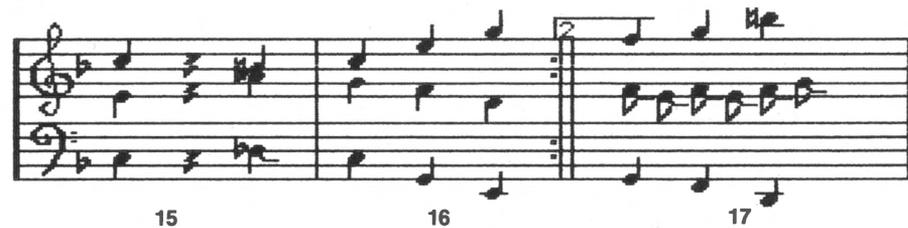
Measure 18 Down to C [8] – up to F (see art) [4] – down to E [4] [8]

Measure 19 Down to C (see art) [8] – up to E (see art) [4] – up to F [4] – up to G [8]

Measure 20 Down to C (see art) [4] – up to G [R] [4] – [R] [4]

Measure 21 Down to C [4]

Staff #6



Staff #7



The second ending for all voices is now complete.

Repeats

One way to extend a passage of music is to play it more than once, or to repeat it. As previously mentioned, different endings add variety to a piece of music so that each time a passage plays, it finishes in a different way.

Note the two little dots to the left of the double bar line at the end of measure 16. These dots tell the computer to repeat some music. We must now tell the computer what to repeat—in this case measures 1 through 11.

Hold down [Ctrl] and press [Home] to scroll to Staff #1.

STAFF #1

Measure 1

Move the cursor over the bar line separating the Intro phrase and measure 1. Press [Spacebar] to erase the bar line. Press [←] to move back one space. Press [] to enter another set of repeat dots. These dots mark the beginning of the music to be repeated.

Press [Ctrl]-[P] to hear the finished arrangement of "On Top of Old Smokey." With the repeat, you hear all 32 measures of music, even though you entered only 21 measures. When the music repeats, 11 measures (measures 1 to 11) are added between the first and second endings.

On Top of Old Smokey

Staff #1

Intro phrase

1

2

Staff #2

3

4

5

Staff #3

6

7

8

Staff #4

9

10

11

Staff #5

12

13

14

Staff #6

Musical notation for Staff #6, measures 15-17. The staff is in G major (one sharp) and 4/4 time. Measure 15: Treble clef has a quarter note G4, a quarter note A4, and a quarter note B4; Bass clef has a quarter note G2, a quarter note A2, and a quarter note B2. Measure 16: Treble clef has a quarter note C5, a quarter note B4, and a quarter note A4; Bass clef has a quarter note C3, a quarter note B2, and a quarter note A2. Measure 17: Treble clef has a quarter note G4, a quarter note A4, and a quarter note B4; Bass clef has a quarter note G2, a quarter note A2, and a quarter note B2. A repeat sign is present at the end of measure 16.

Staff #7

Musical notation for Staff #7, measures 18-21. The staff is in G major (one sharp) and 4/4 time. Measure 18: Treble clef has a quarter note G4, a quarter note A4, and a quarter note B4; Bass clef has a quarter note G2, a quarter note A2, and a quarter note B2. Measure 19: Treble clef has a quarter note C5, a quarter note B4, and a quarter note A4; Bass clef has a quarter note C3, a quarter note B2, and a quarter note A2. Measure 20: Treble clef has a quarter note G4, a quarter note A4, and a quarter note B4; Bass clef has a quarter note G2, a quarter note A2, and a quarter note B2. Measure 21: Treble clef has a quarter note G4, a quarter note A4, and a quarter note B4; Bass clef has a quarter note G2, a quarter note A2, and a quarter note B2.

Other Possibilities

Going step-by-step through this arrangement of “On Top of Old Smokey” introduced you to many—but by no means all—of MusicWriter’s features. You can, for example, change tempo or articulation; you can add dynamics to different voices.

Those of you with PC’s may add parts for Voices 4, 5, and 6. And you may want to experiment using the Drums option to add percussion to the arrangements.

Each feature of MusicWriter is explained in the MusicWriter’s Functions section of this manual. To continue exploring MusicWriter, you may want to read that section. Or maybe you’d rather experiment with “Smokey” by changing it to see how it sounds. You can also experiment with a favorite song by trying different arrangements. Or you can jump right in and compose some music of your own.



Music Fundamentals

This section gives a brief overview of some music fundamentals, and explains how to use MusicWriter to practice them. These are the fundamentals of music which are reviewed:

- Sound, or pitch
- Notes and rests
- Measures
- Tempo
- Melody, harmony, and rhythm

To practice these music basics, and to familiarize yourself with the program, load MusicWriter into your computer (see page 7 for instructions) so that you can follow along with the manual.

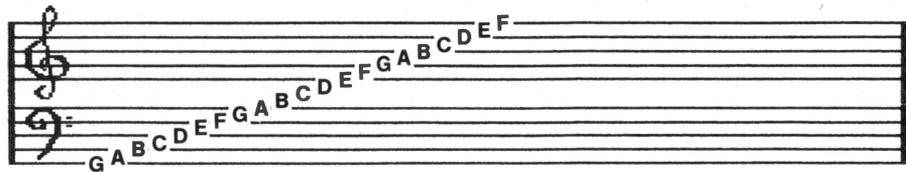
After the program is loaded, the first screen displays the main menu screen. This menu leads to all of MusicWriter's functions. For now, use [↑] or [↓] to highlight NEW PIECE on the menu. You choose NEW PIECE to start a new piece of music.

The first on-screen prompt says:

**Music Memory will be erased
OK to proceed? (Y/N)**

Since you're just getting started, no music is in the computer's memory, so go ahead and press [Y]. This takes you to the KEY SELECTION screen. Make sure that the first key—the key of C—is highlighted and press [Enter] to select it. (If it's not, use [↑] or [↓] to move the highlighter to C.)

Pressing [Enter] selects the key of C and takes you to the EDIT MODE screen. This screen shows two grand staves, where you write your music. Staff #1 is at the top; Staff #2 is below it. MusicWriter has 99 grand staves in all. Each line and space on a staff represents a different sound, or pitch, going from the lowest to the highest—or vice versa. Each pitch has a letter name, shown below on the diagram.



The cursor [→] is located at the upper left of the screen. It moves around on the staves with the arrow keys—[↑], [↓], [←] and [→]. Also at the top of the screen is the Pitch prompt, followed by the letter name of the pitch where the cursor is located.

Move the cursor up and down the staves with [↑] and [↓]. Notice that as the cursor moves, the Pitch prompt changes.

To hear the pitch where the cursor is located, press [P].

Notes

MusicWriter offers six basic notes, shown below. With the cursor and the computer keyboard, you place notes on the staves to compose music.

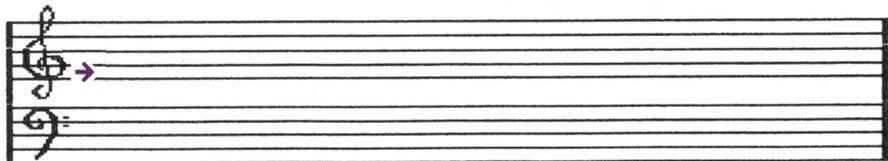
Note		Key to Press
Whole note		[1]
Half note		[2]
Quarter note		[4]
Eighth note		[8]
Sixteenth note		[6]
Thirty-second note		[3]

PC users only: The basic notes for snare and cymbal are entered with the same keypresses, but appear somewhat different than the standard notes shown here. See Drums, p. 13 for examples.

Note Length: Each note has a certain length, or value in time. Another way of saying this is that each note gets a certain number of beats, or counts. For example, consider the beat of your heart when you're sitting resting in a chair. A quarter note is one beat. A half note is two beats; it's twice as long as a quarter note. A whole note is four beats; it's four times as long as a quarter note. An eighth note is only half a beat; it's half as long as a quarter note. Sixteenth and thirty-second notes are further subdivisions of quarter notes.

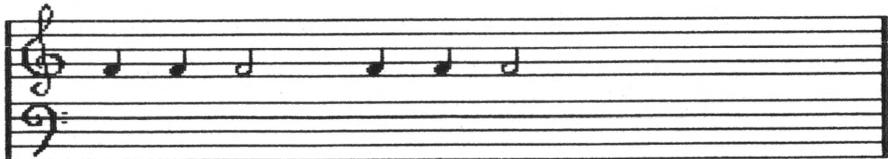
Move the cursor by pressing [↓] or [↑] to the pitch of F, as shown below.

Staff #1



Enter two quarter notes by pressing [4] twice, and one half note by pressing [2]. Then repeat this—press [4], [4], and [2] again. (If you make a mistake, move the cursor back to point its tip directly at the note and press [Spacebar] to erase the note. Then move the cursor again and enter the correct note.)

Staff #1



Hold down [Ctrl] and press [P], or press [F2], to play back the notes. As you can hear, a half note is twice as long as a quarter note.

Measures

Music is divided into regular units of time, called measures. Each measure in a piece of music contains the same number of beats, or counts. The total amount of beats or counts in the measures is indicated by a Time Signature, which usually appears at the beginning of a piece.

A Time Signature has two numbers, one above the other, for example.

$\frac{3}{4}$, $\frac{4}{4}$, $\frac{6}{8}$, and so forth

In $\frac{3}{4}$ time, each measure has three beats, and a quarter note counts as one beat. In $\frac{4}{4}$ time each measure has four beats, and a quarter note counts as one beat. In $\frac{6}{8}$ time each measure has six beats, and an eighth note counts as one beat. No matter what the Time Signature, the top number tells how many beats and the bottom number tells what kind of note counts as one beat.

Although all the measures in a piece of music contain the same total number of beats, this doesn't mean they all have exactly the same notes. For example, a measure in $\frac{4}{4}$ time can be made up of the following notes.

1 whole note		= 1 measure
2 half notes		= 1 measure
4 quarter notes		= 1 measure
8 eighth notes		= 1 measure

As you can see, the whole note gets four beats—it would fill a whole measure. Each eighth note gets only half a beat—it takes eight of them to fill a measure.

Many different combinations of notes can fill a measure in $\frac{4}{4}$ time, as long as the total count is four. For example, a measure can be made up of one half note, one quarter note, and two eighth notes.

Bar lines: Bar lines divide music into measures. To put a bar line on the screen, you press [B].

To practice writing measures in $\frac{4}{4}$ time with different combinations of notes, enter the three measures shown below. To start fresh, however, erase the first six notes you previously entered: Press [Spacebar] to point the cursor at each note and erase it. Then press [←] to move the cursor back to the beginning of the staff. Enter these notes:

Since you are about to write in $\frac{4}{4}$ time, it's a good idea to enter your Time Signature. Hold down [Ctrl] and press [T] to go to TIME MODE. Use [↑] or [↓] to highlight Enter Time Signature; press [Enter] to select it. Mark the position for the Time Signature (at the beginning of the staff) by pressing [Enter] once more. Use [↑] or [↓] to highlight $\frac{4}{4}$ and press [Enter] to select it. You'll automatically return to EDIT MODE, where the $\frac{4}{4}$ signature will be in place.

Back in EDIT MODE, enter these notes:

Staff #1



Hold down [Ctrl] and press [P] or press [F2] to play back the notes. Follow the four beats in each measure.

Rests

Music contains silence as well as sound. The silences, called rests, have time value, just as notes do. To put a rest between notes, you press [R] and then its value. To enter a quarter-note rest, for example, you press [R] and then [4].

To hear what rests sound like in music, enter the following two measures: (To start fresh, first use [←] to move the cursor back to point at the first note. Press [Spacebar] to erase the notes and bar lines. Then use [←] again to move the cursor back to the beginning of the staff. The measures you're about to write are in 4/4 time, so there's no need to change the Time Signature.)

Measure 1 Press [4] to enter a quarter note. Press [R] [4] to enter a quarter-note rest. Press [4]; press [R] [4]. Press [B] for bar line.

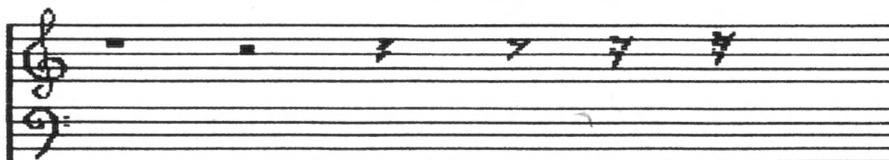
Measure 2 Press [4] twice. Press [R] [4]. Press [4].

Staff #1



Hold down [Ctrl] and press [P] or press [F2] to hear what the notes and rests sound like together.

The diagram below shows what some other rests look like on the screen.



whole half quarter eighth sixteenth 32nd

Tempo

Tempo is the term for how fast or slow a piece of music plays. The beats can be fast or slow—just as your heart beats faster when you run up a flight of stairs than when you're walking at a leisurely pace. Whether the tempo is fast or slow, however, the lengths of the notes and rests stay the same in relation to each other. If there are four beats per measure—whatever the tempo—a whole note gets four beats and a quarter note gets one beat.

To experiment with different tempos, you can press [F] (fast) or [S] (slow) when the music is playing.

Melody, Harmony, and Rhythm

MusicWriter offers six voices for composing music on the PC, and three voices for composing on the PCjr.

To cycle through all the voices, press [V]. Notice that the numbers of the voices appear next to the voice prompt at the bottom of the screen.

So far, you've written notes for only one voice. Music is often a blend of voices that create melody, harmony, and rhythm.

Melody: When someone asks, "Do you know the tune?", they usually mean "Do you know the melody?" The melody is generally the most distinctive voice in music—it may play the loudest, be pitched the highest, and so on.

Harmony: Harmony consists of notes that blend with the melody to fill out the overall sound. Harmony parts are often pitched lower than the melody.

Rhythm: A low-pitched voice is often used to emphasize the rhythm, or beat, of a piece of music.

In the following three measures, Voice 1 has the melody part; Voice 2 provides harmony, and Voice 3 emphasizes the rhythm. To hear how the three voices sound together, enter the notes in the sample composition below. (To start fresh, first move the cursor to point at the first note. Press [Spacebar] to erase the notes and bar lines. Press [←] to move the cursor back to the beginning of the staff. The sample composition is in 4/4 time, so there is no need to change the Time Signature.)

Make sure the Voice prompt says 1. (If it doesn't, press [V] until it does.) Press [↑] to move the cursor up to the pitch of C.

Melody (Voice 1)

Measure 1 At C, press [4]. Press [↑] to go up to E; press [4]. Press [↑] to go up to G; press [2]. Press [B] for a bar line.

Measure 2 Press [↑] to go up to A; press [8]. Press [↓] to go down to G; press [8]. Press [↓] to go down to F; press [8]. Press [↓] to go down to E; press [8]. Press [↓] to go down to D; press [4]. Press [↓] to go down to B; press [4]. Press [B] for a bar line.

Measure 3 Press [↑] to go up to C; press [1].

Press [Ctrl]-[P] or [F2] to hear the melody.

Staff #1



1

2

3

Harmony (Voice 2)

Measure 1 Press [V] to change to Voice 2.

Use the arrow keys to move the cursor to G on Staff #1. Line up its tip with the quarter note above, as shown below:

Staff #1

1 2 3

At G, press [8]. Press [↓] to go down to F; press [8]. Press [↓] to go down to E; press [8]. Press [↓] to go down to D; press [8]. Press [↓] to go down to C; press [8]. Press [↑] to go up to B; press [8]. Press [↓] to go down to A; press [8]. Press [↓] to go down to G; press [8].

Measure 2 Press [→] to move the cursor across the bar line, lining it up with the eighth note above. Press [↓] to go down to F; press [4] twice. Press [↑] to go up to G; press [8]. Press [↑] to go up to A; press [8]. Press [↓] to go down to G; press [8]. Press [↓] to go down to F; press [8].

Measure 3 Press [→] to move the cursor across the bar line, lining it up with the whole note above. Press [↓] to go down to E; press [1].

Staff #1

1 2 3

Press [Ctrl]-[P] or [F2] to hear Voices 1 and 2 together.

Rhythm (Voice 3)

Measure 1 Press [V] to change to Voice 3.

Use the arrow keys to move the cursor to C on the bass clef staff, as shown below:

Staff #1

1 2 3

At C, press [4] twice. Press [↓] to go down to A; press [4] twice.

Measure 2 Press [→] to move the cursor across the bar line, lining it up with the notes above. Press [↑] to go up to D; press [4] twice. Press [↓] to go down to G; press [4] twice.

Measure 3 Press [→] to move the cursor across the bar line, lining it up with the whole note above. Press [↑] to go up to C; press [1].



Press [Ctrl]-[P] or [F2] to play the music and hear the blend of melody, harmony, and rhythm.

This section very briefly described just a few of the fundamentals of music and how to use MusicWriter to compose. To further explore composing music, turn to the Tutorial, beginning on page 29. If you want a straightforward description of all of MusicWriter's features, turn to MusicWriter's Functions, beginning on page 9.



Advanced Techniques

After you become familiar with MusicWriter, and are comfortable using the program, you may want to explore some of the more technical considerations of composing music with the computer.

Timing

Music is very dependent on timing, and you'll want to write your music so that the computer interferes as little as possible with the timing in your composition. You should therefore keep these important considerations in mind:

- The computer generates its own special bar line at the end of a staff, so there's no need to enter your own bar line to close off the last measure in a staff. The computer-generated bar line at the end of a staff doesn't, however, synchronize all the voices. It's therefore essential that all voices have the same number of beats in the last measure on a staff.
- This isn't a fixed rule, but if you're having timing problems, you may want to place repeats, endings, and key signatures at the beginning of a new staff, rather than at the end of a staff.

Note Placement

Music should not only sound good, it should look good as well. Although MusicWriter's cursor moves automatically to the right in proportion to the time value of the note entered, you can place the cursor anywhere you want to on a staff. Here are some tips for making your music visually more attractive:

- Whenever notes play simultaneously, it's a good idea to line them up vertically. This is particularly important if you want to print out a score of your music to play from.
- You can squeeze notes together or spread them out as needed to make the score uncluttered and easy to read.
- Stem direction can be changed as needed to increase visual clarity.
- Rests can be placed where they don't interfere with the notes of the other voices.

Appendix A: PC/PCjr Differences

IBM PC

Six voices for composing music.
Drums option (snare and cymbal) available.
Music files extension is **BSM**.

IBM PCjr

Three voices for composing music.
No Drums option.
Notes sound up an octave.
Music files extension is **BSJ**.

Transferring Files from PC to PCjr and Vice Versa

Music files created on a PC cannot be directly loaded into a PCjr, nor can music files created on a PCjr be directly loaded into a PC. If you want to transfer music files across machines, follow these steps:

(You will need to know the exact title and extension of the music files you want to transfer—you can use the DIR function to see the title and extension if you need to.)

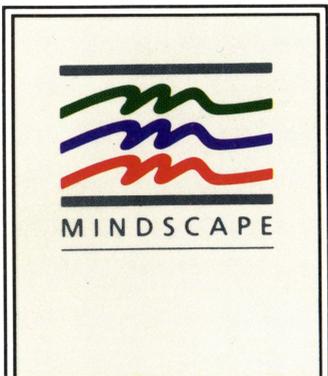
1. Choose DOS FUNCTIONS on the MusicWriter main menu.
2. Insert the disk with the music files you want to transfer into the disk drive.
3. From the DOS **A>** prompt, type:

rename title.BSM title.BSJ (PC to PCjr)

or

rename title.BSJ title.BSM (PCjr to PC)

Details of entering DOS FUNCTIONS and using the DIR function are given on pp. 24, and 25 in this manual.



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