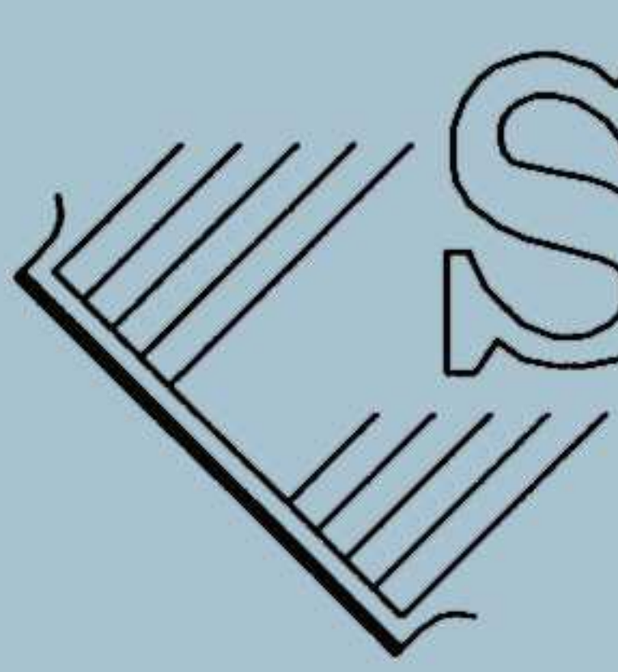

REFERENCE MANUAL

San Andreas Press

THE REFERENCE MANUAL

A Complete Guide to the SCORE Program

Manual written and designed by William Holab

Version 3.0

The SCORE program was written by Leland Smith
with additions by Perry Devine

Colophon

This manual was typeset on an Hewlett Packard ES/12 (12 megahertz 80286) computer equipped with 3 megabytes of RAM using Ventura Publisher™ 2.0. The music examples were created in SCORE 3.0 and imported into Ventura™ as Encapsulated PostScript Files. Screen dumps were created with Collage Plus. Camera-ready artwork was produced on a QMS-PS2200 laser printer at 300 dots per inch.

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Contents

Introduction

Using The Reference Manual

This manual is intended to be a reference source for many of the questions that arise while using SCORE. The Table of Contents presents the basic chapters of this volume, as well as a list of general topics that a user might search for. In addition, there is a comprehensive index (in the back) which lists most topics and items. It is strongly recommended that the reader go through the chapters and exercises in *Using SCORE* before reading the Reference Manual.

It is also a good idea to read this manual straight through, to familiarize yourself with its contents. A detailed explanation of every code item is presented in the first 17 chapters, followed by sections explaining various other aspects of SCORE: using PAGE, printing, justifying, etc.. Each chapter detailing the code items is organized in the following manner:

1) The method used to input the item (in Input Mode).

2) A detailed explanation of the item's Parameter Structure.

3) Any letter commands that apply to editing this Code Item.

Throughout each section, we have illustrated the explanations with examples and possible problems that may occur. At the end of this manual is a section on general troubleshooting.

Inputting Special Items

Some Code Items (eg. Code 10 and Code 11) cannot be created during the Input Mode. These items may be input using a special method.

A Special Input Method

Any item may be input by typing some (or all of) its parameters. You must specify a minimum of two numbers for this to work, and be at either the Main Menu (the default when you start SCORE), the Disk Menu, or the Edit Menu. This method works whether or not you have retrieved a file, but will not function while you are editing an item. For example, typing `10 1` would create a Code 10 item (number) on staff 1. Since all other parameters were left at zero (you did not specify them), they would automatically be set at their defaults (usually 0). Start SCORE and try the following example.

Type: `10 1 75 25 20` ENTER [Creates the number 20 on staff no. 1 at horizontal position 75, vertical position 25]

`I` [Enters Edit Mode and selects the last object edited]

`8 2` ENTER [Adds a box around the number]

`X` [Exits Edit Mode]

`2 1 50 0 1 0 .5` ENTER [Creates an eighth rest at position 50]

The numbers you just typed are simply a list of the parameters for each item. In the last example, 2 was P1, 1 was P2, 50 was P3, and so on.

If you retrieve a file and then type parameters (as above) the new item will be created in your existing file. This is a handy and convenient way to input new items in a file.

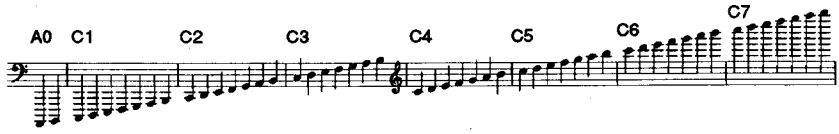
Remember that you only need to type the first two paramter numbers to create an item. After creating it, you may edit it and make any further changes. This special input method is extremely useful, and we recommend it once you are familiar with the workings of the parameter structure.

CODE 1 - NOTES

Input Method

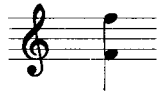
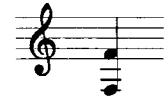
Letter Commands - Input

Pitch Stage

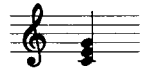


Pitches are indicated with their letter name followed by an octave number.

Octaves may be indicated by typing a + or - after the pitch designation.

eg. F4+ =  F4- = 

Notes in a chord are separated with a colon (:) or apostrophe ('). (This can be input with the mouse by clicking the outer two buttons.)

eg. C4:E:G =  (C4'E'G is equivalent.)

Alternatively, you may use a MIDI keyboard to play the pitches, or the mouse to click on the staff.

Mouse Input

Using the mouse, point to any space or line on the staff and click with the left button. Notice that the corresponding letter name and octave number appears in the status line at the top of the screen, followed by a slash. The Ledger Lines above and below the staff are to help you position the mouse for pitches outside of the staff. Note that you do not have to move the mouse to the right as you input the pitches, just up and down for the different notes.

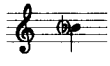
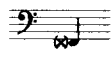
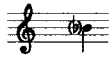
Accidentals

Accidentals are indicated by typing a letter immediately after the pitch letter.

F = Flat
S = Sharp
N = Natural
FF = Double Flat
SS = Double Sharp

If you are using a mouse, you can also create accidentals. For a note with a flat, click the *right* and *middle* buttons at the same time. For a note with a sharp, click the *left* and *middle* buttons. For a natural, click the *middle* button by itself.

To input an accidental in parentheses, add the open parentheses "(" sign before the letter.

eg. B(F 4 =  F(SS2 =  B(B4 = 

Flat notes may also be indicated by typing the letter name of the pitch *twice*; sharp notes by typing the letter *three* times and natural notes by typing the letter *four* times.

For example: BB4 is equivalent to BF4 (B-flat), BBB4 is equivalent to BS4 (B-sharp), BBBB is equivalent to BN4 (B-natural).

Additional Pitch Input Information

You do not need to restate the octave number, unless it is different from the previous note (eg. `F4/CS4` and `F4/CS/` are equivalent).

`P` starts the **Proximity Mode**. In this mode you do not need to specify octave numbers; SCORE selects the octave that is in the closest proximity to the previous note (eg. **P**`C5/B/A/C` is equivalent to `C5/B4/A/C5`). `O/` cancels the

proximity mode and returns to the normal input mode. Note that you must check the results to make sure SCORE selected the correct octave number. (PC5/A/E/C would be equivalent to C5/A4/E4/C4/. Proximity mode selected E4 since it is closer A4 than E5 and C4 since it is closer to A4 than C5.)

U (after a pitch letter) will skip *up* to the nearest note within the octave. F4/CU is equivalent to F4/C5.

J (after a pitch) will skip *down* to the nearest note within the octave. C5/FJ is equivalent to C5/F5. U and J are useful when in proximity mode.

/S+/ indicates the note will be on the staff above the current one being input.

/S-/ indicates the note will be on the staff below the current one being input.

/S0/ (zero) returns to normal staff level input.

/SU/ forces all stems up.

/SD/ forces all stems down.

/SO/ (O, not zero) returns to ordinary, automatic stemming.

The Function Key menu indicates which function keys can be pressed as alternatives to typing the letter commands.

Rhythm Stage

Duration is indicated with either a letter or number, according to the following system.

Duration	Letter Command	Number
Double Whole	D	.5
Whole	W	1
Half	H	2

Quarter	Q	4
Eighth	E	8
Sixteenth	S	16
Thirty-second	n/a (not applicable)	32
Sixty-fourth	n/a	64
One hundred twenty eighth	n/a	128
Grace	G	n/a

Dotted Notes

Duration	Letter Command	Number
Dotted Whole	W.	1.
Dotted Half	H.	2.
Dotted Quarter	Q.	4.
Dotted Eighth	E.	8.

etc.

Double, triple, and quadruple dotted notes are created in a similar fashion (i.e. Q.. is a double-dotted quarter, H... is a triple-dotted half, and so on). CTRL + a function key also creates a dotted rhythm.

A "T" before a letter makes it a triplet value. SHIFT + a function key also makes the note value a triplet value.

Duration	Letter Command	Number	Example
Triplet Whole	TW	1.5	
Triplet Half	TH	3	
Triplet Quarter	TQ	6	
Triplet Eighth	TE (or T)	12	
Triplet Sixteenth	TS	24	

Note that "T" by itself indicates a duration of triplet eighth.

Alternatively, you may point the mouse at the function key menu and click on the appropriate value with the left button. Clicking with the right button creates a dotted note value; clicking with the middle button creates triplet values.

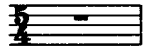
Quintuplets

Duration	Letter Command	Number	Example
Quarter	n/a	5	
Eighth	n/a	10	
Sixteenth	n/a	20	
Thirty-second	n/a	40	

A:X indicates an irrational value where A = the number of notes in X number of quarter note beats. For example, a half note triplet is 3:4 (6:8 is equivalent, as is TH and 3). For more complex rhythms, the first number may have two digits, such as 13:2, etc., and the second may have a number after a decimal point, such as 7:1.5 (seven notes in the time of 1½ quarters), etc.

> Note: using the numerical method, the number indicates how many of these notes would equal a whole note. Since there are four quarters in a whole note, you input a quarter as 4. There would be 5 quintuplet quarter notes in a whole note, so you input it as 5 (5:4 would also be equivalent).

Composite rhythm letters may be entered to ensure the correct time value for irregular whole rests.

Use /W Q/ for  Use /W E/ for 

The Marks Stage

The following articulation/marks may be attached to a note during input:

Description	Letter Command	Example
Accent	A	
Staccato	S	
Tenuto	T	
Wedge	W	
Heavy Wedge	HW	
Accent-Staccato	AS	
Accent-Tenuto	ACT	
Tenuto-Staccato	TS	
Wedge-Staccato	WS	
Fermata	FE	
Harmonic	H	
Trill	TR	
Trill w/flat	TRF	
Trill w/sharp	TRS	
Trill w/natural	TRN	
Mordant	MO	
Inverted Mordant	IM	

Description	Letter Command	Example
Musica ficta, flat	FIF	
Musica ficta, sharp	FIS	
Musica ficta, nat.	FIN	
Plus	PL	
Downbow	D	
Upbow	U	
Arsis	AR	
Thesis	TH	

Fingering	FX (where *X* indicates the number)	
Fingering	F0	
Fingering	F1	
Fingering	F17	

SCORE temporarily displays a number above each note in the line. Type the letter code followed by a space and a note number (and any subsequent note numbers). `A 3 7` would place an accent on notes 3 and 7. You may use a colon (:) or apostrophe (') to indicate a continuous group of notes (eg. `A 10:20` would place accents on notes 10 *through* 20, `A 10 20` would place accents on notes 10 *and* 20). Note that most marks are, by default, placed by the notehead. (Harmonics, fermatas, down bows, up bows, and a few other symbols are traditionally placed above regardless of stem direction.) If you wish to *force* a symbol to the stem side of a note during input, place a minus sign (-) before the letter in the Marks Stage. For example, `-A 3` would place an accent on note number 3 on the stem side of the note. Alternatively, you may click the mouse on the staff to generate the note numbers.

Parameter Structure

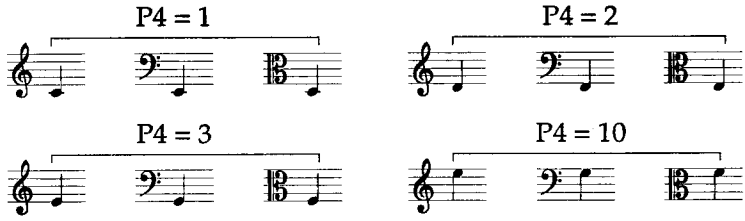
P1 • code number of item (1 for notes).

P2 • staff number that the note is attached to.

P3 • horizontal position of the note.

P4 • vertical position of the note.

The value in P4 indicates which staff line (or space) the note is on, *regardless of clef.*



Adding a value of 100 to P4 will make the note a grace note. SCORE does this automatically during input mode when the rhythm is entered as "G".

P5 • stem direction, accidentals, and accidental displacement.

P5 is a two digit number. The first digit indicates the stem direction, and the second digit indicates the accidental type.
P5=10, stem direction is up
P5=20, stem direction is down
P5=0, no stem

Accidentals

P5=	Description	Example
10	Up stem/No accidental	
11	Up stem/flat	
12	Up stem/sharp	
13	Up stem/natural	
14	Up stem/double flat	
15	Up stem/double sharp	
20	Down stem/no accidental	
21	Down stem/flat	
22	Down stem/sharp	
23	Down stem/natural	
24	Down stem/double flat	
25	Down stem/double sharp	

To create accidentals in parentheses, add 100 to P5.

P5=	Description	Example
111	Up stem/(flat)	
112	Up stem/(sharp)	
113	Up stem/(natural)	
114	Up stem/(double flat)	
115	Up stem/(double sharp)	
121	Down stem/(flat)	
122	Down stem/(sharp)	
	etc.	

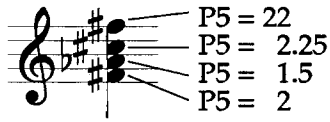
Quartertone accidentals are also available.

P5=	Description	Example
16	Up stem/q.t. flat	
17	Up stem/three q.t. flat	
18	Up stem/q.t. sharp	
19	Up stem/three q.t. sharp	
26	Down stem/q.t. flat	
27	Down stem/three q.t. flat	
28	Down stem/q.t. sharp	
29	Down stem/three q.t. sharp	

Accidental Displacement

Accidentals may be shifted horizontally to the left by adding numbers to the right of P5's decimal point.

If you create a chord during input, SCORE automatically positions accidentals correctly, creating the correct P5 values. If you create a chord in Edit Mode, you will have to manually set P5. For example, this chord, would have to have the following P5 values set:



You will notice that the P5 settings for all these notes (except the top one) are single digit numbers (to the left of the decimal point). This is because these notes do not have a stem attached to them. Instead the top note has the stem attached (and consequently has the double digit number). You only need the stem attached to the top note of a chord (when stemmed down), and the bottom note of a chord (when stemmed)

up). The other notes have only a single digit to indicate a stemless notehead with an accidental.

P6 • type of notehead.

The following is a list of notehead types:

P6=	Description	Example
0	Solid	
1	Half note	
2	Whole note	
3	Double whole note	
4	Open diamond note	
5	Solid diamond note	
6	X note	
139	Open X note	
-1	No notehead (stem only)	

SCORE allows you to use *any* symbol to create a custom notehead shape.

To use substitute noteheads, change P6 according to the following charts:

P6=	Example
130	
131	
132	
133	
134	
135	
136	
137	
138	

P6=	Example
190	
191	
192	
193	
194	
195	
196	
197	

Lute tablature is also available (see Code 9 for a chart of the symbols), and the user may also create any notehead of his or her own design using the DRAW program.

P7 • indicates the note's rhythmic duration, regardless of notehead type.

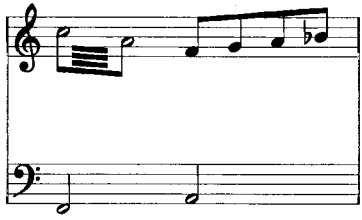
P7	Description
.0625	Sixty-fourth Note
.125	Thirty-second Note
.5	Eighth Note
.3333	Eighth Note Triplet
1	Quarter Note
1.5	Dotted Quarter Note
2	Half Note
4	Whole Note

Notice that P7 is *different* from the numbers you use to input rhythm during the input stage. You input a quarter note as 4 (the number of notes that would equal a whole note). The P7 value for a quarter note, however, is 1, not 4. P7 indicates duration mathematically, as a portion of a quarter note. An eighth note's P7 is .5, a dotted quarter note's P7 is 1.5, and so on.

"Irrational" rhythms, such as a triplet eighth note, are carried out to *four* decimal places, even though SCORE only displays *three* decimal places during editing. Let's look at the example of a triplet eighth note. There are *three* of these notes in a single quarter beat, so we calculate P7 by dividing 1 by 3 (don't worry, SCORE does this automatically during input, and you only need to do it if you have to alter P7 during editing). 1 divided by 3 is 0.333333333333, so P7 must equal 0.3333 *not* 0.333.

P7 must have a correct value for SCORE to perform spacing, lineup and justifying functions. **The Lineup function will not register a line as having the "correct" number of beats if you do not have the correct P7 value.** (Of course, SCORE puts the correct rhythmic value in P7 automatically during the rhythm input stage, based on your input.)

Note that P7 only indicates the *duration* of the note to SCORE's spacing systems (Lineup and Justify). P6 controls the *appearance* of the notehead. You may have notes that appear as half notes, but receive the space of quarter notes:

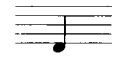
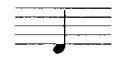
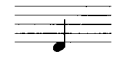


In this example, for LJ to work correctly, the first two notes on the top staff must have P7=1 (quarter note duration) and P6=1 (half notehead).

In addition, negative values in parameter 7 are used for the following situations.

Parameter 7	Description
P7=-1	Ignores the note when lining up and justifying (should be used for ancillary notes for trills)
P7=-2	Suppresses printing of ledger lines
P7=-3	Performs both function of P7=-1 and P7=-2 (useful for creating notes to be used for graphic situations outside of the music)

P8 • indicates stem length.

P8=	Description	Example
0	Normal Stem Length (one octave long)	
1.5	Stem Length is 1.5 scale steps longer than normal	
-1	Stem Length is 1 scale step shorter than normal	

Adding more (a positive value) or less (a negative value) to parameter 8 will lengthen or shorten a stem accordingly.

Adding 100 to parameter 8 puts a slash on flag for grace notes. This will only work if P9 is set to 1 to indicate a flag and P4 has 100 added to create a grace note.

P8 = 100, P9 = 1 

This is set automatically during input mode when you specify G as a rhythmic duration.

P9 • indicates the number of augmentation dots and flags connected to a note.

P9 can be two digits, the left digit indicating the number of dots, and the right indicating the number of flags.

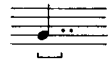
P9=	Description	Example
10	Single dotted note	
20	Double dotted note	
30	Triple dotted note	

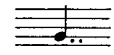
Theoretically, you can have nine augmentation dots connected to a note. If a note is on a staff line or ledger

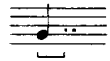
line, and you wish to move the dot below the line, add 100 to P9

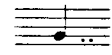
Displaced Dots

You can displace dots by adding a value to the right of the decimal point in P9. This will displace the dot(s) to the right.

P9 = 20.2 

P9 = 120 

P9 = 1020 

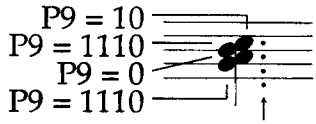
P9 = 1120 

P9 = 20.3 note with 2 dots displaced to right

If you add 1000 to P9, the dot will be displaced exactly one notehead width to the right.

SCORE automatically creates the P9 value during input (when you create chords), but you may need to alter it sometimes during editing. Note that you may combine adding 1000 and 100 to force a dot to the right and down:

If a dot must appear two spaces below the line, it must be created as a Code 9 item and positioned separately.



Separate Code 9 item
P5 = 24, P6 = .25

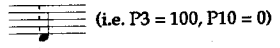
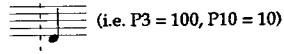
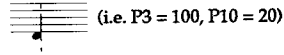
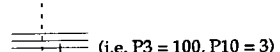
Flags On A Note

Parameter 9 also holds the information for flags. The left digit indicates the number of dots, and the right digit indicates the number of flags on a stem. You can have any combination up to nine dots and nine flags.

P9=	Description	Example
1	One flag	
2	Two flags	
12	Two flags/one dot	
11.3	One flag/one dot (displaced three spaces to the right)	

Displacement of Noteheads

P10 • is used to displace noteheads from their normal position (given in P3).

P10=	Description	Example
0	Normal horizontal position	 (i.e. P3 = 100, P10 = 0)
10	Note is displaced one note head width to the right	 (i.e. P3 = 100, P10 = 10)
20	Note is displaced one note head width to the left	 (i.e. P3 = 100, P10 = 20)
3	Note is displaced three units to the right	 (i.e. P3 = 100, P10 = 3)
-4	Note is displaced four units to the left	(i.e. P3 = 100, P10 = -4)

P10's most common use is in chord structures that contain the interval of a second. It is also used to offset note(s) in multiple-voice notation. It is essential that when you need to displace or offset a note that you alter P10 and *do not* move the note manually (with the

mouse, cursor keys, etc.) to attain the displacement. If you do move a note manually, you alter its P3 value and prevent SCORE's lineup and justify function from working. See *Using SCORE*, chapter 7 for a detailed explanation.

A P10 value of 10 or 20 will displace the notehead one notehead width to the right or left, and will suffice in most situations. Numbers from -9.9 to 9.9 will displace the note in increments of horizontal space units, and may be used for more precise positioning.

P11 • indicates any articulations or marks attached to the note.

P11=	Description	Example
1	musica ficta flat	
2	musica ficta sharp	
3	musica ficta natural	
4	wedge	
5	accent	
6	tenuto	
7	staccato	
8	wedge-staccato	
9	accent-staccato	
10	tenuto-staccato	
11	down bow	
12	up bow	
13	harmonic	
14	fermata	
15	arsis sign	
16	thesis sign	
17	mordant	
18	inverted mordent	

P11=	Description	Example
19	heavy wedge	
20	trill	
21	trill with flat	
22	trill with sharp	
23	trill with natural	
24	plus sign	
25	accent-tenuto	
27-29	not used	
30	fingering - 0	
31	fingering - 1	
32	fingering - 3	
etc.		

Normally, most marks appear by the notehead (with some exceptions: fermatas, harmonics, bowings, trills, etc.). To force a mark to the stem side, use a negative value in P11.

Note that marks that are traditionally above the staff are forced below, when P11 is negative.

To create additional marks for a note, use Code 9 items.

To create a notehead with a thick line extension, change P11 to 99. Any type of notehead may be used (normal, diamond shaped, whole note, etc.). When P11 = 99, P14 indicates the end position of the line relative to P3 of the note (the

default position is ten spaces to the right). P13 indicates the origin point of the extension line so that it may be separated from the notehead if desired.

P11=	P13=	P14=	Example
99	0	0	
99	3	50	

This type of notehead is primarily seen in contemporary scores that employ non-mensural notation.

Displacement of Marks

In some situations, you may wish to displace a mark that is attached to a notehead. The number to the right of P11's decimal point will cause the mark to be displaced vertically. The program multiplies this number by 10 to calculate the displacement value in scale steps. Usually P14 is used to alter the vertical displacement (instead of P11) as it allows positive *and* negative values and will displace the mark above or below the note.

Displacing Marks Horizontally

P13 • displaces marks horizontally.

Positive values displace the mark to the right, negative values to the left.

P13=	P11=	Example
1	5	
2	6	
-2	5	

Note that there must be a mark indicated (a value in P11) for this to function.

Displacing Marks Vertically

P14 • displaces marks vertically.

P13	P14=	P11=	Example
0	2	5	
0	-2	5	
-3	-3	32	

Positive values displace the mark up, negative values down. Note that P14 allows you to displace a mark down by using a negative value. This is often useful when positioning fingering numbers.

Changing the Size of Marks

P18 • controls the size of the mark contained in P11.

P18=	P11=	Example
1.5	6	
3	6	
.75	6	

In general, you may use a combination of P13 and P14 (and P18) to edit and position marks.

Placing Notes on a Staff Above or Below

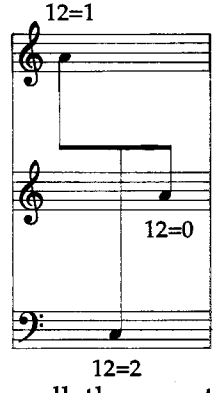
P12 • indicates which staff the note appears on, relative to P2 (the number of the staff the note is actually attached to).

P12 is created automatically in input mode using S+, S- and S0. See *Using SCORE*, chapter 11 for more information.

P12=1 indicates the note is placed on the staff above.

P12=2 indicates the note is placed on the staff below.

P12=0 (the default) indicates the note is on this staff (indicated by P2)



In the above example, all three notes are attached to the middle staff (P2 = 2); P12 shifts the notes so that they *appear* to be on the staff above or below.

P15 • indicates the size of a note.

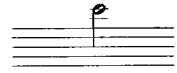
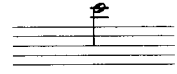
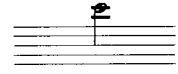
P15=	**Example**
2	
.75	
.5	

P15 should only be used in exceptional situations, and *not* to create grace notes. Add 100 to P4 to create grace notes.

Ledger Line Thickness

P16 • controls the thickness of ledger lines.

This function only works on PostScript printers. The default thickness for a ledger line is two pixels thicker than a staff line. Grace notes' ledger lines will be one pixel thicker than a staff line. The value in P16 will add or subtract the line thickness based on the value you add when printing. It is sometimes necessary to thin ledger lines when there are cue-size open notes. Otherwise, P16 should seldom be altered.

P16=	Example
-1	
0	
1	
2	

Origin of Stem and Stem Thickness

P17 • indicates the extension of the source of the note stem in positive or negative scale steps from the P4 position.

P17=	Example
2	
-1	
3	

To create a thicker stem add hundreds to P7.

P17=	Example
100	
400	
800	

Adjusting Stem Length

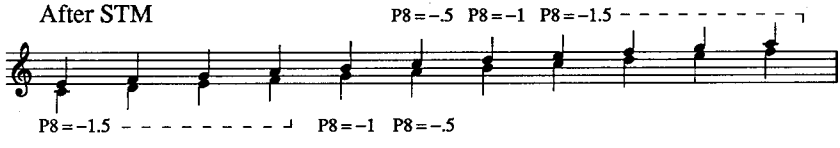
When two or more voices appear on a single staff they are usually differentiated by making the upper voice stemmed up and the lower voice stemmed down. It is common engraving practice to slightly shorten the stems of these notes to reduce the amount of space they occupy. SCORE does this automatically with the STM command.

The STM Command

Before

This is a typical two-voice example as it would appear after input. To shorten the stem lengths, type STM *X* ENTER where *X* is the number of the staff (and may be greater than 32 to indicate every staff). SCORE searches through the staff and adjusts P8 of any note that protrudes more than 6½ steps above or below the staff.

After STM



Note that STM alters the stem length by varying amounts based on the note's position, but will not shorten the stem more than 1½ units.

CODE 2 - RESTS

Input Method

Letter Commands - Input

Pitch Stage

Any type of rest may be input during the Pitch Stage of the input mode by typing the letter **R**, with the exception of whole rests which are input as **RW**. Double Whole Rests should be input as **R**, not **RW** and assigned the duration **D** during the rhythm stage.

RF inputs a rest with a fermata. You are not allowed to input RWF (see P8, below, for information on how to create a whole rest with a fermata).

RU inputs a rest **U**p; higher than its default (normal) vertical position (see P4, below).

RD inputs a rest **D**own; lower than its default (normal) vertical position (see P4, below).

RX, where X is equal to any number, inputs a rest with that number above it.

RI inputs an *invisible* rest (commonly used as a type of placeholder). Invisible rests may be of any duration, and will not appear on the screen or on printout. An invisible rest's duration should never be greater than a single measure.

RP inputs the repeat-bar sign (which is input as a type of rest). This is done so that SCORE will automatically center the symbol when the CW command is invoked (see The CW Command at the end of this chapter).

Rhythm Stage

Duration is indicated with either a letter or number, according to the following system.

Duration	Letter Command	Number
Double Whole	D	.5
Whole*	W	1
Half	H	2
Quarter	Q	4
Eighth	E	8
Sixteenth	S	16
Thirty-second	n/a	32
Sixty-fourth	n/a	64
128th	n/a	128

Dotted Rests

Duration	Letter Command	Number
Dotted Half	H.	2.
Dotted Quarter	Q.	4.
Dotted Eighth	E.	8.

etc.

Double, triple, and quadruple dotted rests are created in a similar fashion (i.e., H.. is a double-dotted half rest, S... a triple dotted sixteenth rest, etc.).

* Whole rests are treated specially in SCORE. In the Pitch Stage they are input as `RW` so they *appear* as a whole rest. In the Rhythm Stage, their duration should be input so that it equals the number of beats in the measure. For example, a RW in 3/4 time would have a duration of a dotted half note (H.); in 6/4 time it would have a duration of a dotted whole

note (W.), etc. The repeat-bar symbol (input as RP) works in the same manner; its duration must equal the number of beats in the measure.

The letter "T" before the duration creates a triplet value. SHIFT + a function key also makes the rest a triplet value.

Duration	Letter Command	Number
Triplet		
Triplet Half	TH	3
Triplet Quarter	TQ	6
Triplet Eighth	TE	12
Triplet Sixteenth	TS	24
Quintuplets		
Duration	**Letter Command**	**Number**
Quarter	n/a	5
Eighth	n/a	10
Sixteenth	n/a	20
Thirty-second	n/a	40

Note: using the numerical method, the number indicates how many of these rests would equal a whole note. Since there are four quarters in a whole note, you input a quarter rest as 4. There would be 5 quintuplet quarters in a whole note, so you input a quintuplet quarter rest as 5 (5:4 would also be equivalent).

Assigning rhythms to rests during the Input Mode is *exactly* the same as assigning rhythms to pitches.

Basic Parameter Structure

P1 • code number of item (2 for rests).

P2 • staff number that the rest is attached to.

P3 • horizontal position of the rest.

P4 • vertical position of the rest (default is zero).

When input as **RU**, P4=6. When input as **RD**, P4=-6.

If you add 100 to P4 (or -100 if P4 is negative) the rest becomes cue size (commonly used in conjunction with grace notes and instrumental cues).

Type of Rest

P5 • indicates the type of rest.

P5=	Description	Example
0	quarter rest	
1	eighth rest	
2	sixteenth rest	
3	32nd rest	
4	64th rest	
-1	half rest	
-2	whole rest	
-3	double whole rest	

Tip

An easy way to remember how P5 works is to think of each number adding another "hook" to the rest. P5=1 is an eighth rest (one hook), =2 is a sixteenth rest (two hooks), and so forth.

P5=	Description	Example
-4	repeat bar sign	
-5	multiple bar rest	
-11	1 measure rest	
-12	2 measure rest	
-13	3 measure rest	
-14	4 measure rest	
-15	5 measure rest	
-16	6 measure rest	
-17	7 measure rest	
-18	8 measure rest	
-19	9 measure rest	

Note: the last nine items are primarily used to create "European-Style" multiple-bar rests; in the United States it is customary to use the multiple-bar rest (P5 =-5) for rests of two measures or more.

P6 • indicates the number of augmentation dots with the rest.

P6=	Description	Example
1	one dot	
2	two dots	
3	three dots	
etc.		
-1	invisible rest	

Rhythmic Value of a Rest

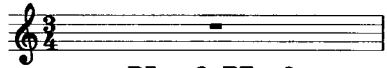
P7 • indicates the rhythmic duration of the rest, *regardless of the rest type* indicated in P5. P7 functions exactly the same as in Code 1 items, notes.

P7	Description
.0625	Sixty fourth rest
.125	Thirty second rest
.5	Eighth rest
.3333	Triplet eighth rest
1	Quarter rest
1.5	Dotted quarter rest
2	Half rest

Notice that P7 is *different* from the numbers you use to input rhythm during the input stage. You input a quarter rest as 4 (the number of notes that would equal a whole note). The P7 value for a quarter rest, however, is 1, not 4. P7 indicates duration mathematically, as a portion of a quarter rest. An eighth rest's P7 is .5, a dotted quarter rest's P7 is 1.5, and so on. "Irrational" rhythms, such as a triplet eighth rest, are carried out to *four* decimal places, even though SCORE only displays *three* decimal places during editing. Let's look at the example of a triplet eighth rest. There are *three* of these rests in a single quarter beat, so we calculate P7 by dividing 1 by 3 (don't worry, SCORE does this automatically during input, and you only need to do it if you have to alter P7 during editing). 1 divided by 3 is 0.333333333333, so P7 must equal 0.3333 *not* 0.333.

P7 must have a correct value for SCORE to perform spacing, lineup and justifying functions. **The Lineup function will not register a line as having the "correct" number of beats if you do not have the correct P7 value.** (Of course, SCORE puts the rhythmic value in P7 automatically during the rhythm input stage, based on your input.)

Note that P7 only indicates the duration of the note to SCORE's spacing systems (LJ). P5 controls the appearance of the rest. Note that P7 only indicates the duration of the rest to SCORE's spacing systems (LJ). P5 controls the appearance of the rest. For example, you may have a rest that appears as a whole rest, but receives the space of a dotted half note.



P5 = -2, P7 = 3

P8 • indicates a number (or fermata) that will appear over the rest.

This will usually be used when P5=-2 or less (multiple-bar rests).

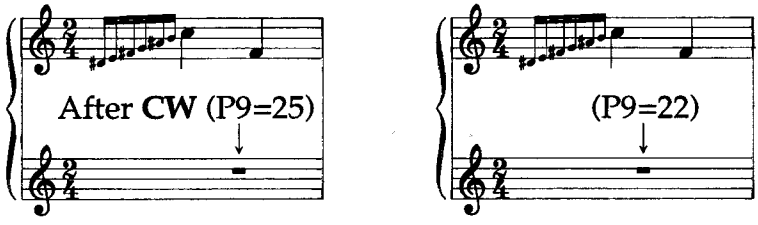
P8=	P5=	Description	Example
1	-2	one-bar rest	
4	-5	four-bar rest	
-1	-2	fermata rest	
-1	1	fermata rest	
-14	1	4-bar rest	
-1	-5	multiple-bar rest with *no* number	

The font for the number used is, by default, the same as the time signature numbers. If you wish to change this, you must open the file PREF.SCR in the \LIB directory and change the line `restnum 94`. (94 is the Font ID# for SCORE's time signatures; you may use any two-digit number indicating a valid font. For example `restnum 01` would use Times Bold for the numbers above the rests.) Note that the PREF.SCR file is a DOS Text file; make sure you save it in Text-Only or ASCII format.

P9 • is used for centering rests.

P9 is, by default, zero. When the CW command (see Letter Commands, below) is invoked, SCORE calculates the correct position for whole rests (P5=-2), multiple-bar rests (P5=-3 or less), and repeat-bar sign (P5=-4) so that they will be centered between the barlines and then places that horizontal position in P9.

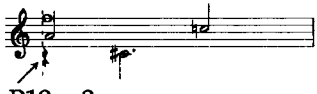
If you need to change the horizontal position of a whole rest after centering, *do not alter P3*. (This would impair SCORE's Lineup and Justify function.) Instead, adjust the value in P9 until the position is correct.



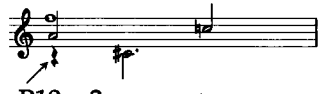
> Note: if you set P9 to -1 and press ENTER, the rest will automatically be centered and the correct position placed in P9 (technically, the same as typing CW).

P10 • allows you to displace rests horizontally from their normal P3 position.

A positive number will move the rest to the right and a negative number will move it to the left. In this manner you can maintain the basic, correct position for Line-up and Justify while attaining the desired visual effect. This is commonly used when there are two or more voices on a single staff and a rest from one voice must be moved from its normal P3 position.

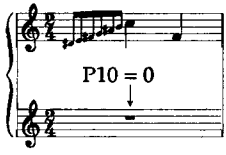


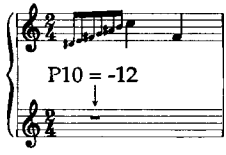
P10 = 0
(rest aligned with P3 of the F)

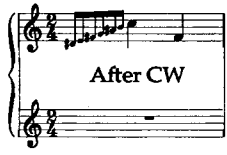


P10 = 2
(rest displaced to align with the A)

P10 may also be used to displace whole rests *before* using the CW command.

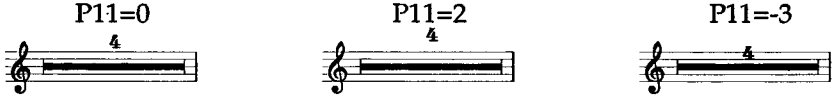






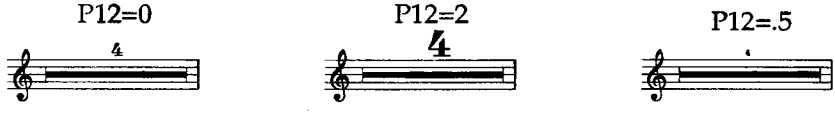
Note that the above example illustrates a different method that may be used to create the proper position for a whole rest. The result achieved is exactly the same as when P9 is altered, as we demonstrated on the previous page.

P11 • indicates the height of the number over a multiple bar rest.



You can only use this parameter when there is a value in P8. In most situations, you will not need to alter P11.

P12 • is used to change the size of the number over a multiple bar rest.



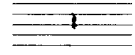
The default size is 1. In most situations, you will not need to alter P12.

P13 • indicates an instrument ID# for automatic cueing during part extraction.

P13 may contain the instrument ID# of any staff in the same file (but not an instrument ID# from a different file). For example, suppose two files are used to create a single *system* in an orchestral score:
ORCH01A.MUS
ORCH01B.MUS.
If you indicate a cue (by placing an instrument ID# in a rest's P13) on the top staff of ORCH01A.MUS, the instrument ID# specified must refer to a staff in ORCH01A.MUS, not ORCH01B.MUS. During part extraction, PAGE will automatically create a cue in the rest(s) indicated by extracting the music from the staff specified, making it's notes and beams cue-size, and add a whole rest. This feature is semi-automatic; you must manually transpose cues and/or account for any differences in clef between the cued instrument and the original instrument. See Part Extraction in the chapter on PAGE.

Usually, P13 will only be added to whole rests. (Note: if P13 is set, it must indicate a valid instrument ID# set in P9 of a staff. SCORE will not condense whole rests when P13 is set for automatic cueing.) See part extraction in the chapter on PAGE for a more detailed explanation.

P15 • indicates the rest size. Normally, P15 should be used to alter the size of rests in non-traditional notation (see P4 above to create cue-size rests). Note: SCORE's Lineup and justify feature will not take into account rest size changes made with P15.

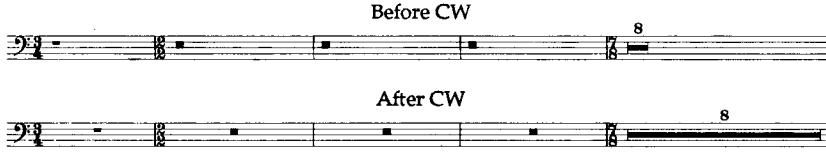
P15=	Example
2	
.5	

Special Commands

CW (**C**enter **W**hole Rests) is a special group command used to center whole rests, multiple bar rests, and repeat-bar signs.

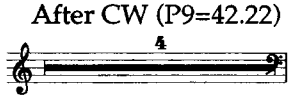
Usage

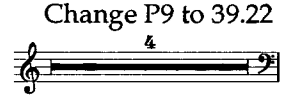
Type `CW X` where *X* equals the staff number that you wish to center rests on. If *X* is greater than the total number of staves possible (eg. 33, or 99), all staves will be altered.



Definition

CW searches through the staff for every whole rest (P5=-2) and multiple-bar rest (P5=-2 or less) and centers them between the bar lines. A value (indicating horizontal position) is placed in P9 of each rest. Sometimes, it is necessary to manually edit P 9





CODE 3 - CLEFS

Input Method

Letter Commands

Pitches Stage

Clefs are input with letter commands during the pitch stage of the Input Mode.

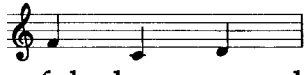
Clef Type	Letter Command	Example
Treble	TR	
Bass	BA	
Alto	AL	
Tenor	TE	

Other clefs (such as the percussion clef) must be created in Edit Mode.

Clef changes may be input the same way (eg. `TR/F4/E/`**`BA`**`/M` etc.)

SCORE automatically makes the clefs for clef changes smaller (by adding 100 to P4).

A minus sign (-) before a clef code makes it *invisible*. This is an input aid, and is only used if one wishes to input a staff in one clef while it actually appears in another. For example: `TR/F4/C/D/M;` could be input with an invisible bass clef as `TR/-`**`BA`**`/A2/E/F/M;`, and both will create:



Invisible clefs are useful when you need to input a staff in a clef you do not read. They are also used when inputting a staff of percussion music with a percussion clef, or if you wish to input a staff with no clef.

Note: the invisible clef is an input aid and does not create an item on the staff (unlike invisible rests, which do place an item on the staff).

Basic Parameter Structure

P1 • code number of item (3 for clef).

P2 • staff number that the clef is attached to.

P3 • horizontal position of the clef.

P4 • vertical position of the clef (default is 0 and is rarely altered).

Adding a value of 100 to P4 will make the clef "cue" size.

Clef Type

P5 • indicates the type of clef

P5=	Description	Example
0	Treble	
1	Bass	
2	Alto	
3	Tenor	
4	Percussion	
.8	Vocal tenor clef	
2,P4=-4	Soprano	
2,P4=-2	Mezzo-soprano	
1,P4=-2	baritone	

Other clefs may be created in a similar fashion.

Horizontal Size Factor Of A Clef

P6 • indicates the horizontal size factor.

P7 • indicates the vertical size factor.

If P7 is left at zero the horizontal and vertical sizes are both controlled by P6. Normally, P6 and P7 are rarely altered.

CODE 4 - LINES AND HAIRPINS

Input Method

Letter Commands

The only lines which can be entered during the Input Mode are crescendo and diminuendo hairpins, which are input during the Marks Stage.

C *X Y* creates a crescendo hairpin from note *X* to note *Y*.

C- *X Y* creates a diminuendo hairpin from note *X* to note *Y*.

Fractional values are allowed (eg. `C 2.5 7.75` would create a crescendo hairpin from halfway between notes 2 and 3 to three-fourths of the way between notes 7 and 8). Alternatively, you may click on the staff with the mouse to indicate the left and right positions of the hairpin.

A minus sign *before* the C or C- will position the hairpin above the staff (eg. `-C- 3 4` places a diminuendo hairpin above the staff from note 3 to note 4).

The hyphens between syllables in lyrics, and extension lines at the ends of words are created with Code 4 items. See Code 16 - Text, for information on how this functions.

Dotted lines for ottavas, wavy lines for trills, and piano pedal lines are all created as part of Code 7 - Trills, Ottavas, Pedal marks. Any other type of line must be created using the special input method (see the Introduction).

Basic Parameter Structure

P1 • code number of item (in this case 4 for line).

P2 • staff number that the line is attached to.

P3 • left horizontal position of the line.

P4 • left vertical position of the line.

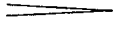
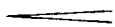
P5 • right vertical position of the line*.

* P5 must be set to 999 to create a hairpin. (SCORE does this automatically during input.) When creating dashed or wavy lines, P5 must equal 0. (See P13 to rotate dashed and wavy lines.)

P6 • right horizontal position of the line.

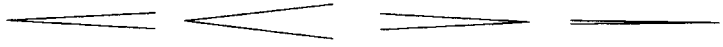
Note that P6 must equal P3 to create a vertical line. Similarly, P4 must equal P5 to create a horizontal line.

P7 • indicates the type of line.

P7=	Description	Example
0	normal line, bracket	
1	dashed line	
-1	wavy line	
-1 (P5=999)	diminuendo hairpin	
0 (P5=999)	crescendo hairpin	

The default "spread" of hairpins is 2.3 scale steps. If you wish to change this, add positive amounts to P7 (for crescendo hairpins) or negative amounts (for diminuendo hairpins). In these instances, P7 will not equal 0 (crescendo) or -1 (diminuendo), but the special number (999) in P5 will tell SCORE this is a hairpin.

P5=999, P7=0 P5=999, P7=5 P5=999, P7=-1 P5=999, P7=-.5



P8 • indicates the length of the dash or horizontal size of the wave in a wavy line.

If P8=0, the result is a normal line, bracket, or arrow. If P8=X, and P7=1 (dashed line), then X indicates the length of the dash in the line. If P8=X and P7=-1 (wavy line), P8 indicates the width of the wave.

P7=	P8=	Example
1	2	
1	5	
-1	2	
-1	.5	

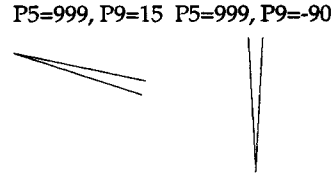
Note: P7 and P8 must be set to zero for a straight line, bracket, or arrow.

P9 • indicates rotation (for normal lines) and the space between the dashes, or the height of the wave in a wavy line. (See P13 to rotate dashed or wavy lines.)

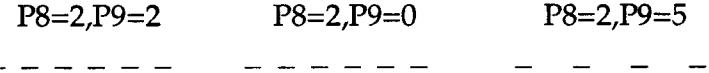
P7=	P9=	Example
1	2	
1	4	
-1	2	
-1	.5	
0	45	
0	-45	

If P7=1 (dashed line), P9 will indicate the space between the dashes. If P7=-1 (wavy line), P9 will indicate the height of the wave. If P7=0, P9 indicates the amount of rotation in degrees.

If P5=999, P9 will rotate hairpins in the same manner.



In a dashed line, if P9=0, the line will appear as if P9 has the same value as P8..

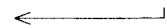


P10 • controls the thickness of the line (on PostScript printers only). The default is zero.

P11 • adds a bracket or arrowhead to the left side of a horizontal line.

P12 • adds a bracket or arrowhead to the right side of a horizontal line.

P11 and P12 function identically. A positive number adds an upward bracket (the number indicates how high), a negative number adds a downward bracket. If you add 100, an arrowhead is substituted for the bracket. The size of the arrowhead is controlled by the size of the number.

P11=	P12=	Example
2	0	
0	2	
1	2	
-1	2	
103	2	
0	101	
0 (P7=1)	103	

(To create a vertical line with a bracket or arrowhead, create a horizontal line first and rotate it using P9.)

P9=-90, P12=102 P9=-90, P11=102

P11 and P12 will not alter wavy lines. If you want an arrowhead on a wavy line, create a separate code 4 item with only a short line and arrowhead and position it manually. (See the DRAW manual for ways to create your own custom symbols as well as the end of the Code 9 chapter: the DPY command.)

P13 • rotates dashed and wavy lines.

P7=-1, P13=90 P7=-1, P13=-45 P7=1, P13=-25 P7=1, P13=90

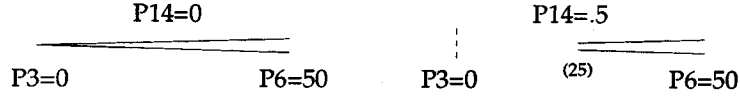
Partial Hairpin Lines

P14 and **P15** are used to indicate partial hairpins.

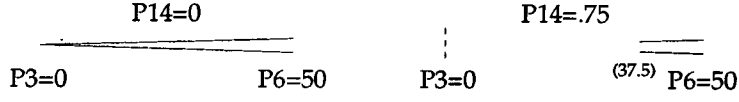
They are commonly used to create a continuing hairpin at the beginning of a system, or to break a hairpin to avoid collision with another item (for example, a dynamic).

When creating a partial hairpin, P3 and P6 must always give its FULL length. P14 indicates the point where the *right* half becomes visible (as a fraction of the entire length). It must be a value between zero and one.

If P14=.5, the right half would be visible.

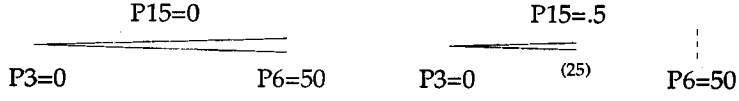


If P14=.75, one fourth of the hairpin would be visible on the right side.

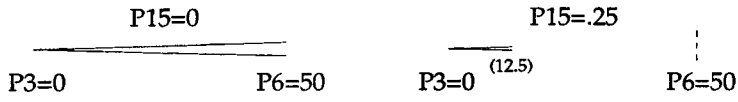


Similarly, P15 controls the point where the left half becomes visible.

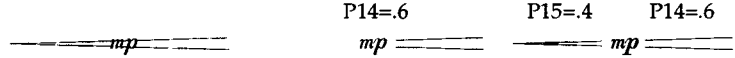
If P15=.5, the left half would be visible.



If P15=.25, one fourth of the hairpin would be visible on the left side.



Note, to "break" a hairpin for a dynamic, you must first input the full hairpin. Then in Edit Mode, select the hairpin and alter P14 (to make it easier to see, move it up a little temporarily). When you have set P14 correctly, move it back to the correct vertical position and press ENTER to accept your change. Select the hairpin again. Set P14 to 0, and alter P15 (once again, you may need to move it up temporarily). When P15 is set correctly, move it back to the correct vertical position, and press F3 to make this a *copy*. There are now two hairpins in the exact same position with identical parameters, except for P14 and P15. Using this method, you may use P14 and P15 to create as many "broken" hairpins as you wish.



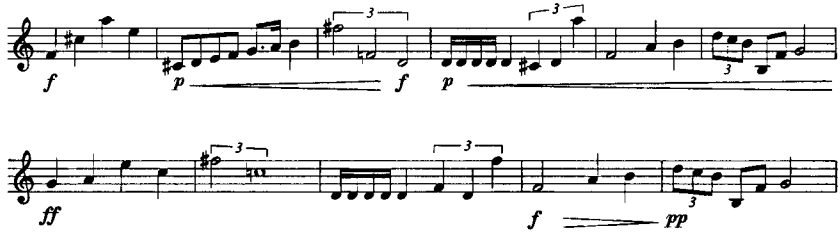
When to Edit Hairpins

If you are going to put a score through the PAGE program to create your layout, we strongly suggest you wait until after you are done to edit your hairpins. Why? PAGE will change the number of measures on a line and respace the music according to what it thinks is appropriate and what constraints you tell it to consider. After it is finished, it performs the Lineup and Justify routine which changes the spacing of your music. Therefore, it would be a waste of time to do fine tuning and editing before this, as you will probably have to re-edit the music anyway.

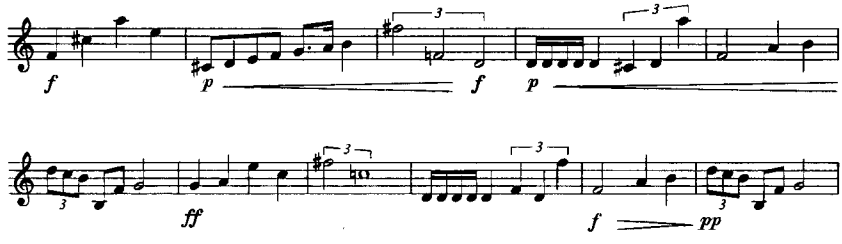
Similarly, you will probably have to edit hairpins on parts that are extracted from a score. Since you use the PAGE program to extract parts, and the layout of each individual part is different from the score, some editing of hairpins may be necessary.

Special Editing For Hairpins When Using Page (or extracting parts)

If a hairpin spans the distance between two or more measures (in a score), and the score is subsequently processed through PAGE (or a part is extracted, and processed through PAGE), the hairpin may not be correctly positioned after PAGE is finished. PAGE will not automatically "break" a hairpin at the end of a system and create two hairpins—you will need to manually edit these instances after the layout is complete. We recommend careful examination of all hairpins after a piece is processed through PAGE. Suppose this example was processed through PAGE:



It is possible that the result could look like this:



An additional hairpin will now need to be added at the beginning of the bottom staff. In addition, the horizontal positioning of some of the other hairpins may need to be adjusted.

If you are not using PAGE to layout your music, you should wait until after you have performed a Lineup and Justify routine on your music to edit hairpins. Lineup and Justify can alter the spacing of your music to the extent that you may need to redo previous editing changes. It's a good habit to perform Lineup and Justify before you do any editing.

CODE 5 - SLURS, TIES, TUPLET BRACKETS, and ENDINGS

Input Method

Letter Commands

Slurs and Tuplet Brackets may be input during the Slurs Stage; Endings must be created in Edit Mode.

To input a slur or tie, type the first note number, a space, and the second note number (eg. 4 5 would create a slur from the fourth to the fifth note. If 99 is used as the *destination* note number, the slur will extend to the right beyond the last note on the staff. If 99 is used as the *source* note number, the slur will begin before the first note on the staff. A plus (+) before either number will force the slur above the notes; a minus (-) will force it below. (Otherwise SCORE will automatically decide if the slur should go above or below. SCORE uses the standard engraving principal: if all the notes in the group are stem up, the slur/tie goes underneath, otherwise the slur/tie goes above.)

Tip

When inputting slurs that extend to the next higher note, you may specify the first note number twice (i.e. 3 3). SCORE will then assume you want the slur to extend to the next higher note number. Therefore, **3 3** is equivalent to **3 4**.

As an alternative to typing note numbers, you may click the left mouse button on a notehead to indicate the source note, the right mouse button to indicate a destination note.

> Note: you do not need to differentiate between slurs and ties during input. SCORE automatically makes this decision based on the notes' positions. Later, in Edit Mode, you may alter SCORE's choices.

To input a Tuplet Bracket, type *X0Y* where *X* is the number in the bracket and *Y* is a note number. For example, `304 5` would create a triplet bracket from notes four to five. In addition, the above commands (+ and -) function with brackets, too. `507 +9` would force the quintuplet bracket above notes 7 through 9.

Note: notes may have more than one slur or a combination of slur(s), tie(s), and a bracket(s). Dotted slurs and ties cannot be entered in the Input Mode, but may be entered as normal slurs and then altered in Edit Mode.

Basic Parameter Structure

P1 • code number of item (in this case 5 for slur).

P2 • staff number that the slur is attached to.

P3 • left horizontal position of the slur.

P4 • left vertical position of the slur.

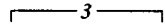
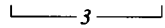
P5 • right vertical position of the slur.

When creating ending signs, P5 can specify whether or not the ending sign is included in parts during part extraction. Add 100 to P5 to include the ending sign in all parts; 200 to exclude it from every part. See part extraction in the chapter on PAGE.

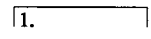
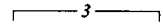
P6 • right horizontal position of the slur.

P7 • indicates the amount of curvature (expressed in scale steps).

A positive number in P7 indicates an upward curvature, a negative number indicates downward.

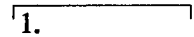
P7=	Example
1	
-1	
5	
-3	
2, P8=3	
-2, P8=3	

P8 • indicates the type of slur (slur, tie, bracket, or ending sign).

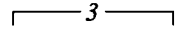
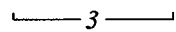
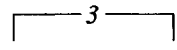
P8=	Description	Example
-1	Slur	
-2	Tie	
1	1st Ending	
2	2nd Ending	
3	Tuplet Bracket	

(See P16, below, to create a slur with a number in the middle.)

When creating ending signs, P7 indicates the length of the vertical line (and must always be a positive number).

P7=	P8=	Example
2	1	
5	2	

For tuplet brackets, P7 controls the length of the vertical line, and the direction of the bracket.

P7=	P8=	Example
2	3	
-1	3	
4	3	

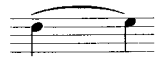
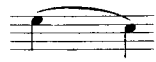
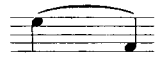
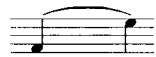
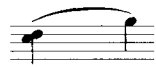
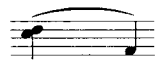
To create a bracket or ending with a different number, see P9, below.

When P8 indicates a slur, it may also indicate a *displacement* of the end points. Normally, the end points of a slur are centered above the notes. The end points of a tie usually go from the sides of the notehead.

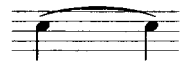
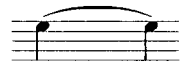
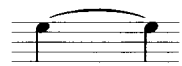
Slur

Tie

In practice, however, these rules are often broken. To create a wide variety of "displacements" of the end points, SCORE allows you to alter P8 in a variety of ways. Examine the following chart.

P8=	Example	
0		(seldom used)
-1		(slur)
-2		(tie)
-3		(tie with dotted note)
-4		other typical uses of P8
-5		
-6		
-7		
-8		
-9		

Note: if one of the options presented (P8=-1 through P8=-9) is not useful, you may use any value from P8=.02 through P8=.99 to create minute amounts of endpoint displacement.

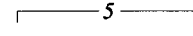
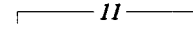
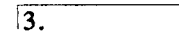
P8=	Example
.1	
.25	
.5	
.7	
.9	

Don't be concerned if it seems that there are many options. In most instances, P8 will be set to -1 (slur, endpoints centered above the noteheads), -2 (tie, starting to the right of the first notehead and ending to the left of the second), or -3 (tie for a dotted note, has extra displacement to avoid collision with the dot).

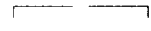
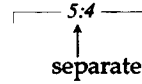
Why do you need to displace the endpoints of slurs and ties? In most instances, SCORE will select the appropriate value for P8 during input. But editing slurs is one of the most sophisticated aspects of notation, and users with more notational knowledge may want to alter SCORE's settings. Altering P8 (along with P7-curvature, and P9-flattening factor, and P10-centerpoint) allows you to create practically any type of slur imaginable.

Why not just alter P3 and P6 to move the endpoints? That would work, of course, but it might cause other problems. SCORE "links" the slur or tie to the notehead by giving it the exact same P3 value as the notes under its endpoints. This keeps the slur over (or under) the correct notes during Lineup and Justify, Parts Extraction, Page layout, and any other function that moves the music around. If you alter P3 and P6, the slur might end up in the wrong position later on. In addition, SCORE's CV, CR, and CRV commands make their decisions about the slur's shape based on the value in P8. See the section on Special Commands, below.

P9 • indicates the flattening factor for slurs and ties, and the "number" that appears in tuplet brackets and endings. When P9=0, the value in P8 indicates the number for endings (1 or 2) and tuplet brackets (3).

P8=	P9=	Example
3	5	
3	11	
2	3	

To create a tuplet bracket with a ratio (i.e. 4:5), set P9 to a negative number and create the ratio as a text item. The negative number in P9 sets the size of the space in the bracket.

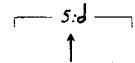
P9=	Example
-2	
-4	
-6	
-5	

separate code 16 item

This is also used to create tuplet brackets with notes in the space.

P9=	Example
-3	

separate code 1 item (P7=-3)

-6	

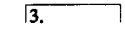
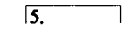
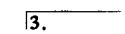
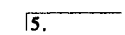
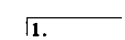
separate code 16 item

Fonts for Tuplet Numbers

On PostScript Printers, the tuplet number will automatically be set in Times Italic. If you need to match this number (when creating a tuplet number manually), use Code 10-NUMBERS and set P6 (size) to .85, P7 (font) to 1 (italic). SCORE automatically uses Bodoni Italic on Dot Matrix printers, and Times Italic on PostScript Printers. If you use Code 16-TEXT, set the font ID# to _02 (Times Italic) or _92 (Bodoni Italic) and the size to .9.

Ending Signs

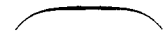
When creating ending signs, P8 indicates the type of ending sign and P9 indicates the number in the ending.

P8=	P9=	Example
1	0	
1	3	
1	5	
2	0	
2	3	
2	5	
2	1	

If P9 is -1 or -2, an ending sign with no number is created.

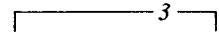
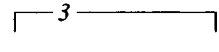
P8=	P9=	Example
1	-1	
1	-2	

If P8 indicates a slur or tie, P9 will set the flattening factor of the slur. This is commonly used to flatten long slurs.

P7=	P8=	P9	Example
3	-1	2	
4	-1	2	
2	-1	.5	
1	-1	.5	
4	-1	-1	
1	-1	-1	
-8	-1	-.5	
-4	-1	-.5	

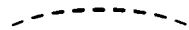
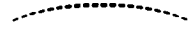
Note that positive values in P9 flatten the slur, negative values increase the curvature or roundness. P7 (the height of the slur) may affect the results created by altering P9.

P10 • sets the centerpoint of a slur or tie, and the position of the number (or space) in a tuplet bracket as a fraction of its totat length. P10 must always be a value between zero and one.

P8=	P10=	Example
-1	.75	
-1	.25	
3	.75	
3	.25	

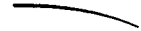
The default value (when P10=0) is actually .5. Values greater than .5 (and less than 1) shift the centerpoint (or number) to the right; less than .5 (and greater than 0) shift it to the left.

P11 • creates a dashed slur.

P11=	Example
1	
6	
20	
0	

If P11 is greater than 4, then the value in P11 indicates the total number of dashes in the slur.

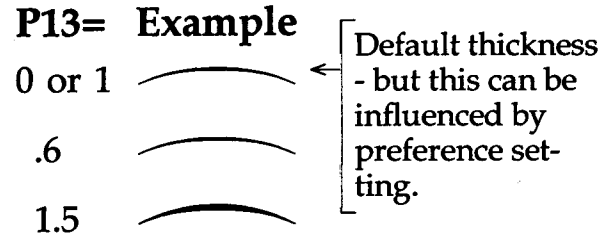
P12 • creates a half slur, or a slur that changes direction at its midpoint. (Half slurs are seldom used.)

P12=	Description	Example
1	Left half only	
2	Right half only	
-1 P7=4	1st half down, 2nd up	
-1 P7=-4	1st half up, 2nd down	

If P7 is positive, the first half of the slur ascends. If P7 is negative, the first half of the slur descends. Slurs that change direction usually require some visual editing.

P13 • controls the thickness of the slur.

The value is expressed in the decimal form of a percentage (.5 = 50%, etc.). Normally P13 should be left at the default, zero. A good maximum is 1.5. A small value, such as .1, will give a thin line slur. (This may be good for editorial slurs.)



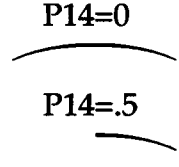
Creating Broken Slurs

P14 and **P15** are used to indicate partial slurs.

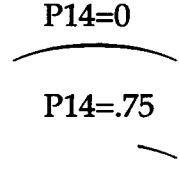
These are commonly used to create a slur that must be broken to avoid collision with another item. Note: P14 and P15 function in the exact same manner as P14 and 15 in Code 4-Lines. (See P16 to create a slur with a number in the middle.).

When creating a broken slur, P3 and P6 must always give its full length. P14 indicates the point where the *right* half is visible as a fraction of its total length. The value in P14 must be between zero and one.

If P14=.5, the right half would be visible.



If P14=.75, one fourth of the slur on the right would be visible.



Similarly, P15 controls the point where the left half is visible.

If P15=.5, the left half would be visible.

P15=0

P15=.5

If P15=.25, one fourth of the slur's left side would be visible.

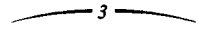
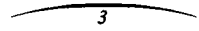
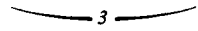
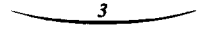
P15=0

P15=.25

Note, to "break" a slur, you must first input the full slur. Then in Edit Mode, select the slur and alter P14 (to make it easier to see, move it up a little temporarily). When you have set P14 correctly, move it back to the correct vertical position and press ENTER to accept your change. Select the slur again. Set P14 to 0, and alter P15 (once again, you may need to move it up many temporarily). When P15 is set correctly, move it back to the correct vertical position, and press F3 to make this a *copy*. There are now two slurs in the exact same position with identical parameters, except for P14 and P15. Using this method, you may use P14 and P15 to create as many "broken" slur segments as you wish.

Note that you may use either P12 or P14 and 15 to create half slurs. If you use P12, the resulting half slur extends the full distance from its P3 position to its P6 position. If you use P14 and/or P15, the resulting slur is a *percentage* of the positions indicated in P3 and P6.

P16 • creates a number in the middle of a slur (sometimes used instead of a tuplet bracket).

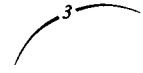
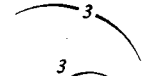
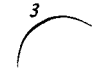
P16=	Example
3	
-3	
3	
-3	

A positive value in P16 breaks the slur and positions the number in the middle, *regardless of whether the slur is curved up or down*. When a slur is curved up, a negative value in P16 places this number *below* the slur; when the slur is curved down, a negative value places the number *above* the slur.

P17 • moves the number created with P16 to the left or right.

P18 • moves the number created with P16 up or down.

If the angle of the slur is steep, P17 and P18 must be used.

P17=	P18=	Example
.5	1	
1.5	0	
-2	5.5	

Note that P10 will not alter the position of the number in the slur (as it does with a tuplet bracket).

Editing Slurs Using Letter Commands

To assist with the time-consuming task of editing slurs, ties, ending signs, and tuplet brackets, SCORE provides four letter commands: CN, CV, CR, CRV.

For these letter commands to work correctly it is essential that P8 is set correctly. Usually SCORE will do this during input, but if you edit a slur, it is possible to alter it. We recommend that the user try to avoid altering the endpoints of slurs and ties and use P8 to accomplish any positioning and displacement that is necessary.

Usage of CN (CeNter)

CN centers a slur over the noteheads nearest to its right and left endpoints. This command alters P3 and P6.

Select the slur, then type: CN ENTER

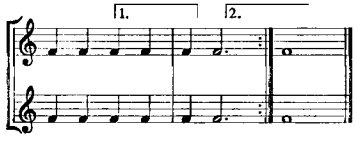
This command will also alter tuplet brackets

CN is primarily used when you do *not* wish to alter the vertical position of the slur/bracket.

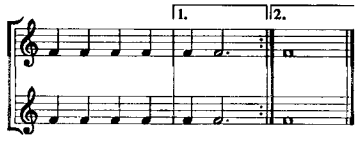
CN is also used to center an ending sign over the barlines to which it applies.

Type CN X where X indicates the staff number where the barlines originate (if they originate on the current staff, you do not need to specify X).

Before



After CN 1

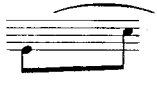


Usage of CV (Center Vertically)

CV centers a slur and also adjusts its vertical position to correctly match the noteheads (or stems). This command alters P3, P4, P5, and P6.

Select the slur, then type: CV ENTER

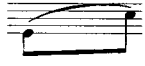
Before



After CV

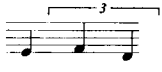
Before

After CV

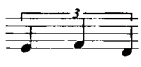


This command will also alter tuplet brackets

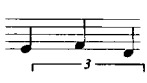
Before



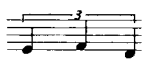
After CV



Before



After CV



Note that CV duplicates the function of CN, but adds vertical positioning.

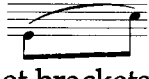
Usage of CR (CuRve)

CR adjusts the curvature of the slur/tie automatically based on its length and the position of its endpoints. This command only alters P7.

Select the slur, then type: CR ENTER

Before

After CR



This command will *not* alter tuplet brackets.

Tip

It is sometimes necessary to use more than one letter command to edit a slur. Generally, it's best to use CV first, then CR. That way, if CV changes the positioning of the slur, CR will correctly adjust the curvature for the final position of the slur.

Usage of CRV (group adjustment of CuRve)

At the SCORE prompt (>_), type CRV. The program asks you for staff number, left and right positions and an upper staff number if any. You may specify 99 to alter every staff.

Using this command allows you to quickly adjust the slurs on an entire staff, group of staves, or a selected area on one or more staves. CRV is commonly used to do a quick edit on a page or system that has been processed through PAGE.

When to Edit Slurs and Ties

If you are going to put a score through the PAGE program to create your layout, we strongly suggest you wait until after you are done to edit your slurs (ties). Why? PAGE will change the number of measures on a line and respace the music according to what it thinks is appropriate and what constraints you tell it to consider. After it is finished, it performs the Lineup and Justify routine which also changes the spacing of your music. Accordingly, you will probably need to do fine tuning and editing of the slurs and ties.

Similarly, you will probably have to edit slurs(ties) on parts that are extracted from a score. Once again, you are using the PAGE program to extract the parts, and the layout of each individual part will probably be very different from the score.

L.V. (Let Vibrate) Ties

Because of the way PAGE alters slurs and ties, we recommend using code 9 to create short *l.v.* ties. See code 9 for more information.

Special Editing For Slurs When Using PAGE

If a slur crosses a barline in a score, and the score is subsequently processed through PAGE (or a part is extracted, and processed through PAGE), the slur may not be correctly positioned after PAGE is finished. PAGE will not *break* a slur at the end of a system and create two slurs—you will need to manually edit these instances in the music. We recommend using the CRV command to quickly adjust curvature, then careful examination and editing of the part to make sure there are no double slurs, or slurs missing.

If you are not using the PAGE program to layout your music, you still should wait until after you have performed a Lineup and Justify routine on your music to edit slurs and ties. As with the PAGE program, Lineup and Justify can alter the spacing of your music to the extent that you may need to redo previous editing changes. It's a good habit to perform Lineup and Justify before you do any editing.

The EDI Command

What if you want to change the slurs for an entire staff? SCORE provides an easy way to *re-create* your input so that you may make these changes without extensive editing: the EDI (EDit Input) command.

To change the basic items on a staff, you use the EDI command.

Type: EDI ENTER

SCORE prompts you for a staff number, left and right positions, [code number and upper staff]. Type the staff num-

ber, and specify left and right positions if you desire (the code number and upper staff numbers do not function for this command) and press ENTER. SCORE will recalculate the input for the staff (or portion of the staff) and display it for editing. Step through the input text and alter any items you wish to change. Press ENTER until you reach the end (where SCORE prompts you to save your input). If you answer yes to this prompt, you may save the new input in a text file for later use. Type N, press ENTER, and the line is re-input. You may need to do some touch-up editing on the line and possibly re-lineup and justify the file.

CODE 6 - BEAMS and TREMOLANDI

Input Method

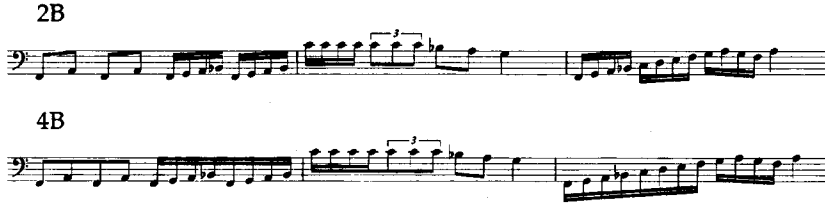
Letter Commands

Beams are input during the Beams Stage; Tremolandi are input during the marks stage.

To input a beam, type the first note number, a space, and the second note number (eg. `4 5` would create a beam from the fourth to the fifth note. A plus (+) before either number will force the beam above the notes; a minus (-) will force it below. (Otherwise SCORE will automatically decide if the beam should go above or below.) Grace notes may be beamed in the same manner as regular notes.

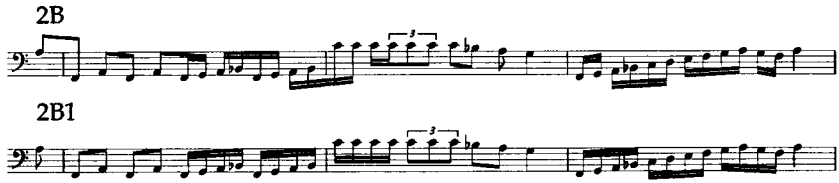
As an alternative to typing note numbers, you may click the left mouse button on a notehead to indicate the first note, the right mouse button to indicate the last note.

SCORE also provides automatic beaming routines. You may type XB; to beam X number of eighth-note beats together. For instance, `2b;` would beam anything that occupies the space of two eighth notes (two eighths, four sixteenths, an eighth-note triplet, etc.).

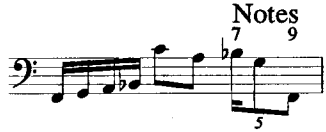


If the line has a pickup, SCORE allows you to displace the automatic beaming to begin with the correct beat. You type XBY; where X indicates the number of eighth-note beats (as

above) and *Y* indicates the number of items to skip. `4B1` would beam every four eighth beats together, but skip the first item.



To input a number over a beam, type *X*0*Y* where *X* is the number on the beam and *Y* is one of the note numbers. For example, `304 5` would create a beam from notes four to five with a 3 above it. The plus and minus function with this type of beaming. `507 -9` would create a beam (below) from notes 7 through 9 with a 5 attached to the beam. `-2B` would beam by every two eighths together (and every beam would be under).



Inputting Tremolandi

Any note may have a tremolo attached to it, even a note that also has a beam. Tremolandi are input in the Marks Stage. The following letter commands are used:

Letter Command	Example
TM1 or TME	
TM2 or TMS	
TM3 or TMT	
TM4	

These commands may also apply to a group of notes. For example, `TM3 4:9` would create a three-slash tremolo on notes four through nine.

Specifying Maximum Beam Angle

Some engravers believe beams should never be slanted more than a certain amount, often the interval of a third or a fourth, except in exceptional circumstances. SCORE allows you to specify a maximum angle for beams in the PREF.SCR file which is located in the \LIB directory on your hard disk. If you open this file in a word processor or text editor (it is a DOS Text file) one line will read: Beam Tilt 20. This indicates the *maximum* number of scale steps a beam may slant over a distance of 100 horizontal spaces. The slant is the difference between P4 and P5. In this instance, no beam will angle more than 20 vertical steps if it is 100 units long. Shorter beams are angled at lesser angles, proportionally. SCORE alters the slant based on the length of the beam and the difference between the intervals of the notes. A lower setting in PREF.SCR will restrict your beams to less angle; a higher setting will yield greater angles. **Note this default setting only affects beams during Input Mode, when using the Flip Commands, and when editing with the EDI Command.** You may alter any beam in the Edit Mode to manually adjust its angle.

Basic Parameter Structure

P1 • code number of item (6 for beams).

P2 • staff number that the beam is attached to.

P3 • left horizontal position of the beam.

P4 • left vertical position of the beam.

If 100 is added to P4, a grace-note size beam is created. If P4 is negative, add -100. This only affects the thickness (and

space between primary and secondary beams), not the length. SCORE automatically sets P4 during the Input Mode. **The AD and CN commands will not work correctly on grace notes if P4 of the beam does not have 100 (or -100) added to it.** See below (letter commands) for an explanation of AD and CN.

P5 • right vertical position of the beam.

P6 • right horizontal position of the beam.

P7 • indicates the stem direction of the notes attached to the beam.

P7 must always be a two-digit number, *XY*, where *X* is either 1 or 2, and *Y* indicates the number of full beams. If *X* = 1, the beam is above (notes stem up) and if *X* = 2, the beam is below (notes stem down). (The *X* digit functions in the same manner as P5 of Code 1 - NOTES.)

P7=	Example
12	
22	
11	
23	

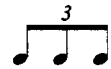
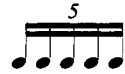
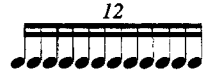
Note: digit *Y* should usually equal 1 or more to create the primary beam. (The primary beam is the first beam, the one that connects with *every* note in the group and is farthest from the noteheads.) If there is another beam(s), and it/they are the same length as the primary beam, they are also indicated in digit *Y* of P7. If the secondary beam(s) "break," they must be created with parameters 10 through 15.

If digit Y equals zero, then a tremolo is created instead of a beam. See P10, below, for a detailed explanation of tremolandi.

P7=	Example (In each case, P10 = 2)
10	
20	
-10	
-20	

> Why do you need to specify whether the beam is above or below? It's very easy to move beams around in SCORE, so you might think that it's not very important to correctly specify the "X" digit of P7. But SCORE has some automatic features (like the CN and AD commands, and the transpose feature) that only function properly when P7 of the beam is correct. SCORE does this correctly during input, but if you edit any beams, make sure P7 is correct.

P8 • indicates a number that is attached to the beam for tuplets.

P8=	Example
3	
5	
12	

P8 is also used when editing beams—see Editing Beams, below.

Fonts for Tuplet Numbers

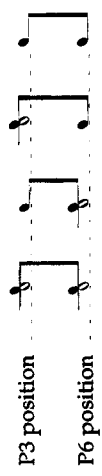
On PostScript Printers, the tuplet number will automatically be set in Times Italic. If you need to match this number (when creating a tuplet number manually), use Code 10-NUMBERS and set P6 (size) to .85, P7 (font) to 1 (italic). SCORE automatically uses Bodoni Italic on Dot Matrix printers and Times Italic on PostScript Printers. If you use Code 16-TEXT, set the font ID# to _02 (Times Italic) or _92 (Bodoni Italic) and the size to .9.

P9 • is used to displace the endpoint(s) of the beam.

(This is sometimes seen in keyboard music when notes are beamed between the staves; see *Using SCORE*, chapter 7). P9 may also be used when a beam is attached to an "offset" note. (See also P14 and P15, below.)

P9 is a three-digit number, XYZ, where digit X refers to the primary beam, digit Y refers to the secondary beam (if present), and digit Z refers to the tertiary beam (if present). If there is no secondary or tertiary beam, those digits should equal zero. P9 may have four different values in any or all digits:

P9=	Description	Example
0	left end = P3, right end = P6	
100	left end offset to the left, right end=P6	
200	left end = P3, right end offset	
300	both ends offset	



All of the above beams have the same P3 and P6 settings—only P9 is used to alter the horizontal position of their endpoints.

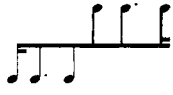
Make sure to use CN and AD after editing P9 (see Letter Commands, below).

When notes are beamed between two staves, they will all be "attached" to a single staff (their P2 values will be equal). The beam should also be attached to that staff, and P9 should be set to allow correct centering and adjusting.

Note: in some instances you may need to set the individual digits of P9 to different offsets. This beam would require a setting of P9=320.

P9= **Example**

0



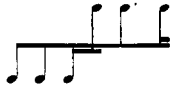
202

"0" indicates the left end of the secondary beam is not offset

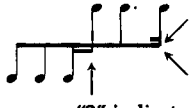
Note that the left partial beam is the secondary beam and the right partial beam is the tertiary one.

P9= **Example**

0



222



"2" indicates the right end of the secondary beam is offset

Automatically Creating Beam Offsets

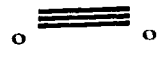
Editing P9 can be confusing sometimes. To simplify this, SCORE will automatically set it for you. Select the beam in Edit Mode, and change P9=-1. SCORE automatically sets the correct value.

Why do you need to displace the endpoints of beams? It is better to use P9 to create these offsets so that SCORE's automatic functions, like the CN command explained below, will work correctly. If you don't use P9 to create offsets, and alter P3 and P6 instead, and then extract a set of parts you might find all your work "undone" in the parts. This is one of the important reasons to always use P9.
Editing beams is one of the most sophisticated aspects of notation (along with slurs), and users with more notational knowledge may want to alter SCORE's settings.

Why not just alter P3 and P6 to move the endpoints? That would work, of course, but it might cause other problems. SCORE "links" the beam to the notehead by giving it the exact same P3 value as the notes under its endpoints. (The beam will have P3 equal to the first note and P6 equal to the last.) This keeps the beam over (or under) the correct notes during Lineup and Justify, Parts Extraction, Page layout, and any other function that moves the music around. If you alter P3 and P6, the beam might end up in the wrong position later on. In addition, SCORE's CN and AD commands make their decisions about the beam's position based on the value in P9 (as well as P7). See the section on Special Commands, below.

P10 • creates secondary beams and also creates tremolo beams

P7=	P10=	Example
10	2	
20	2	
20	3	
-10	3	
-20	3	

P11=	P12=	Example
0	-2	
2	0	
4	-4	

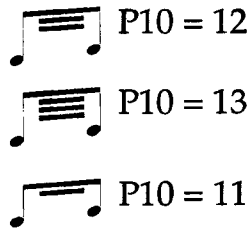
P12=	Example
6	
3	

Creating Secondary Beams

If a secondary beam is not the same length as the primary beam, you must use P10, P11, and P12 to create it.

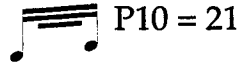
P10 is a two-digit number *XY* where *X* indicates the vertical displacement from the primary beam and *Y* indicates how many additional beams you would like to create. For example, If P7=11 (1 primary beam, notes stem up) and P10=12, two secondary beams will be created one level below the primary beam.

The default for these secondary beams is offset from the endpoints of the primary beam, sometimes called a floating tremolo (since it floats between the stems). To alter the secondary beam(s), you must specify a position for its endpoints using P11 and P12.



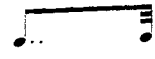
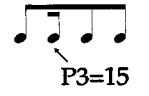
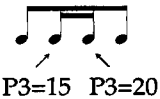
If P10=13, three secondary beams would be created; P10=11, one secondary beam. If there were two beams in P7 (P7=12), then set P10 to 21 to create a single secondary beam two levels below the primary beam.

Note that if the beam is for a group of notes that are stemmed down, the secondary beam(s) will be above the primary beam.



P11 • indicates the left position of any beam(s) created with P10.

P12 • indicates the right position of any beam(s) created with P10.

P11=	P12=	Example
0	-1	
-1	0	
0	15	
15	20	

Note that you do not need to place a value in P11 or P12 *if it is equivalent to P3 or P6*. Instead, you may substitute the special value, -1.

Using the CN command (see below) will simplify the creation of secondary beams.

Creating Complex Secondary Beams

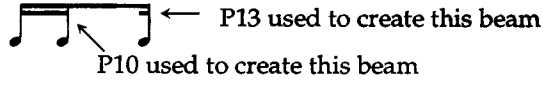
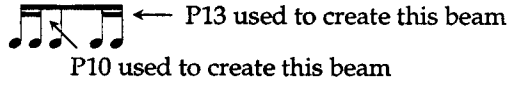
In some situations, you will need to create two different secondary beams.

P13 • creates additional secondary beam(s).

P14 • indicates the left position of any beam(s) created with P13.

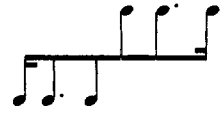
P15 • indicates the right position of any beam(s) created with P13.

P13 functions in exactly the same manner as P10; P14 functions in the same manner as P11; and P15 functions in the same manner as P12.

P14=	P15=	Example
0	-1	
12	-1	

Reversing Secondary Beams

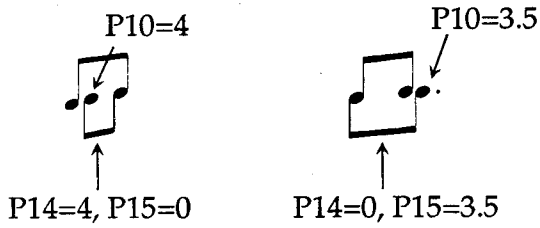
Sometimes it is necessary to flip a secondary beam to the opposite side of the primary beam. Make P10 or P13 a negative number to do this.

P10=	P13=	Example
11	-11	

In this example P7=11 (stems up, beam above) and P13=-11 to force the right secondary beam above the primary beam.

Creating Beams for "Offset" Notes

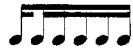
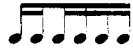
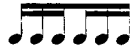
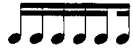
P14 and P15 are also used to offset a beam when the note(s) the beam is attached to are displaced (with P10 of NOTES).



For this to function, P13 must be set to 0. P14 will indicate the offset for the left end of the beam (use the exact same number as P10 of the note). P15 alters the right end of the beam.

Automatically Dividing Secondary Beams

It may seem like editing beam divisions is quite complex. To assist you, SCORE provides an easy shortcut. P8, in addition to creating a tuplet number over the beam, automatically creates parameters 10-15, provided certain conditions are met. Suppose you had input the above six-note group, and you wanted to divide the secondary beam into three and three. Select the beam, and change P8 to -3. SCORE automatically sets the parameters for P10-15. P8 can be any negative number, where that number indicates the note number after which the split is to occur. **This automatic beam division only functions when the primary and secondary beams are created with P7 (as in the above example).** It will not work on complex beams.

P8=	Example
-1	
-2	
-3	
-4	
-5	

Note: if you use a negative number in P8 to edit a beam, and then try to repeat the process with a different number, nothing will happen. For P8 to function correctly, Parameters 10 through 15 *must equal 0*, and P7 must be reset to its previous value. If you use P8 and don't like the result or make an error, you must reset these parameters before trying again. An easy way to do this is to use SCORE's AB (ABort) command.

Select the beam. Set P8 to its negative value. Before you exit Edit Mode, check to see if you want to accept the results. If you don't, type AB ENTER and the beam will return to its original parameter settings. Now you can repeat the process.

What if you want a tuplet number in P8?
This is quite simple. Use P8 to edit the beam (using a negative number), then set it to a *positive* number to create the tuplet number. The negative number is not stored in P8; it's only an editing procedure.

Special Situations

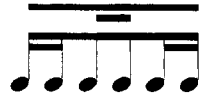
Sometimes you will need more beam segments than can be created using P7, P10, and P13. In these situations you must edit the beam, then copy it onto itself and re-edit it to create the additional segments. For example, this type of beam cannot be created from one beam using P7, P10, and P13.

Instead, create this:

Select the beam again, and create this by setting P8 to -2:

Edit P14 (to alter the left endpoint of the right secondary beam) so that you have this:

Select the beam again, and temporarily move it up a little (so that you can see what you are doing). Change parameters 13-15 to 0, and edit P11 and 12 to get this:



Restore the beam to its original vertical position and *copy* it to create the three-way division of the secondary beam.

Creating Beams for Tremolandi

We have already demonstrated how to create a tremolo on the stem of a note, but there are situations when you need to indicate a beamed tremolo. These beams must be created in Edit Mode.

Suppose you wanted to create a half note tremolo. During the Input Mode, input each note as a *quarter* note. (You will not be able to input a beam for these notes since SCORE will not let you beam two quarters together.) In Edit Mode, alter each note's P6 to -1 to create a halfnote notehead. Now you need to create a beam. Suppose these notes were at position 10 and 35 on staff 1. Type: `6 1 10 8 9 35` **10 ENTER. This creates a beam (Code 6)** on staff **1** with a left horizontal position of **10**, a left vertical position of **8**, a right vertical position of **9**, a right horizontal position of **35**. Note that we used the special tremolo setting for P7 (10 if stems up; 20 if stems down).

Type `I` ENTER to select the beam for editing. Change P10 to 3. In this case, P10 indicates the number of "floating" beams you want (in this case, three). SCORE automatically sets the endpoints to 3½ spaces inside the stems of the notes. If you wish to change this setting, P11 indicates the left endpoint and P12 indicates the right. Their values are expressed in spaces from the inside position of the noteheads.

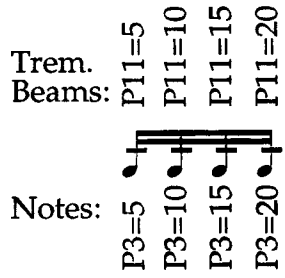
To create a primary beam(s) connected to the stems and "floating" secondary beams, set the right digit of P7 to a number indicating how many primary beams. For example, if P7=11, you would create a single primary beam connected to the stems (which is the same as for regular beams). To create secondary "floating" beams, set P11 and P12 to 0. P10 must now be a two-digit number, *XY*, where *X* indicates the number of secondary beams and *Y* indicates the number of levels to offset.

Note that you can not alter the displacement of the secondary beams in this instance.

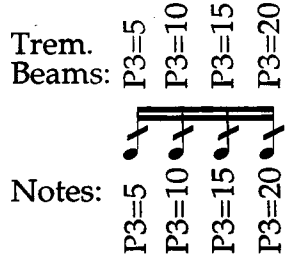
Tremolandi with Beams

When a beamed group of notes also has tremolandi on the stems, SCORE will slant the tremolandi to be parallel with

the beam. SCORE automatically creates the tremolandi as separate beams during the Input Mode (they are created in the Marks Stage). Each tremolo has its Parameters 1-6 set to be identical with the beam; P11 sets its horizontal position.



Note: some engravers do not slant the tremolo to be parallel with the beam. If this is your preference, you must alter the tremolandi during Edit Mode. Select the tremolo and change P5 to 0, P6 to 0, and P11 to 0. (P5, P6, and P11 are always 0 for "regular" tremolandi.) Now you must alter P3 to position the tremolo horizontally.



Tip

An easy way to position a tremolo is to get it in the approximate position horizontally, then type CN. SCORE automatically centers it on the nearest stem.

P17 • indicates the thickness of the beam.

The default is 1. A setting of .8 or .9 will create thinner beams; 1.1 or 1.3 will create thicker beams. This feature is sometimes used to thin beams for grace notes.

P17=	Example
0	
.75	
1.2	

P18 • alters the size and position to conform to the notehead size (if the notes are altered by changing their P15 values).

P18=	Example
0	
.75	
1.2	

P18 must equal the P15 value of the notes. This feature is seldom used.

Editing Beams Using Letter Commands

To assist with the task of editing beams, SCORE provides you with two letter commands: CN and AD.

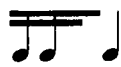
Usage of CN (CeNter)

CN centers a beam over the noteheads nearest to its right and left endpoints. This command only alters P3 and P6.

Select the beam, then type: CN ENTER

Before  After CN 

CN will also alter P11, P12, P14, and P15, if there are any secondary beams.

Before  After CN 

Note that CN alters the endpoints so that they attach to the *closest* note. For correct results, you must position the beam so that its endpoints are close to the correct notes.

Before After CN

(the secondary beam is more than halfway between the two notes)

CN will also center a tremolo horizontally on a note stem.

Before After

Often, after editing beams, the length of the stems does not match the position of the beam. The AD command corrects this.

Usage of AD (ADjust Stem Lengths)

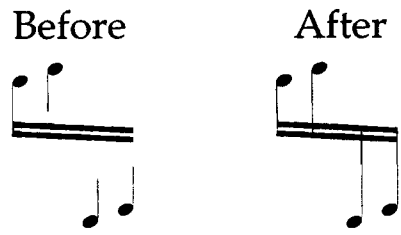
To use AD you must exit Edit Mode. Type ADX *where* X indicates the number of the staff you wish to adjust. If X is greater than the total number of staves possible (eg. 33, or 99), it will adjust stems on all staves.

Before After

It is always a good idea to use AD after editing beams.

Adjusting Stems When Beaming Between Staves

AD will also adjust the stems for exceptional beaming. To adjust stems when beaming between staves, type ADX Y where X equals the number of the staff, and Y is any number other than zero.



For this form of AD to work correctly, the stem direction of the note(s) (indicated in P5) must be correct. See *Using SCORE*, chapter 7 for further examples.

> **Using Letter Commands with Grace Note Beams**
> If CN and AD do not function correctly when editing a grace note beam, check to see if it was created correctly (SCORE takes care of this during input, but you might change something inadvertandly when manually editing a beam). Grace note beams should be created by adding 100 to P4 (or -100 if P4 is negative). The notes should be altered in the same manner (by adding 100 or -100 to P4). "Normal" size beams will not correctly position with grace notes, and vice-versa.

The EDI Command

What if you want to change the beaming for an entire staff? Or want to change a staff from all flags to beams? SCORE provides an easy way to *re-create* your input so that you may make these changes without extensive editing: the EDI (EDit Input) command.

Suppose you wanted to change a staff from all flags to beaming by every two eighth notes.

Type: `EDI` ENTER

SCORE prompts you for a staff number, left and right positions, [code number and upper staff]. Type the staff number (the code number and upper staff numbers do not function for this command) and press ENTER. Score will recalculate the input for the staff (or portion of the staff) and display it

for editing. Step through the input text until you reach the Beams Stage. Delete the line (using the BACKSPACE key and type `2B;`. Press ENTER twice and the line will be re-input. You may need to do some touch-up editing on the line and possibly re-lineup and justify the file.

CODE 7 - TRILLS, OTTAVAS, and PEDAL MARKS

Input Method

Letter Commands

Ottavas are input during the Marks Stage; Trills and Pedal Marks must be created in the Edit Mode.

> Note: you *can* input a trill in the Marks Stage if it does not require a wavy extension line. In this instance, it will be attached to the note (in P11, see Code 1 - NOTES). You can only input this, of course, if there is no other articulation or mark attached to the note (since P11 can only indicate *one* mark). To create an accent and a trill, for example, you must input one of the symbols during the marks stage (usually the one closer to the notehead, although it doesn't matter) and then create the other as a separate code 9 item. Regardless of the method used, the same trill symbol appears in the music.

To input an Ottava (8^{va}), type O (the letter O) followed by the first note number, a space, and the last note number. To input an Ottava Bassa (8^{ba}), type OB followed by the first note number, a space, and the last note number. *"8"* and *"15^{ma}"* must be created in edit mode.

As an alternative to typing note numbers, you may click the left mouse button on a notehead to indicate the first note, the right mouse button to indicate the last note after typing the letter command.

Basic Parameter Structure

P1 • code number of item (in this case 7).

P2 • staff number that the item is attached to.

P3 • horizontal position.

P4 • vertical position.

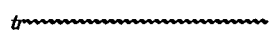
P5 • size.

* P5 indicates the size for Trills, Ottavas, and Graphic Harp Pedal Symbols. When creating Piano Pedal Lines, P5 must equal 0. When creating SCORE's unique graphic pedal symbol, P5 is a three-digit number XYZ where each digit indicates which pedal to depress. In this instance, P9 indicates size.

P5=	Description	Example
001	right pedal down	
100	left pedal down	
010	middle pedal down	
110	left and middle pedal down	
101	left and right pedal down	

Any combination of digits XYZ are possible. A "1" in any of the digits creates a filled in symbol indicated to hold the pedal down; a "0" (zero) in any of the digits creates an open shape indicating the pedal is not down. See P7 for more information on how to create this special pedal symbol.

P6 • right position of the extension line (trills, ottavas, and pedals).

P3=	P6=	Example
10	50	
10	30	
10	50	
10	50	
10	0	
10	0	

SCORE automatically uses the correct type of extension line for these symbols (wavy for trills, dotted for ottavas, solid for pedals). If P6=0, then no extension line is created.

When creating Graphic Harp Pedal symbols, P6 should always equal zero.

P7 • indicates the type of symbol.

P7=	Description	Example
0	Trill	
1	Graphic Harp Pedal Symbol	
20	Graphic Piano Pedal Symbol	
21	Piano Pedal Line (1)	
22	Piano Pedal Line (2)	
8	Ottava	
-8	Ottava bassa	
88	Ottava (no "va")	
15	Quindicesima	

P8 • indicates something different for each type of object.

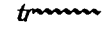
P9 • indicates something different for each type of object.

Trills

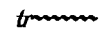
If P7=0, P8 indicates the type of accidental (if any) that will appear above the trill. Note: if you prefer to create ancillary notes to indicate what pitch is trilled to, see Code 9.

P8=	Description	Example
0	no accidental	
1	trill w/flat	
2	trill w/sharp	
3	trill w/natural	

P9 indicates the size of the "wave" in the extension line (the default is .75).

P9=	Example
0	
1.5	
.5	

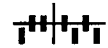
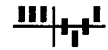
P11 indicates the vertical position of the extension line.

P11=	Example
0	
1	
-1	

Graphic Harp Pedal Symbol

If P7=1 (Graphic Harp Pedal Symbol), P8 is a three-digit number XYZ indicating the position of each pedal (these

symbols graphically portray the exact positions of the harp pedals) on the *left* side. P9 is a four-digit number *ABCD* that indicates the pedal positions for the *right* side.

P8=	P9=	Example
122	2121	
323	3321	
333	2123	
111	1111	

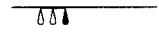
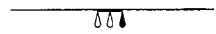
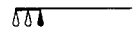
Each symbol represents one of the seven pedals on the harp. From the left, they indicate the pitches: D C B | E F G A. The "digits" in P8 and P9 represent the position of the pedals, as shown above. These represent:

Any Digit	Description	Example
1	Bottom Position (sharp)	
2	Middle Position (natural)	
3	Top Position (flat)	

If you are unfamiliar with the use of this notation for harp pedaling, we suggest you consult a reference source such as *The Technique of Orchestration* by Kent Kennan (Prentice-Hall, Inc.) for a detailed explanation.

Graphic Piano Pedal Symbol

If P7=20 (Graphic Piano Pedal Symbol), P8 indicates the left horizontal position of the extension line. Note: this will only take effect if you have specified a value for P6.

P6=	P8=	Example
100	50	
50	75	
75	40	
75	0	

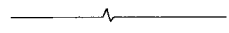
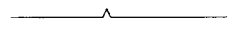
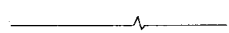
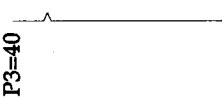
In each case, P3=55

P9 indicates the size of the symbol.

P9=	Example
2	
.5	
1.5	
0	

Piano Pedal Line

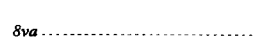
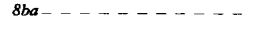
If P7=21 or 22 (Piano Pedal Line), P8 indicates the position of the "notch" signifying the point to lift the pedal.

P7=	P8=	Example
21	55	
22	55	
21	60	
22	45	

P9 should equal zero.

Ottavas

If P7=8, -8, 88, or 15 (Ottavas), P8 indicates the size of the dash in the extension line.

P7=	P8=	Example
8	0	
-8	2	
15	3	
88	1.5	

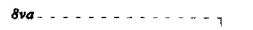
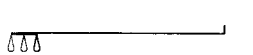
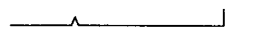
P9 indicates the *space* between the dashes. This may be used in combination with P8 to change the character of the dashed extension line.

P8=	P9=	Example
1	2	
2	1	
1	.5	
1	3	

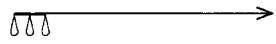
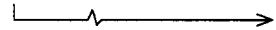
P10 • is not used.

P11 • indicates a bracket on the left end of a piano pedal line. Note: P11 is only used when P7=20 (Graphic Piano Pedal Symbol) and P7=21 or 22 (Piano Pedal Lines).

P12 • indicates a bracket on the right end of a piano pedal line. Note: P11 is only used when P7=20 (Graphic Piano Pedal Symbol) and P7=21 or 22 (Piano Pedal Lines).

P11=	P12=	Example
0	-2	
0	2	
0	2	
2	2	
-2	2	
0	4	
3	0	

The value in P11 or P12 alters the size of the vertical line. Negative values in P11 or 12 make the vertical line point downward.You may add 100 to either P11 or P12 to create an arrowhead. (The value in P11 or P12 before you add 100 indicates the size of the arrow.)

P11=	P12=	Example
0	102	
0	103	
3	103	
102	102	

CODE 8 - STAVES

Input Method

Letter Commands

Staves are automatically input prior to the Pitch Stage of the Input Mode. If you are inputting music onto a prexisting staff of music, or using a preset Staff Setup, a new staff will not be created.

Basic Parameter Structure

P1 • code number of item (in this case 8 for staff).

P2 • staff number.

P3 • left horizontal position.

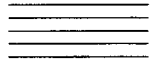
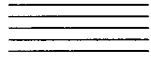
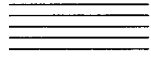
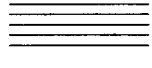
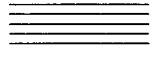
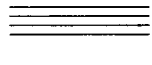
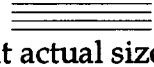
P4 • vertical position.

Altering P4 will change the vertical position of the staff. **You should not alter P4 on the bottom staff (staff no. 1) of a file.** P4 *is* used to alter the spacing between staves above staff one. Note: if P4=0, the default space between staves is 10 "scale steps" of a size one staff. If you are using a different size staff, the default space between staves (when P4=0) is still 10 size-one scale steps.

P5 • size.

Staff size (P5) only refers to the vertical size of the staff and all of the symbols attached to it. The horizontal size does not change if you alter P5, and in most situations you should not alter the left and right positions (P3 and P6) from their defaults of 0 and 200. Setting the Staff Size is a very important concept in SCORE, and it is fully explained in *Using SCORE*, Chapter 8. Although the *printed* size of the staff depends on what

size you select when printing, the following chart will translate SCORE's P5 values into millimeters and Rastral sizes (an engraving standard for staff size). This chart assumes that you are printing at Size = 1. (the same size as input). See Printing for an explanation of the Size = setting when printing.

P5=	Height (millimeters)	Rastral Size	Example
1	9	0	
.9	8	1	
.85	7.5	2	
.8	7	3	
.75	6.5	4	
.7	6	5	
.65	5.5	6	

Note: This chart is not printed at actual size.

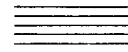
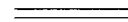
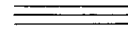
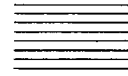
When selecting a staff size during input, you must always consider what size you want the *final* printed image to be. See *Using SCORE*, Chapter 8, for some good guidelines.

P6 • right horizontal position.

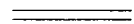
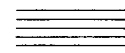
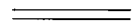
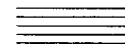
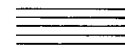
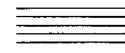
> What if you want a very short staff? Although we always recommend using the default positions for the staff (P3=0, P6=200), there are some instances when you need to create a shorter staff. Suppose you need to create music examples for a textbook (a task SCORE is well suited for).

> One way to do this is to create a very large staff size, print the examples at the full 7½" width, and then reduce them by photographic means to the size necessary. But if you want to work with a short staff on the screen, you must alter P3 and/or P6. SCORE will still function correctly, but you must make sure you have a barline at the end of the system (or an invisible barline) to allow Lineup and Justify to function properly.

P7 • indicates how many lines are in the staff. The default is 5, a normal staff.

P7=	Example
0	
2	
1	
3	
8	

When you alter P7, the bottom line of the staff will be in the same vertical position of a 5-line staff at this position. If you wish to alter this default, set P7 to a 3-digit number *XYZ*, where *X* indicates which line of the *5-line staff* you wish to be the *bottom* line of this staff.

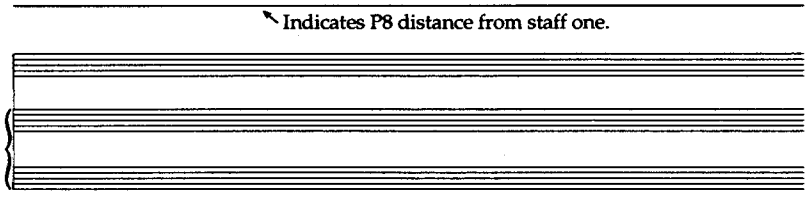
P7=	Example	(If P7=0)
303		
503		
102		
301		

(We have placed these examples next to a normal staff to illustrate the use of P7.)

Creating an Invisible Staff

If you make P7=-1, the staff becomes "invisible." This is sometimes useful to create arbitrary items not associated with any visible staff. Do not confuse this with the DP command (see the chapter on Changing Screen views, pg. 295) to "disappear" a staff temporarily from the display. An invisible staff is not seen on the display and will not print. A "disappeared" staff is only temporarily invisible.

P8 • indicates the distance (in inches or centimeters) from the bottom line of staff one in a file to the bottom line of staff one in the file that appears above. (This is for use with the SCORLAS program, when printing very dense pages.)



When P8 is set, a horizontal guide line appears on the display (it does not print out).

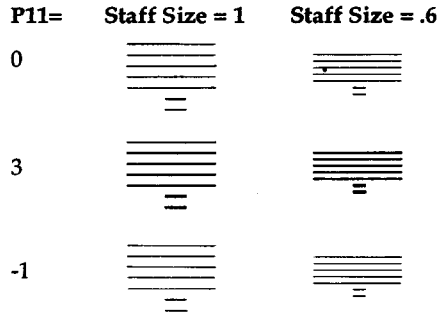
P8 should be set when multiple files are used to create a page, or when multiple files are used to create a system (as in an orchestral score). **Note: P8 should only be set for staff *one* in a file** (see *Using SCORE*, Chapter 8, for further information).

P9 • holds the Instrument ID Number. This is used by PAGE for parts extraction (see Extracting Parts in the Page section, page 265).

P10 • indicates the distance (in inches or centimeters) of a staff up from staff one.

Obviously, P10 should always be 0 for staff one. P10 may be used as an alternative to using P4 to set the distance between staves (when P10 is indicated, P4 will be ignored). **P10 is a fixed distance; it will not change if you alter the staff size. P4 is a relative distance based on the staff size, and will change if you alter the staff size.** In our experience, it is usually preferable to alter P4 to adjust space between the staves (you can just select the staff in Edit Mode and move it up or down). In addition, the H and VJ commands will alter P4 to adjust the height of the page. P10, since it is a fixed distance, cannot be altered with the H or VJ command.

P11 • indicates the thickness of the staff lines (when using PostScript printers only).

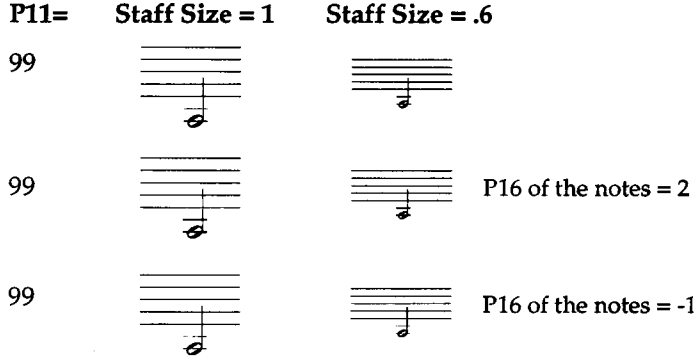


Normally, you will not need to adjust P11.

The default thickness is equal to the "linewidth = " setting you use when printing (see the Printing Chapter). If you are using a staff size (P5) of less than .65, SCORE automatically decreases the linewidth by one pixel. On laser printers, we have found this necessary for small staff sizes. If you find that you need to alter these defaults, you may add a value to P11. This number will add or subtract the appropriate number of pixels.

Notice that the ledger lines are two pixels thicker than the staff lines by default unless you alter P16 of any Code 1

item on the staff. If you want the ledger lines and staff lines to be the *same* thickness, set P11 to 99. If you alter P16 of a note, this will override the P11 setting of the staff.



In normal situations, you should not have to alter these parameters.

P12 • allows you to "hide" the reference number that appears to the left side of the staff. If P12=1, the number does not appear on the screen. If P12=0, the number is visible. **Regardless of the value in P12, the reference number will *never* print out with your music.**

CODE 9 - SYMBOL LIBRARY

Input Method

Letter Commands

Practically every item in SCORE is created from a Code 9 symbol. For instance, when you input a bass clef, SCORE refers to item no. 1 in Code 9 to retrieve the *symbol* for a bass clef, and scales it to the appropriate staff size you have selected. The only items that are not part of Code 9 are lines (Code 4, Code 6, Code 8), slurs (Code 5) and text (Code 16). Every half note is created from item no. 12 in Code 9. (SCORE creates the stem separately as it varies in length depending on the context.)

Code 9 items may be input during the Marks Stage. Type the appropriate letter followed by a note number for the item. You may specify a group of notes by typing two note numbers with a colon or apostrophe between them (i.e. 4:6 or 4'6). A selection of some common code 9 items are listed in the function key menu; press the appropriate function key to create the input code for that item. You may also click on this menu with the mouse. The mouse may be used to specify note numbers by clicking on the notes in the music.

The following table indicates the correct letter commands:

Letter Command	Example
PPP	*ppp*
PP	*pp*
P	*p*
MP	*mp*
MF	*mf*
F	*f*
FF	*ff*
FFF	*fff*
FP	*fp*
SF	*sf*
SFZ	*sfz*
CR	*cresc.*
DI	*dim.*
RI	*rit.*
PZ	pizz.
AO	arco
AC	*accel.*
ACT	≥

To input items that do not appear in this chart, type NX where X indicates the P5 value for the item you wish to enter. For example, to input a piano pedal mark (which has a P5 value of 70) type `N70` followed by the note number.

SCORE includes some common text items as part of Code 9; see the charts below to determine the font and size that are used on PostScript printers.

You may also use the Special Input Mode to create code 9 items. You type the *letter(s)* of any symbol (indicated above)

followed by Parameters 2 through 4. For example, to create a *f* on staff 2, you can type `F 2`, or `F 2 125 -5` to specify horizontal postion 125, vertical position negative 5. To input an "arco" on staff 2, type `AO 2`, etc. Typing `9 2 125 -5 67` would also work, since that would create a code 9 item with a P5 value of 67 (the arco symbol).

> Don't be confused by the fact that the symbols in Code 9 duplicate the symbols in the other code items. Code 9 is a very special part of SCORE, a *library* of symbols that the program uses to create the music. It's the central warehouse for the graphic images that SCORE uses to create a page. SCORE allows you access to this warehouse, so that you may customize the program—perhaps changing and editing the basic fonts, and creating your own custom fonts. See the DRAW Manual for more information.

Basic Parameter Structure

P1 • code number of item (9 for symbols).

P2 • staff number that the item is attached to.

P3 • horizontal position.

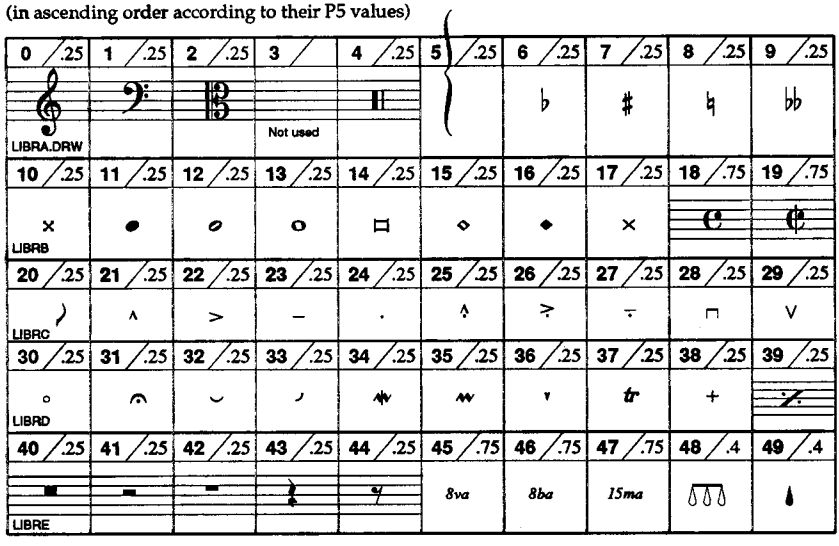
P4 • vertical position.

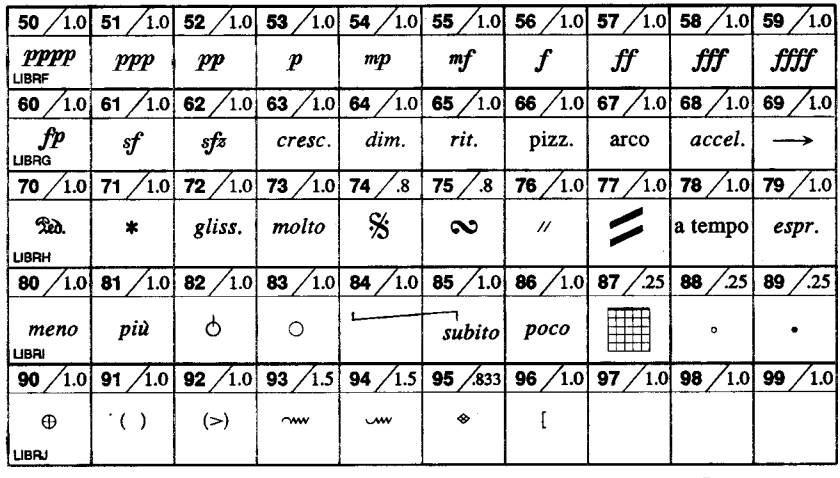
> The default P4 setting will vary depending on which symbol you use.

P5 • indicates the library number. The following charts provide examples of the code 9 symbols along with their P5 values.

Chart of Code 9 items Nos. 0 - 99

(in ascending order according to their P5 values)





The number in bold indicates P5; the number after the slash indicates the suggested P6 (size) setting.

Nos. 100 - 199

(Chart of Code 9 Symbols)

100/1.0	101/1.0	102/1.0	103/1.0	104/1.0	105/1.0	106/1.0	107/1.0	108/1.0	109/1.0
LIBRK									(fills 105)
110/1.0	111/1.0	112/1.0	113/1.0	114/1.0	115/.8	116/.8	117/.8	118/1.0	119/.25
LIBRL	*decresc.*		*rall.*	*mosso*					
120/1.0	121/1.0	122/1.0	123/1.0	124/1.0	125/1.0	126/1.0	127/1.0	128/1.0	129/1.0
(p10=1) LIBRM			*fs*	*s*	*r*	*s*	*rf*	*rfs*	*sffs*
130/.833	131/.833	132/.833	133/.833	134/.833	135/.833	136/.833	137/.833	138/.833	139/.833
LIBRN									
140/1.0	141/1.0	142/1.0	143/1.0	144/1.0	145/1.0	146/1.0	147/1.0	148/1.0	149/1.0
LIBRO									

150/1.0	151/1.0	152/1.0	153/1.0	154/1.0	155/1.0	156/1.0	157/1.0	158/1.0	159/1.0
(pppp) LIBRP	*(ppp)*	*(pp)*	*(p)*	*(mp)*	*(mf)*	*(f)*	*(ff)*	*(fff)*	( )
160/1.0	161/1.0	162/1.0	163/1.0	164/1.0	165/1.0	166/1.0	167/1.0	168/1.0	169/1.0
sff LIBRQ	*sfff*	*sfpp*	*sfp*	*sffp*	*mfpp*	*mfp*	*fpp*	*ffpp*	*ffp*
170/1.0	171/1.0	172/1.0	173/1.0	174/.75	175/.75	176/.75	177/.75	178/1.0	179/1.0
LIBRR	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$						
180/2.0	181/2.0	182/1.0	183/1.0	184/1.0	185/1.0	186/1.0	187/1.0	188/1.0	189/1.0
LIBRS									
190/1.0	191/1.0	192/1.0	193/1.0	194/1.0	195/1.0	196/1.0	197/1.0	198/	199/
LIBRT									

Nos. 200 - 299

(Chart of Code 9 Items)

200 / 1.0	201 / 1.0	202 / 1.0	203 / 1.0	204 / 1.0	205 / 1.0	206 / 1.0	207 / 1.0	208 / 1.0	209 / 1.0
LIBRU									
210 / 1.0	**211** / 1.0	**212** / 1.0	**213** / 1.0	**214** / 1.0	**215** / .8	**216** / .8	**217** / .8	**218** / .8	**219** / .25
LIBRV									
220 / 1.0	**221** / 1.0	**222** / 1.0	**223** / 1.0	**224** / 1.0	**225** / 1.0	**226** / 1.0	**227** / 1.0	**228** / 1.0	**229** / 1.0
LIBRW									
230 /	**231** /	**232** /	**233** /	**234** /	**235** /	**236** /	**237** /	**238** /	**239** /
LIBRX									
240 /	**241** /	**242** /	**243** /	**244** /	**245** /	**246** /	**247** /	**248** /	**249** /
LIBRY									

250 /	**251** /	**252** /	**253** /	**254** /	**255** /	**256** /	**257** /	**258** /	**259** /
LIBRZ									
260 /	**261** /	**262** /	**263** /	**264** /	**265** /	**266** /	**267** /	**268** /	**269** /
LIBSA									
270 /	**271** /	**272** /	**273** /	**274** /	**275** /	**276** /	**277** /	**278** /	**279** /
LIBSB									
280 /	**281** /	**282** /	**283** /	**284** /	**285** /	**286** /	**287** /	**288** /	**289** /
LIBSC									
290 /	**291** /	**292** /	**293** /	**294** /	**295** /	**296** /	**297** /	**298** /	**299** /
LIBSD									

(Chart of Code 9 Items)

Nos. 600 - 699
Percussion Symbols

600/.9	601/.9	602/.9	603/.9	604/.9	605/.9	606/.9	607/.9	608/.9	609/.9
LIBTI									
610/	611/	612/	613/	614/	615/	616/	617/	618/	619/
LIBTJ									
620/	621/	622/	623/	624/	625/	626/	627/	628/	629/
LIBTK									
630/	631/	632/	633/	634/	635/	636/	637/	638/	639/
LIBTL									
640/	641/	642/	643/	644/	645/	646/	647/	648/	649/
LIBTM									

650/	651/	652/	653/	654/	655/	656/	657/	658/	659/
LIBTN									
660/	661/	662/	663/	664/	665/	666/	667/	668/	669/
LIBTO									
670/	671/	672/	673/	674/	675/	676/	677/	678/1.0	679/1.0
LIBTP									
680/.9	681/1.0	682/1.0	683/1.0	684/1.0	685/1.0	686/1.0	687/1.0	688/1.0	689/1.0
LIBTQ		Xylo	Vibr	Mari	Glock	Celes			
690/.9	691/1.0	692/.9	693/	694/	695/	696/	697/	698/	699/
LIBTR									

Nos. 900 - 999
Lute Tablature

(Chart of Code 9 Items)

900/1.0	901/1.0	902/1.0	903/1.0	904/1.0	905/1.0	906/1.0	907/1.0	908/1.0	909/1.0
LIBUM									
910/1.0	**911**/1.0	**912**/1.0	**913**/1.0	**914**/1.0	**915**/1.0	**916**/1.0	**917**/1.0	**918**/1.0	**919**/1.0
LIBUN									
920/1.0	**921**/1.0	**922**/1.0	**923**/1.0	**924**/1.0	**925**/1.0	**926**/1.0	**927**/1.0	**928**/1.0	**929**/1.0
 LIBUO									
930/1.0	**931**/1.0	**932**/1.0	**933**/1.0	**934**/1.0	**935**/1.0	**936**/1.0	**937**/1.0	**938**/1.0	**939**/1.0
 LIBUP									
940/1.0	**941**/1.0	**942**/1.0	**943**/1.0	**944**/1.0	**945**/1.0	**946**/1.0	**947**/1.0	**948**/1.0	**949**/1.0
 LIBUQ									

950/1.0	951/1.0	952/1.0	953/1.0	954/1.0	955/1.0	956/1.0	957/1.0	958/1.0	959/1.0
 LIBUR									
960/1.0	**961**/1.0	**962**/1.0	**963**/1.0	**964**/1.0	**965**/1.0	**966**/1.0	**967**/1.0	**968**/1.0	**969**/1.0
 LIBUS									
970/1.0	**971**/1.0	**972**/1.0	**973**/1.0	**974**/1.0	**975**/1.0	**976**/1.0	**977**/1.0	**978**/1.0	**979**/1.0
LIBUT									
980/1.0	**981**/1.0	**982**/1.0	**983**/1.0	**984**/1.0	**985**/1.0	**986**/1.0	**987**/1.0	**988**/1.0	**989**/1.0
LIBUU									
990/1.0	**991**/1.0	**992**/1.0	**993**/1.0	**994**/1.0	**995**/1.0	**996**/1.0	**997**/1.0	**998**/1.0	**999**/1.0
LIBUV									

These charts indicate *every* Code 9 symbol that comes with SCORE. The bold number above every symbol indicates its P5 value; the number to the right of the slash is the recommended size setting (P6) which may vary from symbol to symbol. You may add your own symbols, or edit these symbols to your own specifications (see the DRAW Manual). See the end of this chapter for an easy method to create custom symbols using the DPY command.

To change a Code 9 item to a different symbol, you alter P5. If you select a dynamic on a page, and change P5 to 70, it changes to the Pedal sign. Change P5 to 4 and it becomes a percussion clef (as a Code 9 item). Change it to 112, and it becomes the Coda sign. Experiment with P5 to get a feel for how it works.

Parenthetical Dynamics

To add parentheses to a dynamic, select one (without parentheses) and add 100 to P5. SCORE changes the symbol to a dynamic in parentheses and retains the position of the original symbol.

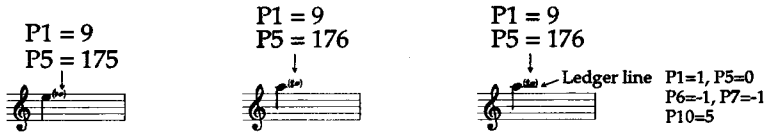
P5 = 53	P5 = 153
p	***(p)***

Note: this will only function for dynamics from ***pppp*** to ***fff***.

Ancillary Notes for Trills

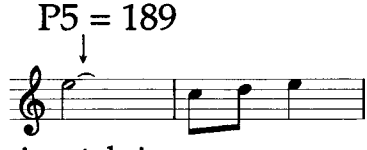
When creating trills, some people prefer to specify a small notehead in parentheses indicating the *ancillary* note of the trill. It is best to create this ancillary note as a code 9 item (P5=174-177) and center it on the principal note with the CN command. Using this method, the small note and parentheses are one item that will stay correctly positioned (with regard to the principal note) during part extraction and page layout. If you need ledger lines for the ancillary

note, select the principle note and change P6 to -1 (headless), P5 to 0 (stemless), P7 to -1 (ignore for justification), and displace it to the right using P10 (p10=5 is about right).



L.V. Ties

It is best to use code 9 to create the small let vibrate (l.v.) ties that indicate a note is to ring. If you use code 5 (Slurs), the PAGE program will alter the position of the tie during part extraction and page layout. Instead, create a code 9 item (P5=188 or 189) and center it on the notehead using the CN command. It will not change position or shape during part extraction or page layout. **Do not use these ties to replace code 5 items for short ties; SCORE will not treat them correctly during any operations using PAGE, and the results may be incorrect.**



P6 • indicates the horizontal size.

P7 • indicates the vertical size.

P6=	P7=	Example
1	5	
1	2	
2	0	
2	0	
1	2	

Note: if P7=0, then P6 controls horizontal *and* vertical size. For most of the symbols, you use P6 to adjust the size. The charts (above) indicate the normal P6 setting to match the symbols in SCORE. One symbol that sometimes requires a P7 value is the *non divisi* bracket (P5=96).

P8 • alters the thickness of the object.

P8=	Example
202	
205	
002	
100	

P8 is a three-digit number, *X0Y* where *X* controls the vertical thickness and *Y* controls the horizontal thickness. In most situations you will not need to alter P8.

P9 • rotates the object.

P9=	Example
90	
-45	
180	

P9 is expressed in degrees, and indicates clockwise rotation.

P10 • controls the line thickness of the symbol in pixels.

P10 is relative to the "linewidth" setting given when printing. If P10=1, the object's lines will be one pixel thicker than the "linewidth" setting (and equivalent to P8=101). P10 will affect printout on a dot matrix or PostScript printer.

Note that when P10 is negative, it "lightens" the symbol.

P10=	Example
3	𝄐
0	𝄐
-1	𝄐

Editing Articulations Using Letter Commands

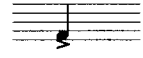
Articulations (marks, etc.) that are created as Code 9 items may be centered on a notehead using the CN command.

Usage of CN (CeNter)

Select the articulation
Type CN ENTER

Before

After CN



Tip

For the CN command to function correctly, make sure the size of the articulation (P6) is set correctly according to the above chart. In addition, CN centers above the *closest* note; if a mark is halfway between two noteheads, CN may center the mark above the wrong note. If this happens, move the articulation till it is approximately above the note it belongs with, then type CN.

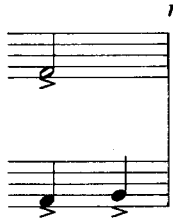
Definition

CN alters P3 of the articulation so that it is exactly equal to P3 of the note. The Code 9 symbols are designed so that they will be centered when their P3 value is equal to the note they affect. In addition, if an articulation is centered in this manner, it will remain in position after processing through PAGE, Lineup and Justify, and Parts Extraction.

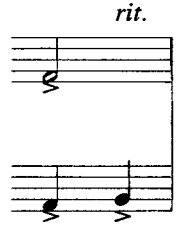
Centering On a Different Staff

Occasionally you may wish to center an articulation above a note on a *different* staff. Select the articulation and type CN X where X equals the number of the staff containing the note you want the item centered over. The following illustrates using CN to center the code 9 symbol for ritard.

Before



After CN 1



Creating Custom Symbols

Although we recommend using the DRAW program to create your own symbols, there is an easy way to create custom symbols in SCORE and export them into DRAW.

Any item (or items) that you can create in SCORE can be exported into DRAW, except for text (using a PostScript font—SCORE's built-in text fonts may be used).

The DPY Command

Suppose you needed to use this symbol in a piece. You can create it out of a code 4 item (Lines) and a code 9 item each time you need it, but that might be very time consuming. Instead, create the symbols and carefully size and position them. (If necessary, print them out very large to make sure they are correct.) Once correct, type DPY ENTER. SCORE

prompts you for the item number(s). Type 99 ENTER to indicate all items. SCORE asks for a file name. Supply a name and press ENTER. SCORE quickly creates a *Vector List* of the items indicated.

Exit SCORE and start DRAW by typing DRAW ENTER. DRAW has a read command (similar to SCORE's) which reads in Vector List Files. Type RE *filename* ENTER. In a second, your symbol is created. If you can't see it, type MZ ENTER to move its lower lefthand corner to the center position. That's all there is to it.

Follow the procedures outlined in the DRAW Manual to save this as either a code 9 or code 11 item. You can now use this in SCORE as a custom symbol.

CODE 10 - NUMBERS (Rehearsal Letters)

Input Method

Code 10 items are generally used to create rehearsal numbers, rehearsal letters, and page numbers. Code 10 items cannot be input during the Input Mode. You may use the Special Input Mode (see the Introduction) to create Code 10 items.

Basic Parameter Structure

P1 • code number of item (10 for numbers).

P2 • staff number that the number is attached to.

P3 • horizontal position.

P4 • vertical position.

P5 • indicates the number.

P5 can indicate any number from 0 to 999. If you need a number greater than 999, use Code 16 - TEXT. If P5 is greater than 1000, then rehearsal letters will be created. If P5=1001, the letter A is created; 1002 creates B, and so on.

P5=	Example
25	25
1001	A
1010	J

P6 • indicates the size.

Note: if you add 100 to P6, the number/letter will be *included* in every part when using the part extraction feature of PAGE. If you add 200 to P6, the number/letter will *not* be included in *any* part (see PAGE, Part Extraction, page 266).

P7 • indicates the font.

Any font may be used for a number/letter. (See Code 16 - TEXT).

P7 =	Font (PostScript)	Font (Dot Matrix)	Example (PostScript)
0	Times Roman	Bodoni	99
1	Times Italic	Bodoni Italic	*99*
2	Primitive	Primitive	99
3	Bodoni	Bodoni	**99**
4	Bodoni Italic	Bodoni Italic	***99***
6	Meter Numbers	Meter Numbers	**99**
7	Bodoni Bold	Bodoni Bold	**99**
8	Bodoni Bold Italic	Bodoni Bold Italic	***99***

Add 10 to the value of P7 with any PostScript font to select boldface.

10	Times Bold	Bodoni Bold	**99**
11	Times Bold Italic	Bodoni Bold Italic	***99***

Note that in all instances here Bodoni refers to SCORE's built-in text font, *not* the PostScript Bodoni Font that is commercially available from type manufacturers. Similarly, Primitive is another built-in SCORE text font. These fonts are primarily for use on a Dot Matrix printer, but you may use them on a laser printer if you desire.

In addition, you may specify any PostScript font ID# in P7; the first two digits must be 10, and the last two must be the two-digit font ID#. For example, P7=1000 selects font num-

ber 00, Times Roman. This is the same as setting P7=0. If P7=1016, the font will be AvantGarde Book.

P7=	Font (PostScript)	Example
1004	Helvetica	99
1016	AvanteGarde	99
1104	Helvetica	**99**
1116	AvanteGarde	**99**

In the last two examples, we changed the first part of the number from 10 to 11 (i.e. 1116 instead of 1016). This setting creates an outline font, as illustrated above.

P8 • adds a circle or box around the number or letter.

P8=	Description	Example
1	Circle	99
2	Box	99

P10 • adjusts the thickness of the box/circle.

P10=	Example
1	99
2	99
5	99

P11 • adjusts the horizontal box size.

P12 • adjusts the vertical box size.

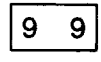
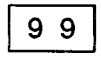
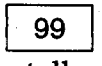
P11=	P12=	Example
10	8	99
10	8	99
8	14	99
8	14	99

SCORE automatically adjusts the size of the box/circle to the number or letter. If you need to adjust it, P11 and P12 should be used. Normally, this will not be necessary.

P13 • adjusts the vertical position of the number relative to its enclosure.

P13=	Example
-2	
2	
0	

P14 • adds space between the digits of the number.

P14=	Example
2	
1.5	
0	

P15 • displaces the number horizontally.

P15=	Example	
0		P3=100, Actual position is 100
3		P3=100, Actual position is 103
-5		P3=100, Actual position is 95

P15 is very useful when you want to position a number over a barline. When PAGE is used to extract parts, it determines which measure a rehearsal number (or letter) is in by its P3 value. P15 allows you to create a rehearsal number that appears to be centered over a barline, but has a P3 position in the following measure. This insures that the rehearsal number will be correct when the parts are extracted.

The CM Command (Center over Measure Line)

To assist you with centering items over barlines, SCORE provides the CM command. Select the item (usually a rehearsal letter/number, or a time signature) and type CM ENTER. SCORE alters P15 of the rehearsal number so that it is centered over the barline.

CODE 11 - USER SYMBOL LIBRARY

Input Method

The User Symbol Library is used to store custom symbols created by the user in the DRAW Program. They function in the same manner as Code 9 items. Code 11 items cannot be created in the Input Mode. You must use the Special Input Method (see the Introduction) to create Code 11 items. For example, type `11 1 50` [to create a Code 11 item on staff 1 at horizontal position 50]

SCORE prompts: `Type file name_`. Type the file name and the symbol will appear. **You must use the Special Input Method to create Code 11 items.**

Basic Parameter Structure

P1 • code number of item (11 for User Symbol).

P2 • staff number that the symbol is attached to.

P3 • horizontal position.

P4 • vertical position.

P4 will vary depending on which symbol you use.

P5 • indicates the library number.

P6 • indicates the horizontal size.

P7 • indicates the vertical size.

If P7 is left at zero, P6 controls both aspects of the size.

P8 • alters the thickness of the object.

P8 is a three-digit number, *X0Y*, where *X* controls the vertical thickness, and *Y* controls the horizontal thickness. In most situations you will not need to alter P8.

P9 • rotates the object.

P9 is expressed in degrees, and indicates clockwise rotation.

Note: when you select a Code 11 item for editing, the file name you typed on input will appear below the Parameter list (similar to Code 16 - TEXT).

P13 • changes the code 11 file

If you set P13 to 1, SCORE will prompt you for a new filename.

What is the Purpose of P11?

Although you can store hundreds of symbols in Code 9, there may be some situations when you need a special symbol for just one piece. You can create a Code 11 library for this symbol (or symbols). (Although you can create a Code 9 library for a symbol, it might conflict with later versions of the program because these symbols are constantly being expanded by the authors.) Code 11 functions in the same manner as Code 9 except that you cannot input the items directly during the Input Mode.

Creating Multiple Code 11 Libraries

If you wish to create a series of Code 11 libraries, we suggest you use an alphabetic sequence for their filenames (such as SYMAA.DRW, SYMAB.DRW, SYMAC.DRW, etc.). Specify the first filename (in this example, SYMAA.DRW) and you may use P5 to access *any* of the libraries in the sequence. P5=5 would select the fifth item in SYMAA.DRW, P5=14 would select the fourth item in SYMAB.DRW, and so on. Note that Code 11 library names must be no more than five letters and must end with the extension .DRW.

CODE 12 - SPECIAL SHAPES

(Squares, Rectangles, Circles, Arcs, Guitar Grids, etc.)

Input Method

Code 12 items may only be input using the Special Input Method (see Introduction, page ii) or created in the Edit Mode.

Basic Parameter Structure

P1 • code number of item (12 for special symbol).

P2 • staff number that the symbol is attached to.

P3 • horizontal position.

P4 • vertical position.

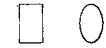
P5 • indicates the type of symbol.

P5=	Description	Example
0	rectangle, square	
1	circle, elipse	
-1	guitar grid	

Code 12 items are used to create squares, rectangles, circles, arcs, and guitar chord grids.

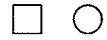
P6 • indicates the horizontal size in scale steps.

P7 • indicates the vertical size. If P7=0, P6 controls the horizontal and vertical size. (P7 will not affect the size of guitar grids; only P6 will function.)

P6=	P7=	Example
6	10	
9	5	
5	0	
0	0	

Note: P7 must equal 0 to when creating squares, circles, and guitar grids.

P8 • alters the thickness of the object.

P8=	Example
4	
2	
0	

P9 • rotates the object.

P9=	Example
0	
45	
-45	

P9 is expressed in degrees, and indicates clockwise rotation.

P10 • creates a parallelogram (from rectangles or squares).

P10=	Example
0	
3	
20	
-15	

P10 • creates an arc from a circle or oval.

P10 indicates the beginning point of the arc (in degrees).

P11 • indicates the end point of the arc (in degrees).

P10=	P11=	Example
0	90	
-90	90	
45	180	
0	245	

P12 • changes circles into polygons.

A circle normally has 360 *points*. To create a pentagon, change P12 to 72. Since 360 divided by 72 equals 5, a five-sided "circle" will be created: a pentagon. If P12=60, a six-sided shape is created. Setting P12 to 45 would create an octagon. Sometimes, when creating circles with a small radius, changing P12 to 2 or 3 (thereby creating fewer "points") will speed up printing.

P12=	Example
72	
60	
45	
3	
0	

P13 • is used to create the "dots" on the guitar chord grid (When P5=-1).

P13 is a six-digit number *ABCDEF* where *A* refers to the lowest string, *B* the next, and so on. The numbers placed in P13 indicate which fret (up to the fifth fret). A number greater than 5 will create an open circle above the grid indicating a higher fret.

P13 =	Example
111803	
012345	
543210	
880321	

P13 creates a solid (filled in) shape when using rectangles or or circles (when **P5**= 0 or 1).

P13 =	Example
1	
0	

CODE 14 - BARLINES, BRACES, and BRACKETS

Input Method

Barlines are input during the Pitch Stage of the Input Mode. Type `M` or press `F3` to create a barline. `MX`, where *X* is any number (other than zero or one) creates a barline up *X* staves, counting the original staff. For example, `M3` creates a barline from the current staff to the staff *two* staves higher, connecting *three* staves.

The default setting for M is 1 (one staff). If you specify a number, the number is retained in memory for that line of input. The following two examples are equivalent:

```
TR/4 4/F4/G/A/BB/M2/F/G/A/BB/CS5/M2/
C/D/EE/F/GS/MH2;
```

```
TR/4 4/F4/G/A/BB/M2/F/G/A/BB/CS5/M/
C/D/EE/F/GS/MH;
```

The following types of barlines may be created during input:

Letter Command	Description	Example
MD	double barline	
MH	heavy double barline	
ML	repeat barline left	
MR	repeat barline right	
MRD	double repeat barline	
MS	dashed barline	
MI	invisible barline	 (does not print)

Invisible barlines are used to delineate sections in *non-mensural* music (like a Cadenza). Pieces of this type may be processed through PAGE if you break up the sections with invisible barlines. Note: the automatic measure numbering system (in PAGE) will not function correctly in this situation and should not be used.

You may use these letter commands in combination with a number to create any type of barline connecting through any number of staves. Braces and Brackets cannot be created in the Input Mode and must be input using the Special Input Method (see Introduction, page ii) or created in the Edit Mode.

Basic Parameter Structure

P1 • code number of item (14 for barlines).

P2 • staff number that the barline is attached to.

P3 • horizontal position.

P4 • number of staves connected by the barline.

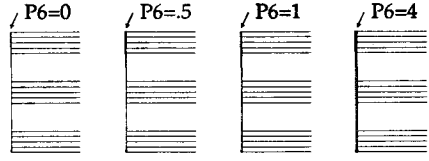
If P4=3, then the barline connects from the current staff to the staff two staves higher. If P4=0, then the barline only appears on this staff. If P4=-1, the barline is invisible when printed (but will appear as a dotted barline on the display).

P5 • indicates the type of barline.

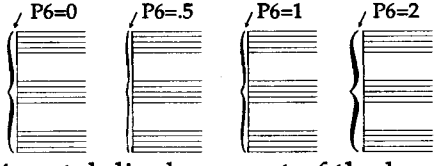
P5=	Description	Example
0	normal barline	
1	double barline	
2	heavy double barline	
3	repeat barline (right)	
4	repeat barline (left)	
5	repeat barline (both)	
6	repeat barline (both)	
7	dashed barline	
8	brace	
9	bracket	
10	subbracket	

Note: PAGE's automatic measure numbering system counts barlines to number measures; if you use dashed or invisible barlines in a piece, the automatic numbering system will not work correctly.

P6 • indicates the thickness of the barline (and adjusts braces).

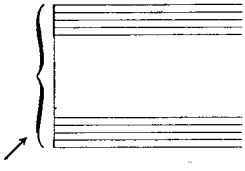


Sometimes, when braces are connecting three or more staves, it may be desirable to make them narrower. P6 controls this.

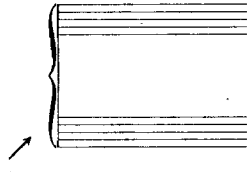


P7 • indicates horizontal displacement of the brace/bracket.

Although P7 may be used to shift a barline, it is rare that this will be necessary. Instead, P7 is primarily used to adjust the braces and brackets at the beginning of a system. If P7 is negative, the symbol is displaced to the left; if positive, the symbol is displaced to the right.



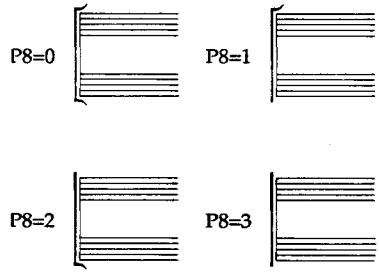
P7 of brace = -1



P7 of brace = .5

Why do you need to displace braces and brackets? Sometimes, when you create a brace and a bracket at the beginning of a system, the brace needs to be shifted to the left. Although you can alter P3, this will cause problems when using the Lineup and Justify function. Instead, alter P7 to create the horizontal displacement. This will insure that the brace/bracket will not move after using Lineup and Justify.

P8 • creates a partial bracket (only when P5=9).

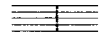
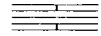
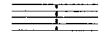
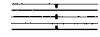


When creating an orchestral score, and dividing systems between files, P8 may be used to create a bracket that "connects" between files. P10 and P11 must be used in conjunction with P8 to create this (see below for examples).

For dashed barlines, (when P5=7) P8 sets the size of the dash

P8=	Example
2	
.5	
0	

P9 • sets the size of the space in dashed barlines (P5=7).

P9=	Example
.5	
3	
1	
0	

Creating Partial Barlines

P10 • specifies the point where the barline originates (default = 3, bottom staff line).

P10=	Example
0	
-5	
1	

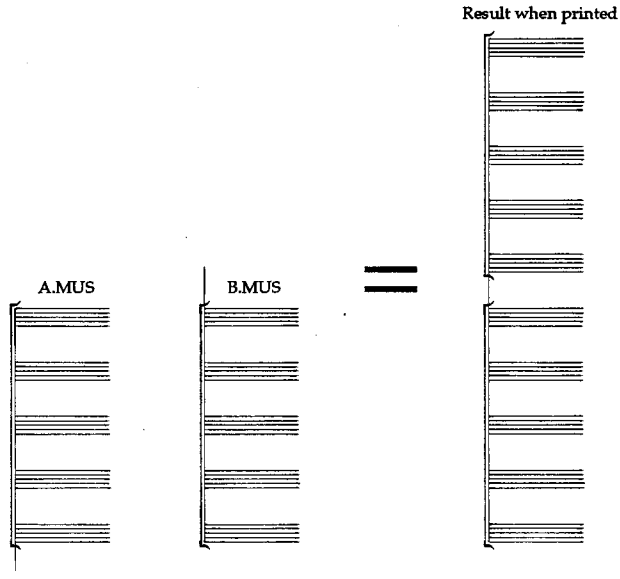
The value in P10 is indicated in scale steps.

P11 • specifies the point where the barline ends (default = 11, top staff line).

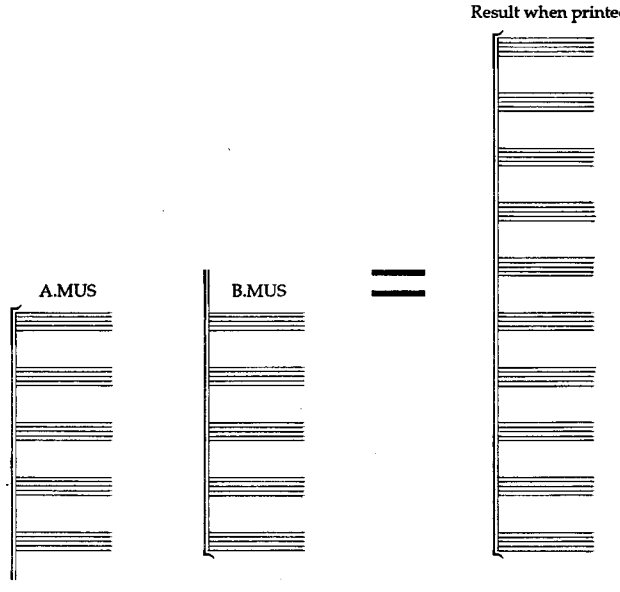
P11=	Example
0	
20	
7	

The value in P11 is indicated in scale steps.

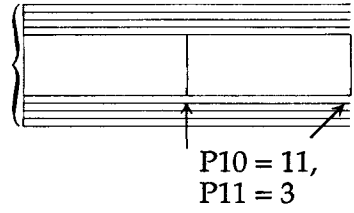
P10 and P11 are used when it is necessary to divide a system between two files (sometimes necessary in orchestral scores. Suppose you create an orchestral score page with winds and brass in file A.MUS, and percussion and strings in file B.MUS. The *system line* at the beginning of the system must be connected between the files. Select the line in the top file, A.MUS, and alter P10 to a negative value. Select the line in the bottom file, B.MUS, and alter P11 to a positive value. When the files are printed, it will appear as if there is one line connecting the systems.



A similar procedure can be used with brackets, if it is necessary to divide them between files, by altering P10 and P11. P8 controls the end of the bracket so that you can create partial brackets without the ending curl.



Altering P11 and P12 also allows you to create barlines *between* staves.

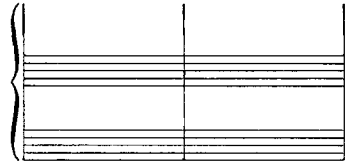


P12 • "marks" the bar for the layout program, PAGE.

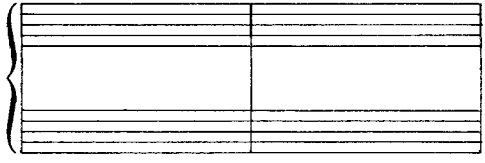
Placing a 1 in P12 tells PAGE that this point should begin or end a system, if possible. This is a handy way to indicate ends of sections, key changes, or other points that should begin a new system. This will work when using PAGE to layout a score and also when extracting parts. See PAGE for further information.

Editing Barlines

Occasionally a barline may appear to be "misdrawn" on the screen.



This may occur after moving or copying a staff. To fix this, use any of the commands that recompute the screen (see View for further explanation) Z, OS, O.



Note: if you print directly from SCORE without recomputing the screen, the output will appear the same as on the

screen. Whenever you see this type of screen "glitch," it is always best to recompute the screen using one of these commands.

The same also applies to brackets and braces.

CODE 15 - IMPORTING POSTSCRIPT PROGRAMS OR FILES

In chapter 8 of *Using SCORE* we explained how to write a PostScript file in SCORE or SPRINT (selecting it from the print menu). It also possible to *import* an Encapsulated PostScript (EPS) File into a Score page. Code 15 is used for this purpose. Note: this is an advanced feature which some users may never have a need for.

To import a file, you must first create a Code 15 item using the Special Input Method.

Type: `15 1` ENTER [this creates a Code 15 item on staff 1]

SCORE prompts: `To reset the PostScript program name: Enter EDIT MODE, set P13 to 1. Press any key to continue.`

Press a key. Score now prompts you for the filename: `Enter PostScript program name or "-" to cancel. ->_`

Enter the name of the file
[note: the filename cannot be longer than 18 characters, including the drive designator and path. For example, if the file were called TEST, and it was stored on the C: drive in a subdirectory called GRAPHICS under a subdirectory called EXAM, the name would be C:\EXAM\GRAPHICS\TEST.EPS. Since this is 25 characters, it is not acceptable. If you moved the file from the \GRAPHICS subdirectory into the \EXAM directory, then the name would be C:\EXAM\TEST.EPS. This is only 16 characters and is acceptable. If you store the file in the directory you are working in, you do not need to specify the drive and path.]

A rectangle with an X through it will appear in the lower lefthand corner of your screen.

This rectangle is called a Bounding Box, and it represents the dimensions of the graphic it contains. You will not see the actual image.

Basic Parameter Structure

P1 • code number of item (in this case 15 for Imported EPS file).

P2 • staff number that the file is attached to.

P3 • horizontal position.

P4 • vertical position.

P5 • vertical size.

P6 • horizontal size.

P5 and P6 allow you to edit the size of the graphic.

P13 • allows you to replace the graphic with a different file.

If you enter Edit Mode, and change P13 to 1, Score will prompt you for a new filename. Type the name of a new file, and it will replace the old one.

Some Uses of Code 15

Code 15 items allow users to import a variety of special items into a SCORE file. For example, a logo that was created in a drawing program like Micrografix Designer™ or Adobe Illustrator™ can be printed to an EPS file and imported into SCORE. Since SCORE does not support kerning of text, you might use Pagemaker™ or Ventura Publisher™ to kern special text items and bring them into SCORE.

Similarly, you may import a SCORE file into another file as a graphic. This may be done as a type of "special effect," for instance, to create a block of text with a small page of music as an example.

Code 15 may also be used to import PostScript programs into SCORE. We have included one example of this, RECT.PS with SCORE (it was copied onto your hard disk into the \MUSDAT directory). Using a text editor, or the DOS Type command, view the contents of RECT.PS. In addition to some basic PostScript commands, we have added some comments (any text that begins with a percent sign). Basically, RECT.PS may be used to draw a rectangle in a SCORE file. Unlike Code 12 items. RECT.PS has some special features.

Start SCORE and create a Code 15 item as described at the beginning of this chapter. Specify the filename RECT.PS. Select this item for editing. Adjust parameters 3 and 6 to specify the rectangle's width, then adjust parameters 4 and 5 to adjust its height. Now set P7 to a value, say .5. This will shade the inside of the rectangle in gray. If P7=1, the inside is white; P7=0 defaults to a setting of .95, a light gray shade.

P8 adjusts the thickness of the border. If P8=0, no border is created. If P8=500, the border is ⅛th"; P8=250 is 1/16th", and so on.

If P9 is set to a value other than 0, a border is created around the page (assuming that the page is 8½ x 11". The value in P9 controls the thickness of this border. If P9=1, the border is 1/72"; if P9=9, the border is ⅛", and so on.

If you wish to use RECT.PS to create a shaded box with music or text in it, you should make sure that RECT.PS has an item number *lower* than any other item in the file. If you want this rectangle to cover other items, make sure it has an

item number *higher* than those items. The easiest way to insure this is with SCORE's renum command (see the chapter on PostScript).

For further information about creating your own PostScript programs, we suggest reading some of the excellent books that are currently available (such as *The PostScript Language Reference Manual* or *The PostScript Language Tutorial and Cookbook published by Addison-Wesley Publishing Co., Inc.).*

See the reference chapter on PostScript for further information.

CODE 16 - TEXT

Input Method

Letter Commands

Text may be input in a variety of ways, but not as part of the Input Mode. (SCORE includes some common text items as part of Code 9; see the chart in Code 9, to determine which words are available). You may use the Special Input Mode (see the Introduction, page ii) to input Text items specifying the Parameters. Type `T` followed by the parameters. For example, to create text on staff 1 at position 100,

Type `T 2 100` ENTER.

SCORE now prompts you for the text. Type the text, press ENTER, and the text appears in the music.

Inputting a Paragraph

To input a paragraph of text, use TT instead of T. TT works in the same manner as above, except that you may input several lines of text. Typing the slash character (/) on a line by itself ends the input. For example,

```
TT 1 10 ENTER
_00This is the first line.ENTER
This is the second.ENTER
This is the third.ENTER
/ ENTER
```

will create a paragraph.

`TTR` allows you to read in a text file created in a word processor or text editor (like DOS's EDLIN or EDIT). If you create a text file in a word processor, make sure to save it in "text-only" format.

Editing and Correcting Text

To edit text, first select it in the Edit Mode. The characters in the text appear below the parameter list. Type TX ENTER (or press F9 or F10 to enter the *Text Edit Mode*. The text appears at the top of the screen, and you may now move through it using the right and left cursor keys. Pressing HOME will skip to the beginning of the text string; pressing END skips to the end of the string. When in Text Edit Mode, the program automatically *types over* any existing characters.

For example, if you were editing this string: `_04SONATA No. FOUR` and wanted to change it to SONATA No. FIVE, you could just place the cursor under the O in FOUR and type I. Continuing in a similar fashion, you could replace the U with V, and the R with E.

To *insert* text into the line, press the INSERT key. The cursor changes to a shaded box, and any text you type will be inserted at the position of the cursor. The DELETE key will delete any character above the cursor; the BACKSPACE key deletes the character to the left of the cursor. When you are finished editing the text, press ENTER to exit Text Edit Mode. The new text appears in the music, and you may alter its position or any other parameters before you exit Edit Mode. If a line of text has tabs in it (see Setting Tabs, below), you may also use the Text Editing Mode to edit the positions of the tabs in the line.

Tip

When editing a line of text, it is helpful to temporarily move it up or down so that you can see the changes you make.

Fonts

If you wish to specify a font (the default is Times Roman on PostScript Printers, Bodoni on Dot Matrix), you may type

its font ID# at the beginning of the line. You may also specify a font change in the middle of a line in the same manner. Font ID#s are always preceded by a single underline (_), and must be two digits. For example, Times Italic is indicated _02, not _2. If you use two underline symbols (__), the font becomes an outline font:

The following 35 fonts are available when using most PostScript printers, and may be selected with the ID#s listed below.

(They are displayed in the actual typeface that would print)

_00 Times Roman
_01 **Times Bold**
_02 *Times Italic*
_03 ***Times BoldItalic***
_04 Helvetica
_05 **Helvetica Bold**
_06 *Helvetica Oblique*
_07 ***Helvetica BoldOblique***
_08 Helvetica Narrow
_09 **Helvetica Narrow Bold**
_10 *Helvetica Narrow Oblique*
_11 ***Helvetica Narrow BoldOblique***
_12 Palatino Roman
_13 **Palatino Bold**
_14 *Palatino Italic*
_15 ***Palatino BoldItalic***
_16 Avant Garde Book
_17 *Avant Garde BookOblique*
_18 **Avant Garde Demi**
_19 ***Avant Garde DemiOblique***
_20 Bookman Light
_21 *Bookman LightItalic*
_22 **Bookman Demi**
_23 ***Bookman DemiItalic***

_24 New Century Schoolbook Roman
_25 **New Century Schoolbook Bold**
_26 *New Century Schoolbook Italic*
_27 ***New Century Schoolbook BoldItalic***
_28 *Zapf Chancery Medium Italic*
_29 Courier
_30 **Courier Bold**
_31 *Courier Oblique*
_32 ***Courier BoldOblique***
_33 Symbol αβχδεφγηιφκλμνοπθρστυϖωξψζ
_34 Zapf Dingbats ✪✪✻✻✻✻✻✻✻✻✻✻✻●○■□□□□▲▼◆❖◗■

Make sure that your printer has these fonts available as part of its ROM before you select any for use (see your printer's instruction manual).

SCORE's Built-in Fonts

SCORE also has six built-in fonts which are primarily used when printing on a dot matrix printer:

_90 Bodoni
_91 **Bodoni Bold**
_92 *Bodoni Italic*
_93 ***Bodoni Bold Italic***
_94 Music Symbols*
_98 Primitive (stick letters)

These fonts are not recommended for use on PostScript printers (with the exception of font no. 94).

* Font no. 94 allows you to use music symbols (dynamic letters, time signature numbers, etc.) within a text string. See Special Characters, below.

Using Other PostScript Fonts

SCORE allows you to use any downloadable PostScript font, provided you give SCORE the font metric information it needs. Change to the \LIB directory. There is a special utility program there, FONTCONV.EXE.

Type FONTCONV ENTER

Follow the prompts. Type the path and filename of the font metrics file (eg. A:\GOUDY.AFM). You must now supply a font ID number for the new font (see the list above for the numbers currently used; you may assign numbers 35-89 to any fonts of your choice). The program creates a new file in your \LIB directory with the necessary font metric information. To use the font in SCORE, just select the new font ID number. **Note: you must download this font to the printer before you print the file—SCORE will not download fonts automatically.**

> **What is a Typeface? A Font?**
> A typeface is a collection of characters (the uppercase and lowercase letters, punctuation marks, numbers, diacritical accents, and such) in a particular style. One common typeface is Times. These manuals have their basic body text set in Palatino. The headings (at the beginnings of chapters, and throughout) are set in AvantGarde.
>
> A font, on the other hand, is a specific form of a typeface. Times Bold is one font, Times Roman is another. There are various books about Typography that can elaborate on the art of setting type, and give further information on this subject.

Proportional vs. Monospaced Fonts

When you type text on a standard typewriter, every character receives the exact same amount of space. The "space" between words is also exactly the same. This is called

Monospaced text, and it is available to you on a PostScript printer by selecting any font in the Courier family. You see it throughout this manual whenever we include a copy of SCORE's prompts and menus, or indicate something for you to type.

```
This is a sample of a basic monospaced font,
Courier.
```

Proportional fonts, on the other hand, space each letter according to the amount of space it requires. A capital M, for instance, requires a great deal more space than an i. Professional typesetting almost always employs proportional fonts.

This is a sample of a proportionally spaced font, Times Roman.

Notice that the "space" character between words is smaller than in a monospaced font. When the text is justified between the margins, as in this manual, the size of the space character is altered to adjust the length of the line. When setting text on music pages, one should always use proportionally spaced fonts, if they are available.

Using the Text Mode

You may also press F4 to enter SCORE's Text Mode. The top of the screen changes to a menu where you may specify the staff number, horizontal position, vertical position, and size. Select a font (press F7 to specify a PostScript font, or one of the other F-Keys to select one of SCORE's built-in fonts), then type your text. SCORE remembers the parameters you specify in the menu if you decide to repeat the process.

Quick Text Input

If you wish to enter quickly a piece of text, type "_*XXthe text*" ENTER. (If you like, you may specify extra parameters

after the second "; XX indicates the font ID# if you wish to specify it.) For example, "_04SONATA No. FOUR" would create this text string on staff 1. You could then type I to reselect the text and position it correctly. "_04SONATA No. FOUR" 2 100 18 would create this text string on staff 2 at horizontal position 100, vertical position 18.

Centering Text During Input

If you add 1000 to P3 during input, the text will be centered at the position indicated. For example, suppose we wanted to center the title we input above. "_04SONATA No. FOUR"; 2 **1100** 18 would automatically center this text at position 100. T 2 1100 18 ENTER
_04SONATA No. FOUR would create the same result.

Centering Text After Input

You may center text at any position horizontally. Select the text. Type CTX where X indicates the horizontal point (in SCORE's spacing units) at which you want the text centered. If you do not specify X, CT assumes you want the text centered at position 100, the center point of the staff (remember that the default staff positions are P3=0, P6=200). In other words, CT100 and CT would be equivalent. If you specify a number after CT, the program remembers that position, and you do not need to respecify it if all the text items are to be centered at the same position. For example, if you type CT50 to center the first item, you may just type CT for any remaining items to be centered at the same position.

Creating Justified Text

Use the TT command to input a paragraph of text. Select the first text line, and type J X Y where X indicates the left

margin and *Y* indicates the right margin (in SCORE's spacing units). SCORE will alter P10 (the space between words) of the text to justify the margins.

Before

This is a sample paragraph that has been created to demonstrate SCORE's J command. The J command is used to create a paragraph with justified margins.

After Using J

This is a sample paragraph that has been created to demonstrate SCORE's J command. The J command is used to create a paragraph with justified margins.

The J command remembers the last values you specified, and uses them again. In the above example, the top line of text was selected and then J 10 50 was typed. Pressing ENTER twice moved to the next line, where J was typed without any numbers. We continued in this fashion until we justified the entire paragraph. Note that the last line of a paragraph is sometimes not justified between the margins if it is shorter than the other lines.

Creating Flush Right Text

Select a text item and type JR*X* where *X* indicates the position of the right margin. The text will be flush right at that position. If you do not specify *X*, JR assumes position 200, the right end of the staff. This is useful for creating a composer's name at the top of a page. Once again, the JR command remembers any value you use and retains it for additional strings of text.

Before

This is a sample paragraph that has been created to demonstrate SCORE's JR command. The JR command is used to create a paragraph with right justified margins.

After Using JR

This is a sample paragraph that has been created to demonstrate SCORE's JR command. The JR command is used to create a paragraph with right justified margins.

Creating a Right Margin (Flush Left Paragraphs)

Often when you input text, you do not know exactly how many words will fit on a line. The RM command allows you to create a "right margin" for this purpose. Use the TT command to input a paragraph of text. Select the first line and type RM X Y Z where X indicates the position of the right margin, Y indicates how many lines of text (if left at 0, all lines on the same staff with the same P3 value) and Z indicates line spacing. It is not necessary to specify Z (see Line Spacing, below).

Before

This sample text will have SCORE's RM command applied to it.

After RM

This sample text will have
SCORE's RM command
applied to it.

The RM command moves words between lines to adjust the paragraph so that the text does not extend beyond the right margin.

Creating a Right Margin (Justified Paragraphs)

The RMJ command functions in the same manner as the RM command, except it also justifies the text between P3 and the right margin indicated.

Before

This sample text will have SCORE's RMJ command applied to it.

After RMJ

This sample text will have
SCORE's RMJ command
applied to it.

Moving Words Between Lines

SCORE provides a RIP command (similar to the RIP command to move measures) to shift words from one line to the next. Select a line of text and type `RIP` *Y* where *Y* equals the number of words you wish to move. If you do not specify *Y*, one word will be moved from the end of the line to the next. If there is no second line of text, RIP will create one. If *Y* is a negative number, RIP will move a word or words from the beginning of the line to the line above or create one if necessary. If you use `RIPX` *Y*, then a new text line will be created *even if there is an existing line present.* The RIP command requires text items to be in ascending order (see the OT command, below). **Note: a "word" (at least to the RIP command) is any group of characters that is preceded and followed by a space.** Bear this in mind when using RIP to insure that the correct number of words are shifted.

Before

This sample text will have SCORE's Rip command applied to it.

After Rip 6

This sample text will have
SCORE's Rip command applied to it.

After Rip -1

This sample text will have SCORE's
Rip command applied to it.

Setting Line Spacing

SCORE allows you to set the vertical space between lines in inches, centimeters, points, or scale steps.

Select the first line of text in a paragraph, and type `LS` *X Y* *where X* indicates the space between lines in scale steps, and *Y* indicates the number of lines (if 0, all lines of text on the staff with the same P3 value, and ascending item numbers

will be affected). If Y is indicated as 1, then the lines of text may have different P3 values as long as they are in ascending item order.

Before

This is a sample of text
that will demonstrate SCORE's
Line Spacing options.

After LS 6 0

This is a sample of text

that will demonstrate SCORE's

Line Spacing options.

To set the spacing in inches, substitute LSI for LS.To set the spacing in centimeters, use LSC.

Before

This is a sample of text
that will demonstrate SCORE's
Line Spacing options.

After LSI .5 3

This is a sample of text

that will demonstrate SCORE's

Line Spacing options.

After LSC 1 3

This is a sample of text

that will demonstrate SCORE's

Line Spacing options.

To use points, substitute the LSP command. Otherwise, these commands work identically.

Note: when you set spacing between lines of text, *all* of the lines will automatically have the same size setting (P6 and P7).

Before

This is a sample of text
that will demonstrate SCORE's
Line Spacing options.

After LSP 15 0

This is a sample of text
that will demonstrate SCORE's
Line Spacing options.

Reordering Text Items

Since many of the above commands require text items to be in ascending order (according to their item numbers) SCORE provides the OT command to reorder the text. If you are in Edit Mode, exit (press ESC). Type `OT X` where *X* equals the staff number you wish to reorder text on. *X* may be a number greater than 32 to indicate all staves in the file.

Setting Tabs

SCORE allows you to set tabs in a line of text. Type ~X~ to set a tab at position *X* where *X* indicates the horizontal position of the tab in SCORE's horizontal units. Note: if you edit the text, and alter P3, the position of the tab remains the same. Accordingly, you must be careful not to alter the position of the text so that P3 conflicts with a tab setting.

To edit the tab positions, you must use the TX command (see above). For example,

```
Works~55~Composers~105~Dates
```

would create the following:

```
Works          Composers      Dates
↑              ↑              ↑
0              55             105
```

The word Composers is at position 25, Dates is at position 45.

```
Symphony No. 3~55~Beethoven~105~1803-4
```

would create this below it:

```
Symphony No. 3  Beethoven      1803-4
↑               ↑              ↑
0               55             105
```

Inputting Lyrics

Lyrics may be input using the Special Input Method. You type T and the associated parameters for the staff's lyrics, and indicate a P3 (horizontal position) of *zero*. This informs SCORE that you are inputting *lyrics* instead of regular text,

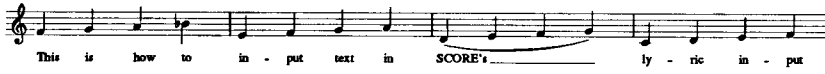
and that you are not specifying their horizontal position. Usually, you will want to specify a negative value for P4 (the vertical position); -4 or -5 is usually about right.

For example: `T 1 0 -4` would create lyrics on staff 1 with a vertical (P4) position of -4. If you wish to specify the size, you must also indicate P6. This example would then read: `T 1 0 -4 0 .9`. This is exactly the same as the previous example, except P5 is left at its default (0), and P6 is specified as .9. Usually, you will want to leave P5 at 0 and specify a value for P6.

After typing this line, press ENTER. SCORE prompts: `Type up to 160 characters. Press <ESC> to cancel.` The first characters you should type are a font ID#.

> SCORE defaults to Times Roman (PostScript printers) or Bodoni (Dot Matrix printers). If you specify a font once during a work session, SCORE retains that Font ID# in memory and uses it until you specify another.

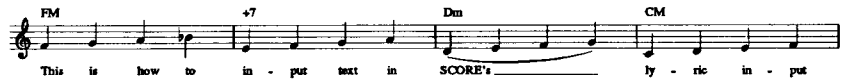
Let's use the font Helvetica. Type `_04`. Now type the first syllable of the lyric (do not type a space between the "4" and the first letter). At the end of the syllable, type a slash (/) and then type the next syllable. This is similar to typing in the Input Mode. The slash separates the text items, and tells SCORE where each individual syllable is. If you need to indicate a hyphen, do not type the hyphen on your keyboard (-). Instead, type `!!`. For example, `Work!!ing` would create Work-ing. To create an extension line at the end of a word or syllable, type `??. Work!!ing??` creates Work-ing_____. (Note that you do not need to type a slash (/) when using !! or ??.)



When you have typed in all of the text, press ENTER. The text does not appear in the music. Instead, SCORE temporarily places a number above every note in the line and asks you which note [number] for each syllable on the line. SCORE automatically positions the hyphens and extension lines. If every note on the line receives a syllable, you do not need to specify the note numbers. Type 99 to automatically place all of the text on the line. Note: you cannot begin a line of lyrics (or text) with an extension line or hyphen. Instead, input the text without the line and manually create it from another hyphen/line in the text.

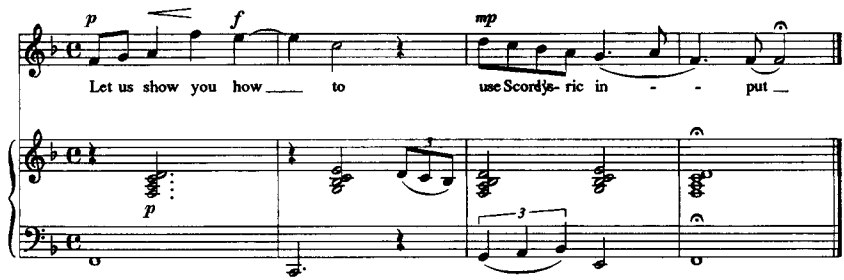
Inputting Chord Symbols

This same method may be used to input chord symbols above the staff. Use the same method to input lyrics, but specify a positive value for P4 (about 13 or 14, usually). Type in the text with slashes to separate the items, and assign the chord symbol to each note.



Justifying Music to the Lyrics

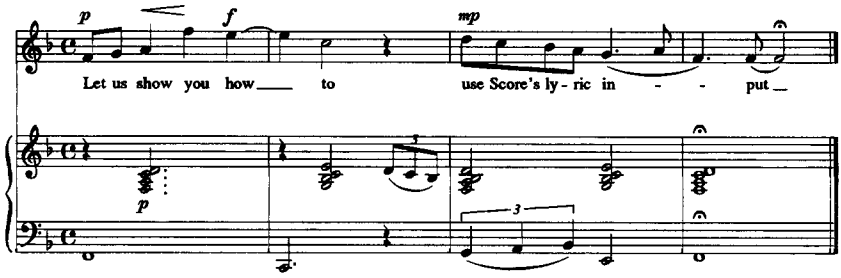
When performing a Lineup and Justify function on a file that contains lyrics, it may be necessary to adjust the positions of some beats to create more space for the words. Sometimes you have a long word or syllable attached to a short note value, and there is not adequate space for the text. SCORE provides a method for dealing with these problems. Examine this example (from *Using SCORE*).



Type JT for **J**ustify according to **T**ext. SCORE asks you for the number of the bottom staff and how many are in the file (1 3, in this case).

Type: 1 3 ENTER.

SCORE asks for the left and right positions of the staff; Press ENTER to accept the default of the full staff. At this point, SCORE gives you a chance to back out by typing "B," or you may press ENTER to continue. Press ENTER. Now SCORE needs to know which staff contains the text and what its vertical position (P4 value) is (you may type 99 to indicate any vertical position). SCORE will rejustify the file. The finished results should look like this:

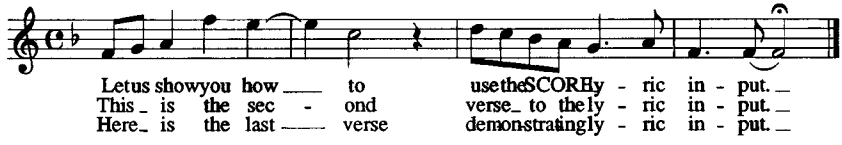


Before you use JT, it is a good idea to inspect the line and see if any syllables can be manually shifted to the left. SCORE, by default, positions syllables flush left with the note that they apply to, and there are some situations where you may "cheat" the syllable to the left to create more room. By doing this *before* you use JT, you minimize the alterations and distortions JT may make on your file. SCORE provides a way to create this displacement using P11 (see below).

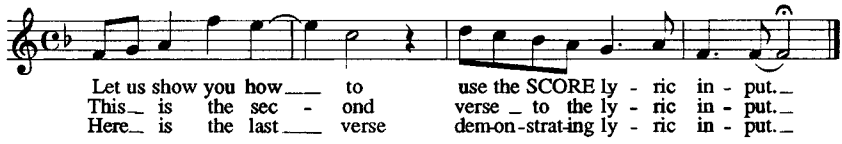
What does the JT command actually do?
When you justify a system using the JT command, SCORE searches through the text on the staff you specified and makes sure that there is a minimum amount of space between words. If there isn't, SCORE will shift the notes to the left or right respectively to make room for any long words that need additional space. The program makes minute adjustments and only adjusts where it is necessary. Sometimes you can avoid the need to use JT if you do some minor editing on the text, shifting some words slightly to the left to create additional space.

Inputting Multiple Lines of Lyrics

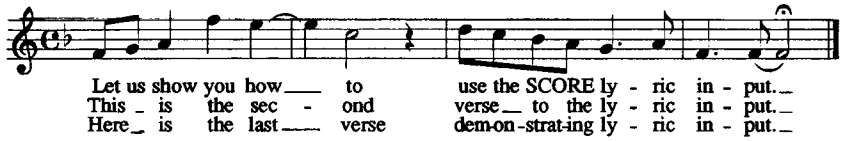
Some vocal music (songs with multiple verses, for example) require two or three sets of lyrics below a staff. These may be input using the T command, specifying a different P4 value for each line of lyrics. Input this example:



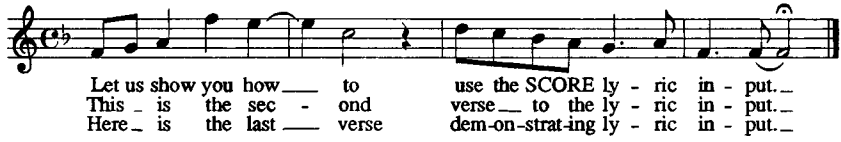
Before inputting the text, Lineup and Justify the line. Now input the lyrics. Set P4 for the first line of lyrics at -4, the second at -8, and the third at -12. After you have input the lyrics, use the JT command to adjust the spacing of the file. Since you have three separate lines of lyrics, specify a P4 value of -4 and JT will adjust the file *based on the lyrics at vertical position -4.*



Repeat the JT process, but now specify P4=-8.



Repeat it a third time, and specify P4=-12.



Each time SCORE will make adjustments in the horizontal spacing, trying to allow adequate space for every syllable on the line. If, after doing JT three times, one line needs to be readjusted, use JT again. In some situations, JT must be run a few times to make the proper adjustments.

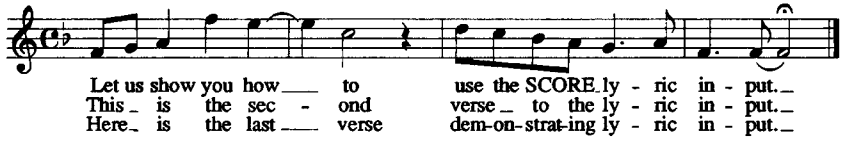
Adjusting Hyphens (Dashes)

When finished, the hyphens between the words may need adjusting. SCORE provides a command to automatically do this: the CD command.

The CD (Center Dash) Command

Type CD X where X indicates the staff number of the staff on which you want to center the hyphens. X may be a number greater than 32 (i.e. 99) to center hyphens on every staff.

CD may also be used on a single item. Select the hyphen and type CD. The hyphen is correctly centered between the syllables. Here is the above example after using CD:



Inputting Special Text Characters

SCORE allows you input a wide variety of diacritical accents and marks, as well as many special symbols. You may also input some of the music characters in a line of text. This chart shows the characters that are available.

diacritical accents <<e=é >>e=è ^^o=ô %%u=ü ##c=ç \=/

music symbols	[=♩	]=♩	{=♪	}=♪	!=o	?1=♭	?2=♯	?3=♮	?d=. (for ♩.)

type this -	?\	?|	?[	?]	?{	?}	?-	?a	?A	?c	?e	?E	?l	?L	?o	?O	?r	?s	?t
to get this -	\	|	[	]	{	}	–	æ	Æ	©	œ	Œ	ł	Ł	ø	Ø	®	ß	™

!0	!1	!2	!3	!4	!5	!6	!7	!8	!9	!a	!A	!d	!D	!e	!f	!g	!h	!i
•	„	”	¡	¢	£	§	¤	'	“	å	Å	†	‡	...	*f*	«	»	fi

!j	!k	!l	!m	!n	!p	!q	!s	!S	!y	!z	!Z	~a	~A	~n	~N	~o	~O
‹	›	fl	—	–	¶	¿	š	Š	¥	ž	Ž	ã	Ã	ñ	Ñ	õ	Õ

SCORE does not *display* all of these characters on the screen. Some characters will only appear as an "X." But when the page is printed, the correct character will print. This is because SCORE does not have a *Screen Font* for every character that is available.

What is a *Screen Font?*

A Screen Font, as its name implies, is a graphic screen representation of the typeface that has been selected. SCORE does not employ Screen Fonts for PostScript typefaces (it does use Screen Fonts for its built-in typefaces). This is done primarily to conserve display memory and to speed up screen redrawing. Instead, SCORE displays all of the PostScript fonts in a simple stick font but carefully scales the height and width of the letters to match whichever PostScript font you have selected. If you select a different font, you may notice that the screen font changes size slightly. This is to compensate for the different font metrics of the new font.

Using the Symbol and Zapf Dingbats Font

These fonts differ from the other PostScript fonts in their character sets. The following charts explain which characters will print based on what characters you type. Once again, you input the character on the top line to get the character below it.

_33 - Symbol

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Α	Β	Χ	Δ	Ε	Φ	Γ	Η	Ι	ϑ	Κ	Λ	Μ	Ν	Ο	Π	Θ	Ρ	Σ	Τ	Υ	ς	Ω	Ξ	Ψ	Ζ
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
α	β	χ	δ	ε	ϕ	γ	η	ι	φ	κ	λ	μ	ν	ο	π	θ	ρ	σ	τ	υ	ϖ	ω	ξ	ψ	ζ

0	1	2	3	4	5	6	7	8	9	.	,	(	)	:	;	?	!	+	−	*	\	=	@	#	$	%	&	<	>	′	‵	"
0	1	2	3	4	5	6	7	8	9	.	,	(	)	:	;	?	!	+	−	*	/	=	≅	#	∃	%	&	<	>	∋	¯	∀

?\	?		?[	?]	?{	?}	?-	?a	?A	?c	?e	?E	?l	?L	?o	?O	?r	?s	?t
∴	|	[	]	{	}	−	〉	〈		⌊	⌋	⌋	⌊	⌉	⌈		⌋	

!0	!1	!2	!3	!4	!5	!6	!7	!8	!9	!a	!A	!d	!D	!e	!f	!g	!h	!i
•	≠	≡	ϒ	′	≤	♣	♦	♥	♠			″	≥	…	*f*	↔	≈	→

!j	!k	!l	!m	!n	!p	!q	!s	!S	!y	!z	!Z	~a	~A	~n	~N	~o	~O
←	↑	↓	∠	±	∂	↵			∞								

_34 - ZapfDingbats

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
✡	✢	✣	✤	✥	✦	✧	★	☆	✪	✯	✰	★	★	★	★	✫	✬	✭	✭	✭	✭	✭	✭	✹	✺
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
✻	✼	✽	✾	✿	❀	❁	❂	❃	❄	❅	❆	●	○	■	❑	❒	❑	❒	▲	▼	◆	❖	◗	❙	❚

0	1	2	3	4	5	6	7	8	9	.	,	(	)	:	;	?	!	+	−	*	\	=	@	#	$	%	&	<	>	′	‵	"
✐	✇	✍	✓	✔	✕	✖	✗	✘	✙	✎	✏	✈	✉	✚	✛	✜	✁	✂	✃	✄	✍	✎	✏	✐	✑	✒	✓	✔	✕	✖	✗	✘	✙

?\	?		?[	?]	?{	?}	?-	?a	?A	?c	?e	?E	?l	?L	?o	?O	?r	?s	?t
✻	❩	✻	✻	❛	❝		⇨	➡		➙	➪	➳	➡	➶	⇨		➙	

!0	!1	!2	!3	!4	!5	!6	!7	!8	!9	!a	!A	!d	!D	!e	!f	!g	!h	!i
❷	❶	❺	❡	❢	❣	❧	♣	♦	♥			⑦	⑧	❻	❦	♠	⑥	③

!j	!k	!l	!m	!n	!p	!q	!s	!S	!y	!z	!Z	~a	~A	~n	~N	~o	~O
①	②	④	❼	⑥	❶	⑪			➢								

Using the SCORE Music Font

If you select font ID# 94, you may input the following characters as part of a text string:

94 -Score Music Font (p8 set to -1 for lighter face)

type:	P f m p s z	0123456789
to get this:	𝄋 *f m p s z*	**0123456789**

Note that this font is not recommended for creating dynamics, such as *mf-pp*. These dynamics should be created in the DRAW program, and stored in additional Code 9 slots (see the DRAW manual).

Basic Parameter Structure

P1 • code number of item (in this case 16 for text).

P2 • staff number that the text is attached to.

P3 • horizontal position.

P4 • vertical position.

P5 • indicates the space each character occupies.

P5 adjusts the space between characters on a line. The default value is 1. (Note that SCORE supplies the default value when P5 = 0.) (Think of it as 100%.) If you want to add 10% space between each character, set P5 to 1.1; subtract 10%, set P5 to .9.

P5=	Example
1.1	SYMPHONY No. 1
.9	SYMPHONY No. 1
0	SYMPHONY No. 1

P5 is sometimes used to spread out a line of text.

P5 = 1.5

S Y M P H O N Y N O . 1

It may also be used to tighten a line of text in a large point size.

P5 = .8

SYMPHONYNO.1

Note that P5 is a relative parameter based on the size setting in P6.

Adjusting Letterspacing

Altering P5 changes the letterspacing of the text (sometimes called Tracking by Typesetters). This is often employed in Justified text to eliminate large spaces between words.

Justified (P5 = 0 for every line)

This is a sample paragraph that will demonstrate how to use letter-spacing (P5) to create a Justified paragraph of text.

Re-justified

This is a sample paragraph ← P5 = 1.2
that will demonstrate how to use ← P5 = 0
letter-spacing (P5) to create ← P5 = 1.2
a Justified paragraph of text.

SCORE does not provide automatic *kerning* of letter pairs. Kerning is sometimes employed to remove space between letters when they appear in certain combinations (e.g. TA or LT). You may kern manually by creating separate text items (for each letter you wish to kern) and alter their horizontal position. You may also kern type in another program (i.e. Illustrator™ or PageMaker™) and import it into SCORE as a Code 15 item.

P6 • indicates the horizontal size.

P7 • indicates the vertical size.

Note: if P7=0, then P6 controls horizontal *and* vertical size. In most instances, you will only use P6 to adjust the size.

P6=	P7=	Example
1.5	0	SYMPHONY
1.5	1	SYMPHONY
0	1.5	SYMPHONY
3	1	SYMPHONY

Note that P6 is a relative size setting. If you enlarge or reduce the staff size the size of the text will be altered accordingly. (And if you enlarge or reduce the page when printing, the text, along with everything else on the page, will be enlarged or reduced.)

Setting Size in Points

SCORE allows you to set the size of the text in *points*, the standard measurement typographers use. (There are 72 points in an inch.) Select the text, then type `PTX` where *X* is a number equal to the point size you want. SCORE calculates the correct value to place in P6 based on the size of the staff this text is attached to.

SYMPHONY
P6 = 1, Staff Size = .9 POINT SIZE = 12.2

SYMPHONY
P6 = 1.15, Staff Size = .9 POINT SIZE = 14

SYMPHONY
P6 = 1, Staff Size = .75 POINT SIZE = 10.7

SYMPHONY
P6 = 1.38, Staff Size = .75 POINT SIZE = 14

Note: if you change the staff size, after using the PT command, the size of the text will be altered. In this situation, you must use the PT command again to reset the size. Similarly, if you copy text from one size staff to another staff that is a different size, the text will not be the same point size. You must reuse the PT command to retain the exact same point size.

To determine what pointsize a text string is, select the text and type PT ENTER (that is, without a number after it). SCORE displays the current pointsize of the text and the staffsize of its staff.

SCORE is unique in that you may specify *any* fractional pointsize from .1 point to about 10,000 point. This means that you can create text that is 1.375 points, or any other unusual size.

Including (and excluding) Text in Extracted Parts

Some text (tempo indications, titles, etc.) should be included in every instrumental part when it is extracted using PAGE. If you want text in every part, you must add 100 to P6. If you do not want text in any part, add 200 to P6.

P8 • overrides the font choice(s) in the text

P8 can indicate any font from the lists above. For example, P8=90 is Bodoni, 91, Bodoni Bold, 94 the music symbols. To use PostScript fonts, use the number 10XX, where XX indicates the font ID#. P8=1004 would select the font Helvetica. If you add 100 to P8, the font becomes outline. P8=1104 would create Helvetica Outline.

P8=1104 = Helvetica Outline

Note that P8 overrides *all* font selections in the entire text string.

P8 is commonly used when converting files from older versions of SCORE (such as version 1.X) that did not employ PostScript text fonts. You may create a macro or perform a group edit that alters P8 of every Code 16 item to a certain font as a "quick fix," then edit any exceptional text strings that need to be altered.

P9 • rotates the text

P9 is expressed in degrees, and indicates clockwise rotation.

P9=	Example
90	
-45	
180	
0	SYMPHONY

P10 • controls the size of the "space" character

P10=	Example
0	SYMPHONY FOR STRINGS
3	SYMPHONY FOR STRINGS
.75	SYMPHONY FOR STRINGS

P10 is primarily used by SCORE to justify a paragraph of text. SCORE's J command adjusts P10 automatically. It may also be used if you want to manually alter the amount of space between words.

Note that P10 is a relative parameter based on the size setting in P6.

P11 • displaces the text horizontally from its P3 setting.

P11 is useful when you wish to shift text, but want it to be at the exact same position of another object so that it will not be re-altered by the Lineup and Justify function, or PAGE. For example, suppose you wanted to shift a tempo indication to the left. If you manually adjust P3, SCORE will think the tempo indication is in the previous measure (since its P3 is less than the barline's P3), and when the parts are extracted, SCORE will position this tempo incorrectly. If you alter P11 to a negative value instead, the text will be correctly positioned in the part.

P11=	Example
0	SYMPHONY FOR STRINGS
3	SYMPHONY FOR STRINGS
-3	SYMPHONY FOR STRINGS

P3

P12 • indicates the number of characters and should not be altered.

P13 • indicates the length of the text and should not be altered.

P14-18 • indicates the text in a special code and should not be altered.

(Parameters 14-18 do not display in numerical value. Instead, the actual characters in the text appear just below.)

CODE 17 - KEY SIGNATURES

Input Method

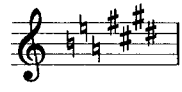
Letter Commands

Pitches Stage

Key signatures are input with letter commands during the pitch stage of the Input Mode. To create a key signature in sharps, type KXS where X indicates the number of sharps. For instance, to input a key signature of A major, you would type K3S since A major has three sharps. To input a key signature in flats, substitute F for S. K4F would create a key signature of four flats, A-flat major. Note: if you are using the *same* key signature throughout a piece, or a section of a piece, you may indicate it in the Staff Setup Menu of the Input Mode and you may input it by typing K whenever you need it. If you use a preset staff setup, the key signature indicated in the Staff Setup Menu is automatically created on every staff when you begin input. If you do not want a key signature, make sure that this is set to the key of C.

Changing keys in the middle of a line

You may indicate a key change in the middle of a line by using the above method, KXF or S. To input a canceling key signature in naturals, type KXSN to create X naturals in the pattern of a sharp key signature. KXFN would create X naturals in the pattern of a flat key signature. You may input multiple key signatures in sequence to create key changes. For example, K3FN/K4S would create:



Basic Parameter Structure

P1 • code number of item (17 for key signature).

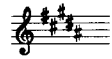
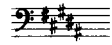
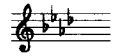
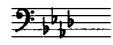
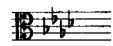
P2 • staff number that the key signature is attached to.

P3 • horizontal position.

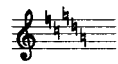
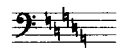
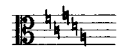
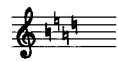
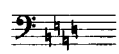
P4 • vertical position (generally, should not be altered).

P5 • indicates the number of accidentals in the key signature.

If P5 is a positive number, the key signature is sharps. If P5 is negative, flats.

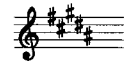
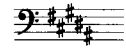
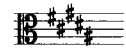
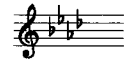
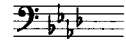
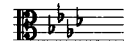
P5=	Example
5	
5	
5	
-4	
-4	
-4	

Note: adding 100 to P5 changes the accidentals to naturals in the pattern of sharps. Adding -100 to P5 changes the accidentals to naturals in the pattern of flats.

P5=	Example
105	
105	
105	
-104	
-104	
-104	

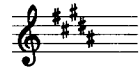
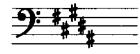
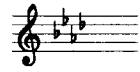
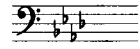
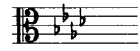
P6 • indicates the type of clef preceding the key signature. The following clefs may be specified in P6:

P6=	Clef Type
0	Treble
1	Bass
2	Alto
3	Tenor

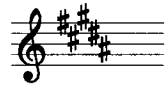
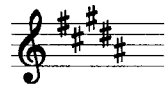
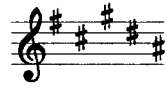
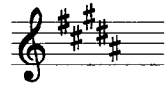
P5=	P6=	Example
5	0	
5	1	
5	2	
-4	0	
-4	1	
-4	2	

> It is imperative that you use P6 correctly. SCORE's transpose feature will not function correctly unless the key signature's P6 is set properly. It is very easy (in the course of editing) to select a key signature and displace it vertically (altering P4). This *invalidates* the key signature for any subsequent transpositions to the staff. Accordingly, we must stress the importance of setting P6 and avoiding alterations of P4.

If you add 100 to P6, the accidentals in the key signature change to "cue" size.

P5=	P6=	Example
5	100	
5	101	
5	102	
-4	100	
-4	101	
-4	102	

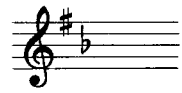
P7 indicates the amount of space between the accidentals in the key signature.

P7=	Example
.8	
1.1	
2	
0	

The default value is 1. If P7=.8, the accidentals are closer together; P7=1.2, they are farther apart.

Creating Unorthodox Key Signatures

To create unusual key signatures, such as one flat and one sharp, you must use multiple Code 17 items. To input a signature of one flat/one sharp, type `K1S/K1F`. Then edit P4 to place the key signatures on the appropriate lines of the staff.



Be careful when creating unusual key signatures that you do not transpose the staff with the TR command. The TR command examines the line for a key signature and makes its adjustments accordingly.

If you alter P4 of a key signature, SCORE will not be able to transpose the staff correctly.

CODE 18 - TIME SIGNATURES

Input Method

Letter Commands

Pitches Stage

Time signatures are input with letter commands during the pitch stage of the Input Mode. To create a time signature type two numbers *X Y* (with a space between them) where *X* indicates the "numerator" and *Y* indicates the "denominator." For example, `3 4` would input the time signature 3/4. Compound meters, such as 12 8, are input in the same manner (eg. 12 8). To input common time, type `COM`; for alla breve (or cut time), `CUT`. You may also create a time signature with a *single* number by typing TX where *X* equals that number.

Note: if you are using the *same* time signature throughout a group of staves, you may indicate it in the Staff Setup Menu of the Input Mode and you subsequently input it by typing `T` whenever you need it.

Changing time signatures in the middle of a line

You may indicate a meter change in the middle of a line by using the above method, TX *Y* . Meters such as 4/4 + 3/4 must be created in Edit Mode.

Basic Parameter Structure

P1 • code number of item (18 for time signature).

P2 • staff number that the time signature is attached to.

P3 • horizontal position.

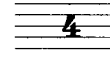
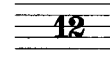
P4 • vertical position.

P5 • indicates the top meter number.

P6 • indicates the bottom meter number.

P5=	P6=	Example
3	4	$\frac{3}{4}$
4	4	$\frac{4}{4}$
12	8	$\frac{12}{8}$
99	1	C
98	1	¢

As created in the input mode, if P5=99 and P6=1, the "common time" time signature is created. If P5=98 and P6=1, then the "cut time" (alla breve) time signature is created. When the time signature has only a single number, P5=0 and P6 holds that number. It will be centered on the staff.

P5=	P6=	Example
0	4	
0	12	

Note that you may place any number in P5 or P6; SCORE does not require the number to be a valid time signature. For example, if you wanted to create a time signature of 5/10, SCORE would allow it. (Believe it or not, there are some pieces that use this type of time signature.)

P7 indicates the size of the time signature.

This is sometimes altered to create large time signatures above the staff (P4 must be altered, too).

P7=	Example
2	
	
4	
.5	

Note: if you plan to extract parts from a SCORE that employs oversize time signatures above the staff, PAGE will automatically return the time signature to its normal size and position (P4 = 0, P7 = 0). Since PAGE looks at the bottom staff (staff no. 1) to see if there are any time signatures, it is recommended that you attach these time signatures to staff one.

P8 • indicates the top meter number for a *second* meter.

P9 • indicates the bottom meter number for a *second* meter.

Parameters 8 and 9 are used to create complex time signatures, such as 3/4 + 7/8.

P8=	P9=	Example
3	8	
4	16	
3	0	
4	0	

Note that you can create meters such as 4+3/4 by setting P9 to 0. SCORE automatically adds the plus (+) between the meters.

P10 • alters the horizontal position of the plus (and the right meter, as well).

P10=	Example
2	
0	
-1	

P11 • alters the distance between the meters.

P11=	Example
2	
0	
-1	

P12 • suppresses the plus (+) between double meters.

Set P12 to 1 to remove the plus. This is sometimes used in conjunction with P11.

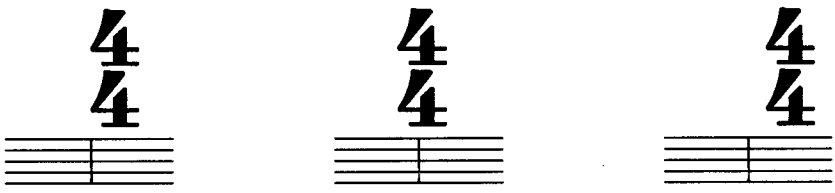
P11=	P12=	Example
0	1	
1	1	
2	1	

P15 • displaces the meter horizontally.

P15 is used when creating large time signatures above the staff. Setting P15 to a negative value shifts the time signa-

ture to the left (without changing its P3 setting). Some people prefer the meters centered over the barline when they are oversize (see the CM command, below).

P15=0 P15=-3 P15=3

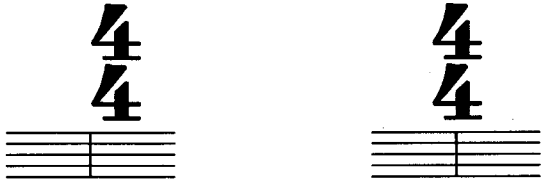


Automatically Centering Meters

SCORE provides the CM command to automatically center meters over barlines. Select the meter and type CM. SCORE calculates the correct displacement value, and puts that value in P15. This command also works for Code 10 items (rehearsal letters/numbers). Setting P9 to -1 while in Edit Mode accomplishes the same task.

Before
P15=0

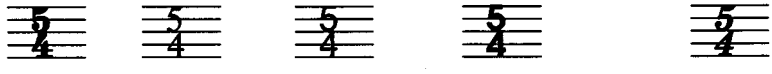
After CM
P15=-3



P13 • changes the font of the meter numbers.

Add 1000 to the conventional font numbers (see page 143) to use different fonts in a time signature.

P13=0 P13=1000 Times Roman P13=1004 Helvetica P13=1018 AvantGarde Demi P13=1027 NewCenturySchlbk BoldItalic



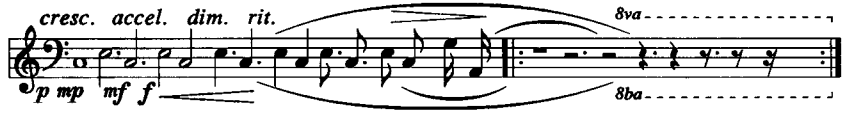
may be retrieved into your file so that you may use some of the symbols on them, then removed before saving your work.

Press F3 to access the Edit Menu. Notice that F6 indicates the option "menu". This is how you retrieve the special "menu staves" for use. Press F6. SCORE prompts:

```
Enter an unused staff number for graphic menu
#1. ->
```

You may type any staff number, as long as it is not currently being used in the file. This staff will appear at that position:

MENU1.SET (F6)



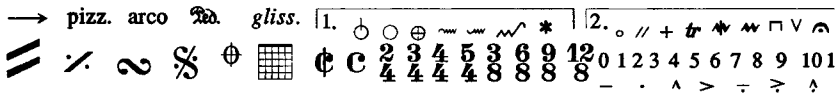
You may now take any item(s) you need from this staff and use it in your file. If you use the mouse, you can click the right button to make multiple copies of items (see Using the Mouse, below). When you are finished, you must remove this staff (or it will be saved with your file). Switch to the Edit Menu (by pressing F3) unless you are already there. Press F6. SCORE prompts:

```
Graphic Menu #1 is staff X. Delete all items at-
tached to this staff? Y/N?->
```

This prompt will tell you which staff is currently the graphic menu and ask you if you wish to delete it.

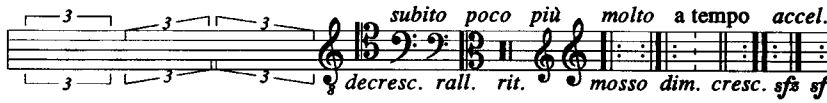
There are two more menu staves. Press SHIFT + F6 to retrieve menu no. 2.

MENU2.SET (Shift + F6)



Press ALT + F6 to retrieve menu no. 3.

MENU3.SET (Alt + F6)



Note: as an alternative, you may type MU X where X equals the number of the graphic menu you wish to retrieve (1, 2, or 3). SCORE will prompt you in the same manner as above. MD will delete the graphic menu staff in a similar fashion.

Entering Edit Mode with Letter Commands

ED (X Y Z)

enters the Edit Mode editing items at horizontal position X on staff Y that are code number Z. Do not type the brackets ([ ]). This command actually selects items within five spaces of the horizontal position for editing. ED 100 5 1 enters the edit mode and lets you edit all code 1 items on staff 5 at position 100.

If you do not wish to alter the item selected, press ENTER to continue to the next item. Pressing F2 (or -) switches direction so that you may go backwards to a previously selected item.

If the staff number is greater than 32 (i.e. 99), all staves are selected for editing.

If the code number is 0, all items at the selected position are edited. Basically, this is the same as the "Edit by position" selection in the User Interface. ED with no numbers specified places you in Edit Mode and selects the last item altered for further editing.

I (X)

enters the Edit Mode editing item number X. (Do not type the brackets.) If you do not specify an item number, this command selects the last item altered. Commonly, I is used to reselect an item immediately after editing it. For instance, you input a title with the T command. After seeing it on the screen, you realize it should be slightly larger. Type I ENTER and the title is selected for editing.

ST (X Y)

enters the Edit Mode editing items on staff number X that are code number Y. If X is greater than 32, all staves are edited. If no number is specified for Y, all items are edited. (Do not type the bracktes.) ST 99 3 edits all code 3 items (clefs) on every staff. This is basically the same as "Edit by Staff" in the User Interface.

Exiting Edit Mode

Type X or press ESC to exit any form of Edit Mode. You may also press all three mouse buttons simultaneously.

Making Changes While in Edit Mode

While in any form of Edit Mode, you may type S to Set a particular item as a horizontal reference. The program will then switch to ED mode, a vertical line will appear (as before), and pressing ENTER will step through every item within 5 spaces of the "Set" item. Any item you wish to *align* with the first item may be altered by typing A. This alters the item's P3 value so that it is equal to the P3 value of the first item. Commonly, this is used to align notes.

Changing Parameters in Edit Mode

Once an item is selected, you may change its parameter(s) by typing the parameter number, a space, the new value, and ENTER. For example, if you wanted to change P5 of an

EDITING

Regenerating Input Code

The EDI Command

Sometimes, the easiest way to edit on a staff may be to recreate the original input code and edit it (in the same manner as when you press ESC during input). To do this, you use the EDI (**ED**it **I**nput) command

When any file is open, type EDI ENTER

SCORE prompts you for a staff number and positions. You may *not* edit input on every staff by typing a number greater than 32. You may, however, edit the input for a single measure or portion of a measure by specifying horizontal positions.

SCORE recreates the input code from the existing items on the staff. This code may be more specific than when you input the staff; items (like dynamics) that have been repositioned will have fractional values in their input code, slurs and beams will have a plus or minus to indicate their direction, etc. Edit the input code normally, and continue. SCORE recreates the items. Based on the changes you make, you may need to re-lineup and justify the system.

Note: you may also alter the second line of text that EDI creates to read SP=X where X equals the number of the staff you wish to space to. This will align the items you are editing to the staff that you specify (in the same manner as during input mode).

Quick Editing

To assist you with editing, SCORE provides three "menu staves" that contain commonly-used symbols. These staves

item from 11 to 21, type 5 21 ENTER. You may change multiple parameters at the same time by typing additional parameters on the same line. 5 21 6 1 11 7 ENTER would change P5 to 21, P6 to 1, and P11 to 7. If you are changing a parameter to 0, you do not need to specify the value (5 0 ENTER and 5 ENTER are equivalent).

You may also use this for the *last* parameter in a list of parameters.
5 21 6 1 **11 0** ENTER and 5 21 6 1 **11** ENTER are equivalent;
5 21 **6 0** 11 7 ENTER and 5 21 **6** 11 7 ENTER are not
.(In the last example, P5 would become 21, P6 would become 11, and P7 would become 0.)

Adding to a Parameter Value

To *add* an amount to a parameter, place two zeros after the parameter number. 6**00** 4 *adds* 4 to the current value of P6.

Making Two Parameters Equal

To make two parameters equal, type the parameter number with three zeros following it, then type the other parameter number. 6**000** 3 would make P6 equal to P3.

Cancelling Editing Changes

If you decide you do not like the changes and want to abort the edit you may type AB and all changes will be canceled. To accept all changes, press ENTER. SCORE automatically steps to the next item.

Checking a Parameter's Previous Value

If you change a parameter to a value you do not like and want to see what that parameter was before you began editing, type PX where X is the parameter number. For example, typing P3 ENTER will display the original value in P3.

Note: if you move an item with the mouse or cursor keys, it changes the values in the parameters indicating its position.

Moving Items

You may also move an item (while in Edit Mode) by typing any of the letters L R U D followed by a number. If you do not specify a number, the default is 1. For example, L 10 will move an item to the left 10 spaces; D would move an item down 1 space. If you type the letter again without specifying a new number, the previous number is used. For example, U10 would move an item up 10 spaces. Typing U again would move it up an additional 10 spaces. You may also specify the amount to move in inches or centimeters. Type LI followed by a number to move in inches; LC to move in centimeters. For example: LI 3 moves the item three inches to the left; LC3 move it three centimeters to the left. R, U, and D also function this way.

Moving with the Mouse

After selecting any item, you may move it to a different position by clicking the left mouse button at that position. You may also *drag* the item (click and hold down the left mouse button) by moving the mouse. Be careful when you do this type of edit, as it is very easy to move an item (like a dynamic) to a *different* staff than you may intend. Always check P2 of any item you move with the mouse to insure it is "attached" to the correct staff.

Constraining Movement with the Mouse

In some situations, you may only wish to move an item horizontally without altering its vertical position (or vice-versa). Hold down the SHIFT key before moving the item with the mouse. Now move the item horizontally. Your movement will be limited so that you cannot move the item vertically. If you move vertically, you will not be able to

alter the item's horizontal position. (In other words, whichever direction (horizontal or vertical) you move *first* is the only direction you will be allowed to move until you release the SHIFT key.)

SCORE's Default Measurements

By default, SCORE uses inches as its basic measurement. To change the default measurement to centimeters, open the DOS text file PREF.SCR in your \LIB directory and change the line that reads "inches" to "metric." Save the file as Text only or ASCII format. To temporarily change to centimeters, type MET, then <enter> at the SCORE prompt. This change will only remain in effect during your current work session, and will change back to the default the next time you start SCORE.

Copying While in Edit Mode

After entering Edit Mode and selecting an item, there are many ways to copy it. If you are using the mouse, clicking on any staff at any position with the *right* button creates a copy of the original item. You may do this repeatedly. Pressing F3, <insert> or typing CC will also create a copy, and leave the *copy* selected for further editing. If you type C alone, you will create a copy and exit the Edit Mode. If you type CX, you will create a copy, and continue on to the next item (e.g., the item with the next higher item number).

Moving One End of an Item

It is possible to move one end of an item if it has horizontal length. This includes Code 4 - LINES, Code 5 - BEAMS, Code 6 - SLURS, Code 7 - TRILLS, OTTAVAS, and PEDALS, and Code 8 - STAVES. First select the item in Edit Mode. Press F9 to select the *left* side of the item. You may now use the mouse or cursor keys for editing the left position without altering the right side. Similarly, if you press F10, you can edit the *right* side of the item without altering the left. Press SHIFT + F10 to edit the middle of the item. Primarily, you will use this to edit the centerpoint of slurs, but it will also allow to horizontally shift the number over a beam or in a tuplet bracket. If you press SHIFT + F9, you return to normal editing of the entire item. (Notice the indicator at the top right of the Edit Mode screen which identifies if you are editing the whole item, the right side, the left side, or the middle.) If you use the mouse to move one end of an object, the SHIFT key will constrain movement as explained above.

Editing by Group

There are several Group Edit commands that are extremely useful when working in SCORE.

Copying

You may *copy* any item(s) from one place to another using the C command.

Usage of The C Command

Type C ENTER

SCORE prompts:

```
Enter staff #, left position, right position,
[code #, upper staff #]_
```

You must specify the staff number. If you leave the left position and right position at 0, it uses the default settings of 0 and 220. If you do not specify a Code number, the default is 0, all code number items. You may specify 33, or 99 for the first number to select all staves, or use the first and last staff number to specify a continuous group of staves.

```
Enter new staff #, left position, right posi-
tion, [steps up-down]_
```

You must specify the staff number. If you leave the positions blank, the default is the same settings as the first prompt. You may also specify if you want the copied items moved up or down by any number of steps.

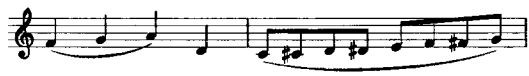
Using the Mouse

As an alternative to typing numbers for the second prompt, you may use the mouse to indicate the staff number and positions for the copy. Click the *middle* mouse button on the staff to be copied to (if you have a two-button mouse, hold down CTRL and click with either button). Click the left mouse button on the staff at the appropriate left position and the right mouse button at the right position; press ENTER to conclude the operation.

Some Typical Examples of the C Command

Copying an entire staff of material to a new staff position:

Before

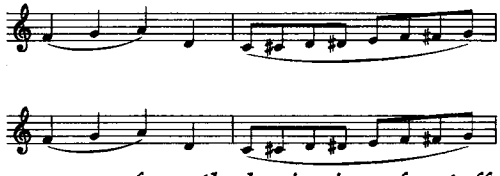


Type C ENTER

1 ENTER [the origination staff]

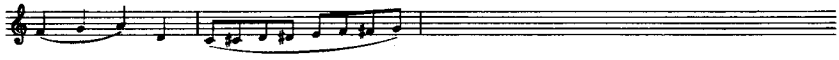
2 ENTER [the destination staff]

After C



Copying two measures from the beginning of a staff to the end:

Before

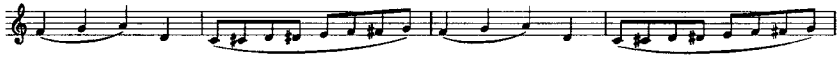


Type C ENTER

1 6 100 ENTER [the origination staff and positions]

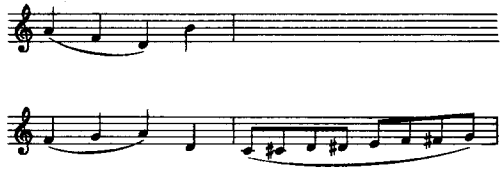
1 101 200 ENTER [the final positions]

After



Copying a staff's music to a pre-existing staff:

Before

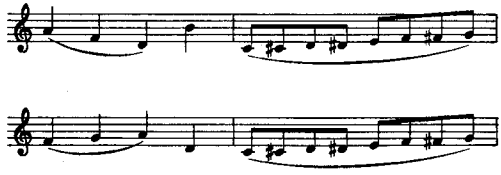


Type C ENTER

1 50 ENTER [the origination staff and left position]

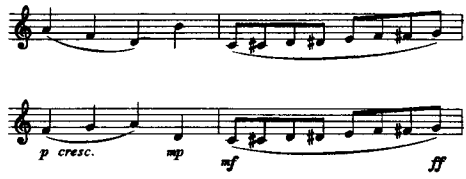
2 ENTER [the destination staff]

After



Copying selected items from one staff to another:

Before

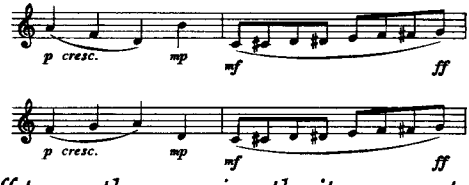


Type C ENTER

1 0 0 9 ENTER [the origination staff and code number]

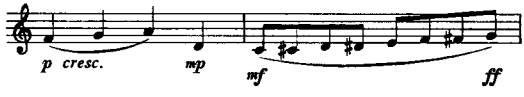
2 ENTER [the destination staff]

After



Copying a staff to another, moving the items up at the same time:

Before

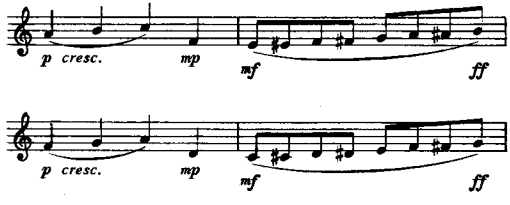


Type C ENTER

1 ENTER [the origination staff]

2 0 0 2 ENTER [the destination staff and the number of scale steps to move, in this case 2 steps up]

After

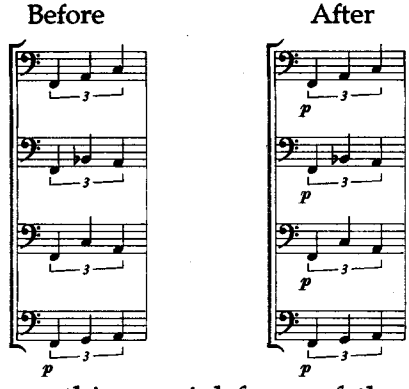


Copying to Every Staff

You may also use the C command to copy a single Code number item from one staff to *every* staff in a file.

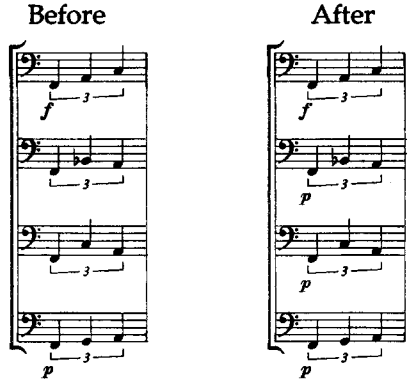
Type C ENTER as before. Type the staff number, positions, and a *Code number* (you must specify the Code number for this special form of the copy command). In the next prompt, type 99 for the new staff number, and the code item(s) you selected will be copied to *every* other staff in the file, at the same position it was on the original staff.

Copying a single dynamic to every staff:



You may also use this special form of the C command to copy to a *continuous group of staves*. Start the C command as above, but when you type the new staff as 99, specify two more numbers indicating the bottom staff and top staff you wish to copy to.

Copying dynamics from staff 1 to staves 2 through 3:



Note that you may specify the original staff in the copy; the item(s) will not be copied on top of themselves.

Copying a *System*

SCORE has a special command to copy a *system* of staves from one location to another, the CS command.

Usage of The CS Command

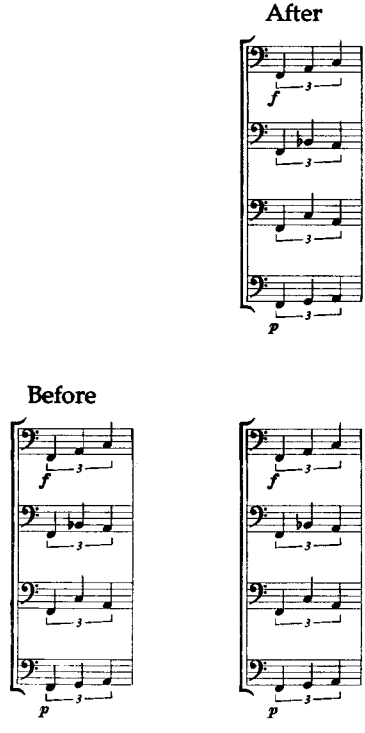
Type CS ENTER

SCORE prompts:

```
Enter bottom staff # and how many staves in sys-
tem_
```

You must specify both numbers.

```
Enter new bottom staff#_
```



Moving

You may *move* any item(s) from one place to another using the M command. Note that the M command functions the same as the C command.

Usage of The M Command

Type M ENTER

SCORE prompts:

```
Enter staff #, left position, right position,
[code #, upper staff #]_
```

You must specify the staff number. If you leave the left position and right position at 0, it uses the default settings of 0 and 220. If you do not specify a Code number, the default is 0, all code number items. You may specify 33, or 99 for the first number to select all staves, or use the first and last staff number to specify a continuous group of staves.

```
Enter new staff #, left position, right posi-
tion, [steps up-down]_
```

You must specify the staff number. If you leave the positions blank, the default is the same settings as the first prompt. You may also specify if you want the copied items moved up or down by any number of steps.

> Note: the M Command has one special feature. If you wish to move an entire group of items a specific horizontal distance, you may simply specify that distance for the "Left position" prompt and not specify a "right position". For example, if you wanted to move every note on staff 3 2 units to the right, type:
> M ENTER
> 3 7 200 1
> 3 2

(To move items to the left, specify a negative number for the horizontal amount to move.)

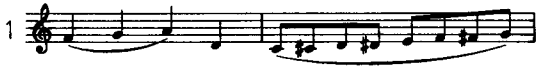
Using the Mouse

As an alternative to typing numbers for the second prompt, you may use the mouse to indicate the staff number and positions. Click the *middle* mouse button on the staff to be moved to (if you have a two-button mouse, hold down CTRL and click with either button). Click the left mouse button on the staff at the appropriate left position and the right mouse button at the right position; press ENTER to conclude the operation.

Some Typical Examples of the M Command

Moving an entire staff of material to a new staff position:

Before

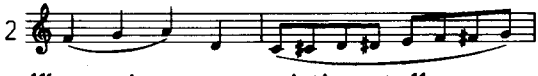


Type M ENTER

1 ENTER [the origination staff]

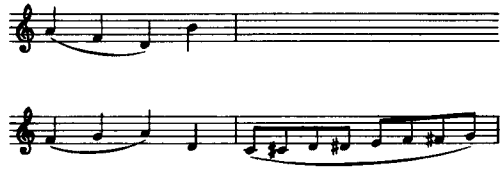
2 ENTER [the destination staff]

After



Moving a staff's music to a pre-existing staff:

Before

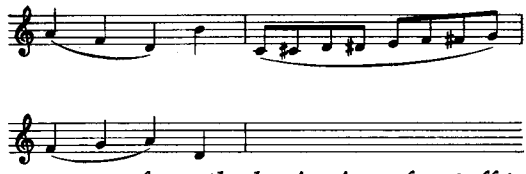


Type M ENTER

1 50 ENTER [the origination staff and left position]

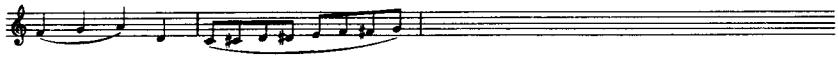
2 ENTER [the destination staff]

After



Moving two measures from the beginning of a staff to the end:

Before



Type M ENTER

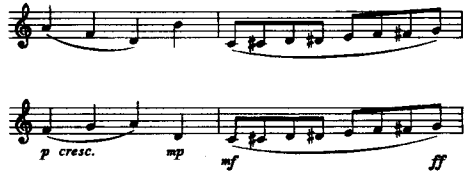
1 6 100 ENTER [the origination staff and positions]

1 101 200 ENTER [the final position]

After

Moving selected items from one staff to another:

Before

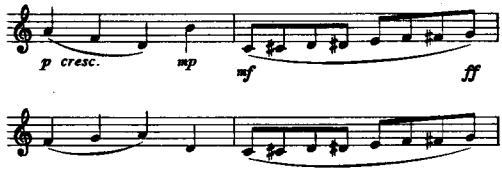


Type M ENTER

1 0 0 9 ENTER [the origination staff and code number]

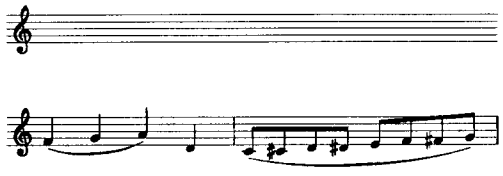
2 ENTER [the destination staff]

After



Moving a group of notes from one staff to another, moving them up at the same time:

Before

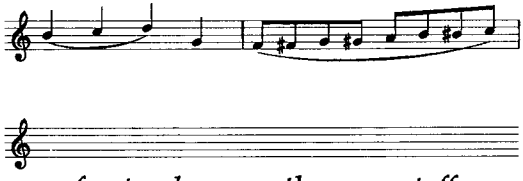


Type M ENTER

1 6 ENTER [the origination staff]

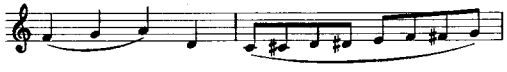
2 0 0 3 ENTER [the destination staff and number of scale steps to move]

After



Moving a group of notes down on the same staff

Before

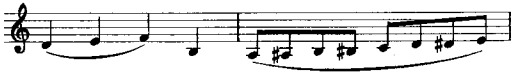


Type M ENTER

1 ENTER [the origination staff]

1 0 0 -2 ENTER [the destination staff and number of scale steps to move]

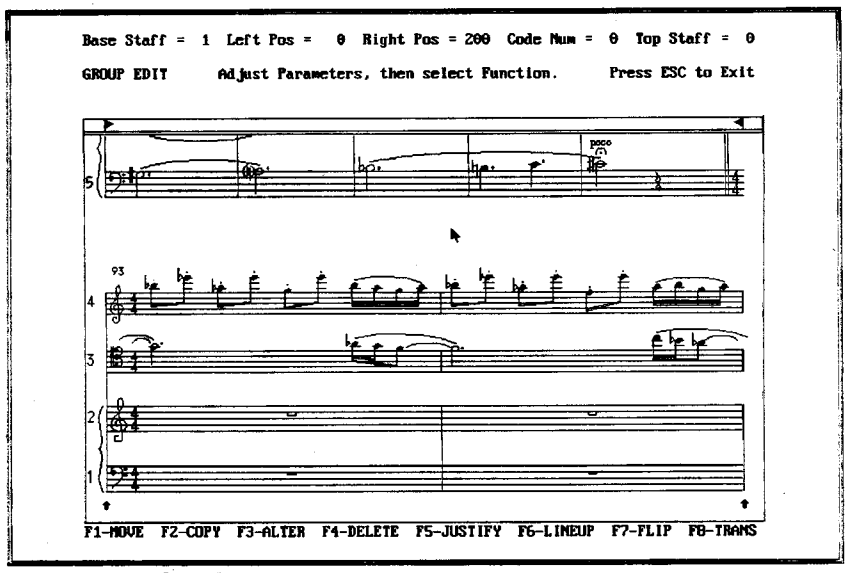
After



The Edit Menu

The above commands are also available in an Edit Menu. Press F3 to access this menu.

The various editing commands are available by pressing the appropriate function keys (or by clicking on the labels at the bottom of your screen). At the top of the work area is a line with two triangles that look similar to margin indicators you might see in a word-processing program. Using the mouse, you click the left button anywhere in the work area to indicate left position, and this triangle will move accordingly. Click the right mouse button to indicate right position, and the second triangle will reposition itself. The various commands function in the same manner as described above.



Moving a *System*

SCORE has a special command to move a *system* of staves from one location to another, the MS command. Note that this functions in the same way as the CS command.

Usage of The MS Command

Type MS ENTER

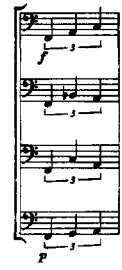
SCORE prompts:

```
Enter bottom staff # and how many staves in sys-
tem_
```

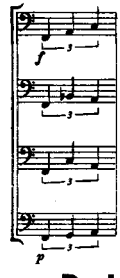
You must specify both numbers.

```
Enter new bottom staff#_
```

After



Before



Moving a *Measure* Between Systems

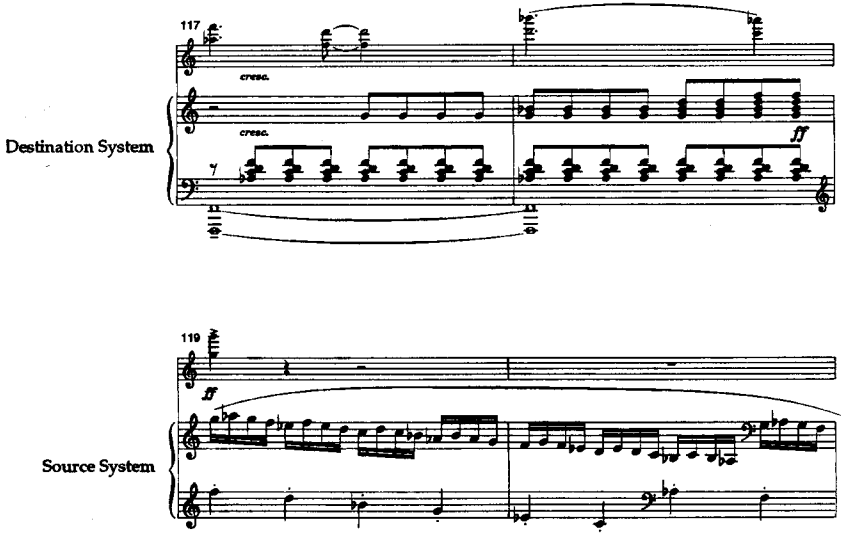
SCORE has a special command to move measures from one system to another, the RIP command. This command "ripples" any number of measures from one system to the next, providing the following conditions are met:

1) Both systems must have the same number of staves.

2) Both systems must be on the screen.

Note: the RIP command cannot be used with any piece in which a single system is created from *multiple* files (such as orchestral scores), or any piece that has a system of more than 16 staves. (Since the RIP command requires *both* systems to appear on the screen, and SCORE's maximum number of staves is 32, each system must have no more than 16 staves.)

To use RIP, you must first retrieve the files. An easy way to do this is to use the COM command to temporarily combine the two files for rippling. See the File Formats and Functions Chapter for an explanation of COM. (You may also use the GM command, explained in the File Formats Chapter.)



After retrieving the files, type `RIP` ENTER.

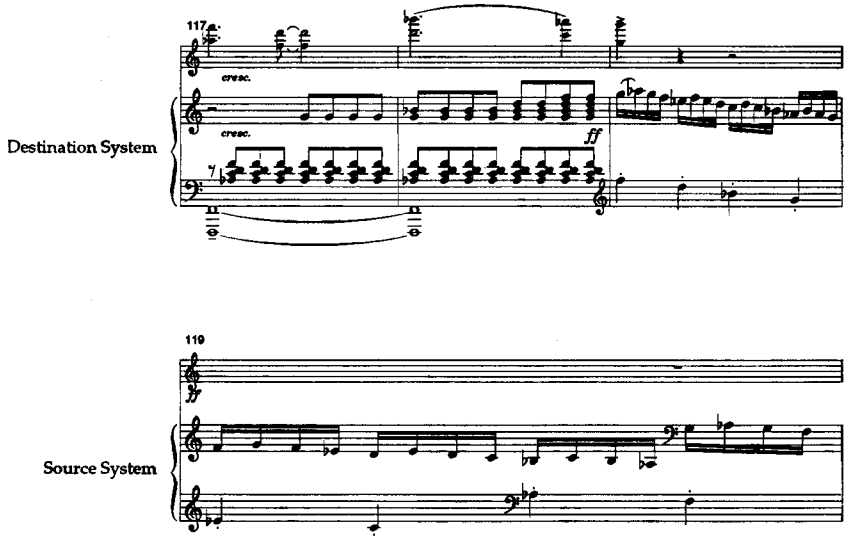
SCORE prompts:

```
How many staves in a system? (B=backup)>
```

(SCORE allows you to abort this procedure by typing B or a number to continue.)

```
Type staff number of bottom of source system.

Type staff number of bottom of destination sys-
tem.

How many bars to move?
```

Type the numbers as indicated, and SCORE will move the information from the source system to the destination system. It will remove any redundant clefs and key signatures, then perform the Lineup and Justify procedure on both systems automatically. If there is any error in your input that would prevent Lineup and Justify from functioning, an error message will appear. See the Justification Chapter for more information.



All that remains to be done is to separate the files. SCORE provides a command, DEC, that will decombine them into separate files. See below for an explanation of how it functions. If you do not need to separate the files (for example, if you RIP an *entire* system onto another and merge them) then use the DE command, explained below, to delete the unecessary staves.

Note: the RIP command does not adjust measure numbers. In the above example, the second system actually begins with m. 120 but is labelled 119. Measure numbers must be manually edited after using the RIP command.

Group Altering

You may *alter* any item(s) using the A command.

Usage of The A Command

Type A ENTER

SCORE prompts:

```
Enter staff #, left position, right position,
code #, [upper staff #]_
```

You must specify the staff number. If you leave the left position and right position at 0, it uses the default settings of 0 and 220. You must also specify a Code number for the A command to function. You may specify 33, or 99 for the first number to select all staves, or use the first and last staff number to specify a continuous group of staves.

```
Enter P#, chng., P#, chng., P#, chng., ...
```

You may change any number of parameters in the selected group, all at the same time. (This functions in the same manner as when selecting a *single* item in Edit Mode.)

Some Typical Examples of the A Command

Deleting articulations from a group of notes:

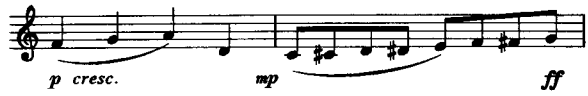
Before

Type A ENTER

1 0 0 1 ENTER [the staff, positions, and code number]

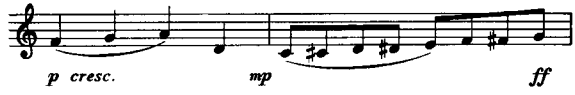
11 ENTER [the parameter and its new value]

After



Add articulations to a group of notes:

Before

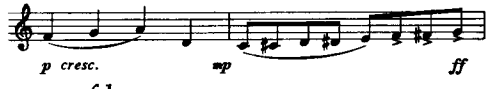


Type A ENTER

1 25 35 1 ENTER [the staff, positions, and code number]

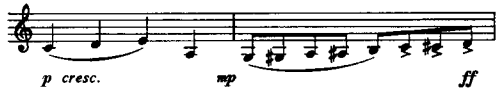
11 5 ENTER [the parameter and its new value]

After



Adjusting a group of beams:

Before

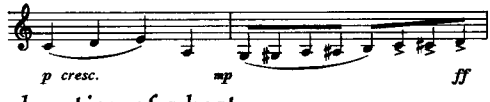


Type A ENTER

1 0 0 6 ENTER [the staff, positions, and code number]

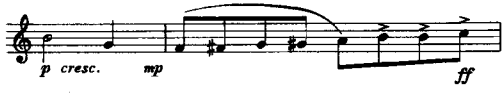
400 2 500 2 ENTER [the parameter and its new value]

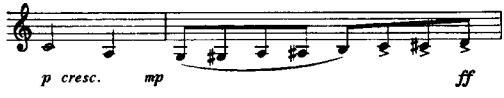
After



Changing the duration of a beat:

Before



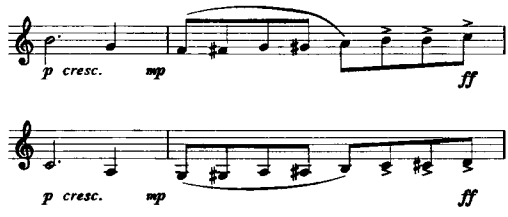


Type A ENTER

1 11 13 1 ENTER [the staff, positions, and code number]

7 3 9 10 ENTER [the parameter and its new value]

After



Group Deleting

You may *delete* any item(s) or staves using the DE command.

Usage of The DE Command

Type DE ENTER

SCORE prompts:

```
Enter staff #, left position, right position,
[code #, upper staff #]_
```

You must specify the staff number. If you leave the left position and right position at 0, it uses the default settings of 0 and 220. If you do not specify a Code number, the default is 0, all code number items. You may specify 33 or 99 for the first number to select all staves or use the first and last staff number to specify a continuous group of staves.

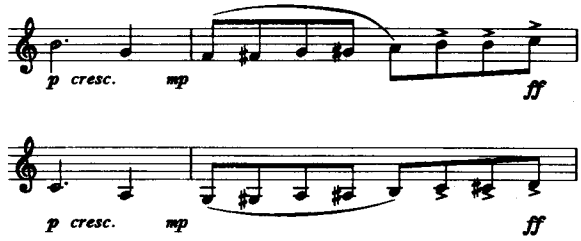
```
Press "B" or <Esc> to backout, <enter> to con-
tinue
```

SCORE gives you a chance to abort the delete or continue.

Some Typical Examples of the DE Command

Deleting an entire staff (staff 2):

Before

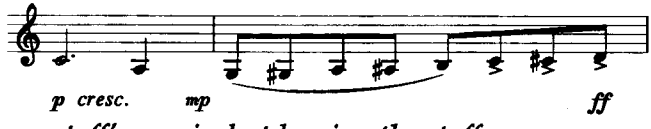


Type DE ENTER

2 ENTER [the staff]

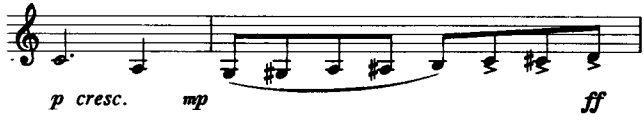
ENTER

After



Deleting a staff's music, but leaving the staff:

Before

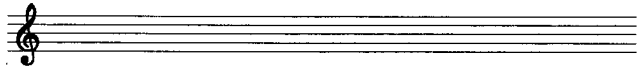


Type DE ENTER

1 5 ENTER [the staff and position]

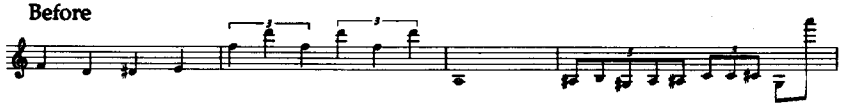
ENTER

After



Deleting two measures from the beginning of a staff:

Before



1 7 106 ENTER [the staff and positions]

ENTER

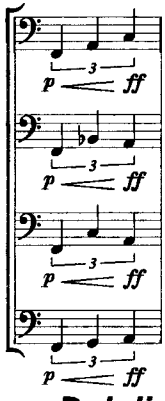
After

Deleting selected items from every staff:

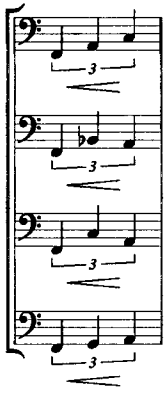
Type DE
99 0 0 9 ENTER [the staff, positions, and code number]

ENTER

Before

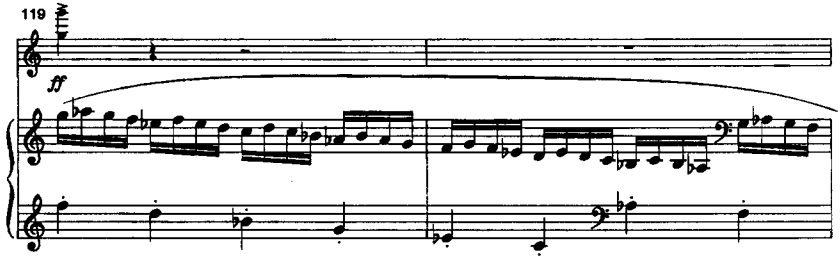


After



Special Group Deletion

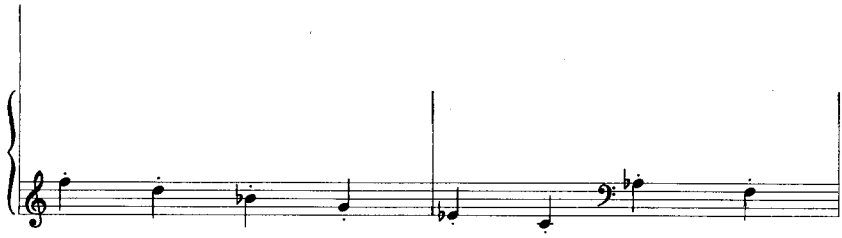
The DE command may also be use to delete every staff *except* a particular staff.



Type DE ENTER

SCORE prompts:

```
Enter staff #, left position, right position,
[code #, upper staff #]_
```



Type the number of the staff you want to *keep*, a space, and then -99. For example, typing 1 -99 would delete every staff *except* staff number 1. **Use this version of the DE command with extreme caution!**

Reversing Stem Direction

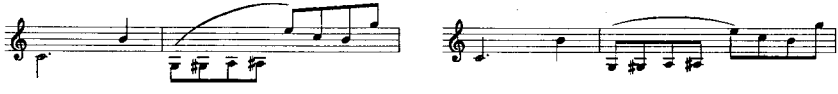
SCORE has four special commands to flip note stems: FLO, FLU, FLD, and FLN. These commands will only affect a *single* staff.

Flipping Stems to the Opposite Direction

Type FLO ENTER

SCORE prompts:

```
Flip stems, etc. to opposite direction
Enter staff #, left pos., right pos., ->_
```



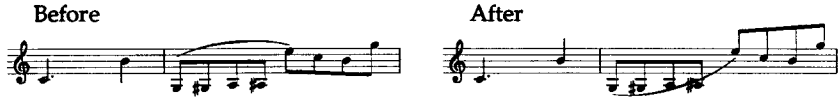
If you want to flip the stems for an entire staff, just type the staff number. (SCORE supplies the defaults 0 and 220 for left and right position.) Otherwise, you may specify a left and right position to flip stems in a specific area.

Flipping Stems Up

Type FLU ENTER

SCORE prompts:

```
Flip stems, etc. up
Enter staff #, left pos., right pos., ->_
```



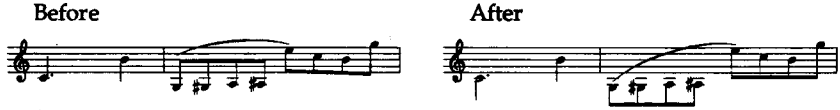
The FLU command flips all stem *up* in the specified area. If you want to flip the stems for an entire staff, just type the staff number. (SCORE supplies the defaults 0 and 220 for left and right position.) Otherwise, you may specify a left and right position to flip stems in a specific area.

Flipping Stems Down

Type FLD ENTER

SCORE prompts:

```
Flip stems, etc. down
Enter staff #, left pos., right pos., ->_
```



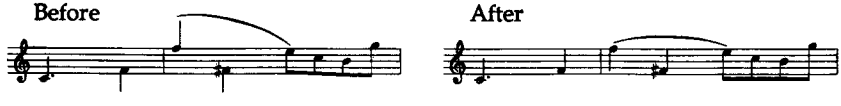
The FLD command flips all stem *down* in the specified area. If you want to flip the stems for an entire staff, just type the staff number. (SCORE supplies the defaults 0 and 220 for left and right position.) Otherwise, you may specify a left and right position to flip stems in a specific area.

Flipping Stems to the Normal direction

Type FLN ENTER

SCORE prompts:

```
Flip stems, etc.
Enter staff #, left pos., right pos., ->_
```



The FLN command flips all stem to the "normal" direction in the specified area. SCORE has its own sophisticated method for determining normal stem direction, and in most cases, it will make the correct choices. If you want to flip the stems for an entire staff, just type the staff number. (SCORE supplies the defaults 0 and 220 for left and right position.) Otherwise, you may specify a left and right position to flip stems in a specific area.

> Note: if you accept the default left and right positions (0 and 220, respectively) for any of SCORE's group edit commands, you may not always get the desired results. Some items may extend to the left of the staff (slurs, hairpins, and labels may have a P3 setting less than zero) and are not affected by a group edit. When in doubt, use a negative number for the left position to insure every item is affected, and always check the results of any Group Edit carefully.

Transposition

SCORE has a letter command that is used to transpose a *single* staff, the TR Command (Note, if you wish to transpose a group of staves, we suggest either creating a macro or using the PAGE program. See the chapter on PAGE for further information.)

Usage

Type TR ENTER

```
Enter staff # to transpose or "B" or <Esc> to
backout. ->_
```

Type a staff number. (Note, TR does *not* let you use a number greater than the total possible [eg. 33 or 99] to transpose every staff.)

```
Type # of half steps (+/-) or type "M" for a menu
of transpositions.
```

You may type the exact number of half steps (eg. 2 would transpose a staff *up* a whole step; -7 would transpose a staff down a perfect fifth) or type M. The Menu presents 16 of the most common transpositions, and some of the instruments that employ these transpositions.

```
1. A flat (clar. [high]) down M6
2. F (trpt. [high]) down P4
3. E (trpt. [high]) down M3
4. E flat (clar., trpt. [high]) down m3
5. D (clar., trpt. [high]) down M2
6. B flat (clar., trpt., sop. sax) up M2
7. A (clar., trpt.) up m3
8. G (alto flute, horn) up P4
9. F (horn, english horn) up P5
10. E (horn) up M6
11. E flat (alto sax, horn) up M6
12. D (horn) up m7
13. B flat (tenor sax, bass clar.) up M9
14. E flat (baritone sax) up octave + M6
15. octave up
16. octave down

Enter the number of your choice or "B" or <esc>
to backout. ->_
```

> These numbers in the menu represent choices, not the number of half steps that will be transposed. For reference purposes, we have provided the actual transpositions that will take effect for each menu selection (these do not appear when you select the menu in SCORE).

```
Change clefs? (y or n <Enter> = no) ->_
```

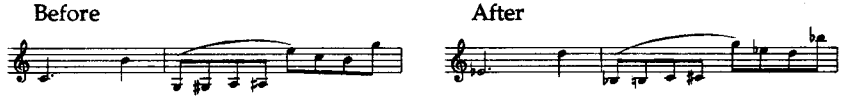
SCORE allows you to change *all* the clefs when transposing a staff. Pressing ENTER accepts the default, no.

```
Add key signature? (y or n <Enter> = no) ->_
```

If the staff does not have a key signature (or is in the key of C), SCORE will ask you if you wish to add one. Pressing ENTER accepts the default, no.

```
Normalize stem directions? (y or n <Enter> =
yes) ->_
```

When you transpose a staff, the music may move up or down a significant distance. Sometimes, stems will be in the wrong direction, and slurs may need to be repositioned. To fix this quickly, SCORE allows you to flip the stems, beams, slurs, etc. to their correct position when you transpose. The default is yes, which you can accept by pressing ENTER.



After using the TR command, you should always carefully examine the results. Occasionally SCORE will add unnecessary naturals, or create unnecessary enharmonic spellings. In addition, if the stems are "normalized," some items (such as beams, slurs, dynamics, etc.) may need to be adjusted.

> Note: the TR command is not usually used to transpose an entire part; PAGE has a transposition feature in it that works in exactly the same manner. TR might be used in the creation of a "doubling" part, when an instrumentalist plays Oboe and English Horn, for example. If the score was in C, you would have to transpose the part when extracting it (the English Horn is in F, sounding a perfect fifth lower than written).

> After the part is extracted, you would have to edit it and "untranspose" the sections for Oboe back into the key of C (Oboe is a non-transposing instrument) using the TR command. Of course, if most of the part was for Oboe (with a few selected English Horn passages), it would be better *not* to transpose the part when extracting it in PAGE and just transpose the selected passages using the TR command.

Fixing Enharmonic Spellings

SCORE has a fast way to correct any notes that are spelled incorrectly after transposing, the ENH command.

Usage

Type ENH ENTER

```
Sorting by staff number.
Enter staff #, left pos., right pos.,_
```

Type the staff number, and the left and right positions for the group you wish to affect (if you do not specify these numbers, SCORE uses the entire staff from 0 to 220).

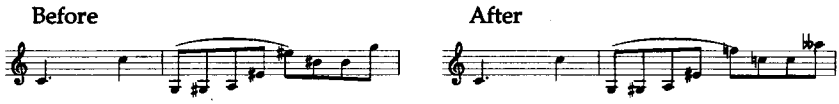
```
Press "B" or <Esc> to backout, <enter> to continue.
```

If there are any notes that SCORE can alter, the following prompt will appear:

```
Normalize stem directions? (y or n, <enter> = yes)->_
```

(SCORE will correct any stems for the new notes it creates.) SCORE searches through the area specified, and alters any notes that have double-flats, double-sharps, or contain unusual spellings (eg. C-flat, B-sharp, F-flat, and E-sharp). Note that the ENH command will only work on a single

staff at a time, and will not function correctly if the area has both flats and sharps. In practice, it is best to restrict the area altered by the ENH command.



In the above example, we altered the last four notes on the staff (to include the entire beam, so that the "normalize stem directions" option would work correctly. Notice that the ENH command changed both B-sharps to C's and that it created an A-doubleflat, which will have to be manually edited to change it back to a G.

Drive with about 650K or more memory, you could also copy the program (SCORE.EXE) onto the RAM disk to increase performance. If you do this, make sure you modify your Path statement to reflect the new location of SCORE.

A Brief Explanation of Memory

The terms used to describe RAM (**R**andom **A**ccess **M**emory) are often bandied about but often misunderstood. Quite simply, there are three types of memory available for use in DOS.

1) Conventional Memory (640K, maximum)

2) Extended Memory

3) Expanded Memory

All computers have *conventional memory*; some will have less than 640K. If you want to run SCORE, you *must* have the maximum of 640K. When you start your computer you load DOS (and possibly some other utilities and device drivers) in conventional memory. Whatever is left over is available to your application(s). If you run the CHKDSK command you can quickly determine how much conventional memory you have and how much is available to run your applications. DOS does not allow application software to address any memory above 640K directly.

Extended Memory is RAM memory that "extends" conventional memory from 640K on up. Many 80286 and 80386 computers come with additional RAM on their motherboards that is configured as extended memory (very common in computers that have 1 meg of RAM).

Expanded Memory functions almost identically to extended memory but usually does not reside on the motherboard of your computer. Instead, it usually exists on a separate memory board and must be accessed with a device driver

known as an *Expanded Memory Manager*. This type of device driver is also used to configure Extended Memory as Expanded Memory. Some computers have no additional RAM beyond conventional memory; others may have upwards of 8 megabytes of extended or expanded memory.

How Does SCORE Use RAM?

When you first start SCORE, the program is loaded into conventional memory. Some parts of the program are kept separate and are not loaded until they are needed. They are: Edit Mode, Input Mode, Text Mode, and the Library Files. SCORE uses a system of *overlays* to swap these different parts of the program in and out of conventional memory as they are needed. Consequently, one good way to speed up the operation of SCORE is to copy the entire program to a RAM disk. It doesn't matter whether you have extended or expanded memory, as long as you use some type of program (like VDISK.SYS) to create a RAM disk of about 300K or more. Copy the program into RAM and you will eliminate any slight delays when switching between various modes of operation. (If you use a disk-caching program, or have a fast hard disk, you may not even need to bother doing this.)

Whenever SCORE displays a piece of music on the screen, it also loads the Library files it needs into RAM. If you have a piece with a lot of different symbols (i.e. many different dynamics, trill markings, pedal symbols, etc.) SCORE may have to swap different library files in and out of memory to create the display and to recreate the display whenever it redraws the entire screen. Obviously, this can slow down the operation of the program in certain situations. By loading the entire \LIB directory onto a RAM disk (as explained above), SCORE retrieves the library files from the *RAM disk*

into conventional memory, instead of from the hard disk. This can speed up the display quite a bit and is an excellent way to improve performance.

SCORE automatically searches every disk drive from highest to lowest for a directory called \LIB. When it finds this directory, it sets it automatically as the library drive. You can check to see if SCORE did this correctly by typing DR ENTER.

SCORE displays `Current drive is X`
`Type new letter or press <Enter>`
If you wish to change your library file directory, type the new drive letter.

Using a RAM Disk for Chained Macros

A chained macro (one that calls itself in endless loop fashion) will operate faster if the music files it is altering are loaded onto a RAM disk. Simply copy all of the music files to your RAM disk. (If your RAM disk is not big enough to contain all of you music files, you may have to break them up into smaller groups.) Copy the macro onto the RAM disk and start SCORE. Open the first music file. For maximum speed, disappear all of the staves using the DP command (see the Changing Screen Views Chapter). Read in your macro. If you wish to stop the macro, press ESC. Otherwise, the macro will continue until there are no more music files. The message `File not found` will display indicating that the macro is finished.

> **WARNING: any alterations to files on a RAM disk are not saved until the files are copied to a hard or floppy disk.** You must copy these music files to a hard or floppy disk after completion of the macro or you will lose your work.

Using Expanded or Extended Memory

While SCORE does not directly access any RAM memory beyond the conventional 640K, there are some benefits to be gained from additional RAM. If you have an additional 300K of RAM, you can set up a *RAM disk* using VDISK.SYS or a similar program. You could then copy all of the library files or the entire program onto this RAM disk when working. Here's one way you could do this with a DOS Batch file.

Create a DOS text file called LIB.BAT with the following text:
1)X: [where X equals the drive designator for your RAM disk]
MD \LIB
CD \LIB
COPY C:\LIB*.*
[This assumes that the LIB directory is on your "C" Hard Disk. If you are using DOS version 3.3 or later, substitute XCOPY for the COPY command; it's faster.]

Save this file in a directory that is included in your Path statement. Whenever you are ready to work in SCORE, type LIB ENTER and this batch file will create a directory called \LIB on your RAM drive and load all of the Library files into it. When you start SCORE, it will automatically search for the libraries (in a directory called \LIB) starting with the highest letter drive. Note that when you turn off the computer, this directory will be erased.

You could also include this as part of your AUTOEXEC.BAT file so that the Libraries would be loaded every time you started your computer. If you have a RAM

> In addition, if you should lose power to your computer while operating on a RAM disk, you will lose all your work.

SCORE's Macro Editor

Although you can create a text macro in any word processor or text editor, SCORE provides a quick way to do this within the program. Type MA

SCORE prompts:

```
Macro file name->
```

Type a filename for the macro, and press ENTER.

```
Enter macro and use a single "*" on the last line
to end it.
```

Type the text for the macro. You may correct any line as you type it, but you may not edit it after you press ENTER. After you have typed the macro, type * on a line by itself.

```
Macro file = file name,      ... run it now? (Y/N?)_
```

SCORE prompts that the macro is saved, and allows you to test it. If it does not run correctly, you may edit it in a word processing program and save it as a text only file. For more information on macros, see *Using SCORE*, chapter 11.

Using a RAM Disk for Parts Extraction

You can also use a RAM disk to speed up the process of parts extraction. Make a subdirectory on your RAM disk and copy the music files into it. **Make sure you do not fill up your RAM disk! PAGE creates temporary files when it extracts parts, and it must have room to write these files onto your RAM disk or the program will "crash."** The amount of space you will need will depend on the size of

the score you are extracting parts from. The best way to tell is to try a sample part and see if there is room to write all of the temporary files.

Create a part extractor control file (see Parts in the PAGE Chapter), copy it onto your RAM disk (in the directory you created) and start PAGE from this directory. Proceed with parts extraction as normal. PAGE reads all of the music files into memory from the RAM disk and writes the temporary files to the RAM disk.

After you have finished extracting parts and are ready to write your parts files to disk, it's usually a good idea to write them to your hard disk (or a floppy disk) rather than the RAM disk. This way you save your work and do not risk losing it. Using a RAM disk can considerably shorten the length of time it takes PAGE to extract a part, and it is highly recommended!

File Formats and Functions

File Functions

SCORE provides the following letter commands to manipulate files.

G

The Get command. Type G *filename* to retrieve a file.

GM

The Get More command. Type GM *filename* to retrieve a file *into* a file already open (also called concatenating files). When you use the GM command, SCORE prompts: `Enter a staff number for offset, or press <Enter>.` To add a file above the existing file, type the number of the top staff. GM will add the new file to this file, beginning with the staff number above the number you type. If you specify a number that would *overwrite* existing staves, SCORE will warn you and allow you to cancel the operation.

Note: you can also use the GM command to add a file *below* an existing set of staves. SCORE does not allow you to create a staff number less than one, so use the MS (move system command) to move the current set of staves up. Then use GM to bring in the new file.

Suppose you had a four-stave file (A.MUS) that you wanted to add below a five-stave file (B.MUS). Open B.MUS, and type MS ENTER. Follow the prompts, and move the staves from 1-5 to 5-9. Type GM A.MUS ENTER. SCORE prompts for the number of the staff offset; type 0. A.MUS appears below B.MUS as staves 1 through 4.

SA

SA *filename* saves the current file displayed under the indicated *filename*. If you do not specify an extension, SCORE uses the extension currently displayed. For example, when you start SCORE, the default filename is SCORE.MUS. If you created a file, and typed SA SONATA ENTER, SCORE would save the file as SONATA.**MUS**. You may also use the SA command to save the same file under a different name. For example, if you type SA SONATA ENTER, then SA SONATA2 ENTER, you will create two identical files with different names.

Tip

There's an easy way to use the SA command to save a file to a different disk or directory: specify the *full path* as part of the filename. Suppose you were working on the hard disk (usually drive C:) but wanted to save a file on a 5¼" floppy disk. Type: SA A:*/filename* ENTER. Similarly, you may save a file in a different directory by specifying the path. Just type: SA C:\directory name*filename*. **WARNING: never try to save a file to a floppy disk drive if there is no disk in the drive.** This will cause a fatal DOS error which will require you to either place a disk in the drive or exit SCORE. If you do not have any disks available, you might lose your work.

COM

The COM command is used to combine a group of files. Type COM ENTER. Type the name of the first (top) file and press ENTER. Type the total number of files to be combined (include the top file) and press ENTER. The files appear on the screen. (Note: you may need to use VJ or H to adjust the height of the page. See the Justification Chapter.)

DECOMBINE

DEC is the opposite of COM, it decombines (separates) a file into systems. Type DEC ENTER. SCORE prompts `sorting by staff number` (it performs an OS function first). Now SCORE asks for the number of staves in each system. Type a single number (if every system has the same number of staves) or a series of numbers separated by a space. SCORE now asks for the *first* file name. SCORE is going to separate this file into many files, so the name you provide should end in something (eg. AA) so that SCORE may name the files sequentially. Press ENTER, and SCORE separates the file.

SM

The SM command saves the current file under the current name (indicated in the upper lefthand corner of the screen). Frequently you will work on a file in SCORE, make changes and corrections, and then want to save your work. Typing SM ENTER will save the file under the exact same name, and *overwrite* the original version of the file.

SNX

SNX saves under the next sequential filename. Suppose your first file is called SQAA.MUS. After inputting and saving this file, you want to make a copy of it to create the next file. Type SNX ENTER. The file will now be saved as SQAB.MUS.

> **How do you know if a file is saved to disk?**
> In the upper right hand corner of the screen is an indicator which informs you of the status of the file. Open any file, and look in the right hand corner. A shaded box says SAVED. Select an item in the file, and alter one of its parameters. The indicator disappears. If you now try to quit the program, restart, or retrieve a

different file, SCORE will warn you that you did not save your work and help prevent you from losing information. Remember that there are times when you will make changes to a file and decide you do not want to save your work; perhaps you preferred the original version of the file. In this instance, make sure you *do not* save the file.

NX

NX restarts the program and retrieves the *next* sequential file.

NB

NB restarts the program and retrieves the *previous* sequential file.

Both NX and NB will warn you if you have made alterations to a file and have not saved your work.

DOS Functions Within SCORE

DIR

DIR functions within SCORE in the same fashion as the DOS dir command. You may specify wildcard characters (eg. DIR *.MUS) and Path statements (eg. DIR C:\MUS*.PAG) as well. The "switches" available in DOS (such as /W and /P) will not function.

CD

CD will change directories in the same manner as in DOS. For example, `CD \LIB` ENTER will change to the \LIB directory. Note: you *must* specify the backslash (\) before the name of the directory.

DRV

DRV allows you to change drives from within SCORE. Type DRV ENTER. SCORE displays the current drive and prompts you to type a letter for the new drive. Note: if you change directories or drives while working in SCORE, you will exit to the new drive or directory when you leave the program.

DEL

DEL *filename* will delete that filename from the disk. SCORE will prompt: `Delete file filename y/n?` Type Y for yes to confirm that is the file you wish to delete; N for no to cancel.

TYPE

The TYPE command functions like the DOS type command. Type TYPE ENTER. SCORE prompts you for the filename. After you specify the filename and press ENTER, SCORE displays the file on the screen. This is particularly useful for examining SCORE Macro files.

The Disk Window

SCORE also provides a Disk Window where all of these options are available by pressing F-keys. From the Main SCORE Window, press F7 to access the Disk Window. Here, all of the above options are available by pressing F-keys.

F1 - Load is the same as the G command.

F2 - Save is the same as the SA command.

F3 - Append is the same as the GM command.

F4 - Read is the same as the RE command (see below).

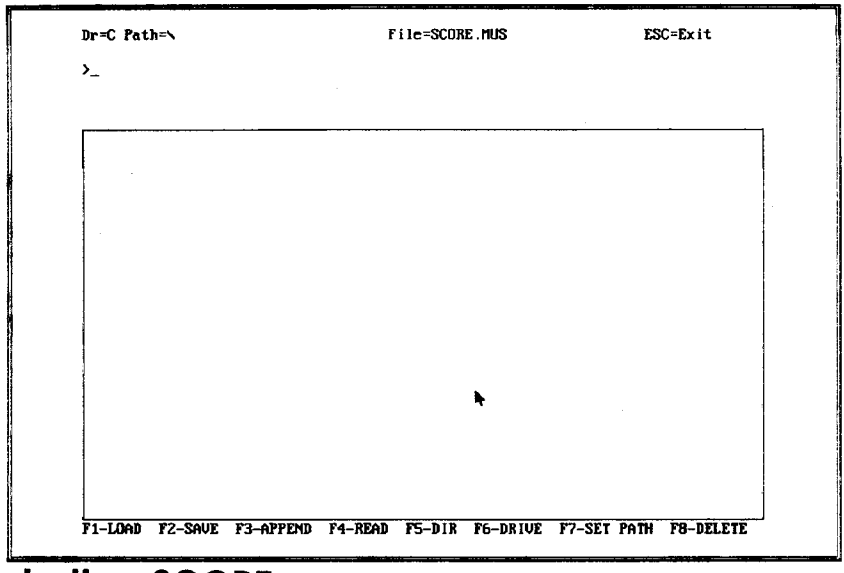
F5 - Directory is the same as the DIR command. SCORE prompts you for a mask (or <Enter> to continue. A mask is

the same as a wildcard specification (eg. *.MUS would be a mask that only allowed you to see files ending with the extension *.MUS).

F6 - Drive is the same as the DRV command.

F7 - Set Path is the same as the CD command.

F8 - Delete is the same as the DEL command.



Restarting SCORE

RS

restarts SCORE and clears the screen. If you type RS *filename,* the screen is cleared and the file indicated is retrieved.

EX

exits SCORE and returns to DOS.

File Formats

SCORE has 7 basic file types:

1) **A SCORE File.** This is a binary file that contains all the graphic information of your music. This type of file is created when the SA, SM, and SNX commands are used in SCORE (also PAGE and JUST create this type of file as output).

2) **An Input File.** This is a DOS text file that contains the characters typed during input. It can be created after the input of a single line by answering "Y" to the prompt, `Save Staff of input to a file?`. This file can be edited in any word processor or text editor. SCORE allows you to input with this type of file by using the RE and RES commands. ESCORT and SCORE-INPUT create text files that are input files which can be "read" into SCORE in this fashion. Since input files are simply text files, you can also create your own files of this type in any word processing program.

3) **An Encapsulated PostScript (EPS) File.** This is a DOS text file which is created when printing (if you select the option "PostScript File" instead of "Laser Printer"). It contains PostScript Code which any PostScript interpretor (typically, a PostScript printer) can use to generate the image represented in the file. See the Printing Chapter for some of the possible ways to use an EPS file.

4) **A Parameter List File.** This is also a DOS text file, but it contains a list of the parameter numbers associated with every item in a file. It can be created by using the PMX command and read back into SCORE with the RE command. (See "Converting to older versions of SCORE," below.)

5) **A Library File.** This type of file (also a DOS text file) contains ten items stored as a list of *vector coordinates*. Library files may be edited and customized using the DRAW program (see the DRAW manual for further information.) These files are supplied with the program and automat-

ically copied to a subdirectory on your hard disk called \LIB which was created during installation. SCORE retrieves these files into RAM to create the screen display, and also to print a page. **One way to increase the speed of SCORE is to copy this \LIB subdirectory onto a RAM disk.** (See using Extended/expanded memory for further information.)

6) **A Vector List File.** It is the same as a library file, except it is for a *single* item. Primarily used in DRAW, the vector list file is a DOS text file which contains a list of the vector coordinates used to create a single graphic.

7) **A Macro File.** A DOS text file which can be created with SCORE's Macro editor (using the command MA) or with any word processor or text editor. SCORE allows you to place virtually any sequence of commands or functions in a macro file, which can then be read into SCORE using the RE command. See Chapter 11 in the *Using SCORE* for further information on how to use macro files.

Suggested File Procedures

Note: it is extremely important for you to always keep backup copies of any data files (Score Files) you create in SCORE. We do not recommend saving Input Files for archival purposes—these files can be easily recreated using the EDI command. Similarly, we do not recommend saving EPS Files for archival purposes as they are quite large and will consume a great deal of disk space.

Converting File Formats

Using SCORE Files from version 2.X

If you wish to open a file from version 2.X in version 3.0 SCORE will automatically convert the file for you. Simply start SCORE and retrieve the file (using the G command). SCORE will display the message

CONVERTING SCORE VERSION 1 & 2 TEXT FORMAT TO VERSION 3 (Press any key to continue)

SCORE searches through the file for any text items (Code 16) and if they are longer than 18 characters, converts them to a *single item.* (Earlier versions of SCORE broke longer strings of text into multiple items.) It may also alter P6 (the right horizontal position) of any tuplet brackets (Code 5). SCORE will now center these brackets during input, and they can be recentered using the CN command. They may require some editing in version 3.0. Save the file (you can use the SM command) and it will be in version 3.0 format. **Note: files created or converted to version 3.0** *cannot* be used in earlier versions of SCORE, PAGE, SPRINT or JUST without converting them back. See "Converting Files to Version 2.X" below.

Using SCORE Files From Version 1.X

You can open files created in version 1.X in version 3.0 and SCORE will automatically convert the file for you. In addition to the changes noted from version 2.X to 3.0, the following also change.

1) Version 1.X did not use PostScript text fonts. Version 3.0 will automatically substitute PostScript text fonts for code 10 items (numbers), code 9 items (selected text items), code five items (numbers in tuplet brackets and endings) but *not* code 16 items (text). You must manually edit each text string in a file and change P8 (font override) to specify a PostScript font. If you do not alter this, SCORE will use whatever font you originally specified (i.e. one of its built-in typefaces).

2) Version 1.X used a different type of time signature (code 18). When these files are converted to Version 3.0, the time signatures will be shifted slightly to the right horizontally. In some cases, this may not be significant; in others, it may

require editing. The best way to correct this is to re-lineup and justify the line (using the LJ command, or the JUST program for larger scores). LJ will take into account the new size and position of the time signatures.

Using SCORE Files from Version 3.0 in Version 2.X:

Files created or converted to version 3.0 format cannot be *opened* in earlier versions of SCORE, SPRINT, PAGE, or JUST. Instead, these files must be *read* (using the RE or RES command) into the earlier version of SCORE. These are the steps required:

1) Start SCORE (version 3.0) and open the file you wish to convert.

2) Type PMX ENTER

3) SCORE asks you for a file name. (We suggest using a name with the extension .PMX)

4) Type this name and press ENTER

5) Exit SCORE

6) Start SCORE 2.X

7) Use the RE command to read in your PMX file (Type RE *filename*.PMX)

8) Save this file under a new name.

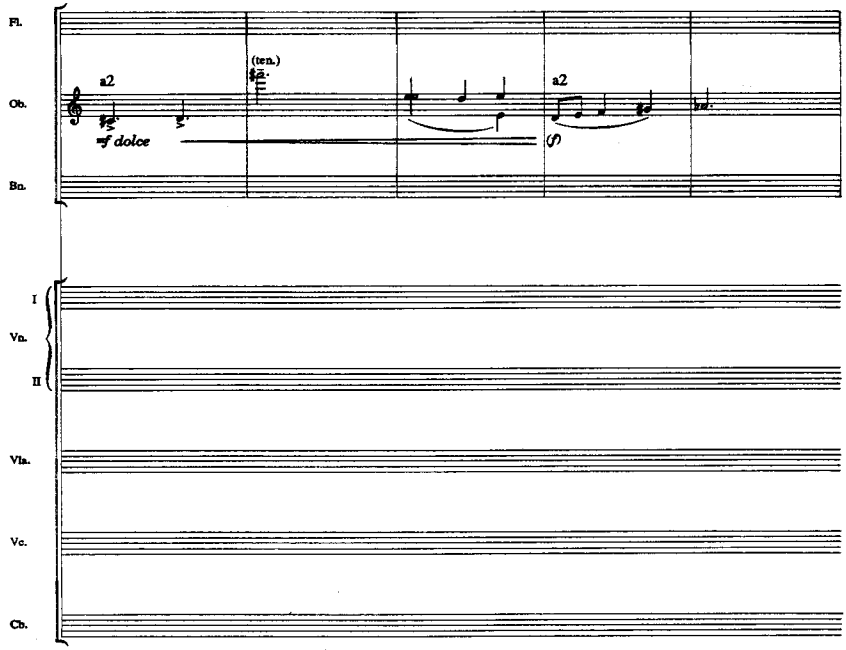
This new file may now be used in the earlier version of SCORE, as well as in earlier versions of PAGE, SPRINT, and JUST.

Advanced Uses of the PMX Command

The PMX command is very useful. It creates a Parameter List of *every item* from the current SCORE file. This Parameter List File is a simple DOS text file which may then be edited (if desired) and read into SCORE. Unlike the

input file (which can be saved during input mode or with the EDI command), a PMX file saves the *parameters* of *every* item on the staff. If you position a symbol manually, the PMX file will have that information. If you add text to a staff or create items which can not be input directly, they will all be represented precisely in the PMX file. It's a very sophisticated way to save information that can later be read into a SCORE file using the RE command.

Suppose you were inputting an orchestra score, and the oboes repeat a pattern in a few places. One quick way to create this is to input the oboe parts, do any editing that is necessary (including adding text, etc.) and then create a PMX file of the information. Whenever that figure is repeated, just type RE *filename* and the information will quickly appear. For this to work, of course, the layout must be similar in the repeated sections.



Usage of PMX

Type PMX ENTER
SCORE prompts for a file name. (We suggest using a name with the extension .PMX)
Type this name and press ENTER
SCORE writes the information to disk.

Note: when you read in the PMX file, the information will be created on the *exact same staff number(s)* as in the original file.

Here, for the purpose of illustration, is a PMX file of the above example:

```
8. 1.   .000    .00    .60

8. 2.   .000    .00    .60

8. 3.   .000    .00    .60

8. 4.   .000    .00    .60

8. 5.   .000    .00    .60

8. 6.   .000   10.57    .60

8. 7.   .000   10.57    .60

8. 8.   .000   10.57    .60

14. 1.   .000   8.00

14. 1.   .000   5.00   9.00

t 5. -13.000  -9.000   1.000   1.000   .000   .000   .000   .000

_00Vn.

t 3. -13.000   6.000   1.000   1.000   .000   .000   .000   .000

_00Vla.

t 2. -13.000   6.000   1.000   1.000   .000   .000   .000   .000
```

```
_00Vc.
t 1. -13.000   6.000   1.000   1.000    .000    .000    .000    .000
_00Cb.
14. 4.   .000   2.00   8.00    .00  -1.5000
t 5.  -7.000   5.000   1.000   1.000    .000    .000    .000    .000
_00I
t 4.  -7.000   5.000   1.000   1.000    .000    .000    .000    .000
_00II
t 6. -13.000   6.000   1.000   1.000    .000    .000    .000    .000
_00Bn.
t 7. -13.000   6.000   1.000   1.000    .000    .000    .000    .000
_00Ob.
t 8. -13.000   6.000   1.000   1.000    .000    .000    .000    .000
_00Fl.
14. 6.   .000   3.00   9.00
3. 7.  2.000
1. 7. 12.000  1.00  12.00  .00  1.5000    .00   10.00    .00   5.05
1. 7. 29.840   2.00   10.00    .00  1.5000   .00 10.00   .00   5.05
14. 6. 47.680   3.00
1. 7. 50.380   18.00 22.00  1.00   3.0000   4.00  10.00  .00   6.00
14. 6. 86.060   3.00
1. 7. 88.160   10.00   20.00   1.00   2.0000    .00    .00  10.00
1. 7. 111.947   3.00   20.00    .00   1.0000  -1.00
14. 6. 123.840   3.00
```

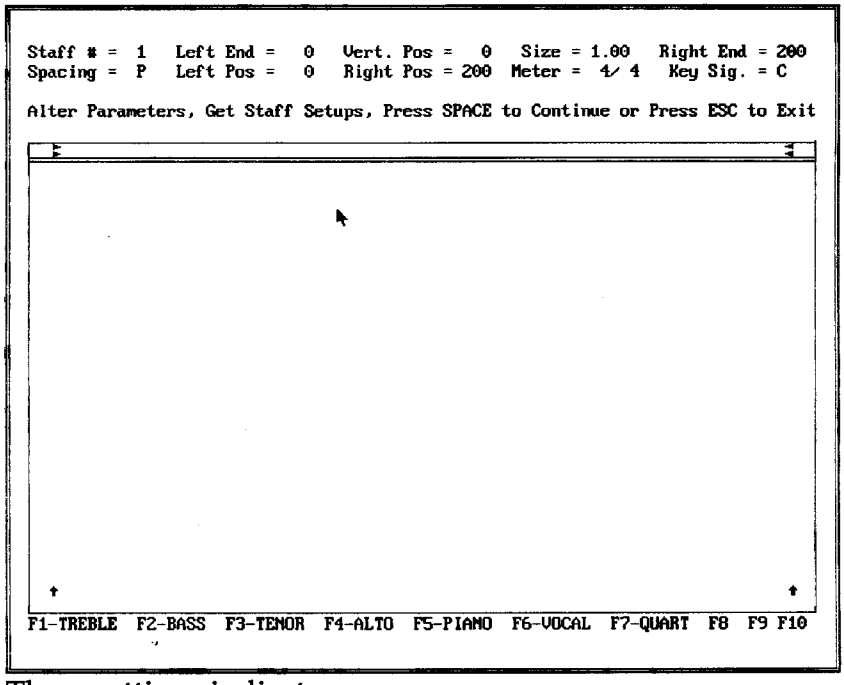
```
1. 7. 125.940   2.00  10.00   .00   .5000   .00   .00

1. 7. 131.887   3.00  10.00   .00   .5000  -.00   .00

1. 7. 137.833   4.00  10.00   .00  1.0000

1. 7. 149.727   5.00  12.00   .00  1.0000

14. 6. 161.620   3.00

1. 7. 164.320   6.00  11.00  1.00  3.0000   .00  10.00

14. 6. 200.000   3.00

9. 7.  9.500  -7.00  55.00  1.00

4. 7. 30.920  -6.50 999.00 121.95

6. 7. 125.940   2.00   3.00 131.89  11.0000

5. 7. 88.160   1.60  -1.40 110.95  -2.3393  -7.00

5. 7. 125.940    .00   2.00 149.73  -2.2893  -1.00

9. 7. 125.500  -7.00 156.00   1.00

t 7.  14.000 -8.000  1.000  1.229   .000   .000   .000   .000

_26dolce

t 7.  49.000 22.000  1.000  1.106   .000   .000   .000   .000

_00(ten.)

t 7.  10.000 14.000  1.000  1.352   .000   .000   .000   .000

_00a2

1. 7. 88.160  10.00  10.00   .00  1.0000

1. 7. 101.947   9.00  10.00   .00  1.0000

1. 7. 111.947  10.00  10.00   .00  1.0000

t 7. 126.000 14.000  1.000  1.352   .000   .000   .000   .000

_00a2
```

INPUTTING

There are two principal methods you may use for input. They both accomplish the same thing, but their methods are slightly different.

The Function Key Method

Press F2 to enter the Input Mode. The top of the screen presents a Staff Setup Menu.



These settings indicate:

`Staff # = 1` the number of the staff you wish to input. If there already is a staff number with the number selected, you will input music onto that staff.

`Left End = 0` the left end of the *staff* (P3). Usually not altered. You may drag the top left triangle (just below this menu) with the left mouse button to alter the left staff position.

`Vert. Pos = 0` the vertical position of the staff (P4) Should not be altered for staff one of a file.

`Size = 1.00` the size of the staff (P5).

`Right End = 200` the right end of the *staff* (P6). Usually not altered. You may drag the top right triangle (just below this menu) with the right mouse button to alter the right staff position.

`Spacing = R` indicates the spacing method *during input.* R indicates rhythmic. In rhythmic spacing, a half note gets twice as much space as a quarter note, a quarter twice as much as an eighth, and so on. The Spacing = setting may also be set to a staff number in the file to align the notes on those staves during input (SCORE will also check to insure both staves have exactly the same number of beats). When inputting a second voice onto an existing staff (with another voice on it) set this indicator to the number of that staff. In most normal situations, we recommend setting the spacing for the first staff as R, then spacing every subsequent staff to the first one. You may also set this to P for proportional spacing, essentially the same spacing as used by the Lineup and Justify routine. (We recommend using Spacing = P when inputting single-line music.)

The "Spacing =" is only for input. After you process the file through Lineup and Justify, the spacing of the file will be different (see Lineup and Justify in the Justification Chapter).

`Left Pos = 0` the left position where the music will begin (usually altered when you work on a non-standard staff

length. Note: if you alter the Left End and Right End settings, SCORE will automatically place the correct values in the Left Pos and Right Pos settings.

If you drag the lower left triangle with the left mouse button, you alter this position (or you may click on the staff with the left mouse button).

`Right Pos = 200` the right position where the music will end (usually altered on a non-standard staff).

If you drag the lower right triangle with the right mouse button, you alter this position (or you may click on the staff with the right mouse button).

`Meter = 4/4` indicates the basic time signature for the piece. Note that this will change if you input any new meter signatures on the line. To input whatever time signature appears here, you need only type `T`.

`Key Sig. = C` indicates the basic key signature for the piece (the default is none, C). If you input a new key signature, it will be reflected here. You may input the current key signature by typing `K`.

> Note: if you use a preset staff setup, the current key signature will appear on every staff of the setup (after you press the space bar to begin input). If the key is C, no signature will appear.

Use the right and left cursor keys to move through the menu selections (the cursor will appear under the equal sign).

At the bottom of the screen is a list of preset Staff Setups. Press any key—F1-F10—to retrieve the appropriate setup. If you select the wrong setup, press CTRL + END to remove the setup. There are thirty preset staff setups. Press CTRL + any F-

key, or ALT + any F-key to retrieve other setups. See *Using SCORE*, chapter 9, for how to create your own custom setups.

If you do not wish to use a preset staff setup or are inputting onto an existing staff, just press the space bar to continue. If no staff exists with the staff number you are inputting, SCORE creates a staff. If there *is* a staff with that staff number, SCORE enters the input mode *without* creating a second staff at that position. You are now ready to type your input. See *Using SCORE* for an explanation of the five stages of input; see the individual Code chapters in this manual for specific lists of what codes are used during each input stage. When you reach the end of the Input Mode for this staff, SCORE automatically jumps to the next higher staff number, ready to input with the same settings in the Staff Setup Menu.

Note: you may type `INP` ENTER to begin this type of input instead of pressing F2.

Using the IN Command

The above process may also be created using the letter command, IN. You type `INX` where *X* indicates the staff number you wish to input. If no number is indicated, staff no. 1 is assumed. As in the Special Input Method, you may specify additional parameters after the IN command. For example, IN 1 0 10 .9 200 would create a staff with P3=0 (left position), P4=10 (vertical position), P5=.9 (staff size), and P6=200 (right position). This is similar to the first line of the Staff Setup Menu.

```
Type Pos 1, Pos 2, Spc. ->_
```

This in similar to the second line of the Staff Setup Menu. Using the default staff size, you would type `0 200 1`. For subsequent staves, you may specify SP=*X* where *X* indi-

cates the "spacing" staff, usually staff one. From this point on, the input mode functions identically to the F-key method. When you reach the end of the Input Mode, SCORE exits. You must type `INX` again to continue inputting.

Saving Input in a Text File

Since all that you are typing during input is text (letters, numbers, and punctuation marks), SCORE allows you to save this in a text file (also called an ASCII file). You can then reuse the input with the RE or RES command (see below). At the end of every staff you are prompted: `Save staff of input to a file?` Type Y for yes of N for no. If you type Y, SCORE asks for a filename, then continues with the input. If you save the input, you may edit it with a text editor (like DOS's EDLIN) or a word processor (be sure to save the file as *Text Only*—most Word Processing programs have this feature). In fact, you could create all your input in a word proccessing program and then read it into SCORE using the RE command (see below).

Making Corrections During Input Mode

If you make a mistake during input, use the left and right cursor keys to go back through the line to make a correction. The BACKSPACE key will delete any character to the left of the cursor, the DELETE key (usually located above the cursor key pad) will delete any character directly over the cursor. If you try to insert text in the middle of the input, SCORE automatically replaces the existing text. Instead, use the cursor key to position the cursor where you want to insert the text, then press the INSERT key (usually located above the DELETE key). The cursor changes to a shaded box, and any characters you type will now be inserted in the line. Try experimenting with typing and correcting text.

If you see an error after you have ended the line and pressed ENTER, press ESC to correct it. SCORE prompts `Abandon input? (y/n)`. You may type Y for yes to erase everything and start over, or N for no to recall all of your typing and find the error and correct it. SCORE presents every line of input:

When each line appears, you may use the cursor keys to position the cursor anywhere in the line and edit the input code as described above. (Note: pressing HOME moves the cursor to the beginning of the line; pressing END returns the cursor to the end of the line.) Press ENTER at any time to scroll forward to the next line.

> **What if you have a very long line of input?** Sometimes you will need to input a line with so many pitches it becomes very difficult to keep track of the text on the screen. And if you make a mistake, it can be impossible to find where the error is. One good method to help is to type each measure of pitch input, end the line with a slash (/) not a semicolon (;) and press ENTER. SCORE will allow you to *continue* the pitch input as long as a line ends with a slash. After you input the last measure, end the line with a semicolon, and SCORE will continue on to the Rhythm Stage. This method will work in any of the five stages of input.

The EDI Command

If you do not save your input in a text file but later want to do large-scale changes to a line, SCORE provides a way to *recreate* the input codes for that line.

Type `EDI` ENTER

SCORE prompts you for a staff number, left and right positions, code no. and upper staff no. Specify a staff number

(and positions if you desire) but not the code number or upper staff number. The EDI command will only function on a single staff, and applies to every code item on the staff.

In a second, SCORE will create the input code for the staff (or portion of the staff) and display it for editing. Step through the input and make any corrections or changes. You may type G at any time to quickly exit from this mode, and the line will be re-input. The EDI command takes note of beam and slur positions (whether they are above or below) and even creates fractional positions for any marks and dynamics. You will probably have to do a lineup and justify routine after using the EDI command.

Note: you may alter the second line that EDI creates by changing it to SP = X, where X is the number of a staff you wish to space to. This will avoid having to use LJ after finishing.

The RE and RES Commands

The RE (read) command allows you to read in a text file. Type RE *filename*. The file may be a line of input saved from a previous staff. For example, suppose staves one and three of a file were identical (except that staff three has no barlines). Save the input after staff one as S1IN.TXT. When you are ready to input staff three, exit the Input Mode. Type RE S1IN.TXT ENTER. SCORE reads in the file, and prompts:

```
Edit this staff of input? (y/n)
```

Type Y for yes and each line of input will appear (in the same manner as when you pressed ESC). The first line of input always begins with the IN command and a staff number. You would change it from IN1 to IN3 (staff one to staff three) and press ENTER repeatedly to scroll through the input. In a matter of seconds, the staff is input.

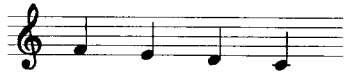
If you had exited SCORE, you could have corrected this input file in a word processing program, then read it into SCORE with the RES command. RES functions in the exact same manner as RE, except you are not prompted to edit the line of input. RES is commonly used with files created in ESCORT, the MIDI sequencer translation program, and SCOREINPUT.

Note: you also use the RE command to read in macros created with SCORE's Macro Editor (or in a word processing program) and to read in PMX files.

Input Macros

You may store anything created in input in a macro. Type any letter, an open bracket [, the input, and a close bracket]. For example, `A[F4/E/D/C]` stores that four note motive in the macro "A." You may recall this macro by typing `@A` during the input. @A will be equivalent to `A[F4/E/D/C]`. You may store anything at all in a macro; the program erases these macros when you exit SCORE.

@A

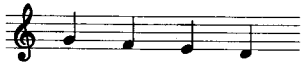


The MSEE Command

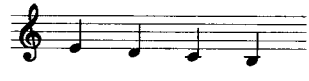
If you wish to see which motives are currently being used, type `MSEE` ENTER. SCORE displays each motive followed by some codes (that are used internally by SCORE). This will tell you which motives are available.

Any pitch macro may be *moved* (not transposed) up or down by scale steps. @A1 would input G4/F/E/D; @A-1 would input E4/D/C/B3.

@A1

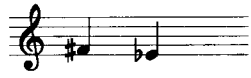


@A-1

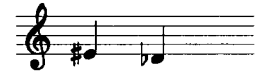


Any accidentals indicated in the macro are retained exactly. B[FS4/EF] would be become ES4/DF if you input @B-1.

@B

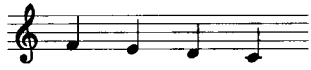


@B-1

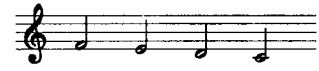


If you use a macro to store a rhythm, eg. R[Q////], you can augment or diminute the rhythm by adding a number. @R2 would input H////.

@R

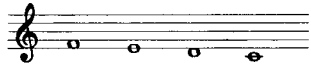


@R2

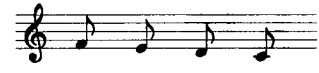


@R3 would input W////; @R.5 would input E////.

@R3



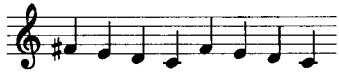
@R.5



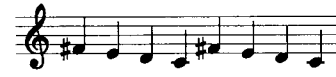
You may use some other shortcuts during input. QXY indicates Y quarter notes; F4X4 indicates 4 F's, and so on.

A phrase may also be repeated. FS4/E/D/C/**X4 2**/ would input FS4/E/D/C/F/E/D/C. **X4 2** indicates repeat the last **4** items **2** times. The initial statement of the figure is included in the number of times. To repeat accidentals, type Z instead of X.

FS4/E/D/C/X4 2/



FS4/E/D/C/Z4 2/



(FS4/E/DS/C/**Z4 2**/ indicates FS4/E/D/C/FS/E/DS/C.)

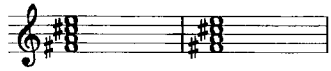
To repeat a single item that before a barline after the "M", type a period. This is especially useful to repeat chords. FS4:A:CS:E5/M/. would be the same as FS4:A:CS:E5/M/F4:A:C:E/

FS4:A:CS:E5/M/.

If you wish to restate the accidentals in the above example, use two periods.

FS4:A:CS:E5/M/.. would create:
FS4:A:CS:E5/M/FS4:A:CS:E/

FS4:A:CS:E5/M/..



You may also use this type of shortcut in the Rhythm Stage.

Q/E/S//**X4 4** would input:
Q/E/S//Q/E/S//Q/E/S//Q/E/S//.

See *Using SCORE* for other examples of how to use input macros.

JUSTIFICATION

One of SCORE's most unique features is its justification routines. Modeled closely after the spacing methods plate engravers use, this feature helps even the most inexperienced user to get excellent results consistently.

Lineup and Justify

For most musical pieces you will copy with SCORE, you will use the Lineup and Justify command, LJ.

Type `LJ`

SCORE prompts: `Type first staff number, and number of staves in the system`

Type the appropriate numbers; if the system has only one staff, just type the staff number, and press ENTER.

`Press <ESC> to backout, <Enter> to continue.`

SCORE gives you an option to cancel, or continue. Press ENTER, and your music is justified. Note: LJ will not work if the staves have different numbers of beats. See below for help if LJ does not function correctly.

What Does Lineup and Justify Do?

When you invoke the LJ command, SCORE searches through every staff in the file and, based on the P7 values in every Code 1 item (notes) and Code 2 item (rests), it calculates the correct space for each item. If a note has an accidental, or is offset (has a value in P10—see the chapter on Code 1) SCORE will allow the appropriate amount of horizontal space. Every item which has spacing significance is allowed for. In tight situations, the Justification routine will actually "rob" space where it can graphically. If you

have a very high note followed by a low note, SCORE can actually steal a little space here, and in fact good engravers would make a deliberate effort to do the same.

In addition to spacing the system, the Lineup function searches through the line and makes sure that every beat is vertically aligned. Complex polyrhythms are accounted for, and spaced correctly (assuming that they are input correctly). When you process a piece through Page, LJ is automatically performed on every file. It is strongly recommended that you Lineup and Justify every file you create in SCORE for the highest quality results.

The Justification routine bases its spacing on the methods engravers use. This means that the line is spaced *proportionally*. A half note will not receive twice the space of a quarter note; it is proportionally less. Generally, the Just routine will account for most musical situations. When it does not, the group edit commands will allow you to quickly edit any anomalies.

Lineup

In some situations, you may not wish to justify the line. The Lineup command may be used separately. Type L ENTER. SCORE prompts for the bottom staff number and the number of staves in the system (as above). SCORE gives you a chance to abort the procedure, or continue. Lineup, by itself, will align every vertical beat correctly, but not justify the line. For Lineup to work correctly, every staff must have the same number of beats.

Justify

Similarly, Justify will work by itself. Type J ENTER. SCORE prompts for the bottom staff number and the number of staves in the system (as before). SCORE also prompts for the left and right position. Justify allows you to select a sec-

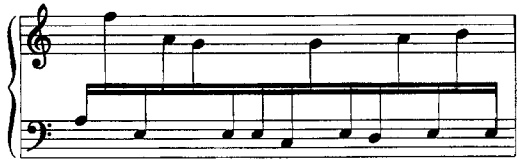
tion for justification, as opposed to the whole staff. Once again you are given the option to abort or continue. Justify, by itself, will not alter the alignment of vertical beats, but it will space the line (or segment) proportionally. Each line does not have to have the same number of beats for this to function.

Special Justification for Cross-stave Beaming

A justification problem sometimes occurs in keyboard music when the notes are beamed between the staves. SCORE's LJ command will space the *notes* correctly in this instance, but they will not look evenly spaced. The reason for this is that the eye examines the beam and sees that the *stems* are not equally spaced. A good engraver would alter the spacing so that the stems are all equidistant. SCORE provides an automatic way to do this using the STUD (**STems Up/Down**) command.

Suppose you created a keyboard piece that contained a passage like this:

Before



To correct the spacing, type `STUD` ENTER

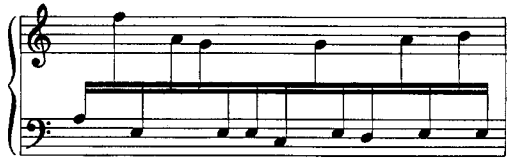
SCORE prompts: `Enter lowest staff # of system and how many staves in system.->`

In this instance you would type `1 2` ENTER.

SCORE prompts: `Enter Left position, Right position. ->`

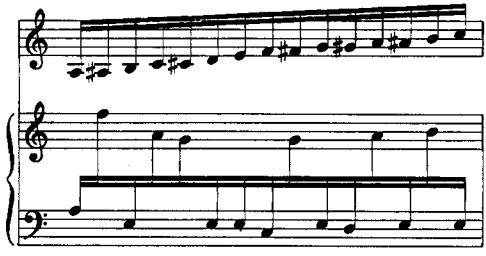
Press ENTER to accept the default (the entire staff). SCORE gives you the option to abort the procedure; press ENTER to continue. The spacing is adjusted.

After STUD

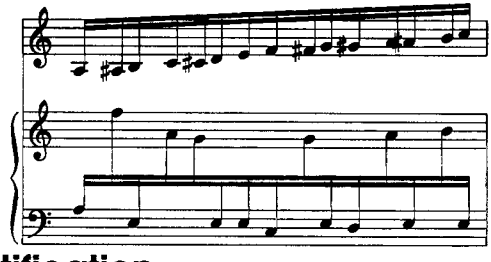


The STUD command works quite well, but its results should be carefully checked. In some situations, you may wish to only adjust the keyboard staff, or make manual adjustments yourself using the Move command.

Before



After STUD



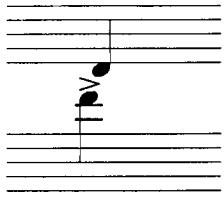
Vertical Justification

The VJ Command

SCORE has a command which may be used to vertically justify a file: the VJ Command. While in SCORE, retrieve a file. Type VJ ENTER. SCORE prompts:

```
Type minimum vertical and horizontal overlap
space. (default = 4,4)
>-
```

Before



You may press ENTER to accept the defaults, or type in two numbers to change them.

```
Press "B" or <ESC> to backout or <ENTER> to con-
tinue.
```

SCORE allows you to abort the operation, or continue.

After VJ

After invoking VJ, SCORE searches through the file for items that extend above and below the staves. Assuming you accepted the default settings of 4,4, VJ would make sure that any items within four horizontal spaces of each other would have a minimum vertical distance of four scale steps between them. To create this distance, VJ alters P4 of the staves in the file (except for staff one). If you want less horizontal space between staves, make the first number smaller. In general, we have found the default settings of 4,4 to work quite well. Make sure you read the section on the H command, below, for further information.

The H Command

While working in SCORE, the H command adjusts the height of a file. Type H ENTER.

SCORE displays the current height of the file, and prompts for a new height. Type a number to indicate the height, and press ENTER.

```
Type number of staves in a system.
(include any unused staves.)
```

SCORE asks how many staves are in each *system* from the bottom up. If every system has the same number of staves, you may specify a single number for this prompt. The H command will put more space between each system (if you are adding height to the file) or remove space from between the systems (if you are reducing the height). If you want to add space between every staff, type 1 regardless of how many staves are in a system.

Note that the "H" adjustment is not intelligent, like VJ. It blindly closes up or adds space between the staves equally, regardless of the music. As a general rule, we recommend using the VJ command to justify the staves vertically, then the H command to add additional space.

The JUST Program

When you use multiple files to create a single system (as in orchestral works), you must use the separate Just program to justify the music. Exit SCORE and start the Just program by typing JUST ENTER. You are presented with four options:

Justify horizontal
L = Line up
V = Vertical adjustment
EX = Exit

Options "J" and "L" are exactly the same as using J, L, or LJ in SCORE. When you have a system spanning more than one file, you cannot type "LJ" in SCORE. Instead, you must start this program, type "LJ" and read in the files. The func-

tion is the same, otherwise. Similarly, the "V" adjustment is identical to the H command in SCORE that is used to adjust the height of single files.

Select one of the options.

`Type first input name.ext and number of files ("-"=backup)-`

Just needs to know which files you want to adjust.

`Type first output name.ext ("-" = backup)-.`

The output files will now be sequentially numbered. Just processes the files as before, then writes the new files to disk. It's a good idea to use a different output name than the input name to preserve the original files, in case you do not like the results of Just and want to process the file(s) again.

`Work on more data? (y or n)` – Type `N` for no to exit Just.

> **How do I use VJ on an orchestral score?**
> The JUST program does not have a VJ option. If you are creating an orchestral score page with multiple files, we recommend using VJ on each individual file (in SCORE) before you use JUST to do any final height adjustment. This will insure the files are vertically justified to their minimum spacing.

Note that the VJ command is ideal for creating an orchestral score that employs "french scoring." If you input your orchestral score on a standard template (with the same number of staves on each page) and later decide to remove the blank staves (when an instrument rests), the VJ command will quickly allow you to close up the extra space on the page. VJ does not require staff numbers to be continuous

(i.e., you may have staff no. 4, then staff no. 6, etc.). VJ will correctly justify the height of the file in a quick and efficient manner.

The PAGE Program

The PAGE program is used to layout SCORE files in different sizes and formats and, also, to extract parts from a score.

PAGE Layout

You start PAGE by typing: `PAGE` ENTER. You are presented with three options:

1) `Page Layout`

2) `Parts Extraction` [This is where you extract instrumental parts from a score]

3) `Old Page Data` [We'll demonstrate this below]

Select option one by typing `1`.

```
1 = read file names alphabetically, 2 = use
namelist file
```

PAGE needs to know what files you want to layout. You can either specify *every* file name in a namelist file (imagine if you had a very long piece), or you can have it read file names alphabetically. The Namelist may be created in a text editor (like DOS's EDLIN) or any word processing program that can create a Text Only file. It consists of the name of each file on a separate line. If you select option 1, you will only need to type in the first file name followed by a space and the total number of files you want to layout. PAGE reads the files into memory, then presents a menu of options for you to choose from.

```
B = Add measure (bar) number.
H = Set page height. (Current = 10.00 inches.)
I = Indent
```

```
M = Get this menu again.
N = Set first page number. (Current = 1)
P = Use only part of input data. (Current = no)
Q = Return to page startup.
R = Number on 1-bar rest? (Yes)
S = Change staff size. (current size = .9)
T = Transpose
X = Exit from page.
<enter> = Continue - see page layout
description.
->_
```

This menu provides a list of things you may specify before PAGE calculates the new layout. To select any item, type the letter indicated.

```
B = Add measure (bar) number.
```

PAGE allows you to add measure numbers to a piece. You may either number every bar, or the first bar in each system. Measure numbers (by default) are in Times Italic on PostScript printers (you may edit this, of course). Type B and PAGE prompts:

```
Type first measure number. (use -1 if pick-up
measure) ->
```

Type the first bar number (1 if you are beginning with measure one; -1 if there is a pickup measure) and press ENTER. Note: PAGE does not consider repeat structures—it just counts measures from the beginning of the piece to the end. PAGE will not place a number over measure one if you select numbering at the beginning of every system.

```
F = first bar only of each line has number. E =
every bar numbered. ->
```

select which option you prefer and press ENTER.

```
Type next menu choice. ->
```

You may select additional options, or press ENTER to continue with the layout.

```
H = Set page height. (Current = 10.00 inches.)
```

The height of the page determines how many systems will fit on the page. Since you usually do not alter the width of the staff, you may use the height and staff size settings presented here to alter the final size of the page. See *Using SCORE*, chapter five, for further information. Type H, and PAGE prompts:

```
Set new page height. ->
```

Type a number indicating inches.

```
I = Indent
```

Type I to set the indent for the first (or every line). PAGE prompts:

```
Indent first line, all others — type two num-
bers. ->
```

The numbers should be indicated in horizontal spacing units. For example, 15, 0 would indent the first line 15 units, every other line 0 units.

```
M = Get this menu again.
```

If you type M, the menu reappears on the screen.

```
N = Set first page number. (Current = 1)
```

PAGE allows you to set the *first* page number for the piece (it numbers subsequent pages sequentially) and the position of the number. Type N to specify this option. PAGE prompts:

```
Give first page number. ->
```

Type a number and press ENTER. PAGE prompts:

```
C = Page numbers centered. S = Page numbers at
sides.
```

Select the option you prefer. Note: if you do not select the Page Number choice in this menu, the default is to start counting with page one and number in the upper right and left corners (odd numbers to the right, even numbers to the left). The default font (on PostScript printers) is Times Roman.

```
P = Use only part of input data.
```

Selecting this option allows you to process part of the piece you have selected for layout. The following menu appears:

```
M n1 n2 Begin AFTER MARKED bar n1, Stop at MARKED
bar n2
N n1 n2 Begin at bar n1, Stop at bar n2
(See SCORE help ?14 for further information).
```

If you mark two barlines (change P12 to 1; see below for further information), you can specify the bar numbers by selecting the M option and only layout the music between them. Alternatively, you may just specify a region to lay out by using the N option.

```
Q = Return to page startup.
```

Typing Q returns you to the beginning of PAGE, where you may select Page Layout, Parts Extraction, or Old Page Data. (Selecting this option will cancel everything you have done up to this point.)

```
R = Number on 1-bar rest? (Yes)
```

If you select this option, PAGE prompts:

```
Rest. Type y or n. ->
```

Select which option you prefer for whole rests. Y for yes will place a number one over every whole rest. In engraved music, this is customarily not used.

```
S = Change staff size. (current size = .9)
```

Selecting this option changes the size of *every* staff in the files you are about to process. This is probably the most important factor in determining how many pages and lines your music will occupy. A smaller staff size will allow PAGE to fit more music on a line; a larger size, less music. When choosing a staff size for a piece, consider the final size you wish to print the pages at. If you plan to "tile" the pages and print them at a larger size, you should use a smaller staff size here. See *Using SCORE*, chapter 8, for some guidelines.

```
T = Transpose
```

If you select this option, every staff in your piece will be transposed by a specific interval. This is customarily used when extracting parts. (The prompts are exactly the same as the TR command.)

```
Type # of half steps (+/-) or type "M" for a menu
of transpositions.
```

You may type the exact number of half steps (eg. 2 would transpose a staff *up* a whole step; -7 would transpose a staff down a perfect fifth) or type M. The Menu presents 16 of the most common transpositions, and some of the instruments that employ these transpositions.

1. A flat (clar. [high]) down major 6
2. F (trpt. [high]) down perfect4
3. E (trpt. [high]) down major 3
4. E flat (clar., trpt. [high]) down minor 3
5. D (clar., trpt. [high]) down major 2
6. B flat (clar., trpt., sop. sax) up major 2

```
7. A (clar., trpt.) up minor 3
8. G (alto flute, horn) up perfect 4
9. F (horn, english horn) up perfect 5
10. E (horn) up major 6
11. E flat (alto sax, horn) up major 6
12. D (horn) up minor 7
13. B flat (tenor sax, bass clar.) up major 9
14. E flat (baritone sax) up octave + major 6
15. octave up
16. octave down

Enter the number of your choice or "B" or <esc>
to backout. ->_
```

These numbers (1-16) in the menu represent choices, not the number of half steps that will be transposed. For reference purposes, we have provided the actual transpositions that will take effect for each menu selection (which do not appear when you select the menu in PAGE).

```
Change clefs? (y or n <Enter> = no) ->_
```

PAGE allows you to change *all* the clefs when transposing a staff. Pressing ENTER accepts the default, no.

```
Add key signature? (y or n <Enter> = no) ->_
```

If the staff does not have a key signature (or is in the key of C), PAGE will ask you if you wish to add one. Pressing ENTER accepts the default, no.

```
Normalize stem directions? (y or n <Enter> =
yes) ->_
```

When you transpose a staff, the music may move up or down a significant distance. Sometimes, stems will be in the wrong direction, and slurs may need to be repositioned. To

fix this quickly, PAGE allows you to flip the stems, beams, slurs, etc. to their correct position when you transpose. The default is yes, which you can accept by pressing ENTER.

> Note: in some instances, it might be better not to transpose the part but rather to use the TR command when editing in SCORE. One situation where you might do this is in the creation of a "doubling" part, when an instrumentalist plays Oboe and English Horn, for example. If the score was in C, you would have to transpose the part when extracting it (the English Horn is in F, sounding a perfect fifth lower than written). After the part is extracted, you would have to edit it and "untranspose" the sections for Oboe back into the key of C (Oboe is a non-transposing instrument) using the TR command. Of course, if most of the part was for Oboe (with a few selected English Horn passages), it would be better *not* to transpose the part when extracting it in PAGE but just to transpose the selected passages using the TR command in SCORE.

```
X = Exit from PAGE.
```

Typing X quits PAGE.

After completing your changes to the items in this menu, press ENTER to continue. PAGE reads through the files and, based on the music, determines the ideal layout of the piece. Some numbers and lines appear on the screen indicating a sort of graphic representation of the layout of the piece (the number of measures per line, their size, bar no., etc.).

If PAGE created a layout that involves more than one page, it will pause after each page until you have seen the entire layout. Press ENTER to continue. PAGE displays:

```
Page X
```

```
Y Lines Z Bars

Hit <ENTER> to continue.
```

This information is the layout that PAGE created (Y lines on X pages, Z bars total) Remember that each *line* is a *system* and may contain more than one staff.

Press ENTER.

Another menu of options appears:

```
Choose from the following layout options.

Y = Yes, this layout is accepted.

A = n1 = number of pages, n2 = lines per page

B = n1, n2, n3, ... = number of lines on each page

D = Give number of bars per line (zeros = ends of
pages)

S = See same layout again.

U = Find page turns.

M = Return to main menu.

X = Exit from PAGE.
```

These options allow you to change the layout that PAGE just created or accept what it created on its first try.

```
Y = Yes, this layout is accepted.
```

Select this option if the layout is acceptable, and you wish to save your work. Exit PAGE, and you may examine the layout in SCORE and do touch-up editing as needed.

```
A = n1 = number of pages, n2 = lines per page
```

Select this option to alter the layout. For example, suppose that PAGE created a layout of 4½ pages (it does not auto-

matically create full pages). In this situation, it's a good idea to redo the layout and fill out the last page. In this example, you would type 5 *X* where *X* would equal the number of lines on a page (PAGE made this decision the first time through; you can alter it or use the same value this time). If you are creating 8½ x 11" pages, usually you cannot fit more than 9 or 10 staves on a page, unless you use a small staff size (.7 or less).

`B = n1, n2, n3, ... = number of lines on each page`

Select this option to specify a *different* number of lines on each page. For example, 8 9 9 9 9 would create a five-page layout with eight staves on the first page, nine on the other four. (This is useful if you want to leave extra room on the first page for a title and copyright notice.)

`D = Give number of bars per line (zeros = ends of pages)`

If you wish to specify exactly how many bars on each line, you may select this option. In most cases, you will not need to use this option (and might have to exit PAGE and examine the file(s) in SCORE to determine if this is necessary).

`S = See same layout again.`

Select this option if you would like to see the layout again.

`U = Find page turns.`

This option is primarily used when extracting parts. If you select it, PAGE prompts:

`Type num of qtrs needed for turn, num of pages, lns per pg., 1st page num.`

You must specify the minimum number of quarter beats for an acceptable page turn, the number of pages you want the piece on (it's a good idea to always make this a little big-

ger—never smaller—than the number PAGE created the first time it laid out the part), the number of lines on each page (it's a good idea to make this no bigger than the amount PAGE created the first time through, although it may be less), and the first page number (PAGE recognizes the publishing convention of printing two-sided parts—there need only be a good page turn on odd-numbered (right or recto) pages.

PAGE recalculates the layout and displays the results. Watch the display scrolling by; a barline that appears as a highlighted box indicates that the previous measure is a page turn point that matches your specifications.

Press ENTER to continue. Once again a menu of options appears, and you can go through the same process to change the layout. If PAGE did not find a page turn at the end of every odd-numbered page, you can try again. Start the piece on an even-numbered (left-hand or verso) page. Or specify a different number of pages, lines per page, or minimum number of beats for a turn. (Usually, if the music has possible page turn points, specifying four quarters for a turn will yield good results.)

When the layout is now acceptable, type Y to accept it.

PAGE now prompts for an output file name (PAGE doesn't automatically write over the old files as a precaution in case you wish to redo the layout). You now must supply a name for these new files. If your original files ended with the extension .MUS, you may just type the old name and not specify an extension. PAGE will automatically add ".PAG" to the files, and you will be able to differentiate them from the originals easily. (They still have the extension ".MUS".)

Type N to exit PAGE. It is usually a good idea to return to SCORE to see the results of PAGE's layout.

If you are not pleased with the results, exit SCORE and start PAGE again by typing `PAGE` ENTER. This time select option 3 `Old PAGE Data.`

> After you run a set of files through the PAGE program once, PAGE saves the layout information in a temporary file called BARS.TMP. This eliminates the need to tell PAGE which files to layout and lets you get right back to work. If you looked on your hard disk, you would see this file in the current directory you are working in. BARS.TMP is truly a temporary file in the sense that once you run another piece through PAGE and select options 1 or 2, a *new* BARS.TMP file will be created and the old one will be overwritten.
>
> If you plan to run a series of pieces through PAGE and want to save the BARS.TMP file for the possibility of future layout, use the DOS RENAME command to change the file name. Later, if you want to put your piece through PAGE again, you would use the DOS RENAME command again to change this file name back to BARS.TMP, and then start PAGE.

Once again PAGE displays the menu:

```
B = Add measure (bar) number.

H = Set page height. (Current = 10.00 inches.)

I = Indent

M = Get this menu again.

N = Set first page number. (Current = 1)

P = Use only part of input date.

Q = Return to page startup.

R = Number on 1-bar rest? (Yes)
```

```
S = Change staff size. (current size = .9)

T = Transpose

X = Exit from PAGE.

<enter> = Continue - see page layout description.

->_
```

Make any alterations to the menu choices and process your piece again. We generally find that as people gain experience with PAGE, they get a feel for which numbers and settings will work best with different formats of scores.

When to Use PAGE

PAGE is excellent for the delicate job of page layout, but there are times when you cannot or should not use it. For example, suppose you were doing a vocal score that included a piano part on two staves and different numbers of vocal parts on staves above it. Sometimes you might have a solo voice, sometimes a chorus and many different soloists.

PAGE can only process files that contain the *same number of staves.* If you had three staves in the first file (one soloist and piano) and then seven staves in the next (the chorus joined in with the soloist), PAGE would not understand how to shuffle measures around. You might be able to process the files in sections, if there were continuous sections where the files all contained the same number of staves.

After using PAGE for layout or Part extraction, it is a good idea to open the file(s) in SCORE for some editing. Usually slurs and ties will require some touch up editing, and hairpins may also get shifted around. SCORE has a powerful Group Command to edit *all* the slurs on an entire page. After you open the file in SCORE, type `CRV` (for **CuRVe**).

SCORE asks which staff and position you wish to alter. Since we want to fix all of the slurs, type 99 ENTER (remember, if you provide a number greater than the number of staves possible [32], SCORE's commands affect *every* staff). SCORE readjusts each slur and tie to the "ideal" curvature based on its present length. (SCORE did this procedure during input, but new page layouts can alter the length of some slurs and ties, requiring you to repeat it sometimes.)

Part Extraction

The Part Extractor Control File

The procedure for extracting parts is very similar to page layout. Before you extract parts, you must create a Part Extractor Control File. This is a simple DOS text file which you may type in any word processor (save it as a "text" file) or in a text editor like EDLIN. The file contains the name of the first file on the first page followed by a space and then a set of numbers. PAGE needs to know how many pages there are of your score and how many files are used to create a page (or system, actually). Let's use the example of a ten-page orchestra piece, with two files per page. Create a text file. On the first line, type in the filename (in our example it's ORCH01A.MUS). Now type in a four-digit number, **ABCD**, where **AB** is the number of pages (if it's a single digit number, type 0 as the "A" digit), **C** is always "0", and **D** is the number of files per page. Since this piece is 10 pages, two files per page, you would type "1002". Think of it as "10 (pages) with 2 (files)". Save the file with a name you will remember, such as ORCH.TXT (TXT is the standard extension for Text files), and you are done. By the way, if for some reason you have a score with a *different* number of files on each page, you can create a different type of Part Extractor Control File. You still type the first file on the first page, but the numbers after it are different. Type a space, then a number indicating how many files on the *first* page.

Then another space and the number of files on the *second* page, and so on until you have specified the files for the entire piece. If you need to go to a second line of text, you must respecify the name of the file you are starting that line with. For example, this piece could have a part extractor control file:

```
ORCH01A.MUS 2 2 2 2 2 2 2 2 2 2
```

If the file had to be on two lines (for longer pieces) it could be:

```
ORCH01A.MUS 2 2 2 2 2
```

```
ORCH06A.MUS 2 2 2 2 2 (page 6 begins the files for the second line of text)
```

Start PAGE. Select option 2, Parts extraction. PAGE asks you for the name of the part extractor control file; type `ORCH.TXT`. PAGE asks you for the ID# of the instrument you want to extract. Type the number of the instrument you wish to extract. PAGE prompts:

```
How many staves in part? (<enter> = 1, B = Back-up)-
```

Press ENTER to accept the default. (If you were extracting a keyboard or percussion part, you would give the Instrument ID# for the bottom staff and tell PAGE how many staves in the part.)

```
Delete items more than five spaces to the left of the staff?
```

Type `Y` for yes and press ENTER (PAGE offers this option to delete instrument labels which usually appear in the margin to the left of the staff.)

PAGE looks up all of the files and reads them into memory; this can take a few minutes (less if you are using extended

or expanded memory—see the Extended/Expanded Memory chapter in this manual). PAGE presents you with a menu. You will notice this menu is identical to the one presented for page layout. (In fact, from this point on, all you are doing is ordinary page layout—the information for the individual part has already been extracted into a series of temporary files on your hard disk [or RAM disk, if you are using one].) Continue through the prompts as explained above.

Instrument ID numbers

How does PAGE know to extract parts from a score? It looks through every staff in a file for a unique *Instrument ID Number* that you assign. This number is put in P9 of each staff. You can assign any number to any instrument, but it is helpful if you do it in a logical order. Here is a typical list of ID numbers in order down the score.

Instrument	**ID#**
Piccolo	1
Flutes 1/2	2
Oboes 1/2	3
English Horn	4
Clarinets 1/2	5
Bass Clarinet	6
Bassoons 1/2	7
Contrabassoon	8
Horns 1-2	9
Horns 3-4	10
Trumpets 1-2	11
Trumpet 3	12
Trombones 1-2	13
Bs. Trb/Tuba	14

Timpani	15
Perc.	16
	17
	18
Piano	19
	20
Violin I	21
Violin II	22
Viola	23
Cello	24
Bass	25

These ID#'s must be set in P9 of every staff in the file. Accordingly, it is essential that you create a template or preset Staff Setup for your use before you input a piece that will eventually have parts extracted. See *Using SCORE*, chapter 9 for further information. See also *Using SCORE*, chapter 10.

Creating Text that will be in every part

Full scores frequently have text items that are to be included in every part. The title and composer's name at the top of the first page are usually included in every instrumental part. But when PAGE extracts a part, it will only include the information attached to the *staff of the instrument you are extracting*.

Every text item that will be in all the parts must have 100 added to its P6. This tells PAGE to include this text in *every* part in the score, even in parts that are in the file below this on the same page.

Creating Text that will not be in every part

Add "200" to P6 of any text item and PAGE will *not* include it in any of the parts. If you have a tempo indication above

the flutes, and restate it above the violins, you must add 200 to P6 of one of them. If you did not do this, PAGE would insert two identical tempo indications in the violin part.

Creating Rehearsal Numbers/Endings in Parts

This method also works on any Code 10 items (numbers) allowing you to include rehearsal numbers (or letters) in every part (by adding 100 to P6) and to exclude page numbers from the score (by adding 200 to P6).

Similarly, if your piece includes any first and second ending signs (created in Code 5, you may add 100 to P5 to include them in every part, or 200 to P5 to exclude them from every part.

Automatic Cueing

PAGE will insert instrumental cues in parts during part extraction if an instrument ID# was placed in P13 of a rest. P13 may contain the instrument ID# of any staff in the same file (but not an instrument ID# from a different file). For example, suppose two files are used to create a single *system* in an orchestral score: ORCH01A.MUS and ORCH01B.MUS. If you indicate a cue (by placing an instrument ID# in P13) for the top staff of ORCH01A.MUS, the instrument ID# must refer to a staff in ORCH01A.MUS, not ORCH01B.MUS. Usually, P13 will only be added to whole rests. (Note: if P13 is set, it must indicate a valid instrument ID# set in P9 of a staff.) PAGE will not condense whole rests when P13 is set for automatic cueing. When PAGE processes the part, it automatically creates the cue in the appropriate measures, flips the stems to the "wrong direction," and changes them to cue size. A whole rest is also placed in the measure, opposite the cue.

Note: automatic cues may need manual editing. PAGE will not neccessarily alter the pitch information to be correct for

the new instrument. (A cello cue in a violin part would not be altered to treble clef, for example.) It is customary to transpose cues into the key of the instrument: a clarinet cue indicated in a flute part would be transposed into C, since the flute is in C, and the clarinet is in B-flat.

Indicating Sections of a piece for PAGE

Usually it is desirable to have a new section of a piece begin a system, as opposed to appearing in the middle of a system. PAGE will automatically try to do this if you tell it where the section(s) begins. Select the barline at the beginning of a section in the score and set P12 to 1. That's all there is to it. You may also use these markers to layout partial sections of a piece using PAGE's "P" option. Note: if a new section begins a system in the score, set P12 for the barline at the *end* of the previous system.

Extracting Parts on Multiple Staves

If you wish to extract a multiple-stave part (i.e. keyboard, on two staves, percussion on four or five, etc.) specify the Instrument ID number of the *bottom* staff at the PAGE prompt for Instrument ID number. When it asks for the number of staves in the part, specify the total number of staves (including the bottom staff). Continue as you would for any other part. If you use PAGE to search for Page Turns, it only will look on the bottom staff of the system for a possible page turn point.

After extracting a multiple-stave part, examine the results in SCORE. You may want to use the V command to add space between systems, and do touch-up editing as needed.

Extracting parts with two instruments on a single staff

Sometimes, to conserve vertical space, two instruments are combined onto a single staff in a score (for instance, Flutes 1

and 2). When the parts are extracted, it is usually preferable to have separate parts for each instrument. PAGE has provided for this situation.

Extract the part, leaving both instruments on the staves. Retrieve the part in SCORE and do *general* touch-up editing (fix slurs with the CRV command, center titles, etc.). Do not do too much editing. Save your work and exit SCORE. Using the DOS COPY command (or XCOPY), make a copy of each file, giving it a different name. For example, suppose the first files were named, FL1-1.PAG, FL1-2.PAG, and so on. The copies should be named, FL2-1.PAG, FL2-2.PAG and so on.

The SEP Command

Start SCORE and retrieve the first file. Type `SEP` ENTER. SCORE prompts:

```
Type bottom staff number, left pos., right pos.,
top staff num, —
```

You may alter all of the staves, just alter one part of one staff, or a group of staves.

```
T = delete top notes, B = delete bottom notes. ->
```

select which part you wish to delete. SEP does not delete any areas where there is only one part on a staff.

```
Normalize stem direction? Y/N? [Enter = Y]
```

It is usually a good idea to select this option, to correct stemming after SEP deletes one of the voices.

```
Press B or <ESC> to backout, <Enter> to con-
tinue.
```

SEP deletes the appropriate voice.

If you are processing many pages with SEP, it is probably a good idea to create a macro to automate this procedure. The following macro would delete the top voice, save the file, restart SCORE with the next file, and repeat the process.

A SEP Macro

```
SEP

1 0 200 32

T

Y

SM

NX

RE ST
```

To use this macro, type the above text in a word processor (or SCORE's macro editor—see Macros) and save it as a text file called ST (for Sep Top voice). You would open the first file and type RE ST to begin the macro. It will work endlessly until there are no more files to alter. See Chaining Macros, for more information on how to create other macros of this type.

Tips For Part Extraction

We always recommend you carefully proofread a score, but it is *essential* when you intend to extract parts. If there is a wrong note in the score, it will appear in the part unless you correct it first. Multiply these small errors by 20-30 parts, and it can create a great many errors that could have been avoided.

When you are ready to extract parts from a score, it's a good idea just to do one part first. Extract a part other than the top one (for example, extract the oboe part), then print it

out and carefully proofread it. Look for mistakes in the automatic measure numbering, missing tempo indications, extra tempo indications, and other errors. If you accidentally forget to code a tempo so that it appears in every part, it's better to find out *before* you extract all the parts from a score. You can go back and correct any errors in the score, and then proceed with parts extraction.

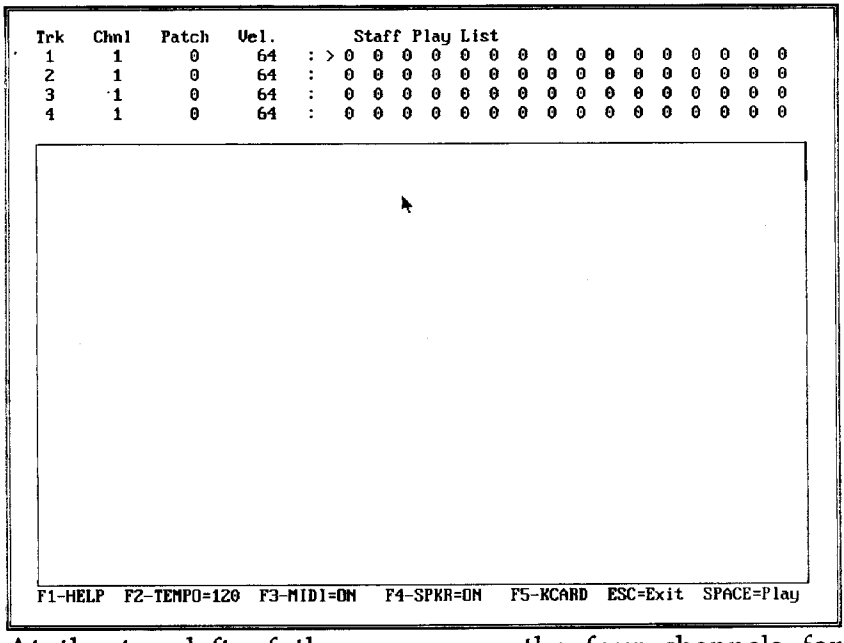
If the measures come out misnumbered, it may mean you have an extra barline someplace, or one barline is misaligned (PAGE counts barlines to determine how many measures are in a piece). If, for example, you accidentally shifted one barline slightly to one side (so that it had a different P3 than the barlines above and below it) PAGE would miscount the measures. The Lineup and Justify procedures will always align barlines (see Justification). Note: if you use invisible or dashed barlines in a piece, PAGE will miscount the number of measures. It's probably better to wait to add dashed barlines until after processing by PAGE. In addition, PAGE will not account for repeat structures (first and second endings) except to count the measures straight through. You may have to manually edit the measure numbers in these instances.

See Using Extended or Expanded Memory, for information on how to speed up Parts Extraction with a RAM disk.

PLAYBACK OF A SCORE FILE

SCORE has a simple four-track playback feature which allows you to hear your music on the built-in speaker of your computer, via MIDI interface, or the IBM Music Feature.

To use this feature, retrieve the file you would like to play. Press F5 (or type PL) to enter Playback Mode. The program performs the OS command (reordering the items into sequential order, see the Changing Screen Views Chapter for an explanation of this command). The screen now looks like this:



At the top left of the screen are the four channels for playback, followed by the MIDI channel you wish to assign each track to, the Synthesizer Patch you wish to use, the MIDI velocity for each track, and the staves that you wish to assign to each track. If you are playing back through the

internal speaker, you should ignore the MIDI information. Note: on most computers you will only be able to hear one track at a time during playback using the internal speaker.

If you had a four-stave file, and you wanted to hear each stave in succession, you could type: `4 3 2 1` in track one. Press F2 to set the tempo (the number is the same as a metronome marking; beats per minute). You may use any setting from 10 to 280. Press F4 to turn the speaker on, and press the space bar to begin playback.

If you are using a MIDI device, press F3 to activate the MIDI output. You can play four staves simultaneously with a MIDI device.

If you are using the IBM music feature (sometimes called the K-Card), press F5. This activates a second menu to configure playback. Press F1 to select one of the Music Feature's 20 voicing setups. Any number from 0 to 19 may be used, but numbers 16 through 19 are preprogrammed in the K-Card's ROM. To alter the remaining setups, you must use voicing software such as Passport's MIDI Voice Editor™, or the MIDISOFT Studio™.

F2 allows you to alter the master tuning up or down (by one halfstep). A setting of -63 tunes the card exactly one halfstep lower; 64 tunes it one halfstep higher.

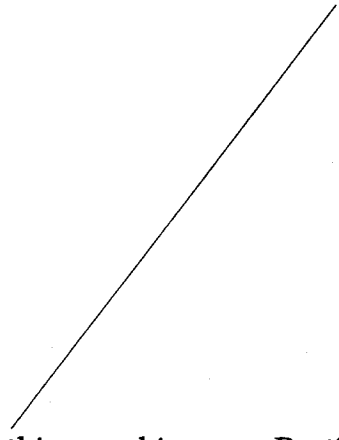
F3 sets the volume for playback. You may use any setting from 0 to 127. Press the space bar to begin playback.

Tip

You may use the GM or COM commands (see File Formats and Functions) to temporarily retrieve more than one file on the screen for playback. Use the full screen view (press ALT + S) to view the entire file during playback.

PostScript

PostScript is a Page Description Language (PDL) currently used by most Desktop Publishing and Graphics Programs. It instructs the printing device how to create the graphic output rather than sending it a *bitmap* representation of that output. For example, suppose you used a graphics program (like Adobe Illustrator, or SCORE) to draw a diagonal line.



When you print this graphic on a PostScript printer, the program instructs the printer how to *create* the drawing by indicating its mathematical coordinates and geometrical shape rather than just sending a dot by dot representation of it. The dot by dot representation is called a bitmap image (it's "mapping" the position of every dot, or "bit" in mosaic fashion), and most "paint" programs (MacPaint™, Pc Paintbrush™, etc.) output this type of graphic. More sophisticated "draw" programs (like Adobe Illustrator™, Micrographix Designer™, Corel Draw™, etc.) output PostScript graphics. SCORE also outputs PostScript graphics.

The PostScript commands for the diagonal line above are quite simple. The following text commands create the above graphic:

```
newpath
0 0 moveto
612 792 lineto
stroke
showpage
```

The PostScript file for this image would be rather compact, about 793K bytes. But if you were to draw this image in a bitmap format (using a paint program) the code has to specify the position of every dot to create the line, and is considerably larger (10,234K bytes). This is one of the many advantages of using PostScript.

Aren't all computer graphics just dot by dot representations?
Yes they are. But since PostScript printers create the graphic in their own memory, they can use the highest number of dots available to "draw" the image. Bitmap images from "paint" programs are *created* with a certain number of dots per inch (usually about 72 dpi, the resolution of most computer screens) and the exact position of each dot is sent directly to the printer. "Jaggies," the stepping that one usually sees on diagonal lines, can be very prominent in this type of graphic.

For the Technically Curious User

In case you're curious what the PostScript commands in the above example mean, we thought we'd provide a simple explanation. The *newpath* command instructs the printer to start a new line. *0 0* indicates the horizontal and vertical coordinates for the beginning point of this line (in this instance, the lower left corner of the page). The numbers *612 792* indicate the coordinates for the next point on this line (in this instance, the upper right corner of the page).

PostScript uses points to measure distances (where 1 point is approximately 1/72"). (612 divided by 72 is 8.5 and 792

divided by 72 is 11.) The command *lineto* indicates a line between the two specified points (0,0 and 612,792). Finally, the *stroke* command instructs PostScript to "apply ink" to the line. This is necessary because of the many graphic capabilities of the PostScript language. You can, for example, define lines which create boundaries but are not "stroked" for special purposes.

Using the DRAW program, you can create graphic symbols yourself (taking full advantage of PostScript's capabilities) and use these symbols in SCORE directly.

Note: if you happen to create the diagonal line in SCORE and print an Encapsulated PostScript File, it won't match the example we've just explained. SCORE uses a special system to speed up PostScript processing by your printer. At the beginning of each PostScript file, SCORE defines abbreviations for the commands it uses, like this:

```
/m /moveto load def /l /lineto load def
/tr /translate load def /aw /awidthshow load def
/e /eofill load def /s /stroke load def /g /gsave load
def /r /grestore load def
/f /findfont load def /sf /setfont load def /mf
/makefont load def /lw /setlinewidth load def
```

SCORE also defines basic line thickness (based on your answer to the printing prompt `linewidth =`) and a different measurement system (more precise than points). The PostScript file for the above example, therefore, will actually look like this:

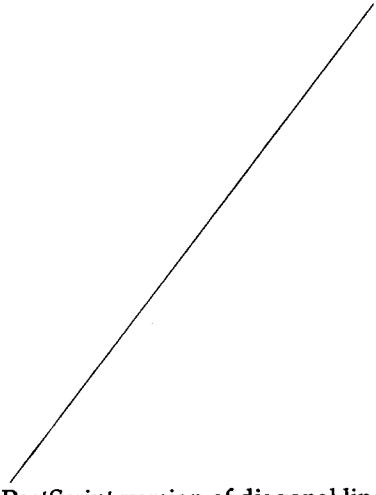
```
%!PS-Adobe-2.0 EPSF-1.2
%%Creator: SCORE (tm) Ver. 3.00
%%Title: SCORE.MUS
%%BoundingBox: 37 48 456 468
%%DocumentFonts: (atend)
%%EndComments
save
/m /moveto load def /l /lineto load def
/tr /translate load def /aw /awidthshow load def
/e /eofill load def /s /stroke load def /g /gsave load
def /r /grestore load def
/f /findfont load def /sf /setfont load def
/mf /makefont load def /lw /setlinewidth load def
newpath /SCORE {
/size .01800 def /widlin 39.9990 def
size dup scale widlin lw 1 setlinejoin
/lmar 2100 def /bmar 27250 def
lmar bmar tr} def
statusdict begin /waittimeout 0 def end
g SCORE
0 -24525 m
30000 14850 l
s
showpage
r restore
statusdict begin /waittimeout 1 def end
%%Trailer
%%DocumentFonts:
```

While this may appear more complicated than our previous example, it creates the *exact same* drawing. We have included it as an example of the way SCORE uses PostScript.

Why PostScript?

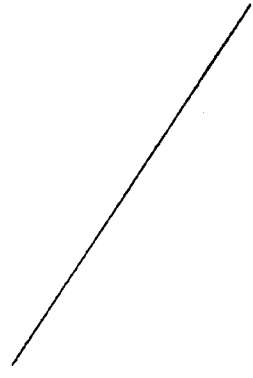
There are many advantages to using PostScript. If you print a page on a 300 dot per inch (dpi) laser printer, and later decide you want a higher resolution printout, the same

page may be printed on a high-resolution printer (like the Linotronic L-300) at resolutions up to 3000 dpi. Since it is the *printer* that actually creates the drawing in its memory (also called rasterization), PostScript allows you to take advantage of the resolution of the output device. By increasing the resolution of the printer, you eliminate the jagged lines that often appear in some images (for instance, in hairpins).



PostScript version of diagonal line

If you were to print a bitmap graphic on a 300 dpi printer, or a 3000 dpi printer, the image would look the same.



Bitmap (paint) version of diagonal line

PostScript gives you the ability to *scale* graphics and text in a virtually unlimited manner. Any user who has struggled with the limited number of text font sizes in a non-PostScript printer (like the HP Laserjet II) will be delighted with the range of sizes available with PostScript. If the program takes full advantage of PostScript, you may be able to use any fractional pointsize, and rotate type at any angle. Outline characters, shapes filled with any percentage of gray, and many other special effects are available to PostScript users. Since the PostScript language instructs the printer how to create (and scale) the text fonts, you do not have to purchase many different sizes for each font, and most PostScript Laser printers come with a basic body of 35 fonts installed in their ROM (Read Only Memory).

In addition, PostScript is the graphic standard for PDLs. If you print a page to an Encapsulated PostScript File, this file may be used by most word processing and desktop publishing programs as a graphic. This same file may be printed from other computers (like the Apple Macintosh) and used as a graphic in its operating environment. Most of the graphics in these manuals were printed to an Encapsulated PostScript File from SCORE, then *imported* into Ventura Publisher™ to be merged with the text. See the Printing section for further information about this process.

What if you don't have a PostScript Printer?

SCORE is extremely flexible with regard to printing devices. It supports dot matrix printers, and you may also use non-PostScript Laser and Inkjet Printers by employing a translation program such as GoScript™ or Freedom of the Press™. See "Using Non-PostScript Printers" in the printing chapter.

Advanced PostScript Features

This section is really for users who have experience working with the PostScript language, but the first section demonstrates a very easy technique that anyone can master.

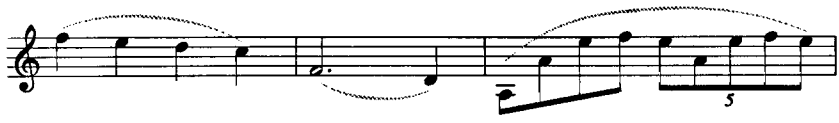
SCORE allows you to insert any legal PostScript command in a file so that it may be sent to a PostScript printer "on the fly" during printing. Simply create a text item containing the command and set the font ID number to 99 (_99). The command will appear on the screen as if it were an ordinary text item, but it will not print on your music. Instead, SCORE sends this command to the printer to be interpreted. We'll use a simple example to demonstrate how you can shade any item in a SCORE File in any percentage of gray.

Shading Items in Gray

Suppose, for editorial reasons, you wanted to make all the slurs in this example shaded in 50% gray instead of solid black. (Some published editions of older music do this to indicate that the markings were added by a contemporary editor and are not part of the composer's manuscript.) To make this change, we will use the PostScript "setgray" command.

The "setgray" command must by preceded by a number between 0 and 1 indicating the percentage of black you desire. 0 indicates 100% black; 1 indicates 100% white (which is invisible on a white background, of course). .5 is 50% black, .75 is 25% black, etc. After this command is sent to the printer, every item that is subsequently sent will be

shaded in the percentage indicated, until you change back to normal (0 setgray). Accordingly, the order items are sent to the printer is critical for this command to function correctly.



The RNUM command

To assist you with this, SCORE provides a command to renumber items in a file. (Bear in mind that certain commands [O, OS, L, LJ] renumber items sequentially, and should be used before using RNUM.)

To use RNUM (**ReNUMber**), you must type RNUM and two numbers. The first is the current number of the item, and the second is the number you want to change to. For the above example, the first slur is item number 4, the second is no. 10, and the third is 15. You would renumber the second two slurs so that they are sequential with the first (numbers 5 and 6, respectively). Then create a text item: `_99 .6 setgray`. Use the RNUM command to number this so that it is item no. 4 (the number of the first slur). The slurs will automatically advance one number. The last slur is now item no. 7, the first is item no. 5. Select the text, and edit it with the TX command so that it reads: `0 setgray` (this resets the file to printing the rest of the items as 100% black) and make it a copy of the original item. Renumber it so it is item no. 8, the item immediately following the third slur. This is the result when printed.

Note that gray scales reproduce differently depending on your printer's resolution. A 50% gray scale on a 300 dpi

PostScript Laser printer will look significantly darker than the same gray scale printed at 1270 dpi, or 2540 dpi on a high-resolution printer like the Linotronic L-300.

Any legal PostScript command may be inserted into a SCORE file using the special font number, 99. You may also import an Encapsulated PostScript file into a SCORE file. This allows you to incorporate graphics (such as logos) created in other programs with music, or even bring in a score page and use it as a graphic with another score page. See the section on Code 15 for a detailed explanation on how to import PostScript files.

PRINTING

SCORE has a separate program, SPRINT, which is used just for the purpose of printing. (You may also print directly from SCORE.)

Using SPRINT

Start SPRINT by typing `SPRINT` ENTER. You are presented with a menu of four options:

```
1        Output to PostScript Printer or file
2        Output to Dot Matrix Printer
-1       Statistics only
"ex"     Exit
```

The first two options are self-explanatory. The third option is only used if you wish to find out the height of your page before you print, and the last is to exit the SPRINT program. Select option 1 by typing `1`.

Using A PostScript Laser Printer

Select option 1.

```
<Enter> = print single page; M = multiple pages.
->
```

You can use SPRINT to print a group of pages, a single page, or an entire score if you like.

If you press ENTER, you will select the option to print a single page. Press M and you can either type in a list of the top file on each page and how many files, or create a namelist (see below).

```
Enter the file name of the TOP FILE and NUMBER OF
FILES on the page.
```

Once again, we must point out the importance of having files that are sequentially named. You type in the name of the top file, a space, the number of files on the page, and press ENTER.

```
Size = 1 Type new size or S = use same setting as
before ->
```

"Size = 1" means 100%, the actual size you input it at. If you changed it to ".9", your page would be reduced to 90% (horizontally and vertically) of the size you input it at, "1.1" would be 110%, and so on. (Ignore the "S" option for now.)

```
Format: B=Big paper, R=Rotate, BR=Both,
<enter> = normal ->
```

The "Big" setting is only for use with high resolution printers (like the Linotronic L300). The "normal" paper setting is for letter or legal paper. "Rotate" is for printing in what is usually called "Landscape" orientation, and we'll demonstrate that later. Press ENTER to continue.

```
X offset= .5", Y offset= .75" Change or <enter>
```

The X offset is the distance from the left edge of the paper to the beginning of the staff. You may want to change this sometimes to allow for a different margin for binding or if there is a long instrument name in the left margin. At this position, with the staff at it default 7½" width, the music will be centered on the page. The Y offset is the distance from the bottom of the page to the *first line* of the bottom staff. It is set to ¾" to compensate for the usual amount of music that dips below this point. Sometimes you may wish to change this offset if you have a shorter or taller page. **SCORE checks the file, and if you have an item that dips very low, it will automatically increase the Y offset to insure an eighth inch margin from the bottom of the page to**

the item. (If you are using a list file, SPRINT uses the Y offset for the *first* page for every additional page.) Press ENTER to accept the default.

```
Line Width = 2 pixels. Change or <enter>
```

This controls the width of the lines on the page (staff lines, stems, etc.). It's an advanced feature which we'll explain in the section on high resolution printers, below. Press ENTER to accept the default.

```
L or <enter> = to Laser, P = to PostScript file
```

If you are connected to a Laser Printer via a serial or parallel port, or connected to a network that supports print spooling, press ENTER. SPRINT sends your file to the printer. You will see columns of numbers scroll by on the screen which indicate that each item in the file is being sent to the printer. You can see SPRINT "paste together" each file as it works. Depending on the speed of your printer (and computer), this will normally take a minute or so based on the number of items on the page. An indicator at the bottom displays the total height of the page in inches (including the bottom margin), then asks you if you want to print another copy of the page or return to SPRINT to print a different page. Type `0` and then `N` to exit SPRINT. If you don't have a PostScript Laser Printer, we'll demonstrate how to create a PostScript file for printing at a later time and place, on a Local Area Network that does not support print spooling, or with a utility program that translates PostScript files (like GoScript™)

Writing A PostScript File

Start SPRINT and repeat the same steps outlined above. When you reach the prompt `L or <enter> = to Laser, P = to PostScript file`, type "P" to select PostScript file. SCORE prompts you for a name for this file. Type `TEST`

and do not add an extension. SCORE automatically adds the extension ".EPS" This stands for Encapsulated PostScript. You will see the list of item numbers scroll by, and after a minute, the page will be printed to a file on your disk. An indicator at the bottom will tell you the total height of your page and ask you if you want to print another page or exit. Type N and exit SPRINT.

What is the purpose of creating a PostScript file? Basically, you can do five things with a PostScript file:

1) Bring this file (on floppy disk) to a different computer to print it on a laser printer.

2) Bring this file (on floppy disk) to a Service Bureau to print it on a high-resolution photo-typesetter (like a Linotronic machine).

3) *Import* this file into any Desktop Publishing program like Pagemaker, Ventura, WordPerfect, etc.

4) Print this file on a non-PostScript printer (like the HP Laserjet) through a translation program (like GoScript™ or Freedom of the Press™)

5) Import this file into another computer with a different Operating System (such as the Macintosh OS or UNIX) via a LAN or disk conversion (i.e. Apple File Exchange.)

Tip

If you create EPS files and import them onto the Macintosh with Apple File Exchange, we recommend using the "default" file translation (rather than a text file translation). In our experience, this is the most reliable way to transfer EPS files to the Mac.

It is important to note that once you have created a PostScript file, all of the information to create that page is in the file. You do not need to use any additional music fonts (like

Adobe's Sonata Font) to print the page. (If your piece contains any text, however, the printer must contain whatever fonts you selected for that text. If you don't know which fonts you used, SCORE creates a file with a list of them called PSFNAMES.TMP. Open this file (you can use the DOS TYPE command), and you will see a list of whatever text fonts you used in the file. Doublecheck to make sure your printer has them before you print the file. If you print many pages, the PSFNAMES.TMP file is rewritten for *each* file. Therefore, whatever fonts it indicates are only representative of the last file printed.

Creating a Namelist File

If you frequently print a piece, it is usually a good idea to create a Namelist file. This is a DOS text file with the name of the top file on each page, a space, and the number of files on each page. You can create this in a text editor (like DOS's EDLIN) or a word processor and save it in a text only format.

High-resolution Printing

SCORE (and SPRINT) support the use of any PostScript printer with a resolution up to 4000 dots per inch (DPI). If you own a printer of this type, simply install it according to the instructions in the installation chapter in *Using SCORE*. If you plan to use a high-resolution printer at another location (such as a Service Bureau), you should print your page to a Encapsulated PostScript File. Check with your bureau to determine what specific requirements they may have.

If you are printing to a page *bigger* than 8½ x 11", make sure to select the "big" option when printing, and specify the dimensions of your page. Most high-resolution phototypesetters (like the Linotronic L-300) print onto a roll of paper 12" wide by any length. If you print an 8½ x 11" page, it fits nicely within the 12" width of the roll; bigger pages

require you to send the page in the other orientation. SPRINT's "big" option takes care of this, and allows you to specify the page dimension. See below for information regarding the "rotate" option when using Photo-typesetters.

In addition, you should carefully select the linewidth for high-resolution printers. This is dependent on the number of dots per inch. At 1270 dpi, a setting of 3 or 4 is adequate. If you leave this at the default of 2/300ths of an inch, the lines on the page (staff lines, stems, etc.) may be very thin. If you use a higher resolution (say 2540 dpi), you will probably need a higher setting. If you use a controller card (like the LaserMaster Card) that produces 600 x 300 dpi, you will probably need to experiment with this setting to get the best results. Remember that the linewidth setting affects the basic thickness of Staves and Ledger lines and that you may alter this by changing P16 and P17 in Code 1 items (notes), and P11 in Code 8 items (staves). Note: for most music pages, it is seldom necessary to use a resolution higher than 1270 dpi. Although printers are capable of printing with more dots per inch, we do not find any benefits to the printed output. In addition, printing at higher resolution can take more time and often costs more at most Service Bureaus.

Printing on a Dot Matrix Printer

Start SPRINT and select option 2. The prompts are the same as for laser printers, except that you are only allowed to specify an X offset (that is from the left side of the page to the left side of the image). If you print more than one page, SPRINT sends a form feed to the printer in between each page to adjust the paper correctly. If you print a *single* page, SPRINT does not send this form feed. This allows you to print a page in sections (eg. top, middle, and bottom) which

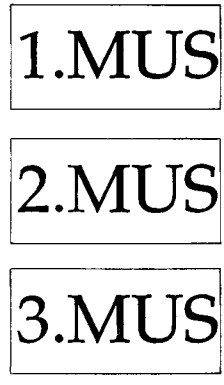
is sometimes necessary due to memory limitations. The carriage will stop, and the page will not move to allow you to continue printing at the spot where you left off.

Large Pages on a Dot Matrix or Laser Printer

If your printer accepts large size paper (most laser printers don't; some dot matrix printers will), you could just change the "Size =" setting to "1.33". This will enlarge the page to 133% of it's original size, and an 8½ x 11" page will become 11 x 14". But if you are using a laser printer that doesn't print on 11 x 14" paper, the next best solution is to *tile* the page.

Tiling

Just as you create a kitchen floor, "Tiling" on a printer is a method used to create a large area from a combination of smaller areas. In this case, we'll laser print the top half of a page on an 8½ x 11" sheet *sideways*, then print the bottom half the same way. When finished, you will have to tape the sheets together to form an 11 x 17" page. *Any* size page can be created in this manner.



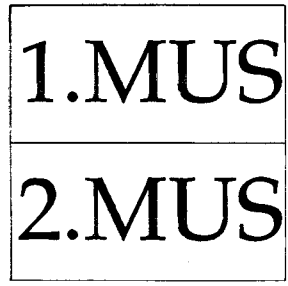
Printing Rotated in Landscape Format

Start SPRINT again. Select option 1, laser printer. Press ENTER to print a single page. Now type `1.MUS` **2.** We are just going to print the top half of the page now, so we don't need to include the bottom file.

SCORE now asks for the size. To create an 11 x 14" page, we need to print at 133%, or size = 1.33. But SPRINT has a special way to do jhis. Press ENTER to accept "Size = 1.". When SPRINT asks you for the format, select "R" for Rotate. When SPRINT rotates a page, it *automatically* enlarges it to 133% of the original size. That is why we left "Size = 1" at the default. If you changed the size setting to 1.33, and *then* selected Rotated format, the image would be enlarged an *additional* 33%. This would yield a size of 1.773 or 177% of original size. The music on your page would be 13¾" wide by 17½" high!

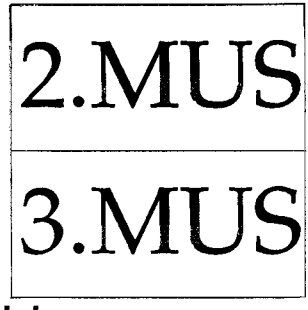
> Note: When creating files for printing on high-resolution photo-typesetters, you may select the option BR, but SPRINT does *not* automatically enlarge the size to 133%. Instead, you must set the SIZE = setting before selecting BR.

Continue through the prompts, accepting the default settings. When printed, you will have the top two systems of this page on an 8½ x 11" sheet going sideways. Now let's print the bottom half of the page.



Type Y to continue with SPRINT. Select option 1 and press ENTER to specify which page to print. This time, type 2.MUS 2. We want to print the bottom two files for this page. Didn't we already print the second file (or system) for this page? Yes, but it's usually a good idea to have some duplication of the music to allow for some overlap when it comes time to splice the pages together. Sometimes you won't be able to do this, but in this case we can.

Now SPRINT asks `Size = 1 Type new size or <enter>. S = use same setting as before` - Since the last page we printed had the exact specifications we require for this page, type S and SPRINT will use the same settings. In a minute, you'll have the bottom of our 11 x 14" page.



11 x 17" Laser Printers

If you have a laser printer that allows you to print on 11 x 17" paper (such as the QMS PS-2200) you may print in the normal manner. To print an 8½ x 11" page on 11 x 14" paper, change the size = setting to about 1.25 or 1.3 (125 to 130%). This automatically enlarges the page the correct amount. You do not need to select Big or Rotate when printing.

Printing from SCORE Directly

You can print any file directly from SCORE. Retrieve the file and press F6 (or type PR ENTER). SCORE displays the same prompts as you see in SPRINT. Answer these prompts in the same manner, and your page will print appropriately.

Note: make sure that none of the staves in the current file are "disappeared" using the DP command; any stave that is invisible because of the DP command will not appear on the printout.

Using Printer Fonts

If you are printing to a PostScript printer, you must make sure that all of the PostScript (text) fonts are resident or downloaded before you send your SCORE file to the printer. If you are only using the basic 35 (text) fonts, they are usually present in the ROM (**R**ead **O**nly **M**emory) of the printer. If you use additional fonts, they must be downloaded before printing. This is also true if you are sending an EPS file to a bureau for high-resolution printing. They must download the necessary fonts before sending the file to the printer. (Note: some printers have a hard disk attached to them that contains the fonts for the printer, eliminating the need to download any fonts.)

Note: SCORE does not require the use of a separate font for the music symbols (like the Adobe Sonata™ font). SCORE's music font is built into the program, and will print on any device.

Changing Screen Views

The following key combinations alter the window view:

ALT + C Close the graphic window to minimum size (text line at the top is at its maximum)

ALT + O Open the graphic window to maximum size (text line at the top is minimum)

ALT + D Move the text line Down one line to make it bigger

ALT + U Move the text line Up one line to make it smaller

ALT + F Make the graphic window fill the Full screen (text line will appear superimposed on top of the music in its normal position, the F-Key menu will not be visible)

ALT + M Make the F-Key Menu disappear and reappear (this command toggles the display)

ALT + S Show the entire page* (Toggles between this and whatever working view you are in)

> * The Show view is unique in that you *cannot* work while in this view. It is solely for the purpose of getting an idea of how the music will appear in your 8½ by 11" page. The graphic window will appear as a box outlining what area of the page you are currently working on. You can move this box using the cursor keys et al., and when you return to the working view, the graphic window will be at the new position. Note: this view only displays an 8½ by 11" page; if you have set up your music for a bigger page, you may not see the entire image area in this view.

The following key combinations alter the view of your music inside the graphic window:

PAGE UP move 50% up the page

PAGE DOWN move 50% down the page

END return to the default position (Zoom = 1, the bottom of the page)

HOME move to the top of the file, Zoom = 1

F9 move to the left 25%

F10 move to the right 25%

CTRL + PAGE UP enlarge the view by 25% (pressing repeatedly will continue to enlarge by the same amount each time)

CTRL + PAGE DOWN reduce the view by 25% (pressing repeatedly will continue to reduce by the same amount each time)

CTRL + LEFT CURSOR KEY move the view to the left 10% (pressing repeatedly will continue to move 10% each time)

CTRL + RIGHT CURSOR KEY move the view to the right 10% (pressing repeatedly will continue to move 10% each time)

Changing Magnification with the Mouse

The mouse may be also be used to change screen magnification, and it has the added advantage of working in *any* SCORE mode, whereas you cannot use letter commands to change views in Edit Mode or Input Mode.

Increasing Magnification with the Mouse

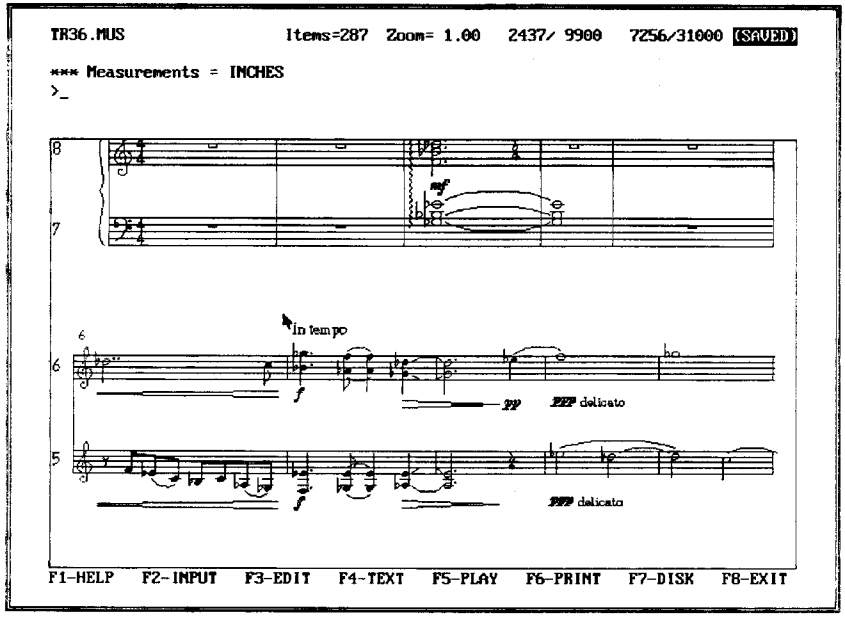
Hold down the ALT key and click the left or middle mouse button anywhere in the work area. SCORE will double the current magnification, and change so that the position where you clicked is now in the center of the work area. Repeated clicks of the left or middle mouse button will continue to double the magnification in a similar fashion.

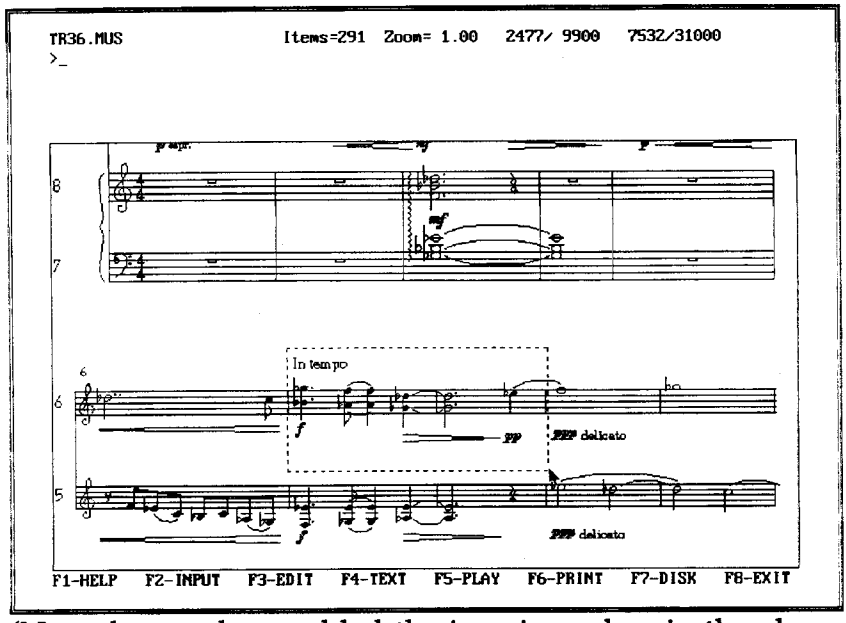
Decreasing Magnification with the Mouse

Hold down the ALT key and click with the right mouse button anywhere in the work area. SCORE will reduce the current magnification by half (or a little less when you get to tiny screen images). Repeated clicks of the right mouse button will continue to reduce the magnification in a similar fashion.

Defining a Specific Area

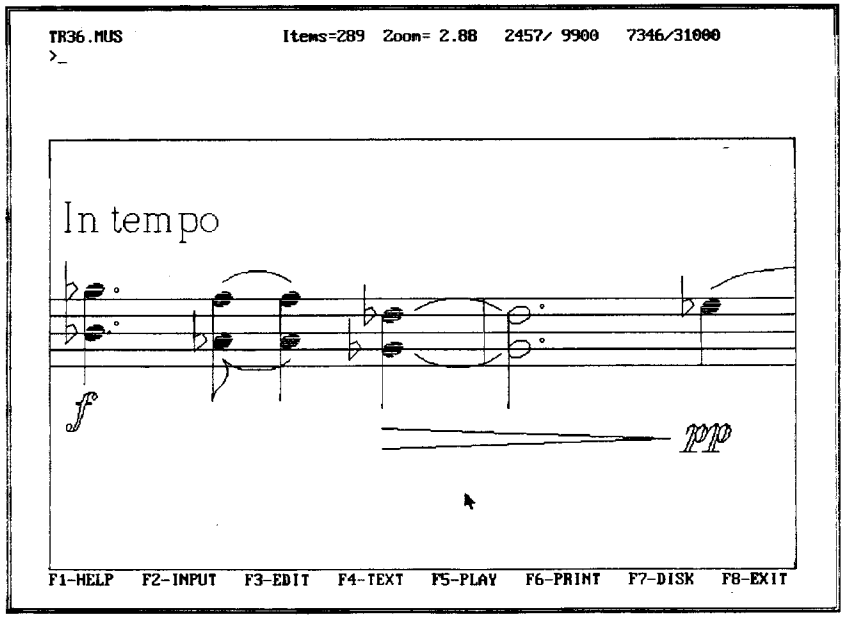
You may also use the mouse to define a specific area to be enlarged for viewing. Hold down the ALT key and drag the mouse diagonally across the area you wish to magnify. (Imagine that you are drawing a diagonal line between the corners of a box, and that you want that box to now be the area viewed.)





(Note that we have added the imaginary box in the above example for purposes of illustration; you will not see any box when you invoke this operation.)

SCORE will zoom in on the specific area defined, attempting to fill the screen as much as possible.



The following letter commands also alter the view of your music inside the graphic window:

ZZ *X* (where *X* = 2 if not specified) changes the zoom to X% and centers the last item edited in the middle of the screen. If you are in Edit Mode, you may type ZZ while an item is selected (before editing any of its parameters), and SCORE will zoom to 200% view with the item in the center of the screen. You may specify a view percentage to increase or decrease the magnification.

Z *X* will enlarge or reduce the image by *X*% (but does not reference to any item, like the ZZ command).

"Z2" would enlarge the image to 200%, "Z3" to 300%, "Z.5" to 50%, etc.

Z *X Y Z* will enlarge the image by *X* percentage as above and also shift it so that the center position of the screen is *Y* percent horizontally and *Z* percent vertically. For example, "Z 2 50 50" would enlarge the image to 200% and make the *new* center point at the position that was halfway across and halfway up in the *old* view. If you type Z *X* and do not specify *Y* or *Z*, the numbers 18 and 14 are supplied as defaults to keep the bottom left area of the image at the bottom left point on the screen.

ZL *X* **Zoom Left** by *X* percentage of the screen. "ZL50" would scroll to the left by half of the current screen width.

ZR *X* **Zoom Right** by *X* percentage of the screen. "ZR50" would scroll to the right by half of the current screen width.

ZU *X* **Zoom Up** by *X* percentage of the screen. "ZU50" would scroll up half of the current screen height.

ZD *X* **Zoom Down** by *X* percentage of the screen. "ZD50" would scroll down half of the current screen height.

If you type these commands (ZL, ZR, ZU, and ZD) again without specifying a percentage, they will "remember" the previous percentage specified and shift the image by that amount.

Automatic Scrolling

SCORE has an automatic scroll feature that insures whatever item is currently being edited is in view in the work area. This allows you to work in a magnified view and always see the item you are editing. If you want to cancel this feature, type ZX ENTER. SCORE will no longer change the view as you edit items. To return to automatic scrolling, type ZZ ENTER.

Redrawing the Screen

Z (without any numbers following it) forces SCORE to recompute the display and redraw the screen. The view will return to Zoom = 1 at the bottom of the image after using this command (the same as pressing END).

OS Reorders all of the data on the screen (renumbers all of the items so that they are in ascending order starting with staff one and continuing up every staff in the file) and then redraws the screen. **This command does not change the view percentage to the default of Zoom = 1.**

OH Same as OS except that it reorders all of the items by horizontal position from left to right without regard for staff number. **This command does not change the view percentage to the default of Zoom = 1.**

Tip

If you are in any view other than the default of Zoom = 1., it is often handy to use the OS or OH command to redraw the

screen as it will *not* alter the view percentage or position. If, for some reason, you do not want to reorder the items, you can use Z to recompute the screen.

> **When do you need to recompute the screen?**
> Certain operations in SCORE do not recompute the screen display. For instance, if you decide to move a staff up or down, SCORE will move the staff lines to the new position, but the notes and other items associated with this staff will still be in the old vertical position. Typing Z, OS, or OH will recompute the screen and correct this problem.

Making Staves Invisible in the Display

You are limited to 31,000 vectors and 9,900 items in each file which you display on the screen. Sometimes, when working with a large file (which is close to these limits), the program may operate more slowly. Making some staves invisible to the display will speed up the operation of SCORE.

`DP` followed by a staff number (or numbers) will DisaPpear the specified staves from the display. You must recompute the display for this to take effect (using Z, OS, or OH). If you have a 12-stave file, and only want to edit staves 1-4, `DP 5 6 7 8 9 10 11 12` ENTER `Z` ENTER will disappear staves 5-12. To reappear a staff, type DP and its number, then recompute the display. For instance, `DP 3 4 5 6` ENTER `Z` ENTER will make staves 3-4 disappear and staves 5-6 reappear.

`DP -1` makes all staves invisible

`DP 99` returns all staves to visible

Note: the DP command only affects the display. You may save your file while staves are "disappeared," and the information on those staves will be saved. In fact, if you are using a macro or chained macro, you can increase the speed

of its performance by disappearing all of the staves in a file so that the macro does not have to wait for the display to "draw" the screen. See Chapter 11 in *Using SCORE* for more information.

If you continue on to another file while some staves are "disappeared," those same staff numbers will be disappeared in the next file. You must use the command DP 99 to reappear all staves. Of course, if you exit SCORE and then start the program again, it will return to the default of all staves visible.

Printing Tip

If you print a file from SCORE directly (as opposed to using SPRINT) and one or more staves are disappeared, those staves will not print. This has to do with the way SCORE's printing module works (as opposed to SPRINT). Simply reappear all staves before printing if you are working directly from SCORE.

Selecting Screen Colors

SCORE allows you to alter the color of the foreground, background, and text using the COL command. Type COL ENTER. SCORE prompts you for three numbers representing foreground, background, and text. The following chart indicates the color options:

0 = black	8 = gray
1 = blue	9 = light blue
2 = green	10 = light green
3 = cyan	11 = light cyan
4 = red	12 = light red
5 = magenta	13 = light magenta
6 = brown	14 = yellow
7 = white	15 = bright white

Note: the COL command may not function on some systems (Hercules has no support for color, some monochrome drivers will not access these colors) and some systems may not support all 15 colors. And, in fact, the colors may differ on some systems, too. If you have a monochrome monitor, you may be able to set it to color (using a software utility that is usually supplied from the manufacturer) to access these colors. See your system documentation for more information.

Note: once you decide on a color preference, you may set it to be the default by editing the PREF.SCR file in your \LIB directory. See *Using SCORE*, Installation.

Trouble Shooting

There are many different things to remember when using SCORE and its associated programs. Accordingly, problems do sometimes arise. This section will list some common problems and their solutions.

Help

Onscreen, context-sensitive help is almost always available when you are working in SCORE. Press F1 while in any mode, and the screen will display a series of help files that relate specifically to the operation in progress. If you are editing a specific item, the help screens will explain the parameter structure for that item along with other useful information. During input, the help screens provide you with all of the necessary codes. If you want to look up a general topic, type "?" and the first letter of that topic at SCORE's prompt (_>). For example, ?T will call up a help file that explains all of the commands beginning with the letter T. Similarly, you may type "?" and a number to access the help files for a particular code item. ?4 will access the help file for code 4, and so on. While you are viewing the help screens, you may press PAGE DOWN to advance to the next page; PAGE DOWN to return to the previous page. HOME returns you to the first page of the help file; END to the last page.

Lineup and Justify

The Lineup and Justify command tells me my staves have different numbers of beats, and it doesn't seem to work correctly.

There are many different things that can cause this problem. Here are the steps to take to determine what is the cause.

1) **Determine the correct number of beats for the system.** (Remember that SCORE considers a beat to equal a quarter note value; a measure of 3/8 therefore has 1.5 beats, a measure of 3/4 has 3 beats, and so on.)

2) **Determine which staff has the incorrect number of beats.**

3) **Check all of the rests and notes on that staff and make sure P7 is the correct value** (carefully read the chapters on Code 1 and Code 2 to learn how P7 should be set).

4) **Are there any multiple voice parts on a staff?** If so, make sure that items that occur simultaneously have the *exact* same P3 value, and it must be exact. If you have notes which are displaced to one side of another notehead, you must use P10 to accomplish this displacement, not P3.

5) **Are there any invisible rests?** Invisible rests are sometimes overused and unnecessary. You must use invisible rests when you displace notes to the staff above or below, but often you do not need them for multiple-voice notation on a single staff. Try deleting the invisible rests and running Lineup and Justify again.

6) **Is staff one reporting less beats than the correct amount?** If so, make sure that no item (a rest or note) has a P3 value within .25 of the P3 value of a barline. In other words, if a note (or rest) and a barline have close to the same horizontal position, SCORE will not be able to discern

there *is* a note (or rest) at that position, and will not "count" it for Lineup and Justify. The solution is to move the item over a little bit. *Check any whole rests on staff one carefully.* If you use the CW command to center a whole rest, it will appear on screen in the center of the measure. But its actual P3 value may overlap a barline, and negate it when Lineup and Justify functions.

7) **Make sure that all items (particularly rests) are attached to the correct staff.** It is easy to move a rest to a different staff without changing its staff number, and this would cause an error when performing Lineup and Justify.

I have a system with a string of grace notes, and Lineup and Justify doesn't space them correctly.

First of all, for Lineup and Justify to space the gracenotes, there must be a little separation between them. Say you input staff one, then set Spacing to staff one and input staff two. If staff two had five grace notes between two notes, they might be too crowded, and not have substantially different P3 values. Try manually moving the items on the staff so that you can "see" each note (use CN to center any beams or slurs). Now try Lineup and Justify. It should function correctly. You can get around this by setting Spacing = to R during input. SCORE will allow enough space for each note, and not align the staff with any others in the file. This will insure that Lineup and Justify will function.

I have a whole note trill with a grace note at the end, but Lineup and Justify insists on moving the grace note to the next measure.

That is the default setting for Lineup and Justify. To override this, set P7 of the gracenote to -1. Lineup and Justify will ignore it, and then you may manually position it correctly.

The Page Program

I tried to run a piece through PAGE, but it stopped after page 9.

Check your file names. People sometimes name files with a numeric sequence like: PAGE1.MUS, PAGE2.MUS, PAGE3.MUS, etc. SCORE will *not* look for PAGE10.MUS after PAGE9.MUS, it will look for PAGF0.MUS (the next file in sequence). Instead, you should place a zero before the single digit numbers (PAGE01.MUS, PAGE02.MUS, PAGE03.MUS, and so on). Use the DOS REN command to rename your files.

I tried to run extract a part with PAGE, but the program stopped and gave me a message "FILE CREATION ERROR."

PAGE creates temporary files in the current directory when extracting parts. Make sure you have plenty of available disk space (on your hard disk, or on your RAM disk if you are using it to extract parts). We do not recommend using PAGE on a floppy disk. A good general guideline is to try to have as much free space on the disk as the size of the original score files for the piece.

I extracted a part from my score, but when I start to run it through the layout part of PAGE, the program quits.

You may be exceeding the memory limits of PAGE. If you are processing many files (like a 100-page orchestra score), try finding a good page turn point in the middle of the piece, and then extract the parts in two sections. First extract up to the good page turn point, and layout the part to end on an odd-numbered (right hand) page. Now extract from that point to the end of the piece. Make sure you make a note of what page number and measure number you end

the first section on, so that you can specify the correct numbers when you run the second half through PAGE. (Note: you will need two part-extractor control files to do this.)

I try to use PAGE to extract parts, but it tells me it can't find my files.

Check your DOS directory structure. Are you starting PAGE from the correct directory, where your files reside?

I try to use PAGE to extract parts, but it won't recognize my part-extractor control file.

Did you create the file in a word-processing program? If so, make sure you save it as a DOS Text file (also called an ASCII file). If you save the file as a regular word processing file (i.e. in WordPerfect format), PAGE will not be able to read the file. Check the manual for your word processing software to learn how to do this correctly, or use DOS's EDLIN to create the file.

Tip

One easy way to create a text file is to type `COPY CON` *Filename*, where *Filename* is the name of the file you wish to create. Type the text for the first line, check to make sure it is accurate, then press ENTER. Continue until you have typed all of the text. (Note: once you press ENTER, you can not go back and correct a previous line of text.) When you have finished, press F6. DOS adds a control Z character and copies the file to disk.

Printing

Some pages of my orchestra score won't print on my laserprinter.

There are two possible causes for a page not printing. If it is a large orchestra page, you may not have enough RAM in your printer to rasterize the image (the printer must create

the image in its memory before it prints it out). We have encountered this problem on PostScript printers with RAM of 2 megabytes (such as the Apple Laserwriters). The solution is to print the page in sections, then tape them together. If you upgrade your RAM, you probably will not encounter this situation. Printers with 3 megs of RAM do not seem to encounter this difficulty. Another alternative is to print the page to a PostScript file, then place it as a graphic into a program like PageMaker™ and print it from there. This method seems to work when printing, because PageMaker™ (particularly the Macintosh version) uses a different type of printer driver that sends the page in smaller, manageable sections.

The other possible reason a page may not print can be do to the contents of the file. Sometimes in the course of editing, it is possible to set a parameter to a very unusual number that is an invalid setting. How do you check this? Open the file in SCORE. Do you get any error messages when it opens? Does it say it can't find a certain library? If so, you probably have a code 9 item with an incorrect value. Check every code 9 item on the page (type ST99 9 to step through every code 9 item). Perhaps you inadvertently moved an item very far to the side (P3 = 500 or -200). This would produce an error message: Point out of bounds - Code X, where X indicates which code number the item is. Step through every one of those items in the file until you find the offending item.

SPRINT crashes when it reaches a certain item in my file.

Make a note of the item number and file name, then open the file in SCORE. Check the item, and the item immediately preceding it. (You may type I X where X is the item

number you wish to edit.) Make sure every parameter is set correctly, and that none of the higher parameters is set to a value unless they should be.

I'm trying to print PostScript files but I get an error message: FILE CREATION ERROR (or ERROR WRITING FILE Filename.

This a DOS error message that indicates you do not have enough room to create the files on your disk. (Remember that PostScript files can get quite large.) Try copying the files that you have already created to floppy disks, then delete them. Now you should have enough room to create some more PostScript files. Repeat the process as necessary.

SCORE

I'm working in SCORE and I get a message "Floating Point Error." The program returns to the DOS prompt but my music is still displayed on the screen.

Unfortunately, the only way to extract yourself from this situation is to reboot the computer (CTRL + ALT + DEL). You cannot save your work, and will lose anything that you did after the last save command. If you are working on a RAM disk, you can copy your files to another disk (and should since they will be erased when you reboot). What causes this error? It is the result of an improper math calculation, and should seldom occur.

I tried to save my file on Disk A:, but I get the message: Error reading drive A, press R to retry or A to abort and exit Score.

This means you do not have a disk in Drive A: or that the disk has not been formatted. Put a formatted disk in the drive and press R. If you do not have any formatted disks, you must press A to abort, and you will lose all of your

work. **Make sure you have a formatted disk before you attempt to save your work to a floppy disk drive.** The above is also true for other floppy drives.

When I open my file in SCORE, I get the message: Cannot find file C:\LIB\LIB??.DRW, Press Any Key to Continue.

This means that there is a Code 9 item in the file with P5 set to an incorrect value. SCORE alerts you to the fact that it cannot find a library for this item. Step through the Code 9 items in the file, and check their P5 values. One possible way to make this error is to select a hairpin (which has P5=999) and change its P1 setting to 9, thus making it a Code 9 item. Since there is no library for P5=999 in Code 9, the item would be invisible on the display, but would create an error situation.

Vector Memory Full. Use DP feature.

SCORE limits the display memory to 31,000 vectors (or less, depending on available RAM). If you have a file that requires more vectors to display on the screen (which can be the case with orchestra score files), SCORE will not be able to display the file. Use the DP command (see the Changing Screen Views Chapter) to disappear some of the staves from view. Note: if the file is far over the limit, the program may crash before you can use the DP command. In this instance, start SCORE again, and *before* retrieving the file, use the DP command. Type Z to recompute the screen, then retrieve the file.

General Error Messages

I try to run SCORE, but I get a message "Program too big to fit in memory"

If you have just installed SCORE for the first time, please refer to the installation chapter in *Using SCORE* for a dis-

cussion of RAM and how to optimize it for SCORE. If you have already installed SCORE successfully, and this is the first time you have encountered this message, then we must ask the question, "What has changed in your system?" DOS will display this message when there is not enough available RAM to run SCORE (about 570000 bytes). If you have altered your system in some manner (installed a peripheral device, added a TSR to your system, installed a Disk cache, etc.), we suggest examining your CONFIG.SYS and AUTOEXEC.BAT files to determine if their are any changes—perhaps the installation of this device altered the FILES= or BUFFERS= settings. The Installation Chapter in *Using SCORE* details some practical ways to configure your system.

File name missing of Blank. Enter file name or Unit 24? —

Unfortunately, this is a misleading message. It indicates there is an error and usually appears when you have run out of memory (in PAGE, for example). The best way to proceed is to type CTRL + C to exit to DOS

Cannot find file: C:\LIB\LIB??.DRW

This indicates that SCORE (SPRINT or PAGE) cannot find a library that the file is accessing. See above for ways to correct this.

Error Writing File xx

This indicates that the program cannot create this file on your disk. Check to make sure that there is room available on the disk.

File Creation Error

Same as "Error Writing File."

Floating Point Error

This indicates a math error and may have a variety of causes. Try to repeat the operation, and if the error occurs again, check the file for any items that have invalid parameter settings. This is often a frustrating situation, but it is a general axiom of computers that there is always a reason for something. You just need to be patient to find it.

Point Out of Bounds, Code X

This indicates some item in the file has a P3 value that is very far to the left of right of the staff. Open the file and step through every Code X item checking their P3 value.

I extracted a part with PAGE, and a Code 13 item appears in the file called "Dummy." What is it?

When PAGE creates a new layout for a piece, it sometimes needs to create temporary items. These Code 13 items (or Dummys) are part of this process, and may be deleted.

Appendix

The PREF.SCR File

When you install SCORE on your hard disk, a small DOS text file is created in the \LIB directory which contains specific preferences that you specify. This file is named PREF.SCR, and its contents will typically look something like this:

```
color 7 15 1
inches
beam tilt 10
restnum 94

User added Preferences
screen 17
Parallel
DOT 4
MIDI 1
IRQ 2
```

Throughout these manuals we have explained what these various items indicate, and also suggested when you might wish to alter them. One easy way to change the items listed below the line "user added preferences" is to run the install program and select the option "Re-install display, printer or MIDI". This option allows you to alter your choices for display type, printer(s), and MIDI interface. This portion of the installation program adds the appropriate text to the end (bottom) of your PREF.SCR file. If one already exists in your \LIB directory, then the installation program *adds* your new choices below the old ones, beginning with the line "User added Preferences". SCORE will look at the last set of user

added preferences, and use those values. This way your old settings remain in the file and may easily be restored by editing the file in a text editor or word processor.

Should you wish to manually alter any settings in this file, we'll explain what each line indicates. Remember that you must save this file as a DOS text file after making any alterations to it (select the "text only" format in your word processing program, or use EDLIN).

Color *X Y Z*

This indicates your choice for default screen colors when operating SCORE. The three numbers represent the same three numbers you type after invoking the COL command. See the installation chapter in *Using SCORE* for a detailed explanation.

Inches

This is the default measurement system used by SCORE. If you prefer to use the metric system, change this line to read "metric".

Beam tilt

This number indicates the maximum angle of any beam (while inputting) in scale steps. In addition, the EDI, FLip, and TRanspose commands use this preference to determine beam angle. A setting of 20 would mean that no beam will have an angle greater than 20 scale steps over a horizontal distance of 100 units. Of course, the average beam is much shorter, so it rarely has an angle as steep as 20 steps. The angle is calculating the difference between P4 and P5 of the beam. A setting of 10 is usually appropriate here.

Restnum 6

This indicates the font to be used when a number appears over a multiple-bar rest. Any valid two-digit font ID num-

ber will work. The default is the time-signature font, number 6, if you were generating the number by means of Code 10. Changing this to 1 would use Times-Italic instead, and so on. (See page 118 concerning Code 10 font numbers.)

Screen

This indicates your choice of display type.

0 = Tandy 2000 640 x 400
1 = Hercules - 720 x 348
2 = IBM CGA - 640 x 200
3 = IBM EGA - 640 x 350
4 = IBM EGA w/mono monitor
5 = PS/2 MCGA: 640 x 480
6 = ATT 6300 - 640 x 400
7 = EGA PLUS - 640 x 480
8 = Yamaha C1: 640 x 400
9 = C1 with ext. Hercules
10 = GENOA EGA: 800 x 600
11 = GENOA EGA: 640 x 528
12 = GENOA EGA: 912 x 480
13 = GENOA EGA: 752 x 410
14 = Video 7 - 800 x 600
15 = Video 7 - 720 x 540
16 = Video 7 - 752 x 410
17 = PS/2 VGA - 640 x 480
18 = HP VGA - 800 x 600

See the installation chapter in Using SCORE for more information regarding this.

Parallel

The port that your printer is connected to.

SERIAL = COM1
PARALLEL = LPT1 (PRN)
PARALLEL 2 = LPT2

Dot

If you are using a dot matrix printer, this will indicate what type you have selected. Note: this line is not necessary if you are using a PostScript printer.

1 = IBM Proprinter and EPSON RX/FX/LX/EX Series
2 = NEC P5/P6/P7/P9 or EPSON LQ-1500
3 = Tandy TRS CGP-220
4 = EPSON LQ-800/850/1000/1050
5 = IBM Proprinter X24/XL24
6 = FUJITSU DPL24 Series.
7 = EPSON EX or FX Wide Carriage.

Midi

If you have a midi interface, this indicates the type you have selected.

0 = None (MIDI will not be used; good for troubleshooting)
1 = MPU-401 or compatible (the default)
2 = Passport MIDI Transport
3 = IBM Music Feature
4 = Yamaha C1

IRQ

If you are using a MPU-401 MIDI interface, this line indicates the interrupt level you have selected.

2 or 9 = IRQ 2 or 9 (the default setting; must match the setting on the interface card)
3 = IRQ 3
4 = IRQ 4
5 = IRQ 5
7 = IRQ 7

IRQ 6 should never be used. IRQ 3, 4, 5, and 7 are optional settings that are sometimes used to avoid hardware conflicts. See the installation manual for your MIDI card for further information.

Index of Letter Commands

Letters for **Command Mode.**

All page numbers are for Reference Manual, except UG = User's Guide, MA = Manual Additions, GN = Guitar Notation Manual.

SA name = save all data on screen in file "name" (binary save) 220
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SC n = put up spacing scale above staff n UG-91
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ST n c1 c2 c3 = edit items on staff n - find up to 3 code numbers 182
STM n = adjust length of stems which extend above or below staff n . . . 24
STUD = adjust spacing of notes with alternating stems up, stems down . .245
sf, sfz = sforzando 104

T p1 p2 p3 p4 p5 p6 = enter text using the given parameters 141, 152
TC = enter text to be centered on notes MA-3.03
TT = allows entry of several lines of text 141
TTR = allows the read-in of an external file as text input
TAB = create guitar tablature from existing line of music GN-1.1
TR n = transpose staff n 207
TRK n = same, but prompt re. key signature always given, even if redundant
TYPE name = type the contents of disk file "name" to screen 223

UND = undelete last item deleted MA-5.04

VER = SCORE version number and program serial number MA-1.03
VJ = vertical justify 246

Z n = zoom screen image to n times the normal size 299
ZZ n = zoom to size n with last item processed at center of screen
<ctrl><pgup>/<ctrl><pgdn> = enlarge/diminish screen image
ZL n = move the "window" n% of the screen width to the left
ZR n = move the "window" n% of the screen width to the right
ZU n = move the "window" n% of the screen height upward
ZD n = move the "window" n% of the screen height downward
ZX = turn off automatic scrolling in Edit Mode 300

? n = access help for Code n (F1) 305
<home> = display top of current page at size 1 . . . . . UG-39
<end> = display bottom of current page at size 1
\ = display area of last edit
↑, ↓, **<ctrl>**→, **<ctrl>**←, **<page up>, <page down>** = move screen image
<alt>s = show full page (presumes 8½" x 11" paper)
F9/F10 = move screen image left/right

Letters for **Edit Mode.**

A = align to an item after using Set 182, UG-104
AB = abort editing (F8) 183
C = make copy of edited item, leave original unchanged 185
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CM = center meter or rehearsl number on nearest barline 121, 177
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CR = adjust curve of slur to default 65
CV = center end points of slur horizontally and vertically
CD x = center dashes between syllables of lyrics on staff x 157
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FLI = flip the item (Codes 1,5,6,9,11) MA-5.04
INC n = set arrow keys increment to n steps MA-5.03
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P n = see original value of parameter n 183
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?, F1 = access help for Code number being edited 305
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D x = move item down x steps (DI, DC, DP)
←, →, ↑, ↓ = move item left, right, up, down 1 increment unit
<shift><tab>, <tab> = move item left, right 10 steps
<page up>, <page down> = move item up, down 4 steps

The following may be used in Edit Mode *before* any parameters are changed.

ED, I, ST, ZZ, ZL, ZR, ZU, ZD

Letters for **Note Editing**

FLT = put flat on note MA-6.01
SHP = put sharp on note
NAT = put natural on note
NAC = no accidental on note
ENH (n) = enharmonic change MA-6.02
if n=1, the note will move up one step, accidentals change downward
if n=-1, the note will move down one step, accidentals change upward

Letters for **Text Editing**

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A

B

C

D

E

F

G

H

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K

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M

N

O

P

Q

R

T

U

V

W

Z

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