

## **Music Draw**

Version 1.1.s  
Shareware Version

[Warranty / License \(please read\)](#)  
[Shareware Registration \(please read\)](#)  
[Equipment Needed To Run Music Draw](#)  
[Introduction / Purpose of Software](#)  
[What This Shareware Document Does Not Cover](#)

### **Basic Music Draw Operation**

[Music Draw Window Area](#)  
[Entering a NoteGroup](#)  
[Playing What You See \(View\)](#)  
[Moving A Note Group](#)  
[Moving From One Measure To Another](#)  
[Playing the Whole Song](#)  
[Changing the Playback Speed of the Song](#)  
[Playback While Editing](#)

### **Playing Different Instruments**

[Entering NoteGroups for a Different Instrument \(Channel\)](#)  
[Selecting A Different Channel](#)  
[Viewing NoteGroups On Other Channels](#)  
[Changing the Instrument Of A Channel](#)  
[Selecting Which Channels are Played Back](#)

### **Drum Note Channel (View)**

[Drum Channel Description](#)  
[Entering a NoteGroup In the Drum View](#)  
[Moving A Note Group In the Drum View](#)  
[Changing the Drum Set](#)

### **Changing How The Song Sounds**

[Changing the Key of the Song](#)  
[The Key and Music Draw Operation \(Technical\)](#)  
[Changing the Tone Color Of the Song](#)

### **Advanced Editing**

[Editing Basics](#)  
[Selecting One NoteGroup](#)  
[Selecting Multiple NoteGroups](#)  
[Adding to the NoteGroup Selection](#)  
[Deselecting All NoteGroups](#)  
[Editing Across Channels](#)  
[Selecting Range of NoteGroups Across Channels](#)  
[Stretching Length of NoteGroups](#)  
[Stretching Time of NoteGroups](#)  
[Changing NoteGroup Properties](#)  
[Changing NoteGroup Properties \(GROUP selection\)](#)

### **More Features / Functions**

[Grid Lines Selection](#)  
[Entering Multiple NoteGroups](#)

[Show MIDI Notes](#)  
[Insert / Delete Measures](#)  
[Measure Markers](#)  
[Cut / Copy / Paste / Delete](#)  
[File Operations](#)  
[Advanced Preferences](#)

## **Objects Beyond NoteGroups**

[Object Introduction](#)  
[Entering Objects](#)  
[Editing Objects](#)  
[Editing Object Attributes](#)  
[Pitch Bend Attributes](#)  
[Program Change Attributes](#)  
[Controller Attributes](#)  
[Custom Group Attributes](#)

## **User Defined NoteGroups / Custom NoteGroups**

[Custom Group Object vs. User Defined Group Attribute](#)  
[Changing a USER group definition](#)  
[PLAY AS DEFINED action](#)  
[Custom Group Attributes \(part II\)](#)

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## **Warranty / License**

**The Music Draw software and documentation package is provided on an AS-IS basis for use with NO guarantee or warranty of proper operation. You, the user of Music Draw, assume ALL risks of damages and results upon installing and using Music Draw. Installation or usage of this product constitutes your acceptance of all terms and conditions for Music Draw.**

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**Look, BunkCo is NOT responsible for anything. If you do not or cannot accept all terms and conditions specified, please REMOVE Music Draw from your computer RIGHT NOW (for either the shareware version or the registered version) and consult where you purchased Music Draw (registered version only) for a refund.**

You can install **one registered** copy of Music Draw on **one** computer (CPU) only. You **cannot** rent, loan, lease, or transfer the **registered copy** to any other machine or person. The only exceptions for one registered copy per CPU are copying the software for personal archival purposes or when the transfer to another person is permanent and that person agrees to all terms and conditions specified for Music Draw.

## Shareware Registration

If you like Music Draw, please send \$39 within two (2) weeks of the first time you use Music Draw. US residents add \$3 for shipping. Non-US residents add \$10 for shipping. CA residents add %7.25 to the total for sales tax. Include the following information with the money:

- o Name
- o Mailing Address
- o Computer Equipment / Sound Board (optional)
- o Music Equipment (optional)

Send check (not cash) to:

John Bunk  
1675 E. Rowland Avenue  
Camarillo, CA 93010

With the registration, you will acknowledge the need for additional support for the product. With registration, you will receive:

- o A version of Music Draw which does not beg to be registered,
- o any information I know about Windows multimedia, information about any bug-fix / enhancement upgrades,
- o a CompuServe E-mail address for bug reports, and
- o a purchase discount for any future versions of Music Draw.

I feel using the product before buying is much better than what I've been through. I can't tell you how much money I've spent on MIDI software which had great reviews by magazines and personal recommendations. Virtually all of my software has been given away because the product didn't fit my needs. And why spend \$100-400 on software you're not going to use professionally?

Depending upon the level of support, **POSSIBLE** future enhancements may include:

- o Integrated Sys-ex editor (installed as a DLL)
- o make Music Draw more object oriented
- o a better on-line user guide (this guide minimally covers all topics)
- o paper version of this guide
- o user defined scales, keys, etc.
- o more ways to define NoteGroups
- o Share MIDI data via RIFF files / clipboard

o ???

Future additions depend upon how much time our new baby will let my wife and I have!  
By the way, I dedicate this program to my soon to be born Jason or Megan!

## **Equipment Needed to Run Music Draw**

To run Music Draw, you will need (minimum):

- GS Standard MIDI Synthesizer
- MIDI I/O Board (could be combined with synthesizer)
- Windows 3.1 with drivers for MIDI I/O Board
- Minimum of 2 Mbyte of RAM
- Color VGA display
- Mouse (2 Button minimum)

Windows 3.1 must be configured as follows:

- MIDI driver for I/O is installed and working
- "MIDI Mapper" is installed and configured for GS Synthesizer
- have the following fonts installed (default Windows 3.1)
- MS Sans Serif
- Arial

Music Draw is designed for the Roland SCC-1 GS Sound Card, which sounds great and integrates a MIDI I/O card with the sound board as well.

## **Introduction / Purpose of Software**

Music Draw is an object oriented music creation software package. It tries to simplify editing music on a computer by packaging MIDI data as objects and by mapping MIDI data whenever possible. Object packages let you modify MIDI data in a convenient manner.

MIDI notes are packaged as NoteGroup objects. NoteGroups map grid positions to MIDI notes, and attach velocity, time, etc. to the played MIDI notes. Unlike chords in music theory, NoteGroups keep each MIDI note in the group a fixed half step away from a root note, yet the root note can be changed. Other MIDI data, such as pitch bends, program changes, controller data, etc. can be entered as object packages.

The purpose of this software is to create a musically correct song with all GS MIDI facilities available and with minimum computer editing or minimum knowledge of music theory. This program is not a sequencer, is not a music scoring program, and barely conforms to classic music theory thinking. Trying to fit music theory, music scoring, or sequencer concepts into this program is not what Music Draw is about.

## **What This Shareware Document Does Not Cover**

For now, this document does not cover how to install or configure your GS MIDI synthesizer (or sound board), your MIDI interface (if not integrated with a sound board), or Windows 3.1 Multimedia drivers. For the shareware version, I assume this has already been accomplished.

Furthermore, I will not explain any Windows 3.1 concepts, such as Windows operations, multimedia "general" and "extended" MIDI devices, or the multimedia MIDI mapper in this document. An enhancement of this manual would be to include a discussion of MIDI topics relevant to Music Draw.

I will also not cover file operations here. Music Draw file operations are straightforward standard Windows operations. A obvious update of this manual would be to include a description of file and copy/paste operations for reference.



## Basic Music Draw Operation

### The Music Draw Window Area

After opening the Music Draw program and removing the registration window, some windows will appear as shown below:

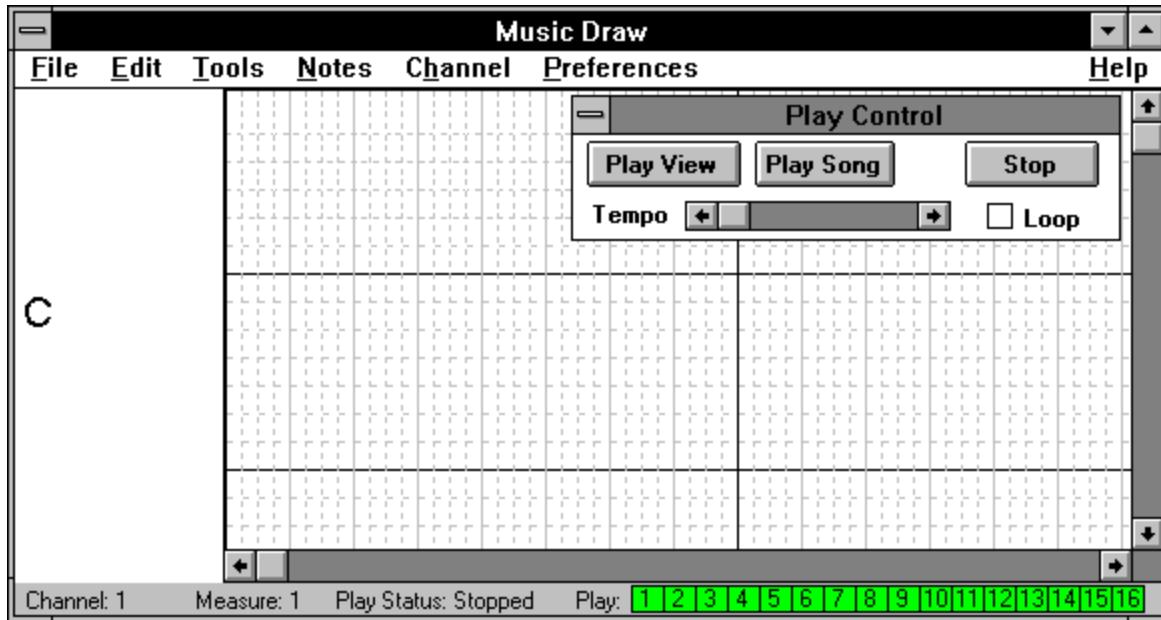


Figure: Music Draw Windows

The grid in the middle is where we will enter the song. This area is known as the NoteGroup View. Gray vertical lines are used as guides to enter notes in time. Black vertical lines are used to separate blocks (measures) of notes. Horizontal gray lines outline note (pitch) values. Notes shown higher in the window play back higher pitch values. Music Draw plays NoteGroups from left to right in the NoteGroup View. Where each NoteGroup is horizontally relative to other NoteGroups defines the rhythm of the song. Where each NoteGroup is vertically relative to other NoteGroups defines the melody of the song.

The area just to the left of the NoteGroup View is where various song parameters will be displayed. More on this later. This area is known as the View Attribute Area.

Below this area is the status bar. This area shows various song parameters which will be discussed in detail later.

A smaller window in the NoteGroup View is the Play Control Window. The controls in this window control how your song will be played. You can either play the whole song, the part of the song currently viewed in the NoteGroup View, stop playing, play whatever you selected over and over, and how fast the song is played back (tempo.)

The rest of the window is standard Windows user interface items.

## Entering a NoteGroup

A NoteGroup is a group of MIDI notes played back at the time specified where the left and right side of the rectangle (in clock ticks) fall in the view. NoteGroups more to the right of a NoteGroup will be played later.

A NoteGroup is also a collection of notes with something in common. All notes in a NoteGroup have the same MIDI velocity, played back at the same time, and each MIDI note is so many half-steps from another in the NoteGroup. A more detailed discussion of NoteGroup attributes will be available later. For now, all NoteGroups will have one MIDI note.

To enter a NoteGroup:

1. Move the mouse cursor to where you want the NoteGroup to start
2. While holding down the LEFT mouse button, drag the mouse cursor to the right. You should see a rectangle forming underneath the mouse cursor
3. After positioning the mouse to where you want the NoteGroup to stop, release the mouse button. A solid gray rectangle should appear. This is a NoteGroup.
4. Repeat 1 through 3 as often as you like

As an example, enter three (3) NoteGroups as shown below.

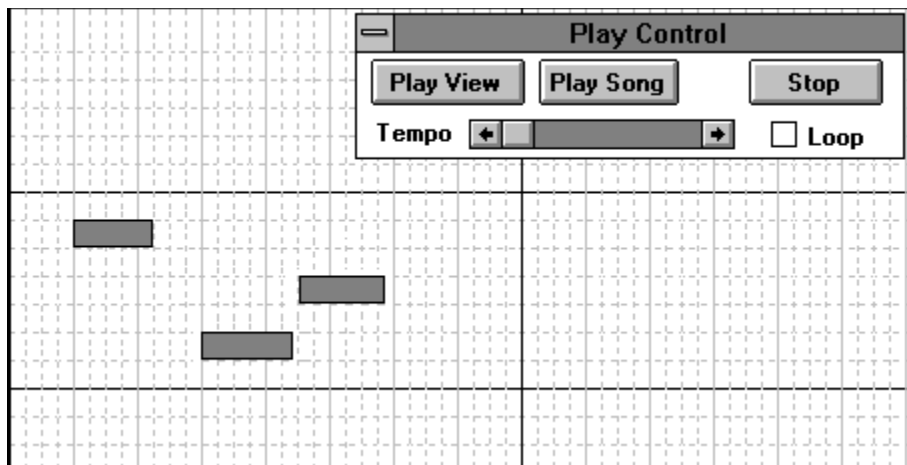


Figure: Three (3) NoteGroups In the View

### **Playing What You See (View)**

If you've entered some NoteGroups, you can hear how they sound immediately. To hear what you view in the window:

1. Viewing the PLAY CONTROL window, press the PLAY VIEW button
2. You should hear the NoteGroups you've entered. If not, maximize the window and repeat step 1
3. Music Draw automatically stops playback

#### **NOTE:**

1. Play View means play back all FULLY visible measures. If you do not hear anything, Music Draw may not be showing a full measure. Maximizing the Music Draw window should fix this.
2. The Play Status indicator changes from STOPPED to PLAYING and back to STOPPED
3. If you do not see the PLAY CONTROL window, select the PLAY... menu item from the TOOLS menu

### **Moving A Note Group**

Music draw plays NoteGroups from left to right in the NoteGroup View. Where each note group is horizontally relative to other NoteGroups defines the rhythm of the song. Where each NoteGroup is vertically relative to other NoteGroups defines the melody of the song. If you do not like the current rhythm or melody of the song, you can move NoteGroups in the View area.

To move a NoteGroup:

1. Move the mouse cursor over the NoteGroup to move and press the RIGHT mouse button. The NoteGroup should be surrounded by a dotted red and white rectangle.
2. Move the mouse cursor over the same NoteGroup again. Do not position the cursor on the right edge of the NoteGroup (more on this later.)
3. While holding down the RIGHT mouse button, drag the NoteGroup either vertically (to change pitch) or horizontally (to change when it's played back.)

Moving more than one NoteGroup at a time will be discussed later. You can play the song back immediately to hear the changes made to the song.

**Moving From One Measure To Another**

You can only view one to four measures (depending upon what video system you're using) at a time. A Music Draw song can have 101 measures. To enter, edit, or view NoteGroups in other measures, use the scroll bar below the NoteGroup area to move to another measure. After you use the scroll bar, the status bar will show which measure at the left of the NoteGroup View is currently shown.

### **Playing the Whole Song**

After entering NoteGroups throughout various measures, you can hear how the whole song sounds from beginning to end. To hear what you view in the window:

1. Viewing the PLAY CONTROL window, press the PLAY SONG button
2. You should hear the NoteGroups you've entered.
3. Press the STOP button to stop playback (Music Draw continues until it reaches the 101st measure.)

#### **NOTE:**

1. The Play Status indicator changes from STOPPED to PLAYING while playback
2. If you do not see the PLAY CONTROL window, select the PLAY... menu item from the TOOLS menu

**Changing the Playback Speed of the Song**

At any time, you can change the playback speed of the song (tempo) by adjusting the TEMPO scroll bar in the PLAY CONTROL window.

At this time, a display which shows the tempo numerically is not available. Just listen to the song to determine the proper speed of the song.

### **Playback While Editing**

While you are entering or editing NoteGroups, Music Draw can play back the currently viewed area at the same time. By doing this, you can instantly hear changes made to your song. To let Music Draw constantly play back the song:

1. Select the LOOP checkbox in the PLAY CONTROL window.
2. Press the PLAY VIEW button in the window. You should now hear the play back of the song.
3. Enter or edit the song. You should hear changes to the song immediately
4. To stop play, either press the STOP button in the PLAY CONTROL window or deselect the LOOP checkbox

### **NOTE:**

1. If you do not see the PLAY CONTROL window, select the PLAY... menu item from the TOOLS menu
2. As of version 1.0.s, playback may have some glitches. Large amounts of registration support will give me motivation and money (tools) to fix this annoying glitch.



## Playing Different Instruments

### Entering NoteGroups for a Different Instrument (Channel)

If you've followed "Basic Music Draw Operation" step by step, you should hear only one instrument playing back the NoteGroups you've entered. Obviously, you'll probably want to enter NoteGroups for other instruments as well.

MIDI and Music Draw handle multiple instrument playback by assigning a "channel" to each NoteGroup. Music Draw assigns channels to a NoteGroup automatically when you enter them in the View. The status bar shows which channel is associated with the NoteGroups you are editing or entering. Music Draw assigns an instrument for each channel.

The "process" (grossly simplified) of building MIDI notes at playback goes something like below. This process is repeated for all NoteGroups on all channels.

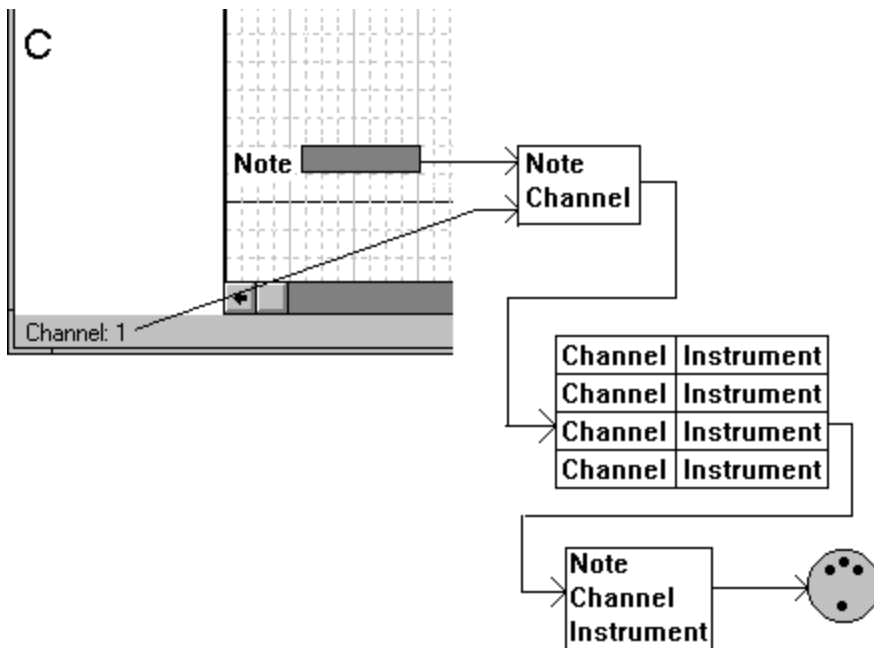


Figure: How NoteGroups Turn Into MIDI Notes

### **Selecting A Different Channel**

To edit or enter NoteGroups on a different channel, perform the following:

1. Select the CHANNEL menu
2. Select the EDIT menu item
3. Select the channel you want to edit. **NOTE:** channel 10 is a "drum" channel and will be discussed shortly. EDIT ALL is a special edit mode and will be discussed later.

### Viewing NoteGroups On Other Channels

When you enter NoteGroups on one channel, and have already entered NoteGroups on another channel but the same visible measure, you will see those NoteGroups as magenta rectangles (as shown below.) They will always be "behind" the currently edited NoteGroup channel.

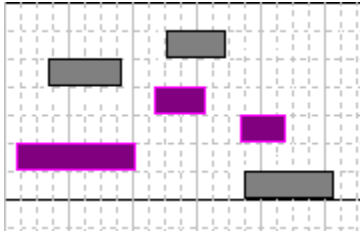


Figure: Foreground and Background NoteGroups

If you do not want to view NoteGroups on other channels, perform the following:

1. Select the PREFERENCES menu
2. Select the SHOW OTHER CHANNELS menu item
3. The NoteGroups from other channels should disappear. Perform steps 1 and 2 again to restore viewing other NoteGroups

**NOTE:** A checkmark besides the SHOW OTHER CHANNELS menu item indicates other NoteGroups should be present if there.

### **Changing the Instrument Of A Channel**

To change the playback instrument for a given channel:

1. Select CHANNEL menu
2. Select INSTRUMENT... menu item. You should see the INSTRUMENT SELECT dialog box
3. Choose the channel in the CHANNEL combo box
4. Choose the instrument played through the selected channel from the INSTRUMENT combo box
5. The GS BANK combo box will not be discussed in this shareware document. But you can still try it to see what it does!
6. Press the OK button

### Selecting Which Channels are Played Back

You may only want to hear only some channels on playback for editing purposes. To select which channels will be heard:

1. Select the CHANNEL menu
2. Select the PLAYBACK... menu item. A PLAYBACK CHANNELS dialog box should appear.
3. Select the channels by clicking on the checkbox or by pressing the RESET ALL or SET ALL buttons
4. Press the OK button

The status bar shows which channels are currently being played back. The green numbers are active channels and the dark gray numbers are inactive channels. In the example below, channels 1, 2, 3, 6, and 10 will be played back.

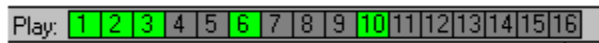


Figure: Typical Channel Playback Display

## Drum Note Channel (View)

### Drum Channel Description

For channel 10, the window and NoteGroups are different. This channel is designated as the drum channel.

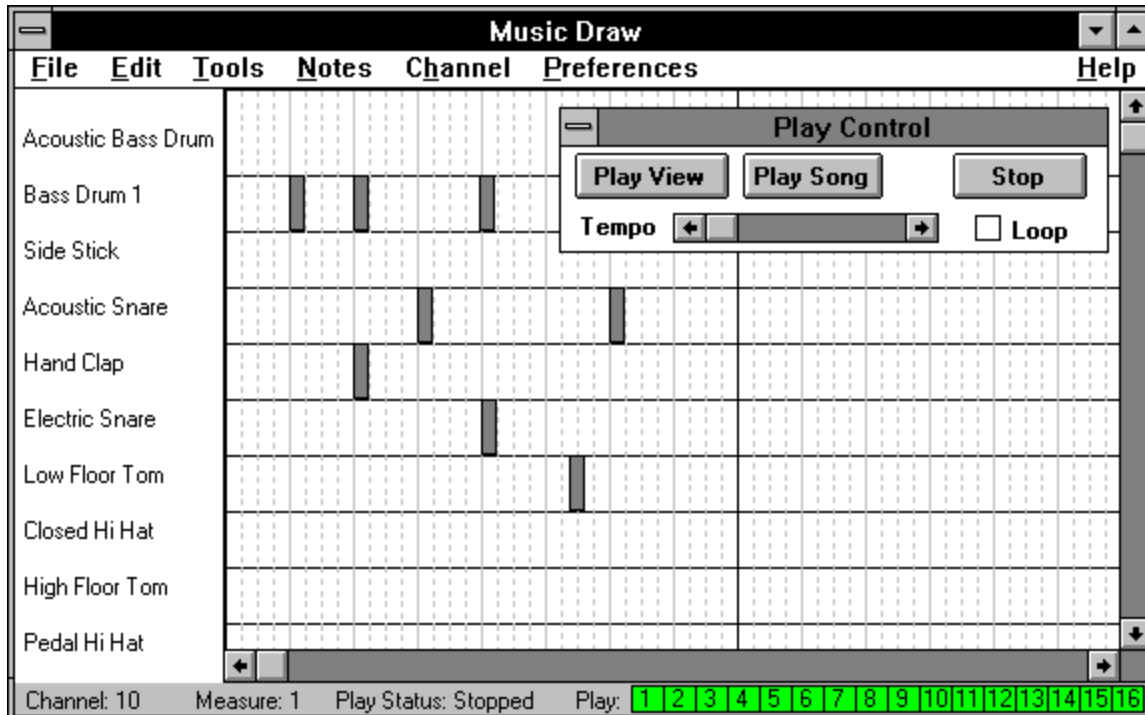


Figure: Music Draw with Drum View

The grid in the middle is known as the Drum View. The drum view is something like the notegroup view for other channels with the following differences. Horizontal gray lines outline drum note rows (or slots). Each slot represents a particular drum instrument. As described later, entering NoteGroups in the drum view is slightly different than in the NoteGroup View. In a sense, the drum view is more like a drum editor program than a sequencer.

The View Attribute Area shows which drum instrument is played for each slot. The instrument for each slot can be changed to whatever drum instrument is available in GS MIDI standards.

### **Entering a NoteGroup In the Drum View**

A NoteGroup in the drum view has a fixed length (cannot change how long a drum note is played.) Thus, entering a drum view notegroup is slightly different from entering them in other channels.

To enter a NoteGroup in the drum view:

1. Move the mouse cursor to where you want the NoteGroup to start
2. Click and release the LEFT mouse button. A solid gray rectangle should appear. This is a NoteGroup.
2. Repeat 1 through 2 as often as you like

**Moving A Note Group In the Drum View**

Moving notegroups in the drum view works exactly like moving them in the notegroup view, EXCEPT you cannot move drum view notegroups vertically.

Why? Because you are not really shifting the pitch of the drum view notegroups when you move them vertically, you're actually changing instruments (which probably wouldn't make sense, musically.)



## **Changing the Drum Set**

To hear different drum instruments, perform the following:

1. Select the NOTES menu
2. Select the DRUM NOTES... menu item. A DRUM NOTE SCREEN MAP dialog box appears
3. (OPTIONAL) Select a drum set from the combo box. This number is a GS MIDI value which differs for each synthesizer you play.
4. Select a slot (for the drum view) to change the drum instrument from the combo box.
5. Select a drum instrument for the selected slot
6. Repeat steps 4 and 5 as often as you like
7. Press the OK button

The view attributes area will change (when the drum view is showing) to reflect the instruments selected through this procedure.

## Changing How The Song Sounds

### Changing the Key of the Song

Now that you've entered a song, you may want to change the key, or which note the song is based on.

Music theory suggests your ear gravitates towards one note in 12 for a song. This note represents the "key" of the song. If you think of a piano, first start with middle C and play each key (including the black) to the next C (12 keys.) Now, play back 12 keys up again, but start with the black key on the right of Middle C. See how the playback "sounds" different? Music Draw somewhat does the same with your song through the key change. Music Draw performs an intelligent transposition of your song's notes to another key when you select a different key.

Confused with the above statements? Just play with your song and try a different key just for fun. Listen to the changes. If you like the way the song sounds, use it!

To select a key:

1. Select the NOTES menu
2. Select the KEY TRANSPOSE menu
3. Select the key from the menu list. The currently selected key will have a checkmark besides it.

The view attributes area for notegroup views will show the current key selected.

### The Key and Music Draw Operation (Technical)

Music Draw uses an internal table to determine which MIDI note will be played for the vertical position of the NoteGroup view. Each horizontal row has a specific MIDI note defined for it (as shown below.)

There is one internal table for each key selection. As you change keys, the internal table changes and a new MIDI note will be assigned to each row in the view.

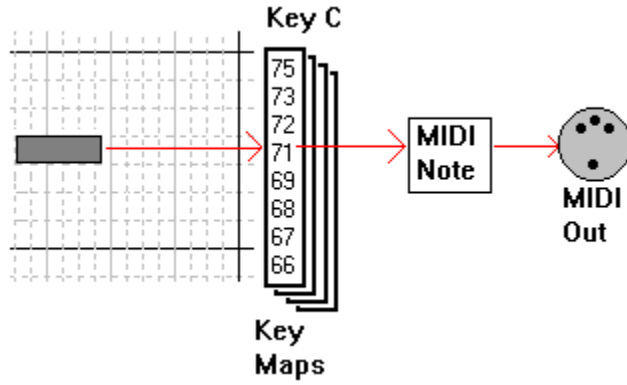


Figure: NoteGroups, Views, Keys, and MIDI notes

Drum view notegroups use a separate table to convert NoteGroups to MIDI notes.

### **Changing the Tone Color Of the Song**

Normally, music is based on 12 notes in a "scale" set. These notes are fixed and socially accepted as notes we hear in modern music today (also fixed in MIDI hardware.) However, the notes used in the scale can be changed (added or deleted) to create another "tone color" to the music. Currently, Music Draw only defines the "normal" (chromatic / major) scale and the "blues" scale.

Confused with the above statements? Just play with your song and try a different tone color just for fun. Listen to the changes. If you like the way the song sounds, use it!

To select a key:

1. Select the NOTES menu
2. Select the TONE COLOR menu
3. Select the tone color from the menu list. The currently selected tone color will have a checkmark besides it.

## Advanced Editing

### Editing Basics

Editing a NoteGroup is a two step process:

1. Select one or more NoteGroups
2. Do something to them

A NoteGroup is considered selected if it has a dotted red outline surrounding the NoteGroup rectangle (as shown below.) You may select a range of NoteGroups, add to the selection of a NoteGroup, or deselect all NoteGroups.

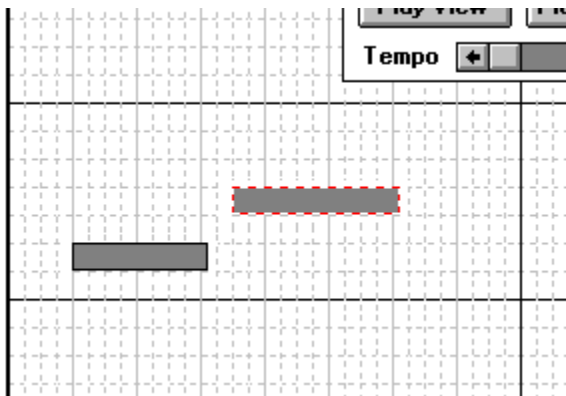


Figure: Selected NoteGroup (right one)

You can also edit NoteGroups across all channels. All editing functions remain the same, only now you can select NoteGroups from different channels at the same time. You can even select a measure range of NoteGroups across different channels via a dialog box.

### **Selecting One NoteGroup**

To select one NoteGroup:

1. Move the cursor to the inside of the NoteGroup to select
2. Press and release the RIGHT mouse button. The NoteGroup should be selected

All other selected NoteGroups should be deselected at the same time.

### Selecting Multiple NoteGroups

To select a rectangular area of NoteGroups at once:

1. Move the mouse cursor to the upper left hand corner of the selection rectangle
2. While holding down the RIGHT mouse button, drag the mouse cursor down and to the right. You should see a rectangle forming underneath the mouse cursor (see below)
3. After positioning the mouse to where the rectangle surrounds the set of NoteGroups to select, release the mouse button. All NoteGroups within the rectangle will be selected

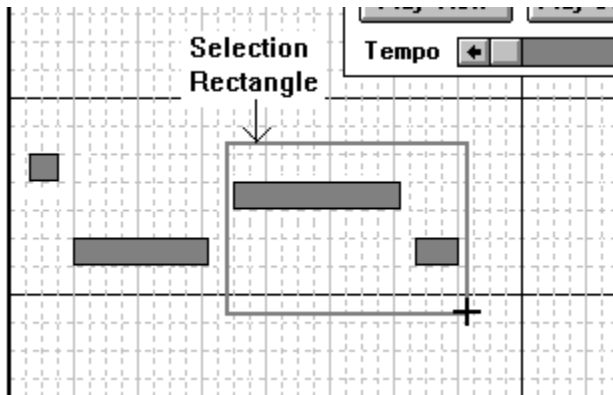


Figure: Selection Rectangle

All other selected NoteGroups should be deselected at the same time.

**Adding to the NoteGroup Selection**

If you press the SHIFT key while performing any selection action, you will add the selection you make to the existing set of selected NoteGroups, instead of deselecting other NoteGroups. This applies to both selecting one NoteGroup and selecting a range of NoteGroups.



**Deselecting All NoteGroups**

Pressing and releasing the RIGHT mouse button in an open area (no NoteGroup is present underneath the cursor) while NOT pressing the SHIFT key will deselect all previously selected NoteGroups.

### **Editing Across Channels**

All selection techniques previously discussed involved selecting NoteGroups in one channel only. Obviously, you will want to select NoteGroups across different channels to edit. To do this, select the EDIT ALL channel mode:

1. Select the CHANNEL menu
2. Select the EDIT menu item
3. Select the EDIT ALL channel mode.

**NOTE:** The status bar will show EDIT ALL for the channel. Instrument selection will be disabled. Range selection dialog box will be enabled. You will NOT be able to enter new NoteGroups while in the EDIT ALL channel mode.

Once in the EDIT All channel mode, selection of NoteGroups is performed in the same manner. However, instead of having one foreground channel of NoteGroups and several background channels of NoteGroups, all NoteGroup channels (including the drum channel) will be in the foreground. Because all NoteGroups are in the foreground, they can be selected and edited at the same time.

### **Selecting Range of NoteGroups Across Channels**

While in the EDIT ALL mode, you can select NoteGroups across several channels and select a measure range of NoteGroups. To do this:

1. Make sure you are in the EDIT ALL channel
2. Select the EDIT menu
3. Select the SELECT... menu item. A SELECT NOTES dialog box should appear
4. From the dialog box, you can choose which channels to select and the measure range to select
5. Press the OK button

The select dialog box works as though you were pressing the SHIFT key. In other words, the box selection adds on to the existing selection.

### **Stretching Length of NoteGroups**

After selecting the NoteGroups, you can change the length (or time while note is on) of all selected NoteGroups by performing the following:

1. Move cursor to the right side of one of the selected NoteGroups
2. While holding the RIGHT mouse button down, drag the cursor left (to decrease the note length) or right (to increase the note length) of all selected NoteGroups
3. Release the RIGHT mouse key. Length of all selected NoteGroups should change.

#### **NOTE:**

If you drag the NoteGroups, instead of stretching them, you didn't click on the right side of the NoteGroup. If you are doing this in EDIT ALL channel mode, drum view NoteGroups will NOT stretch in length.

### **Stretching Time of NoteGroups**

This procedure is very similar to stretching the length of NoteGroups. Instead, this procedure will change HOW LONG ALL the NoteGroups will play (very subtle difference.) Changing how long the selected NoteGroups will play will be done by performing the following:

1. Move cursor to the right side of one of the selected NoteGroups
2. While holding the SHIFT key **AND** the RIGHT mouse button down, drag the cursor left (to decrease the time played) or right (to increase the time played) of all selected NoteGroups
3. Release the RIGHT mouse key. Length of all selected NoteGroups should change.

### **NOTE:**

If you drag the NoteGroups, instead of stretching them, you didn't click on the right side of the NoteGroup. If you are doing this in EDIT ALL channel mode, drum view NoteGroups will NOT stretch in length.

### Changing NoteGroup Properties

You can change various properties of selected NoteGroups through a NOTEGROUP ATTRIBUTE window available in Music Draw. If you do not see this window:

1. Select the TOOLS menu
2. Select the NOTEGROUP ATTRIBUTES... menu item

You can change the MIDI velocity of all selected NoteGroups by adjusting the VELOCITY scrollbar in the NOTEGROUP ATTRIBUTE window. This value changes for both drum view NoteGroups as well as notegroup view notegroups. On the NoteGroup, velocity is shown as varying shades of gray. The darker the shade, the larger the velocity (as shown below.)

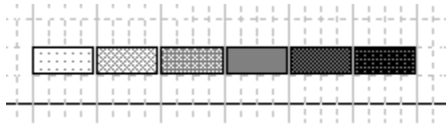


Figure: Velocity of NoteGroups

You can sharpen or flatten a NoteGroup by selecting the proper item in the TYPE combo box. This value does NOT change drum view notegroups. A sharp (#) or flat (b) is shown to the left of the NoteGroup.

For the GROUP combo box, please read Changing NoteGroup Properties (GROUP selection). The SHIFT scroll bar will be discussed there also.

## Changing NoteGroup Properties (GROUP selection)

A NoteGroup can play one **OR MORE** MIDI notes at the "same" time with the same MIDI velocity .

If NONE is selected for GROUP, only one MIDI note will play for the NoteGroup (this setting is the default for Music Draw at program start.) If another group is chosen for selected MIDI notes, more than one rectangle will appear for a NoteGroup (as shown below.) A group defines multiple MIDI notes played "at the same time" at a fixed MIDI note difference from the bottom (root) note. As you move the root note up or down the view, all other notes change along with the root note (keeping the same MIDI note distance.) "User" note groups will be discussed in detail later.

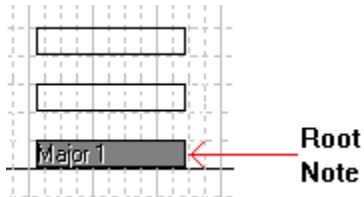


Figure: NoteGroup with MAJOR 1 group selected

As you move the NoteGroup up or down the view, you may see the NoteGroup turn "green." If the NoteGroup color turns green, one or more of the non-root notes will either be sharpened or flattened (with a "#" or "b" symbol besides it.) The color indicates this NoteGroup does not "fit" into the current key mapping and may (but not necessarily will) sound "wrong."

You can only select the solid (root) rectangle, the other transparent rectangles in the group are only for display purposes. To turn off the display of non-root notes of the NoteGroup, select the SHOW GROUP NOTES menu item from the PREFERENCES menu. Repeat operation to view non-root notes again.

The SHIFT scroll bar on the NOTEGROUP ATTRIBUTE window lets you specify a delay in when the non-root notes will be played back relative to the root note. An example of how a delayed or shifted NoteGroup appears in the view is shown below.

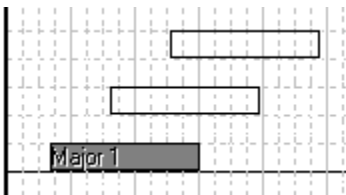


Figure: Shifted NoteGroup

**PLEASE NOTE:** GROUP and SHIFT properties do NOT apply to drum view NoteGroups!

## More Features / Functions

### Grid Lines Selection

For both drum views and NoteGroup views, you can turn off the viewing of vertical rhythm lines. This will speed up window drawing somewhat. To do this:

1. Select the PREFERENCES menu
2. Select the GRID (VERTICAL) menu
3. Select the SHOW IT menu item

Repeat above steps to show rhythm lines again. A checkmark besides the menu item will indicate the grid is shown.

For both drum views and NoteGroup views, you can also change how the rhythm lines are spaced. To change spacing to a "triplet" type:

1. Select the PREFERENCES menu
2. Select the GRID (VERTICAL) menu
3. Select the TRIPLET FORM menu item

Select the menu item again to return to the default rhythm spacing. A checkmark besides the menu item will indicate that triplet spacing is in effect.

For NoteGroup views only, you can change the horizontal line notation from a 7 note "octave" view (default) or a "traditional" staff arrangement. To do this:

1. Select the PREFERENCES menu
2. Select the STAFF menu
3. Select the staff grid type menu item



### **Entering Multiple NoteGroups**

To enter multiple notegroups with one mouse drag, perform the following:

1. Before entry, select the MULTIPLE GROUPS/NOTES menu item from the TOOLS menu
2. Enter a NoteGroup as before
3. A dialog box should appear. Enter how many NoteGroups will be divided up in your entry and press the OK button

If you choose not to enter multiple NoteGroups after step 1, reselect the MULTIPLE GROUPS/NOTES menu item to deselect it. A checkmark besides the menu item and a special cursor indicates active multiple entry.

**Show MIDI Notes**

If you want to display MIDI note values for NoteGroup notes, select the SHOW MIDI NOTES menu item from the PREFERENCES menu. A MIDI note value will appear to the left of each NoteGroup rectangle. The value will override all other displays normally showing in that area. A checkmark besides the menu item indicates active status.

### **Insert / Delete Measures**

At a given measure position (indicated in the status bar), you can delete up to 16 measures or insert up to 16 blank measures. To do this:

1. Select the EDIT menu
2. Select either the INSERT MEASURES... or DELETE MEASURES... menu item. A dialog box should appear
3. Select the number of measures to insert or delete from the combo box.
4. Press the OK button

## Measure Markers

In a long song, you may want to mark a particular measure for future reference. You may have 1 to 10 markers. To enter a marker at the measure indicated in the status bar:

1. Select the EDIT menu
2. Select the SET MARKER menu item. A dialog box should appear
3. Enter a marker name and press the OK button. A marker in the upper left hand corner of the current measure should appear as below.

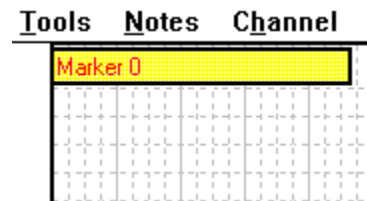


Figure: Example Marker

To go to the measure where the marker is at:

1. Select the EDIT menu
2. Select the GOTO MARKER menu item. A dialog box should appear.
3. Select the marker name from the combo box and press the OK button

To delete a marker:

1. Go to the measure where the marker is at
2. Select the EDIT menu
3. Select the REMOVE MARKER menu item.

**Cut / Copy / Paste / Delete**

These operations are fairly standard Windows operations and will not be discussed in this shareware document.

**File Operations**

These operations are fairly standard Windows operations and will not be discussed in this shareware document.

## **Advanced Preferences**

### **PLEASE NOTE:**

Do **not** change these values unless you have problems operating Music Draw. If Windows operates very slowly during playback or crashes, you may have to increase the value of TIMER RATE. This is especially true of computer with slower CPUs. The default (program start) values should work for a 386DX running at 25 Mhz.

The dialog box accessed from the ADVANCED menu item in the PREFERENCES lets you gain low level control on how the song will be played back.

Timer rate will control how often Windows will be interrupted to play the song (in milliseconds). Timer rate affects low level system operations of Windows. Slower machines will need a larger timer rate.

Quantize rate controls how many ticks will be added to it's internal playback song pointer (in clock ticks). Changing the quantize rate affects the rhythm of the song.

## Objects Beyond NoteGroups

### Object Introduction

Other "objects" can be entered and changed along with NoteGroups in Music Draw. These objects add various elements to your song. Most of these objects are directly related to MIDI functions available. They are:

- Pitch Bend - bend pitch of channel notes continuously
- Program Change - change instrument of channel during play back
- Controller - change MIDI controller value during playback
- Custom Group - NoteGroup with own group definition

They have different properties than NoteGroups, so their attributes will be edited differently. These objects can be selected and edited along with NoteGroups in the same manner as NoteGroups. Some objects will respond differently than NoteGroups to editing.

The objects will appear as shown below:

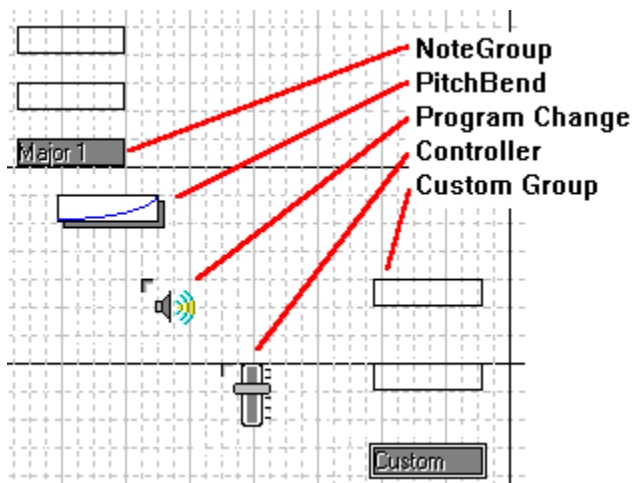


Figure: Objects as shown in View

By the way, a NoteGroup can be considered an object also. You just do not have to press the CTRL key to edit NoteGroups (as with other objects.)



## **Entering Objects**

To enter a pitch bend or custom group object:

1. Move the mouse cursor to where you want the object to start
2. While holding down the CTRL key **AND** the LEFT mouse button, drag the mouse cursor to the right. You should see a rectangle forming underneath the mouse cursor
3. After positioning the mouse to where you want the object to stop, release the mouse button. An object properties dialog box will appear along with the object on-screen.
4. Enter the object properties in the dialog box and press OK

To enter program change and controller objects:

1. Move the mouse cursor to where you want the object to start
2. While holding down the CTRL key, click and release the LEFT mouse button. An object properties dialog box should appear along with the object on-screen.
3. Enter the object properties in the dialog box and press OK

### **NOTE:**

The multiple group entry function will NOT work with objects.  
You cannot enter objects in the drum view (channel) or EDIT ALL channel mode.

## **Editing Objects**

All selection and editing functions performed on NoteGroups apply to objects. However, objects may react differently to various editing functions:

- Pitch Bend - stretches like NoteGroups, but does not respond to changes in NoteGroup attributes
- Program Change - stretches like a drum view NoteGroup (doesn't change length) and does not respond to changes in NoteGroup attributes
- Controller - stretches like a drum view NoteGroup (doesn't change length) and does not respond to changes in NoteGroup attributes
- Custom Group - almost identical to NoteGroups, but does not respond to changes in the NoteGroup GROUP attribute

### **Editing Object Attributes**

To edit the attributes of ONE object (cannot edit multiple object attributes at a time), perform the following:

1. Move the mouse cursor to the object you want the object to edit
2. While holding down the CTRL key, click and release the RIGHT mouse button. An object properties dialog box should appear along with the object on-screen.
3. Change the object properties in the dialog box and press OK

The following topics will discuss attributes of various objects in detail.

**Pitch Bend Attributes**

The pitch bend object has two attributes:

- SEMITONES - how much the pitch is bent
- STYLE - how the pitch is bent over time

**Program Change Attributes**

The program change attributes looks almost identical to the instrument change dialog box. The attributes are:

- INSTRUMENT - which GS instrument will play
- GS BANK - which GS bank will be used

### **Controller Attributes**

The controller object has the following attributes:

- VALUE - what value will the controller have (the knob)
- TYPE - MIDI controller type (the combo box)

The combo box list includes MIDI controller numbers and GS MIDI names (where defined). To change the value for the knob:

1. Move the cursor over the knob
2. Click the left mouse button to increase the value. Click the right mouse button to decrease the value.

This shareware document will not discuss the specifics of MIDI controllers, their values, and how they work with your synthesizer.

**Custom Group Attributes**

The attributes for a custom group will be discussed in User Defined NoteGroups / Custom NoteGroups. Certain details must be discussed before talking about this type of object.

## User Defined NoteGroups / Custom NoteGroups

### Custom Group Object vs. User Defined Group Attribute

A group defines multiple MIDI notes played "at the same time" at a fixed MIDI note difference from the bottom (root) note. As you move the root note up or down the view, all other notes change along with the root note (keeping the same MIDI note distance.) You may define your own set of MIDI note spacings (groups) as follows.

- Changing a USER definition in the NoteGroup Attribute's GROUP list. All NoteGroups with that USER definition will have a common definition.
- Entering a custom group object. The group definition will be only for that object.

The figure below shows how Music Draw generates MIDI notes from the different group definitions.

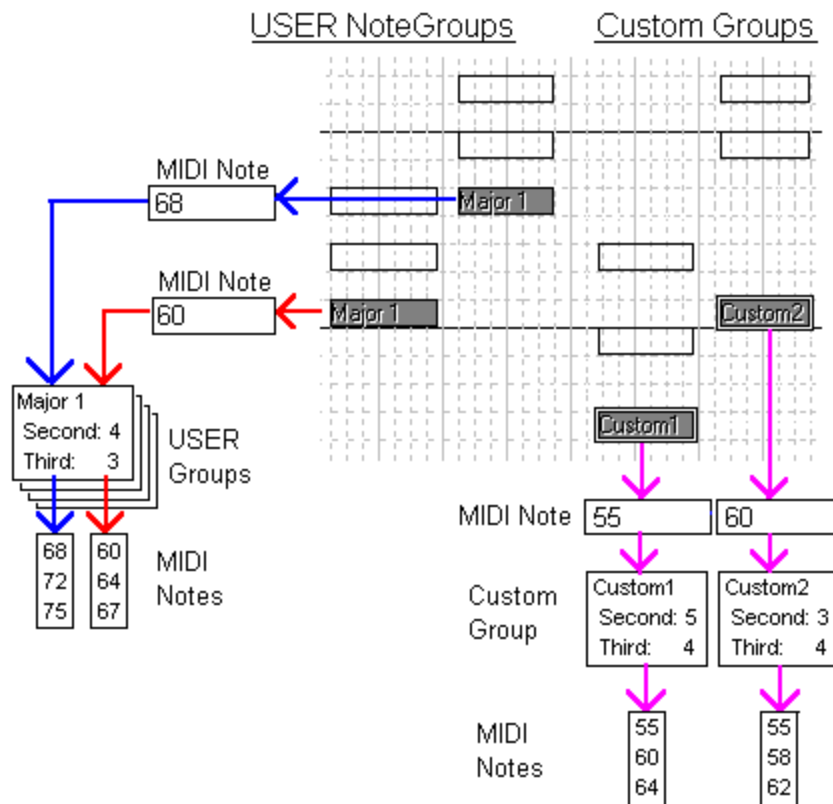


Figure: NoteGroup / Group Object to MIDI Note process

Why two ways? You can only enter up to 20 USER defined chords for a song. Many groups will be repeated in a song, but quite often many unique groups will have to be entered. For a typical song, 20 USER groups will not be enough. Thus, a custom group object is very handy for unique settings which are not repeated. On the other hand, defining a USER NoteGroup attribute will let you change all chords using that group instantly and globally.

For repetitive groups, use the USER group definition (in the NoteGroup Attributes window.) For unique or non-repetitive groups, use the custom group object.



### **Changing a USER group definition**

To change a USER defined group for NoteGroup attributes:

1. Select the NOTES menu
2. Select the DEFINE GROUP menu item. A USER DEFINED GROUP dialog box will appear
3. Choose a USER group to change in the combo box at the top of the USER DEFINED GROUP dialog box
4. (OPTIONAL) Change the group name in the NAME edit area if you wish from USER X to whatever you want. The change in name will not take effect until you leave the dialog box
5. (OPTIONAL) Choose PLAY AS DEFINED if you want the group to be heard exactly as entered in the definition area
6. Enter the group definition in TAB notation (often used for guitar transcription). I will not discuss TAB notation for this shareware document. Legal entries are from 0 to 12 and no entry.
7. Repeat steps 3 through 6 to change another USER definition
8. Press the OK button to leave the dialog box
9. Use the NoteGroup Attributes window's GROUP list to select you defined chord and use it for a NoteGroup

Please see PLAY AS DEFINED action if you've chosen the PLAY AS DEFINED item.

The RESET ALL button resets all user defined groups back to the definition at program start.

### **PLAY AS DEFINED action**

A PLAY AS DEFINED group means the NoteGroup's (or Custom Group's) root note must be at a fixed MIDI note. This converts a NoteGroup into a chord in the musical theory sense. This also means the root note rectangle must be at a specific NoteGroup slot and may even have to be sharpened or flattened. If PLAY AS DEFINED is checked, you must move the root note rectangle to a specific view slot to hear the group as defined in the TAB entry.

If the PLAY AS DEFINED is selected and the group is used in a NoteGroup, a root note with either a "v" or "^" symbol and shaded green means the root note is in the wrong view slot (see figure below). A "v" symbol to the left of the root note informs you to move the NoteGroup down the view one or more slots. A "^" symbol to the left of the root note informs you to move the NoteGroup up the view one or more slots. If moving from one slot to another immediately switches from the "v" symbol to the "^" symbol, you will have to sharpen or flatten the root note to properly adjust the NoteGroup, depending upon what key is chosen.

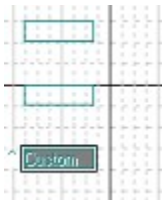


Figure: PLAY AS DEFINED NoteGroup in the wrong slot.

A PLAY AS DEFINED NoteGroup group without either "v" or "^" symbol to the left of the root note will play the TAB definition as it was meant to be heard.

As mentioned before, PLAY AS DEFINED makes a NoteGroup behave as a music theory chord. I have painstakingly avoided calling a NoteGroup a chord elsewhere, since this seems to cause great angst, confusion, and heartburn for many reviewing this software.

### **Custom Group Attributes (part II)**

A custom group object is defined the same way as a USER group definition. In fact, the object will behave exactly like a USER defined NoteGroup, except you cannot change the object's group from the NOTEGROUP ATTRIBUTE window.

The attributes for the object are:

- NAME - name of object
- PLAY AS DEFINED - see PLAY AS DEFINED action
- TAB DEFINITION - see Changing a USER group definition

