

KORG

Performing Synthesizer

707

OWNER'S MANUAL

INTRODUCTION

Thank you and congratulations on your purchase of the KORG 707. To obtain optimum performance from this advanced digital synthesizer, please read this manual carefully.

FEATURES OF THE KORG 707

1. DIGITAL VOICE GENERATION

The 707 features warm, digitally generated sounds, each of which combines two oscillators to create rich and complex tones. Each oscillator can be set to a variety of waveforms. By using separate EG'S (Envelope Generators) to control each oscillator's timbre and level, the character of each note can change in time, providing the random tonal variations that occur in actual acoustic instruments. Natural, expressive acoustic sounds plus exciting contemporary synthesizer voices: the 707 can do it all!

2. PROGRAMS AND COMBINATIONS

The 707 can store up to 100 programs in its internal memory. You can easily edit existing programs to make your own programs. Also available are three kinds of program combinations. The LAYER mode lets you play two programs at once across the entire range of the keyboard. The DOUBLE mode lets you assign separate programs to the upper and lower sections of the keyboard. The innovative MULTI mode allows you to select up to eight different voices, each with its own programmable volume, for real-time 8-track multi-timbral performance, using an external sequencer such as the KORG SQD-8.

3. RESPONSIVE KEYBOARD

A full 49-note keyboard (C2 -- C6) responds to your playing with Velocity Sensitivity and After Touch to control both volume and timbre. All programs can be played in full 8-note polyphony.

4. SLEEK DESIGN AND PORTABILITY

The 707, with its stylish looks, optimum controller placement, compact size, and light weight, serves as an excellent portable synthesizer/remote keyboard controller. Two sturdy strap locks on either side of the instrument are provided for attaching a shoulder strap.

5. PERFORMANCE FEATURES

A range of performance features let you add real expression to your playing. The Pitch Bend Control Wheel enables you to bend the overall pitch of the instrument and the Modulation/Volume Control Wheel lets you modulate pitch, vibrato and timbre or change the overall volume of the instrument. The operation of both Control Wheels may be reversed for performing convenience when using the 707 as a strap-on keyboard. The Performance Editor includes controllers for timbre, envelope length, portamento, and other vitally useful performance functions.

6. RAM CARD/ROM CARD

More programs and combinations are available on optional KORG ROM (Read Only Memory) cards, which can be loaded into the 707's internal memory in seconds. Also available are RAM (Random Access Memory) cards on which you can store your own programs and program combinations. ROM and RAM cards from the KORG DS-8 Digital Synthesizer can also be used with the 707.

7. FOOTSWITCH

Optional footswitches are available from KORG. These can be assigned to control a variety of functions, including program change, portamento, and sustain.

8. MIDI COMPATIBILITY

The 707 is fully compatible with MIDI (Musical Instrument Digital Interface) allowing it to interface with other MIDI devices such as sequencers, drum machines and effect units. See your KORG dealer for details on the wide range of advanced MIDI equipment available from KORG.

IMPORTANT SAFETY PRECAUTIONS

LOCATION

The 707 should not be used under the following conditions for long periods, or malfunctions may occur:

- In direct sunlight.
- In extremes of temperature or humidity.
- In sandy or dusty environments.

POWER SUPPLY

- Use only with rated AC voltage. If you intend to use your 707 in an area or country having a different voltage, be sure to use the proper transformer unit to convert to the rated voltage.
- To avoid noise or degraded sound quality, do not connect your 707 to an AC outlet or AC extension cord that is being used by other equipment.

INPUT/OUTPUT JACKS & CONNECTION CORDS

Use standard guitar-type cords with phone plugs, such as the cable supplied with your 707, for input and output connections to the rear panel. Never insert any other kind of plug into these jacks.

PREVENTING ELECTRICAL INTERFERENCE

The 707 is a sophisticated unit that uses advanced microprocessor circuitry. Therefore, it may perform erratically if exposed to electrical interference from other electrical devices and fluorescent lamps. Avoid operating the 707 near possible sources of interference. If interference appears to be causing problems, the 707's computer circuits can be reset to their initial state by turning off the 707's power and waiting 10 seconds. When you turn on the 707's power once more, normal operation should be resumed.

HANDLE GENTLY

All of the 707's keys, buttons, knobs, switches, sliders, and performance wheels are built to KORG's high standards of durability. However, they should be treated with care and sensitivity. Excessive force may cause damage.

CLEANING

Wipe the exterior of the 707 with a soft, dry cloth. Never use paint thinner, benzene or other solvents.

KEEP THIS MANUAL

Store this manual in a safe place so that it can be referred to at any time.

MEMORY BACKUP

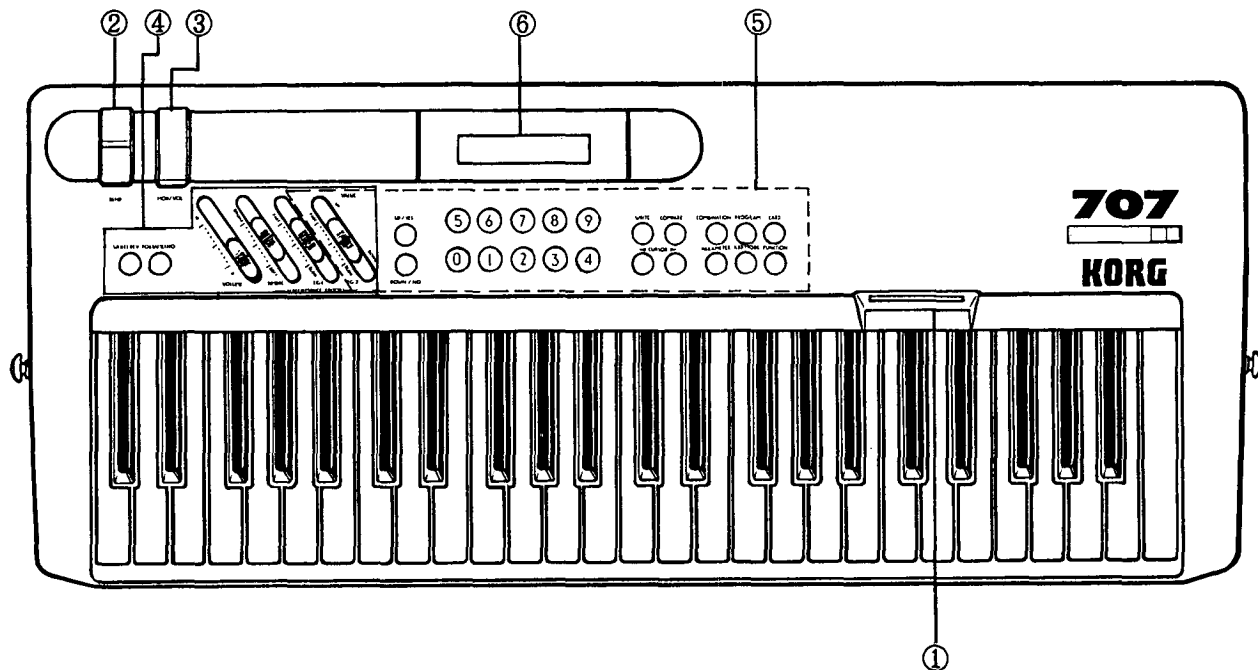
- The 707 has a backup battery that preserves the program and combination data stored in the 707's internal memory, even when the power is turned off. This battery has a life of about five years, after which time it should be replaced. Do not attempt to replace the battery yourself. Contact your local KORG dealer for battery replacement.
- To avoid risk of losing valuable program or combination data we suggest you always save this data onto an optional KORG RAM card. Then, if any data is accidentally altered or lost due to a malfunction in the 707, it can be reloaded from the RAM card in just a few seconds.

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FEATURES & FUNCTIONS

CONTROL PANEL



- ① CARD SLOT
- ② PITCH BEND WHEEL
- ③ MODULATION/VOLUME WHEEL
- ④ PERFORMANCE EDITOR CONTROLS
 - VOLUME SLIDER
 - TIMBER SLIDER
 - EG1 SLIDER
 - EG2 SLIDER (also serves as VALUE SLIDER when used in programming)
 - PERFORMANCE WHEEL REVERSE KEY
 - PORTAMENTO OFF/ON KEY
- ⑤ PROGRAMMER/MODE CONTROLS
 - VALUE SLIDER (also serves as EG2 SLIDER when used in performance)
 - UP/YES KEY, DOWN/NO KEY, NUMERIC KEYS 1 -- 9
 - CURSOR KEYS
 - COMBINATION KEY
 - PROGRAM KEY
 - CARD (INTERNAL/EXTERNAL MEMORY) KEY
 - PARAMETER KEY
 - KEYBOARD MODE KEY
 - FUNCTION KEY
 - WRITE KEY
 - COMPARE KEY
- ⑥ LCD PANEL

⑤ PHONES

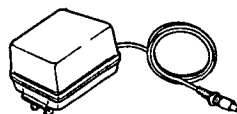
Plug stereo headphones into this jack.

[CAPTION]
KH-1000 Headphones



② AC CORD

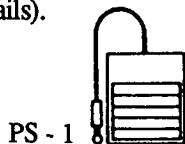
Insert the plug into a wall socket.



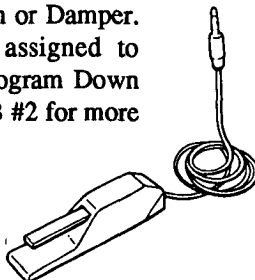
REAR PANEL AND BASIC SETUP

④ FOOTSWITCHES 1 & 2

For connection of two footswitches, both of which can be assigned to Portamento Off/On or Damper. In addition, Footswitch 1 can be assigned to Program Up, and Footswitch 2 to Program Down (see FUNCTION MODE chapter, JOB #2 for more details).



DS-1 Foot Pedal



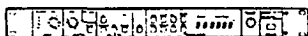
⑥ AUDIO OUTPUTS

For connection to amplifiers, mixers or stereo systems. Use outputs A and B for stereo monitoring. Use only output A/MONO for mono monitoring.

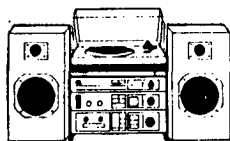
Monitor



Amplifier



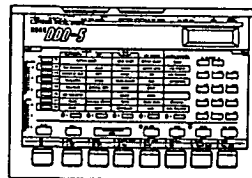
Stereo System



③ MIDI CONNECTORS

Use these jacks to connect to other MIDI equipment (see the MIDI APPLICATIONS chapter for more information).

DDD-5 Digital Drum Machine



SG-1D MIDI Keyboard



DRV-2000 Digital Reverb

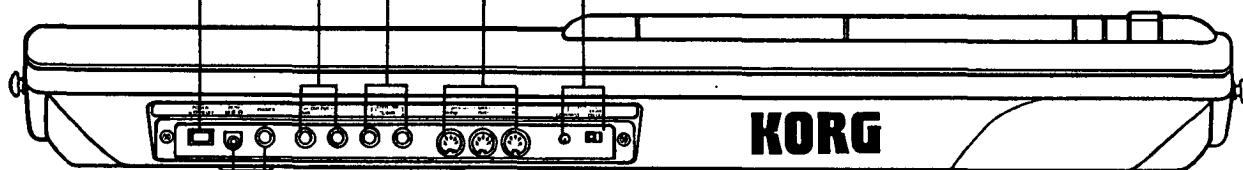


① POWER SWITCH

After everything is properly connected, turn the power on. The LCD will display "KORG 707 Performing Synth" and go through a short initialization routine, followed by the display for Program 00.

⑦ LCD CONTROLS (LIGHT ON/OFF, CONTRAST)

Two convenient LCD controls are provided for adjusting the display to the desired brightness and contrast.



SELECTING PROGRAMS AND COMBINATIONS

ABOUT PROGRAM NUMBERS

The 707 can store up to 100 different sounds in its internal memory. These sounds are called "programs", and are numbered 00 thru 99. When you want to store a program, you must assign it to a program number. When you want to recall that program, you do it by selecting the same program number. All 707 programs can be played in full 8-voice polyphony (i.e., you can play up to 8 notes at the same time).

INTERNAL/EXTERNAL PROGRAMS

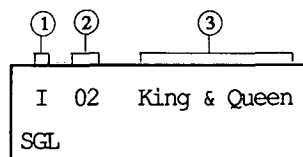
The programs stored in the 707's internal memory are called "internal" programs. You can also select programs that are stored on a handy data card, which is inserted in the 707's card slot. These programs are called "external" programs. There are two basic types of KORG data card: a ROM (Read Only Memory) card which contains 100 preset programs and 10 combinations which cannot be altered; and a RAM (Random Access Memory) card onto which you can save your own programs and combinations. For more information about data cards, see jobs #3 and #4 in the FUNCTION MODE chapter.

SELECTING A PROGRAM NUMBER

1. After turning on the 707, the Program mode will automatically be called up with program #00 selected. The PROGRAM button's LED will be lit. You can now select a program from the internal memory.
2. If you wish to select a program stored on a RAM card or ROM card, insert the card in the slot and press CARD.
3. Select the program number using the numeric keys or the UP/YES and DOWN/NO keys. Always enter a two-digit number.

RANGE: 00 -- 99.

For example, to select internal program 2, (press CARD repeatedly until you see the I, or internal memory display as shown below), then press "0" followed by "2". On the LCD you'll see:



- ① Indicates internal memory
- ② Program number
- ③ Program name

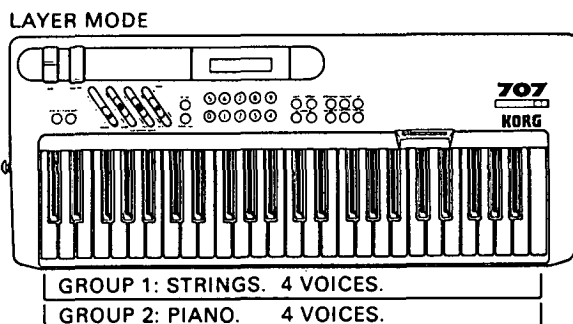
ABOUT COMBINATIONS

On the 707 you can also select "combinations" of more than one program. LAYER and DOUBLE combinations are dual-program combinations allowing you to play two sounds at the same time on the 707 keyboard. The MULTI combination uses up to eight programs, and is designed for use with a sequencer that can store up to eight separate tracks of music. These combination types make up three of the 707's four keyboard modes. Like programs, combinations can be stored on a KORG RAM card.

When a program (internal or external) is used in a combination, it is known as a "group". A variety of functions can be set for groups (for example, transposing, detuning, or assigning to one or both of the 707's outputs). See the COMBINATION PARAMETER chapter for more information.

LAYER COMBINATIONS

LAYER combinations have two groups, both of which can be played across the entire range of the 707's keyboard. For example, you could combine a piano program with a string program, so that when you press a key you hear piano and strings at the same time. In this mode, you can play up to four notes at a time.

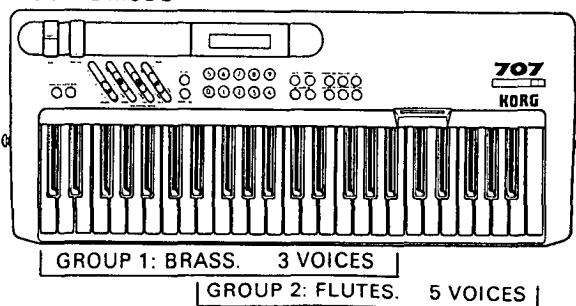


DOUBLE COMBINATIONS

DOUBLE combinations have two groups, with one (Group 1) assigned to the lower part of the 707's keyboard, and the other (Group 2) assigned to the upper part. You can select the upper note limit of Group 1 and the lower note limit of Group 2, and change the octave pitch of each group (see COMBINATION PARAMETER job #7). You can also select how many voices are assigned to each group (see COMBINATION PARAMETER job #4).

For example, you could have a brass program (with three voices) assigned to the lower part of the keyboard, and a flute program (with five voices) assigned to the upper part. In the middle part of the keyboard the two programs could overlap, to provide an interesting dual sound. If the range of the brass is too low to be useful, Group 1 can be transposed up by one or two octaves. If the range of the flutes is too high to be useful, Group 2 can be transposed down by one or two octaves.

DOUBLE MODE

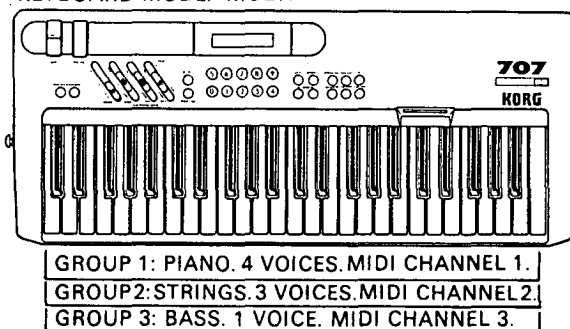


MULTI COMBINATIONS

MULTI combinations have eight groups, each of which can contain a different program and can be played across the entire range of the 707's keyboard. MULTI combinations are designed to be used with a sequencer (such as the KORG SQ-8) that can store and play back eight tracks of music data on different MIDI channels. You can select a different MIDI channel for each group (see COMBINATION PARAMETER, job #5) so that when you play the data stored in the sequencer, you hear eight tracks of music, each with a different sound.

You can also assign up to eight voices to each group (see COMBINATION PARAMETER, job #4). As the 707 has a maximum capability of 8-voice polyphony, this would mean that you might use less than eight groups. For example, you could assign four voices to Group 1, which contains a piano program; three voices to Group 2, which contains a string program and one voice to Group 3 which contains a bass program. Music data would be recorded onto three tracks of the sequencer, with each track and group set to a matching MIDI channel number.

KEYBOARD MODE: MULTI



See the MIDI APPLICATIONS chapter for more information on how to use MULTI combinations.

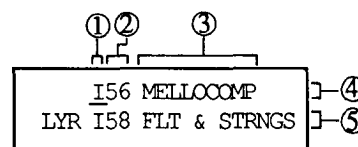
SELECTING A COMBINATION

1. After turning on the 707, press COMBINATION. You can now select a combination in internal memory.
2. If you wish to select a program combination stored on a RAM card or ROM card, insert the card in the slot and press CARD.
3. Select the combination number using the numeric keys or the UP/YES and DOWN/NO keys.

RANGE : 0--9.

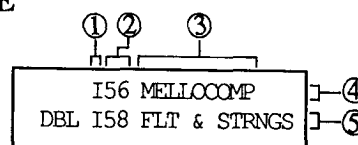
The LCD will show one of the following types of displays, according to the type of combination selected.

LAYER



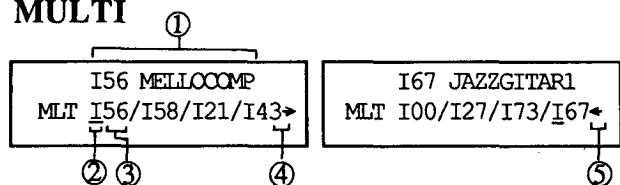
- ① Memory indicator
- ② Program number
- ③ Program name
- ④ Group 1
- ⑤ Group 2

DOUBLE



- ① Memory indicator
- ② Program number
- ③ Program name
- ④ Group 1
- ⑤ Group 2

MULTI



- ① Current program selected by cursor
- ② Memory indicator
- ③ Program number
- ④ Arrow indicating continuation of parameters on next page
- ⑤ Arrow indicating continuation of parameters on previous page

See HOW TO EDIT A COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter, to find out how to change programs that are assigned to combinations. You'll also find out how to change a combination from one keyboard mode to another (LAYER, DOUBLE or MULTI), and how to edit parameters in the combination.

FOOTSWITCH SELECTION

You can select programs by using one or two optional footswitches such as the KORG PS-1. This is convenient when you are playing live, as it leaves your hands free for playing and for manipulating the Control Wheels and Performance Editor controls. When assigned to make program changes, Footswitch 1 steps up through the programs and Footswitch 2 steps down through the programs. It's most convenient to store your programs in the order that you need them for your performance: Program 00 for Song 1, program 01 for Song 2, etc. Both footswitches can also be assigned to control Damper or Portamento On/Off (see the Function Mode chapter, Job #2 for more details).

PERFORMANCE FEATURES

The 707 features a variety of controllers and performance functions. By using them, you can add real expression and dynamics to your playing.

CONTROL WHEELS

Two Control Wheels at the top left of the front panel allow you to change the sound of the 707 as you play. The Pitch Bend Wheel lets you raise and lower the pitch by a programmable amount, as well as adjust the timbre of the sound (see the VOICE PARAMETER MODE chapter, Job #02) by moving the wheel up or down. The Modulation/Volume Wheel can be assigned to control either modulation or volume. Modulation (a regular cyclical variation in the sound) can be applied to pitch, volume, or timbre for various special effects (see the VOICE PARAMETER MODE chapter, Job #9).

PERFORMANCE EDITOR

The 707's PERFORMANCE EDITOR selection on the control panel features four sliders. These allow you to add expression to your playing.

NOTE 1:

When you turn on the 707, or when you select a program or combination, the two PERFORMANCE EDITOR keys will be reset to their default settings, as follows:

WHEEL REVERSE: NORMAL
PORTAMENTO: OFF

NOTE 2:

PORTAMENTO can also be turned ON or OFF by a foot switch connected to one of the FOOT SW connectors on the rear panel. Use FUNCTION Job #2 to assign the Portamento function to the foot switch.

TIMBRE SLIDER

The TIMBRE slider controls the timbre (tone) of the 707. In the center position, the timbre will be as programmed (see the VOICE PARAMETER MODE chapter, Jobs #3, #4, #5, and #6). Move the slider up to brighten it, down to soften it.

NOTE 3:

If the timbre has been set to its most brilliant level in the VOICE PARAMETER MODE, the TIMBRE slider cannot brighten the sound any further.

The Pitch Bend Wheel can also be used to change timbre, and may in some programs brighten the sound beyond the highest position of the Performance Editor's TIMBRE slider.

EG1, EG2 SLIDERS

EG stands for ENVELOPE GENERATOR. These sliders control the note length (overall envelope length) of the two oscillators that generate the 707's sounds. The EG1 slider controls OSC1, the EG2 slider controls OSC 2. In the center position, envelope length will be as programmed. Move the slider up to shorten envelope length, down to lengthen it.

NOTE:

These sliders affect the length of the TIMBRE EG and AMPLITUDE EG of each oscillator, NOT the PITCH EG. See VOICE PARAMETER, Jobs #2, #5 and #7 for explanations of EG's.

PORTAMENTO SWITCH

The 707 has a Portamento function, which creates a gradual change in pitch between notes, for a sliding effect. The portamento rate can be varied (see VOICE PARAMETER, Job #01).

This switch turns the Portamento ON or OFF. When turned ON, its LED lights.

ASSIGNABLE FOOTSWITCH

Allows you to use optional footswitches (such as the KORG PS-1), connected to the FOOT SW jacks on the rear panel, to make program changes, sustain sounds just as you would with a piano's damper pedal, or turn the Portamento function ON or OFF.

Use FUNCTION Job #2 to assign one of these functions to the foot switch.

CREATING PROGRAMS AND COMBINATIONS

On the 707, you can create programs and combinations to suit your own style of playing. This is done by editing individual parameters and functions to create the exact sound you are looking for.

The 707 has two special editing modes. Each mode contains a number of "jobs" (listed on the Job Table on the 707's control panel). Each job contains a number of "parameters" -- individual functions which can be turned OFF or ON, or set to a specific value.

The two modes are as follows:

VOICE PARAMETER MODE:

This mode lets you create new programs. It has nine jobs, numbered 1 thru 9, which are used to program the tone and structure of a voice. This mode also has seven additional jobs, numbered 01 thru 07, which set performance parameters (such as Control Wheel range or velocity sensitivity).

COMBINATION PARAMETER MODE:

This mode lets you set parameters when creating new program combinations. It has eight jobs, numbered 0 thru 7.

NOTE:

You do not need to enter this mode if you are only selecting programs for a new combination.

HOW TO EDIT A PROGRAM

Here we explain in detail a typical program editing job. Once you understand this example, you'll be able to edit virtually any job in the Voice Parameter mode, because most jobs are accessed and edited in the same way. (There are a few exceptions, which will be described individually in the VOICE PARAMETER MODE chapter.)

NOTE:

When selecting a mode for editing, the PROGRAM key (with the KBD MODE key) can be considered as a "pivot" point for switching between the COMBINATION and VOICE PARAMETER modes. For example, it is necessary to first select the SINGLE keyboard mode before entering the VOICE PARAMETER mode. To do this, press PROGRAM, then KBD MODE (until SINGLE appears on the LCD), then PARAMETER. Similarly, it is necessary to select a keyboard mode other than SINGLE to enter the COMBINATION PARAMETER mode. To do this, press PROGRAM, then KBD MODE (until LYR, DBL, or MLT appear), then PARAMETER.

For our example we'll select a program for editing, then select one job (Job #9: Modulation Generator) and edit its parameters. Later in this chapter we'll explain how you store the newly edited program.

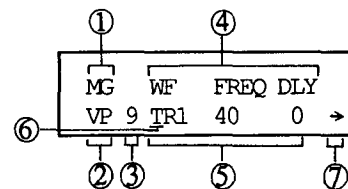
NOTE:

Setting parameters in the Combination Parameter and Function modes is done in the same way as setting parameters in the Voice Parameter mode.

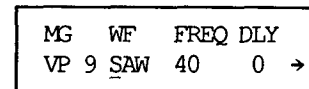
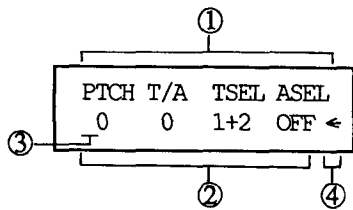
- 1) Select the program you wish to edit. Also, press KBD MODE until the 707 is set to the Single keyboard mode.
- 2) Press the PARAMETER key. Its LED will light. The LCD will show the first job in this mode (Job #1: PITCH).

PITCH	OSC1	OSC2	DTN
VP	1	8	1 0

- 3) You can now edit parameters in this job. Since for our example we're using Job #9, press Numeric key 9 (note: some jobs in the Voice Parameter mode have a two-figure number, so for them you'll have to press "0" and then another Numeric key). The LCD will display Job #9: MODULATION GENERATOR.



- ① Job name
- ② Type of parameter (VP = Voice Parameter)
- ③ Job number
- ④ Parameter names
- ⑤ Parameter values/settings
- ⑥ Cursor at first parameter
- ⑦ Arrow indicating continuation of parameters on next page



New waveform setting

- ① Parameter names
- ② Parameter values/settings
- ③ Cursor at first parameter
- ④ Arrow indicating continuation of parameters on previous page

4) These are typical job displays. The seven parameters for this job are spread out over two display "pages." The parameter type, job name, and job number appear at the left end of the first LCD page. On the top of both LCDs are the parameter names, under each of which is the current parameter value or setting. Most job displays are laid out like this one, either on one page or two. Any exceptions will be clearly explained where appropriate.

In Job #9 there are seven parameters. The cursor will appear under the first parameter, which in this case is "WF" (Waveform).

5) There are two ways to edit this parameter: the VALUE slider, or the UP/YES and DOWN/NO keys.

The VALUE slider is useful for rapid changes, especially when a parameter has a wide range of values. As you move the VALUE slider up, the parameter value increases. As you move the VALUE slider down, the parameter value decreases. Though the VALUE slider serves also as the EG 2 slider in performance, it automatically assumes the function of a parameter editor in the COMBINATION, VOICE PARAMETER, and FUNCTION modes. Pressing the PROGRAM key will automatically assign it to control EG 2.

The UP/YES and DOWN/NO keys change the parameter setting in single steps. Each time you press the UP/YES key the parameter value increases by one unit. Each time you press the DOWN/NO key the parameter value decreases by one unit.

This parameter (Waveform) has four settings (TRIANGLE, SAWTOOTH, SQUARE, SAMPLE & HOLD), so it's advisable to use the UP/YES and DOWN/NO keys to select the waveform (which will appear on the LCD as "TRI" "SAW", "SQUR" or "S/H"). For example, pressing the UP/YES key once will change the waveform to SAWTOOTH.

6) To select another parameter, use the CURSOR keys. Using the CURSOR keys will allow you to move between parameters and pages. Each time one of these keys is pressed it moves the cursor to the parameter immediately to the right or left (depending on the direction of the arrow marked above the key).

In our example, pressing the CURSOR right key will move the cursor one parameter to the right, to the "FREQ" (frequency) parameter.

7) Since this parameter has a wide value range (0 -- 63), it is quicker to edit it by using the VALUE slider. Or you can use the VALUE slider to quickly set an approximate value, then use the UP/YES and DOWN/NO keys to "fine-tune" the setting.

8) Continue moving the cursor to other parameters, and alter their values or settings in the same way, as long as you like. The parameters on the second LCD page may be viewed and edited by repeatedly pressing the CURSOR right key.

Similarly, when on the second page, return to the first page is done by repeatedly pressing the CURSOR left key. The arrow on the far right of both LCDs indicates that another page of parameters exists, and the direction of the arrow indicates which CURSOR key to use for going to the other page. (At the end of this section are some additional examples of the 707's cursor movement.)

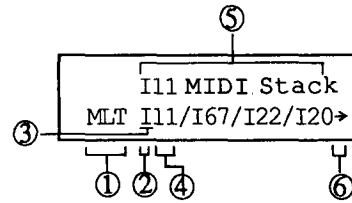
After you have edited the parameters of this job to your satisfaction, return to step 3, select another job, and edit its parameters.

NOTE:

At any time during editing, you can compare the sound of the edited program with the original by pressing the COMPARE key. The LCD will change to show the original parameter values, and a small case letter "c" will appear on the top right portion of the LCD to indicate recall of the original program. To continue editing where you left off, press COMPARE again.

MORE ABOUT THE USE OF THE CURSOR KEYS

Some job parameter displays are laid out with several rows or columns. The CURSOR keys in these jobs therefore move the cursor up and down as well as left and right; the CURSOR left key also moves the cursor up, and the CURSOR right key moves it down. The cursor always goes to the last available parameter in a column or row before moving to the next or previous column or row. Further explanation of cursor movement in these exceptional cases is given with the description of the jobs in which they appear. (See VOICE PARAMETER Jobs #02, #03, #04; COMBINATION PARAMETER Job #7; and FUNCTION PARAMETER Job #2.)



- ① Keyboard mode
- ② Indicates internal program
- ③ Cursor under first program
- ④ Program number
- ⑤ Type of memory, number, and name of cursor-selected program
- ⑥ Arrow indicating continuation of parameters on next page

In this mode, eight different programs are assigned to the eight program slots. The LCD shows the type of memory and the program number. The cursor is positioned under the first program slot.

- 3) You can now select a Program for this slot, using the normal program selection procedure (see the SELECTING PROGRAMS AND COMBINATIONS chapter).
- 4) Press the CURSOR right key to move the cursor to the next slot, and select another program. Continue moving the cursor and selecting programs until you have selected programs for all eight program slots. You can now either store the new Combination, or edit its parameters.

NOTE:

You can NOT store a Combination if it contains both internal and external (RAM or ROM card) programs. This type of combination can ONLY be used for performance, and can NOT be stored. For storing, a combination should contain ONLY internal or external programs, and should be stored to the corresponding memory. To get around this, move programs between the internal and external memories (using the program store procedure) until all selected programs are in the same memory. Then create a combination using these selected programs.

An alternative method for entering the COMBINATION PARAMETER mode, useful when selecting a specific Combination instead of a specific Program, is to press COMBINATION, then CARD (to select the type of memory), then the UP/YES and DOWN/NO keys (to select the desired combination), and, finally, PARAMETER. If the combination selected is LAYER, DOUBLE, or MULTI, you can now edit COMBINATION parameters.

HOW TO EDIT A COMBINATION

There are two basic procedures involved in editing a combination.

First, while in the Program mode, press the KBD MODE key to select which keyboard mode the combination will use, and which programs will make up the combination.

NOTE:

The SINGLE keyboard mode can also be selected, should you wish to use the 707's combination memory to store single voices. However, none of the Combination Parameter jobs can be called up for editing your SINGLE mode combination.

Second, call up the Combination Parameter mode by pressing the PARAMETER key and edit parameters in the selected combination. Setting parameters in the 707's Combination Parameter mode is done in exactly the same way as setting parameters in the Voice Parameter mode, except that you select the LAYER (LYR), DOUBLE (DBL), or MULTI (MLT) keyboard mode to get started. Refer to the previous section for details.

Here's how you carry out the first procedure:

- 1) Press PROGRAM.
- 2) Select the keyboard mode you wish to use for the new combination by pressing the KBD MODE key until the desired keyboard mode appears in the display. For example, MULTI mode.

STORING AN EDITED PROGRAM OR COMBINATION

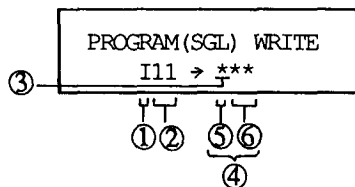
This section explains how to store an edited program so that all the new data is preserved for instant recall at any time. Combinations are stored in exactly the same way, except that in step 3 you enter a combination number (range: 0 -- 9).

- 1) Press FUNCTION.
- 2) Press numeric key 5.
- 3) Press the DOWN/NO key to turn the internal memory protect OFF.
- 4) Press FUNCTION once again to return to the edited program.

NOTE:

The above four steps, related to control of the memory protect function, are explained in more detail in the FUNCTION MODE chapter, Job. #5.

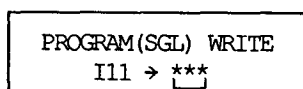
- 5) Press WRITE. The LCD will show that you wish to store the Voice Parameters of the program that you have edited (for example, internal program 00).



- ① Indicates internal program
- ② Program number
- ③ Cursor at memory position
- ④ Program destination
- ⑤ Memory type to be loaded into
- ⑥ New program number

- 6) Press CARD until "I" shows in the display if you wish to store the program in the 707's internal memory. Press CARD until "E" shows if you wish to store the program on a RAM card (a card must be inserted into the card slot for this purpose).

- 7) Use the Numeric keys to select the destination in which to store the sprogram. RANGE: 00 -- 99. The LCD will now show the complete program destination (for example, internal memory number 12).



Program destination

If you change your mind and want to enter a different program destination, simply press WRITE again and return to step 2. You'd want to do this if the selected program destination already contained a program you wish to keep.

You can also cancel the write operation, by pressing DOWN/NO.

- 8) To store the program, press UP/YES. The program will be stored in the new destination, and the LCD will return to the Program Select mode.

NOTE:

Since program and combination write operations cannot be performed with a new, unformatted RAM card, you will need to format the new RAM card before storing data. See the FUNCTION MODE chapter, Job #3, SAVE TO RAM CARD regarding formatting procedures.

QUICK GUIDES

To recap, here are quick guides to editing programs and combinations on the 707.

PROGRAM EDITING

- 1) Select a program.
- 2) Press KBD MODE to select the Single keyboard mode.
- 3) If desired, press PARAMETER to select the Voice Parameter mode, and edit the parameters. Press COMPARE to compare the edited program with the original. (This step may be omitted if you only wish to store the program to a new memory location.)
- 4) After editing, press WRITE. Then select a program storage destination (internal or external) by pressing the CARD key. Then press UP/YES to store the program.
- 5) The 707 will return to the Program Select mode.

COMBINATION EDITING

- 1) Press PROGRAM, and select a keyboard mode.
- 2) Assign new programs to groups within the combination, by moving the cursor to each group and selecting programs.
- 3) If desired, press PARAMETER to select the Combination parameter mode, and edit parameters. (This step can be omitted).
- 4) After editing, press FUNCTION and turn the memory protect off. Press WRITE, then select a combination storage destination (internal or external) using the CARD key. Then press UP/YES to store the combination.
- 5) The 707 will return to the Combination Select mode.

THE VOICE PARAMETER MODE

This chapter describes in detail the jobs and parameters available in the Voice Parameter mode. (Refer to the CREATING PROGRAMS AND COMBINATIONS chapter for descriptions of the procedures used for selecting and editing jobs and parameters. Any exceptions to these procedures will be described in this chapter.)

The Voice Parameter mode is selected by pressing PARAMETER (after first selecting the program that you wish to edit, and setting the 707 to the SINGLE keyboard mode by pressing KBD MODE).

Newly edited programs should be stored, or they will be lost as soon as another program is selected. See STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter.

Jobs available in the Voice Parameter mode are as follows:

JOB #1: PITCH

FUNCTIONS

- 1) To set the pitch of OSC 1 and OSC 2. Oscillator pitch is measured in harmonic series, relative to organ footages. A pitch of 1 is comparable to an 8 foot pipe; a pitch of 2 indicates a 4 foot pipe; a pitch of 0.5 indicates a 16 foot pipe, etc.
- 2) To set the amount of detune. This adds richness to any voice by slightly altering the tuning of OSC 2 relative to OSC 1.

PARAMETERS

PITCH	OSC1	OSC2	DTN
VP 1	_ 8	1	0

OSC 1: Pitch of OSC 1.

RANGE: 0.5 -- 15.

OSC 2: Pitch of OSC 2.

RANGE: 0.5 -- 25.

DTN: Detuning.

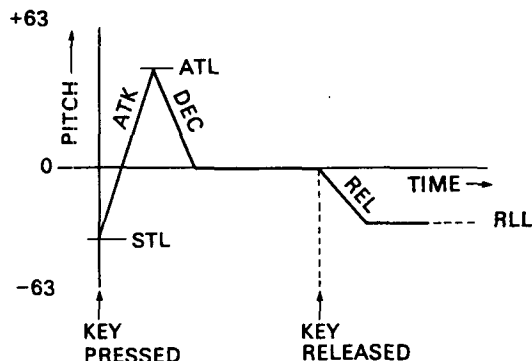
RANGE: 0 -- 3.

JOB #2: PITCH EG

FUNCTION

The pitch envelope generator sets how the pitch of the oscillators will change over time, related to the voice's attack, sustain and decay.

PITCH EG GRAPH



Used subtly, the Pitch EG can add expression and feel to acoustic-sounding voices. Higher settings can create wild effects in synth-type voices.

PARAMETERS

PEG	STL	ATK	ATL	DEC	REL	RLL
VP 2	_ 0	0	0	_ 0	0	0

STL: Start level. The pitch at which the voice will start when a note is played.

RANGE: ± 63 (0 is standard pitch).

ATK: Attack rate. The rate at which the pitch will change from the Start level to the Attack level.

RANGE: 0 -- 63.

ATL: Attack level. The peak level of the pitch.

RANGE: ± 63 .

DEC: Decay Rate. The rate at which the pitch will return from the Attack level to the standard level, while a key is held down.

RANGE: 0 -- 63.

REL: The rate at which the pitch will change to the Release level after a key is released.

RANGE: 0 -- 63.

RLL: Release level. The level to which the pitch will fall after a key is released.

RANGE: ± 63 .

JOB #3: OSC 1 WAVEFORM

FUNCTIONS

1. To select a waveform for OSC 1.
2. To select a variety of tonal effects for OSC 1.
3. To set keyboard tracking for OSC 1, so its tone will change over the range of the keyboard.

PARAMETERS

WF1	TYPE	SPCT	RING	
VP	3	<u>3</u>	1	0 →

LIMIT	KBD	
<u>OFF</u>	0	←

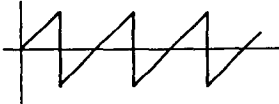
TYPE: The type of waveform.
RANGE: 1 (Sawtooth), 2 (Square), 3 (Bright Sawtooth) and 4 (Bright Square).

NOTE:

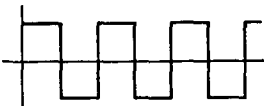
When OSC 2 is set to XMOD, no sound is output from OSC 1.

SAWTOOTH/SQUARE WAVES

1. SAWTOOTH



2. SQUARE



SPCT: Spectrum. Alters the resonance of the tone, from a full, bassy timbre to a bright, high timbre.
RANGE: 1 -- 8.

RING: Ring modulation. A special effect that can be used to create metallic sounds. Ideal for bell or cymbal voices.
RANGE: 0 -- 3.

LIMIT: Limits the amount of timbre modulation created by the Control (Modulation) Wheel, by After Touch, or by the Timbre EG (see job #5). When turned OFF, modulation can be increased to produce noise-type voices, especially if the OSC 2 waveform type is set to XMOD.
RANGE: ON, OFF.

KBD: Keyboard tracking. Sets the amount by which the timbre of OSC 1 will change over the range of the keyboard. When activated, sounds the tone will brighten as higher notes are played, and soften as lower notes are played.
RANGE: 0 -- 3.

JOB #4: OSC 2 WAVEFORM

FUNCTIONS

The functions of this job are similar to job #3 for OSC 1, except as noted below.

PARAMETERS

WF2	TYPE	SPCT	RING	
VP	4	<u>XMD</u>	2	0 →

LIMIT	KBD	
<u>ON</u>	2	←

TYPE: The type of waveform.
RANGE: 1 (Sawtooth), 2 (Square), and XMOD (OSC 1 modulates OSC 2, to produce complex waveforms).

NOTE:

When XMOD is selected, no sound is output from OSC 1, since it is only used to modulate OSC 2.

- All other parameters in this job are identical to job #3 (OSC 1 WAVEFORM).

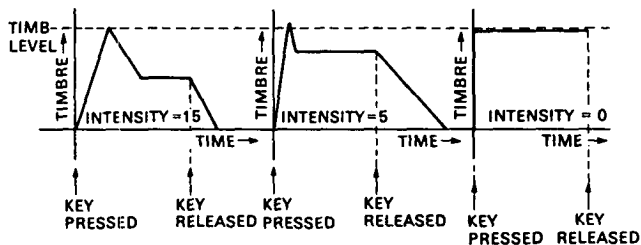
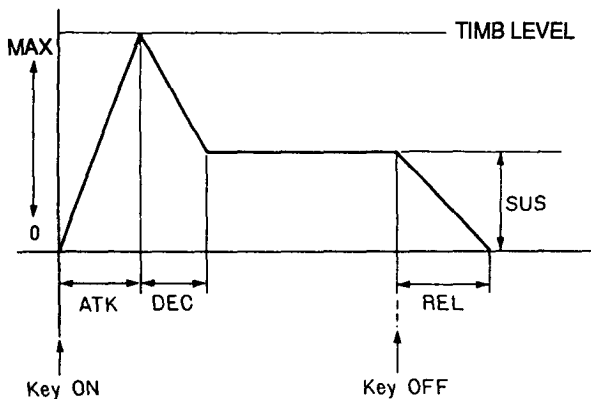
JOB #5: OSC 1 TIMBRE EG

FUNCTIONS

The timbre envelope generator allows you to:

1. Set how the timbre of OSC 1 will change over time, related to the voice's attack, decay, sustain and release.

TIMBRE EG GRAPH



- Set keyboard tracking for OSC 1, so its timbre EG will change over the range of the keyboard.

PARAMETERS

TEG1	TIMB	INT	KBD		ATK	DEC	SUS	REL	
VP	5	99	12	0 →	5	15	15	15	←

TIMB: Timbre. Sets the peak level of the timbre EG. At the minimum setting OSC 1 becomes a pure sine wave. At the maximum setting, maximum tonal variation is possible. This function can be limited to avoid noise-type timbres by setting the LIMIT parameter to ON (see job #3).
RANGE: 0 -- 99

INT: Intensity. Sets the intensity of timbre modulation by the timbre EG. At the minimum setting, no tonal variation occurs. The voice becomes organ-like, as set by the Timbre parameter. At the maximum setting; full modulation occurs as programmed.
RANGE: 0 -- 15.

The following graphs show the effect of the Intensity parameter.

KBD: Keyboard tracking. Sets the amount by which the timbre EG rates of OSC 1 changes over the range of the keyboard. The timbre EG rates will shorten as higher notes are played, and lengthen as lower notes are played.
RANGE: 0 -- 3.

ATK: Attack rate. The rate at which timbre increases (becomes brighter) to the Timbre setting when a key is pressed.
RANGE: 0 -- 31.

DEC: Decay Rate. The rate at which timbre decreases (becomes softer) from the Timbre setting to the Sustain level, while a key is held down.
RANGE: 0 -- 31.

SUS: The level at which timbre remains while a key is held down.
RANGE: 0 -- 15.

REL: The rate at which timbre decreases after a key is released.
RANGE: 0 -- 15.

JOB #6: OSC 2 TIMBRE EG

The functions and parameters of this job are identical to job #5 OSC 1 TIMBRE EG, as applied to OSC 2.

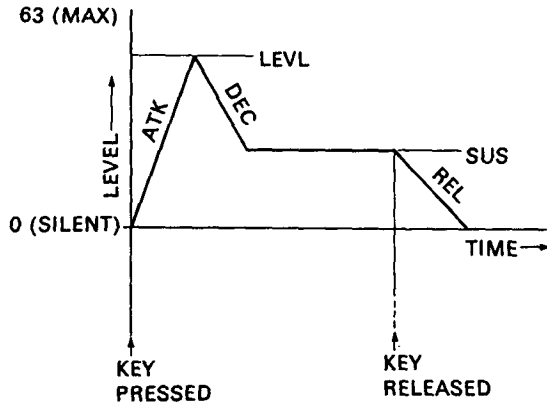
JOB #7: OSC 1 AMPLITUDE EG

FUNCTIONS

The amplitude envelope generator allows you to:

- Set how the level (volume) of OSC 1 changes over time, in terms of attack, decay, sustain and release. This allows you to recreate the natural "shape" of acoustic sounds, or create unique sound shapes of your own.

AMPLITUDE EG GRAPH



- Set keyboard tracking for OSC 1, so that its amplitude EG rates change over the range of the keyboard.

PARAMETERS

AEG1	LEVL	KBD	ATK	DEC	SUS	REL
VP 7	<u>17</u>	0 →	<u>0</u>	20	0	10 ←

LEVL: Level. Sets the peak level of OSC 1. At the minimum setting, OSC 1 is silent. At the maximum setting, maximum level variation occurs.

RANGE: 0 -- 63.

KBD: Keyboard tracking. Sets the amount by which the amplitude EG rates of OSC 1 changes over the range of the keyboard. The amplitude EG rates will shorten as higher notes are played, and lengthen as lower notes are played.

RANGE: 0 -- 3.

ATK: Attack rate. The rate at which level increases to the Level setting when a key is pressed.

RANGE: 0 -- 31.

DEC: Decay Rate. The rate at which level decreases from the Level setting to the Sustain level while a key is held down.

RANGE: 0 -- 31.

SUS: The level at which the sound remains while a key is held down.

RANGE: 0 -- 15.

REL: The rate at which level decreases after a key is released.

RANGE: 0 -- 15.

NOTE:

If the sound should become distorted when playing a chord, due to the tone setting, lower the LEVEL parameters of OSC 1 AMPL EG and OSC 2 AMPL EG (Jobs #7 and #8).

JOB #8: OSC 2 AMPLITUDE EG

The functions and parameters of this job are identical to job #7 (OSC 1 AMPLITUDE EG), as applied to OSC 2.

JOB #9: MODULATION GENERATOR

FUNCTION

To add vibrato, wah-wah and tremolo to a selected voice, by modulating the voice with an LFO (Low Frequency Oscillator).

NOTE:

The After Touch function and the Modulation/Volume Wheel let you add modulation even if the modulation level is set at zero (see parameters PTCH and T/A in this job).

PARAMETERS

MG	WF	FREQ	DLY	PTCH	T/A	TSEL	ASEL
VP 9	<u>SAW</u>	37	20 →	<u>0</u>	11	OFF	1+2 ←

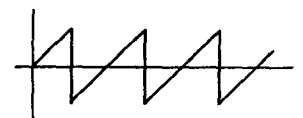
WF: Waveform of the LFO.

RANGE: TRIANGLE, SAWTOOTH, SQUARE, SAMPLE & HOLD.

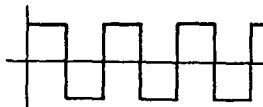
TRIANGLE



SAWTOOTH



SQUARE



SAMPLE & HOLD



FREQ: Frequency of the LFO (modulation speed).
RANGE: 0 -- 63.

DLY: Modulation delay time. Can be set so the modulation "fades in" gradually after you play a note. If you set a long delay time, modulation will only be heard on long notes; short notes will have little or no modulation.
RANGE: 0 -- 31.

PTCH: Amount of vibrato (pitch modulation).
RANGE: 0 -- 63.

T/A: Amount of wah-wah and tremolo (timbre/amplitude modulation)
RANGE: 0 -- 63.

TSEL: Timbre Select. Apply wah-wah to OSC 1, OSC 2 or both.
RANGE: OFF, 1, 2, 1+2.

ASEL: Amplitude Select. Apply tremolo to OSC 1, OSC 2 or both.
RANGE: OFF, 1, 2, 1+2.

JOB #01: PORTAMENTO

FUNCTION

To set the rate and mode of portamento, creating a pitch "sliding" effect between notes.

PARAMETERS

PORTAMENT	MODE	TIME
VP01	1	32

MODE: This parameter sets one of two types of portamento for each ASSIGN mode (see job #05). These are as follows:

In the POLY mode, portamento mode 1 creates a random type of portamento, where notes seem to slide up and down in random fashion. With portamento mode 2, the slide will always begin from the last note that was played.

In the UNISON mode, portamento mode 1 creates a pitch slide between every note, no matter how you play. With portamento mode 2, the slide only happens between notes which are played legato (i.e., notes that are played before the previous note is released).

TIME: Sets the speed of the pitch slide. (Total slide time will depend on the pitch distance between notes.)
RANGE: 0 -- 63.

JOB #02: CONTROL WHEELS

FUNCTIONS

1. To set the pitch bend range of the Pitch Bend Wheel. Moving the wheel up raises the pitch, and moving it down lowers the pitch.

Note:

The wheel's operation can be reversed (up = lowered pitch; down = raised pitch), by pressing the WHEEL REVERSE key, to suit individual playing styles or while using the 707 as a shoulder-worn, remote keyboard. All descriptions of wheel operation that follow are with the Wheel Reverse key OFF.

2. To set the timbre range of the Pitch Bend Wheel. This effect can be applied with or without pitch bend. Up = bright (timbre level increased); down = soft (timbre level decreased).
3. To set the pitch and timbre ranges of the Modulation/Volume Wheel. Pitch modulation (or vibrato) and Timbre modulation (or wah-wah) increase as the wheel is moved up and decrease as it is moved down.
4. To set the modulation speed of the Modulation/Volume Wheel. The waveform and frequency of modulation is set using VOICE PARAMETER Job #9, MODULATION GENERATOR.

PARAMETERS

WHL BEND:PITCH	2
VP02	TIMBRE 0 →

MOD:P.INT	2	SPEED	0
T.INT	0		←

Parameters in this job are arranged in vertical columns. The cursor is moved up and down each column before moving to the next or previous column. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

BEND: PITCH. Pitch bend range of the Pitch Bend Wheel.
RANGE: 0 -- 12 semitones in either direction.

BEND: TIMB. Timbre range of the Pitch Bend Wheel.
RANGE: 0 -- 3.

MOD: SPEED. Modulation speed range of the Modulation/Volume Wheel.
RANGE: 0 -- 3.

JOB #03: VELOCITY

FUNCTIONS

To set how much the Timbre EGs and Amplitude EGs of OSC 1 and OSC2 respond to key velocity. You can set these functions so that the harder you play a note, the brighter (Timbre EG) and/or louder (Amplitude EG) it becomes.

PARAMETERS

VEL	TEG1_6	TEG2	0
VP03	AEG1_4	AEG2	4

Parameters in this job are arranged in horizontal rows. The cursor is moved left and right in each row before moving to the next or previous row. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

TEG1: Timbre EG 1. Sets how much key velocity will affect the Timbre EG of OSC 1.
RANGE: 0 -- 7.

TEG2: Timbre EG 2. Sets how much key velocity will affect the Timbre EG of OSC 2.
RANGE: 0 -- 7.

AEG1: Amplitude EG 1. Sets how much key velocity will affect the Amplitude EG of OSC 1.
RANGE: 0 -- 7.

AEG2: Amplitude EG 2. Sets how much key velocity will affect the Amplitude EG of OSC 2.
RANGE: 0 -- 7.

JOB #04: AFTER TOUCH

FUNCTIONS

To set how much the intensity of the vibrato, timbre, OSC 1 level and OSC 2 level are affected by After Touch. You can set these functions so that the harder you press on a key after playing it, the stronger the vibrato becomes (Pitch Modulation), the brighter the timbre becomes (Timbre) and/or the louder each oscillator becomes (Amp 1 and Amp 2).

PARAMETERS

AFTR	PMOD_3	TIMB	0
VP04	AMP1_0	AMP2	0

Parameters in this job are arranged in horizontal rows. The cursor is moved left and right in each row before moving to the next or previous row. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

PMG: Pitch Modulation Generator. Sets how much vibrato is applied to OSC 1 and OSC 2 by After Touch. The rate and type of vibrato are set using job #9 MODULATION GENERATOR.
RANGE: 0 -- 7.

TIMB: Timbre. Sets how much the timbre of OSC 1 and OSC 2 is increased by After Touch.
RANGE: 0 -- 7

AMP 1: OSC 1 amplitude. Sets how much the level of OSC 1 is increased by After Touch.
RANGE: 0 -- 7.

AMP 2: OSC 2 amplitude. Sets how much the level of OSC 2 is increased by After Touch.
RANGE: 0 -- 7

JOB #05: ASSIGN MODE

FUNCTIONS

1. To set the 707 to play in 8-note polyphonic mode (POLY) or in monophonic UNISON mode, where eight voices sound together when a single key is pressed.
2. In the UNISON mode only, to set TRIGGER and DETUNE functions.

The TRIGGER function, when set to MULTI, lets you trigger the envelope generator every time a note is played in the UNISON mode (even if the previous note is still held; i.e., no Note Off signal has been sent). If set to SINGLE, the envelope generators are triggered only if the previous note has first been released (i.e., a Note Off signal has been sent).

The DETUNE function allows you to detune the pitches of the eight voices in the UNISON mode. This provides a rich chorus effect, with variable depth.

NOTE:

When using the LAYER keyboard mode, the key assignment programmed for Group 1 affects Group 2 as well, regardless of Group 2's assignment. For example, when Group 1 is in the POLY mode, Group 2 is played in POLY even if it is set for UNISON in this job.

PARAMETERS

POLY mode display:

ASS MODE VP05 POLY

UNISON mode display:

ASS MODE TRIG DTN VP05 UNSN MLTI 3

TRIG: Trigger.
RANGE: SINGLE, MULTI.

DETUNE:
RANGE: 0 -- 3

JOB #06: PROGRAM NAME**FUNCTION**

To set a new name (of up to 10 characters) for a program.

PARAMETERS

VOICE NAME VP06 FANTASIA 1

When you enter this job, the cursor appears at the first character space. To select a character, use the VALUE slider and/or the UP/YES and DOWN/NO keys. The available characters are as follows:

	!	"	#	\$	%	&	'	()	*	+
,	-	.	/	0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?	@	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	{	|	}	→	←

Once you select a character, use the CURSOR keys to move the cursor to another character and select a character for it as described above. Do this until you have finished entering the name of your choice.

JOB #07: OCTAVE**FUNCTION**

To set the octave transposition of the program. Since the keyboard of the 707 is one octave shorter than most synthesizer keyboards, a programmable octave setting is provided for playing programs in the desired range.

NOTE:

This job has no effect on the MIDI note number that is transmitted. For example, a C3 played in the LOW octave setting will actually be one octave lower in the audio output, or a C2 note. Any MIDI devices connected to the 707, however, will respond to the note as a C3.

PARAMETERS

OCTAVE VP07 LOW

The normal range of the 707's keyboard is C2 - C6.

RANGE: LOW (C1 - C5), MIDDLE (C2 - C6), HIGH (C3 - C7).

	KORG PERFORMING SYNTHESIZER 707 PRELOAD PROGRAM LIST	
--	---	--

PROGRAMS

*KEYBOARDS	*MIDI STACKS	*ORGANS	*BELLS	*BRASS
00 Tine Piano	01 Wonderland	02 King&Queen	03 Log&Mallet	04 BrssEnsmbl
10 Skiboard 1	11 Midi Stack	12 Jazz Organ	13 Steel Drum	14 Brass Sect
20 WavePiano	21 Double 707	22 Soap Opera	23 GenderDrum	24 FrenchHorn
30 Clav.	31 Bell+Brass	32 Rock Organ	33 Vibes	34 Bassoon
40 Reed Piano	41 Bell&Synth	42 PipeOrgan1	43 Marimba	44 Clarinet
50 Bell Grand	51 Fantasy 2	52 Drawbars	53 Celeste	54 40's Saxes
60 Harpsichrd	61 MidiMallet	62 Perc Organ	63 AfroMallet	64 707 Brass
70 Piano 1	71 Fantasy 1	72 SynthVocal	73 Kalimba	74 SnapBrass
80 Piano 2	81 Mallet+Pad	82 Org&Synth	83 Space Bell	84 Trumpets
90 Muted Clav	91 E. P+Strngs	92 PipeOrgan2	93 St. Mary's	94 Flute

*SOLOS	*ANALOG SOUNDS	*GUITAR & BASS	*STRINGS	*PERCUSSIONS
05 LazerSynth	06 India	07 Slap Bass	08 SoloViolin	09 ElecDrum
15 Harmonica	16 SqrWavePdl	17 Lazer Bass	18 Bell&Strgs	19 BassDrumC2
25 Synth Lead	26 HybridKeys	27 Round Bass	28 PizzChiff	29 CongaG2+C3
35 Pop Lead	36 Chunga	37 AnalogBass	38 Orchestra	39 Racketball
45 Rock Lead	46 What'sit	47 Harp	48 Strings&HC	49 Cowbell
55 GuitarLead	56 MelloComp	57 NylonGitar	58 Flt&Strngs	59 TomReverb
65 SquareLead	66 Envelopes	67 JazzGitar1	68 BowStrings	69 Snare
75 Mini Solo	76 Mr. Analog	77 MuteGuitar	78 Orchestra2	79 Handclaps
85 Wah Lead	86 SynRise	87 Banjo	88 Cellos	89 Hi Hat
95 Delay Line	96 ¥¥ 707 ¥¥	97 HeavyMetal	98 EasyStreet	99 The Storm

COMBINATIONS

0 MULTI	07 Slap Bass	/00 Tine Piano	/30 Clav.	/39 Racketball
	19 BassDrumC2	/80 Hi Hat	/11 Midi Stack	/35 Pop Lead
1 MULTI	19 BassDrumC2	/69 Snare	/89 Hi Hat	/59 TomReverb
	39 Racketball	/49 Cowbell	/29 CongaG2+C3	/09 ElecDrum
2 LAYER	24 FrenchHorn			
	18 Bell&Strgs			
3 LAYER	78 Orchestra2			
	38 Orchestra			
4 LAYER	46 What'sit			
	11 Midi Stack			
5 DOUBL	27 Round Bass	/67 JazzGitar1		
6 LAYER	14 Brass Sect			
	84 Trumpets			
7 DOUBL	07 Slap Bass	/26 HybridKeys		
8 LAYER	08 SoloViolin			
	55 BowStrings			
9 MULTI	37 AnalogBass	/87 Banjo	/23 GenderDrum	/66 Envelopes
	97 HeavyMetal	/11 Midi Stack	/27 Round Bass	/95 Delay Line

THE COMBINATION PARAMETER MODE

This chapter describes, in detail, the jobs and parameters available in the Combination Parameter mode. (See the CREATING PROGRAMS AND COMBINATIONS chapter for descriptions of the procedures used for selecting and editing jobs and parameters. Any exceptions to these procedures will be described in this chapter.)

The Combination Parameter mode can be selected in two ways: 1> By pressing COMBINATION, selecting the combination you wish to edit, and then pressing PARAMETER to edit the combination; 2> by pressing the KBD MODE key and selecting any keyboard mode other than SINGLE, and then pressing PARAMETER to edit a new combination.

Newly edited combinations should be stored, or they will be lost as soon as another combination or program is selected. (See STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter.)

Not all jobs in the Combination Parameter mode can be called for all keyboard modes, as shown in the following chart.

"Y": can be called; "N": cannot be called.

JOB	LAYER	DOUBLE	MULTI
#0: Controller	Y	Y	Y
#1: Modulation Generator	Y	Y	Y
#2: Pan	Y	Y	Y
#3: Volume	Y	Y	Y
#4: Number of Voices	N	Y	Y
#5: Receive Channel	N	N	Y
#6: Interval/Detune	Y	Y	N
#7: Key Split/Octave Shift	N	Y	N

NOTE:

If you try to call a Combination Parameter job that cannot be called from the current keyboard mode, the LCD will show "UNAVAIL IN THIS KBD MODE". Select the correct keyboard mode, press Combination Parameter and try again.

Parameter selection will only be described for one keyboard mode in each job. For example, job #6 (NO. OF VOICES) can be selected in either the DOUBLE or MULTI mode, but instructions will be given only for selecting the number of voices in the DOUBLE mode. Operation is exactly the same for the MULTI mode, except that eight groups are available instead of two, and the parameters are displayed on two separate pages.

Jobs available in the Combination Parameter mode are as follows:

JOB #0: CONTROLLER

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

1. To select which program group's controllers will be used to control the combination. Controllers include PITCH BEND WHEEL, MODULATION WHEEL, AFTERTOUCH, and FOOTSWITCHES 1 and 2. The program assigned to the selected ("source") group contains the controller parameter settings.
2. To select which program groups in a combination will receive controller signals.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

CTL SRC 1: 2:
CPO _1 O N OFF

SOURCE: Select which program group's controllers control the combination.

RANGE: Groups 1 -- 2 (LAYER, DOUBLE modes), Groups 1 -- 8 (MULTI mode).

The LCD also shows the group numbers (1 and 2 in the example shown, 1 thru 8 for the MULTI mode). You can set the controller effect either ON or OFF for each group.

NOTE:

In the MULTI mode, MIDI data received from controllers (such as modulation wheels) or after touch (from a remote keyboard, for example) is received at the channel of the group selected here. All groups are influenced by this data.

JOB #1: MODULATION GENERATOR

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

1. To select which group's Modulation Generator will control the combination. The program assigned to the selected ("source") group contains the Modulation Generator settings.
2. To select which groups in a combination will receive Modulation Generator signals.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

MG SRC 1: 2:
CP1 <u>1</u> O N O N

SOURCE: Select which group's Modulation Generator will control the combination.
RANGE: Groups 1 -- 2 (LAYER, DOUBLE modes), Groups 1 -- 8 (MULTI mode).

The LCD also shows the group numbers (1 and 2 in the example shown, 1 thru 8 for the MULTI mode). You can set the Modulation Generator effect either ON or OFF for each group.

JOB #2: PAN

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTION

To assign each group to one or both of the 707's outputs. If output A is monitored on the left, and output B on the right, this would allow you to hear the group in the left (A), right (B), or center (A+B) positions in the stereo image.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

PAN	1: 2:
CP2	<u>A+B</u> B

Groups are numbered 1: and 2: (LAYER, DOUBLE modes) or 1: thru 8: (MULTI mode). Set the PAN for each group.

RANGE: A, B, A+B

JOB #3: VOLUME

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

To set the volume for each group.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

VOLUME 1: 2:
CP3 <u>63</u> 63

RANGE: 0 - 63

JOB #4: NO. OF VOICES

KEYBOARD MODE: DOUBLE, MULTI

FUNCTION

To assign the number of voices to each group. The 707 has a limit of 8 voices.

PARAMETERS

The following LCD display appears when the DOUBLE mode is selected.

NoVOICE 1: 2:
CP4 <u>4</u> 4

Assign voices to each group (group numbers are 1: and 2: in the DOUBLE mode, 1: thru 8: in the MULTI mode). Total number of voices available: 8.

RANGE: 0 -- 8

JOB #5: RECEIVE CHANNEL

KEYBOARD MODE: MULTI

FUNCTION

To assign MIDI channels to each of the eight groups, so they can be individually controlled by MIDI data from an external MIDI device.

PARAMETERS

RECV ch 1: 2: 3:	4: 5: 6: 7: 8:
CP5 _1 2 3 →	_4 5 12 13 6 ←

Groups are numbered 1: thru 8:. Set the MIDI Receive Channel for each group.

RANGE: 1 -- 16.

JOB #6: INTERVAL/DETUNE

KEYBOARD MODE: LAYER, DOUBLE

FUNCTIONS

1. To raise the pitch of Group 2 in semitone steps up to 12 semitones (1 octave).
2. To detune Group 2 (slightly alter its pitch) by up to ±25 cents (1 cent = 1/100th of a semitone).

PARAMETERS

INTERVAL	DETUNE
CP6 _0	2

INTERVAL: The amount that Group 2's pitch is raised.

RANGE: 0 -- 12 semitones.

DETUNE: The amount that Group 2 is detuned.

RANGE: -31 -- +32.

JOB #7: KEY SPLIT/OCTAVE SHIFT

KEYBOARD MODE: DOUBLE

FUNCTIONS

1. To assign the two groups to different sections of the keyboard. Group 1 can be assigned to the lower part of the keyboard, and its upper note limit set. Group 2 can be assigned to the upper part of the keyboard, and its lower note limit set.

NOTE:

The range of the 707 keyboard is C2 -- C6. For controlling external MIDI devices, note limits can be set anywhere from C1 to C8. Bar graphs on the LCD provide a visual representation of the note range, from C1 to C8 (one block indicates one octave).

2. To alter the pitch of either or both of the two groups, by one or two octaves.

PARAMETERS

SPLIT 1: B 3 III	OCT SHIFT 1: +1
CP7 2: C 4 III →	2: 0 ←

Parameters in this job are arranged in vertical columns. The cursor is moved up and down each column before moving to the next or previous column. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

KEY SPLIT 1: Set the upper note limit of Group 1.
RANGE: C1 -- C8.

KEY SPLIT 2: Set the lower note limit of Group 2.
RANGE: C1 -- C8.

OCT SHIFT 1: Raise the pitch of Group 1 by one or two octaves.
RANGE: 0, +1, +2.

OCT SHIFT 2: Lower the pitch of Group 2 by one or two octaves.
RANGE: 0, -1, -2.

THE FUNCTION MODE

Settings in this mode are made the same way as in the Voice Parameter mode (see the CREATING PROGRAMS AND COMBINATIONS chapter). However, Function mode settings do not need to be stored -- they are remembered by the 707 as soon as they are set. Function settings are global; this means that the Function value that you set while in one program will be active for ALL programs.

Press FUNCTION to enter the Function mode. After setting functions, press FUNCTION again to return to where you were.

NOTE:

You can enter the FUNCTION mode from any other mode. However, when you leave the FUNCTION mode, you automatically return to the previous mode. For example, if you enter FUNCTION from PROGRAM, you can return to PROGRAM either by pressing the PROGRAM key or by pressing the FUNCTION key again.

Jobs available in the Function mode are as follows:

JOB #0: MASTER TUNE

FUNCTION

To tune the pitch of the 707 (in order to match the pitch of accompanying instruments).

DISPLAY

TUNE	|	
0 b	|	#

Move the cursor to the left to flatten (lower) the pitch, or to the right to sharpen (raise) the pitch. When the cursor is centered, the 707 is at standard Concert Pitch (A = 440 Hz).

RANGE: ±50 cents.

JOB #1: TRANSPOSE

FUNCTION

To alter the pitch of the 707, in semitone steps, for automatic transposing to any key.

DISPLAY

TRANSPOSE	|	
1 C = C -	|	+

Use the UP/YES and DOWN/NO keys to move the lower bar to change the pitch; moving the bar to the left lowers the pitch, and to the right raises the pitch. When the cursor is centered the 707 is at normal pitch. The letter following the equal sign indicates the amount of key change from the center key of C.

RANGE: ±12 semitones (1 octave).

JOB #2: FOOTSWITCH 1, 2 ASSIGN

FUNCTION

To assign optional footswitches (such as the KORG PS-1 or PS-2 Footswitch) to execute Program Up (Footswitch 1), Program Down (Footswitch 2), Portamento On/Off, or Damper On/Off.

DISPLAY

FOOT SW 1:DAMPER
2 2:PROG DOWN

Parameters in this job are arranged in a vertical column.

The cursor is moved up and down the column by pressing the CURSOR keys. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

The footswitch can be assigned to one of the following functions:

PROGRAM UP: Pressing the footswitch advances through the 707's programs in order.

PROGRAM DOWN: Pressing the footswitch changes the 707's program in reverse order.

NOTE 1:

Program Up can only be assigned to Footswitch 1, and Program Down only to Footswitch 2.

DAMPER ON/OFF: Pressing the footswitch turns the Portamento function on and off. The LED of the PORTAMENTO key will light when the function is on. Pressing PORTAMENTO at any time overrides the footswitch.

NOTE 2:

Two footswitches cannot be assigned to the same function at once.

NOTE 3:

Use a normally open footswitch (such as the KORG PS-1 or PS-2) for proper operation. Use of a normally closed footswitch will result in reversed operation (i.e., lifting up on the switch will trigger the selected function).

JOB #3: SAVE TO RAM CARD

FUNCTION

To save a complete "bank" of 100 programs and 10 combinations to a KORG RAM card. Once saved, the data can be loaded back into the 707 at any time (see job #6).

Three types of KORG RAM cards are available: MCR-01, MCR-02 and MCR-03. These can save 1, 2, or 4 banks of data, respectively.

NOTE 1:

When data is saved into a RAM cardbank, all data currently in the bank will be erased.

NOTE 2:

Single programs and combinations can also be saved to RAM card (see STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter). Single programs and combinations will ALWAYS be saved to Bank #1 of any RAM card that can store more than one Bank.

DISPLAY

The following display will appear if an MCR-03 card is used.

SAVE TO RAM CARD				
3	BANK?	1	2	3 4

The SAVE operation is executed as follows:

1. Move the cursor to the required bank (you only need to do this if the RAM card can store more than one bank).
2. Press UP/YES. The LCD will show "ARE YOU SURE?". At this point you can cancel the SAVE operation by pressing DOWN/NO.
3. To save the data, press UP/YES again. The LCD will show "SAVE COMPLETED".

CARD ERROR MESSAGES

The LCD will show the following messages, to warn of errors in the SAVE operation.

"NO CARD INSERTED"

You need to insert a RAM card before executing the SAVE operation.

"MEMORY PROTECTED"

You need to turn OFF the external memory protect before executing the SAVE operation (see job #4).

"WRITE IMPOSSIBLE ROM/PROTECTED RAM CARD"

1. You are trying to save data to a ROM card. Remove the ROM card and insert a RAM card,
or...
2. The RAM card's own memory protect function is turned on. Remove the RAM card, turn its memory protect off, and put it back in the 707's card slot, and try saving data again.

"RAM CARD BATTERY LOW"

The battery in the RAM card is running low, and there is a danger that data may not be saved correctly. Replace the battery before trying to save data.

JOB #4: LOAD FROM CARD

FUNCTION

To load a complete "bank" of 100 programs and 10 combinations into the 707's internal memory from a KORG RAM card or ROM card.

NOTE 1:

When data is loaded, all programs and combinations already in the 707 will be erased.

NOTE 2:

Single programs and combinations can also be loaded from a card into the 707 by first selecting an external program or combination and then carrying out the store operation (see **STORING AN EDITED PROGRAM OR COMBINATION** in the **CREATING PROGRAMS AND COMBINATIONS** chapter).

DISPLAY

LOAD FROM CARD
4 BANK? 1 2 3 4

The following display will appear if an MCR-03 card is used.

The LOAD operation is executed as follows:

1. Move the cursor to the required bank (you only need to do this if the card contains more than one bank of data).
2. Press UP/YES. The LCD will show "ARE YOU SURE?". At this point you can cancel the LOAD operation by pressing DOWN/NO.
3. To load the data, press UP/YES again. The LCD will show "LOAD COMPLETED".

CARD ERROR MESSAGES

In addition to the card error messages explained in job #5, the following message may appear when you select the LOAD function:

"NO DATA IN CARD".

1. The card contains no data (for example, a new RAM card). Replace it with a card that contains data.
2. The data on the card is not 707 data. Replace it with a card that contains 707 data.

NOTE:

Cards with data saved from the KORG DS-8 Digital Synthesizer may also be loaded to the 707. However, since some features are not common to both instruments, some data cannot be loaded and some parameters will be set to default values, as follows:

DS-8 data that cannot be loaded:

VOICE PARAMETER - MULTI EFFECT
COMBINATION PARAMETER - MULTI EFFECT,
MULTI EFFECT IN/OUT

707 default values (no corresponding parameters in DS-8):

VOICE PARAMETER, OCTAVE (Job 07) = MIDDLE
VOICE PARAMETER, CONTROL WHEEL (Job 02),
MOD P. INT = 0, T. INT = 0
COMBINATION PARAMETER, VOLUME (Job 3) =
63 (for all groups)

JOB #5: MEMORY PROTECT**FUNCTION**

To set a Memory Protect function for the internal memory or external memory (RAM card). When turned ON, this prevents new programs or combinations from being stored.

DISPLAY

MEMORY PROTECT
5 INT: <u>O</u> N EXT: O N

INT: Internal memory. Set to ON or OFF.

EXT: External memory (RAM card). Set to ON or OFF.

JOB #6: MIDI CH/OMNI/LOCAL**FUNCTIONS**

1. To select the MIDI channel on which the 707 receives and transmits all MIDI data. This should be the same MIDI channel as any external MIDI equipment connected to the 707.

NOTE:

In the MULTI keyboard mode, you can set each of the eight groups to a different MIDI channel. See Combination Parameter job #5.

2. To turn the OMNI mode either ON or OFF. When the 707 is set to OMNI it will receive MIDI data on all 16 MIDI channels.
3. To turn the LOCAL mode either ON or OFF. For normal use this should be ON. When turned OFF, the 707's keyboard and Control Wheels will control only external MIDI devices connected to the 707's MIDI OUT; the 707's own oscillators will be controlled only by external devices connected to the 707's MIDI IN jack.

DISPLAY

MIDI Ch	OMNI	LOCAL
6	<u>1</u>	OFF O N

CHANNEL: MIDI channel.
RANGE: 1 -- 16.

OMNI: Set to ON or OFF.

LOCAL: Set to ON or OFF.

JOB #7: MIDI FILTERING/EXCLUSIVE

FUNCTION

Allows you to select which types of MIDI data will be received and transmitted by the 707. These are:

1. **ACTIVE SENSING.** A safety function which automatically silences the 707 if a MIDI data transmission fault occurs. This function checks the MIDI signal every 300 msecs.
2. **PROGRAM CHANGE.** Transmission and reception fo MIDI program change messages.
3. **CONTROL.** Transmission and reception of all MIDI controller data, including CONTROL WHEEL functions, VELOCITY and AFTER TOUCH.
4. **EXCLUSIVE.** Transmission and reception of MIDI SYSTEM EXCLUSIVE data. This should be turned ON when executing the MIDI Data Transfer operation (see job #8).

NOTE:

When the SYSTEM EXCLUSIVE function is turned ON and you select a Program on the 707, all the parameter data of the selected program will be transmitted via the 707's MIDI OUT connector. However, a program change message will not be sent.

DISPLAY

MIDI ACT PRG CTL EXC
7 Q N O N O N OFF

The following four MIDI functions can be set to either ON or OFF.

ACT: Active sensing.

PRG: Program change.

CTL: Controller data.

EXC: System exclusive data (for MIDI data transfer).

JOB #8: MIDI DATA TRANSFER

FUNCTION

To transfer the data of all 100 programs to another 707. The MIDI OUT of the transmitting 707 should be connected to the MIDI IN of the receiving 707. Both 707s should be set to SYSTEM EXCLUSIVE ON (see job #8).

DISPLAY

DATA TRANSFER
8 ARE YOU SURE ?

After selecting this function, press UP/YES to execute the Data transfer. (If the transmitting 707's SYSTEM EXCLUSIVE function is turned off, the LCD will show "EXCLUSIVE OFF!" and you should turn this function ON using job #8.)

JOB #9: WHEEL ASSIGN

FUNCTION

To assign Modulation/Volume Control Wheel to affect either modulation or volume.

DISPLAY

WHEEL ASSIGN
9 MODULATION

Use the UP/YES or DOWN/NO keys to select either MODULATION or VOLUME.

RANGE: MODULATION, VOLUME.

MIDI APPLICATIONS

The 707 is fully compatible with MIDI. MIDI stands for Musical Instrument Digital Interface, and is now the standard "language" by which digital musical instruments can communicate with each other.

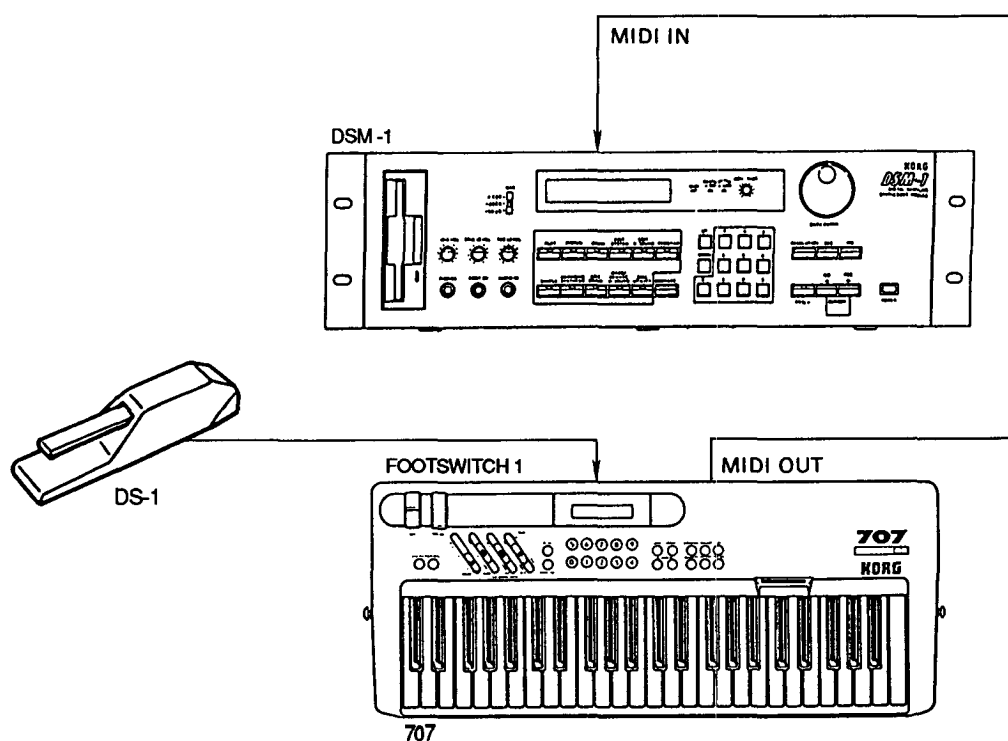
Through the use of MIDI, the 707 can be used to control other MIDI synthesizers (such as the KORG DSS-1 Digital Sampling Synthesizer, or the DW-8000 Digital Waveform Synthesizer) as well as synthesizer modules and samplers (such as the DSM-1 Digital Sampling Synthesizer Module).

The following illustrations and explanations show some of the possible applications of MIDI, and should help you to create useful MIDI systems of your own.

BASIC MIDI SETUP

1. Make certain that the MIDI cable is plugged into the MIDI OUT jack of the 707 and into the MIDI IN jack of the synthesizer or module you wish to control.
2. Using FUNCTION Mode Job #6, set the 707's transmit channel to the same as the receiving channel on the other synthesizer or module.
3. Check FUNCTION Mode Job #7 that the PROGRAM CHANGE and CONTROL parameters are set to ON. This will enable you to change voices as well as use pitch bend and after touch on the other synthesizer with the 707.

APPLICATION #1: SYNTHESIZER AND SAMPLER SYSTEM



Many synthesizer players like to combine two instruments: a digital synthesizer like the 707, for rich digital sounds, and a sampling synthesizer such as the KORG DSM-1, which opens up unlimited possibilities by allowing you to sample and play literally any sound. In this setup, the 707 "plays" the DSM-1 with full touch sensitivity and after touch. A KORG PS-1 pedal switch

is used for the PROGRAM UP function on the 707, which sends program change messages to the DSM-1.

Note:

Connect the footswitch to the Footswitch 1 jack on the rear panel and use FUNCTION Mode Job #2 to assign the footswitch connected to Footswitch 1 to PROGRAM UP.

APPLICATION #2: MIDI SEQUENCER SYSTEM

When the 707 is set to MULTI mode, it interfaces perfectly with a MIDI sequencer like the KORG SQD-8, a compact yet versatile 8-track device. Each track of the SQD-8 can be transmitted over a different MIDI channel, to control individual groups in the 707 and control a rhythm machine such as the DDD-5 Dynamic Digital Drums.

For example, you could record a monophonic line on each of the SQD-8's tracks. Then, on playback, assign each of the 707's groups to a different MIDI channel. Result: a MIDI "orchestra" of eight digital instruments.

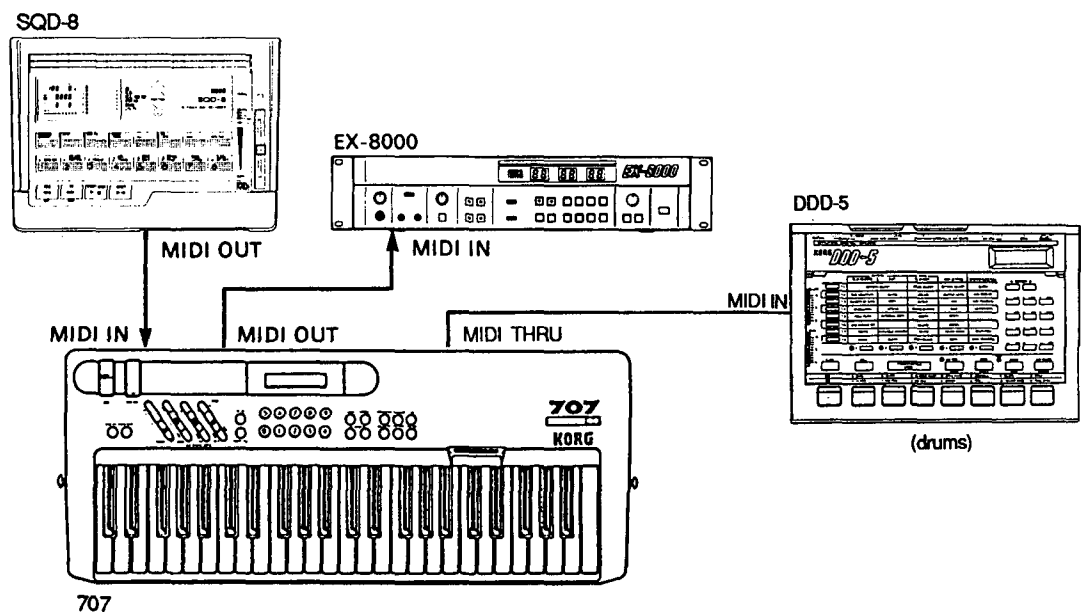
Many variations are possible: track 1 on the SQD-8 could play a 5-note piano part over MIDI channel 1, while track 2 plays a three-note string part over MIDI channel 2. You would then assign 707 groups 1 thru 5 to MIDI Receive Channel 1, and groups 6 thru 8 to MIDI Receive Channel 2. Result: a five-voice piano part plus a rich three-voice string part.

In our application example, the 707 is also controlling an EX-8000 Programmable Polyphonic Synthe Module, which features the same powerful digital voices as the DW-8000 Programmable Digital Waveform Synthesizer. While the SQD-8 plays up to eight parts of music using the 707 as a sound source, the 707's keyboard can be used to play the EX-8000, allowing you to add improvisations to the music stored in the SQD-8.

Also shown in the setup is the DDD-5 Dynamic Digital Drums. By assigning the MIDI channel of one track of the SQD-8 to the same as the DDD-5's receive channel, the excitement of real drum sounds and rhythms can be added to the already impressive instrumentation of the 707 and the EX-8000.

Settings for this MIDI application:

1. Use COMBINATION Mode Job #5 to set the MIDI receive channel of each group in the 707 to match the MIDI channels of the corresponding tracks on the SQD-8.
2. Use FUNCTION Mode Job #6 to set the 707's basic MIDI channel to match the MIDI receive channel of the EX-8000. This job also lets you set the "LOCAL" function to OFF, so that the 707's keyboard plays only the EX-8000, not the 707's internal oscillators.



MIDI IMPLEMENTATION

1. TRANSMITTED DATA

1-1 CHANNEL MESSAGES

Status	Second	Third	Description	ENA
1000 nnnn	0kkk kkkk	0100 0000	Note Off kkk kkkk=24-96 (49Key + Transpose)	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On kkk kkkk=24-96 (49Key + Transpose) vvv vvvv=15-127	A
1011 nnnn	0000 0001	0vvv vvvv	Modulation (Modulation Wheel) vvv vvvv=0-127	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry (Edit Slider) vvv vvvv=0-127	E
1011 nnnn	0000 0111	0vvv vvvv	Volume (Modulation Wheel) vvv vvvv=0-127	C
1011 nnnn	0100 0000	0000 0000	Damper Off (Assignable Pedal 1,2)	C
1011 nnnn	0100 0000	0111 1111	Damper On (Assignable Pedal 1,2)	C
1011 nnnn	0100 0001	0000 0000	Portamento Off (A. Pedal1,2, Panel SW)	C
1011 nnnn	0100 0001	0111 1111	Portamento On (A. Pedal1,2, Panel SW)	C
1011 nnnn	0110 0000	0000 0000	Data Increment (UP/YES Switch)	E
1011 nnnn	0110 0001	0000 0000	Data Decrement (DOWN/NO Switch)	E
1100 nnnn	0ppp pppp	---- ----	Program Change ppp pppp=0-99 (Program) ppp pppp=0-9 (Combination)	P
1101 nnnn	0vvv vvvv	---- ----	Channel Pressure (After Touch) vvv vvvv=0-127	C
1110 nnnn	0000 0000	0bbb bbbb	Bender Change (Bend Wheel) *1 bbb bbbb=00-64-127	C
1110 nnnn	0111 1111	0111 1111	Bender Change (Max) (Bend Wheel) *1	C

Notes: nnnn=MIDI Channel Number(0-15)

ENA:Trans Enable = A : Always Enable

*1: Only When DATA is at Max. LSB=7FH

C : Control On

0000H - 4000H - 7F00H, 7F7FH(129step)

P : Program On

(Min) (Center) (Max)

E : Exclusive On

1-2 SYSTEM REAL TIME MESSAGES

Status	Description
1111 1110	Active Sensing

Trans While ACT On

1-3 STSTEM EXCLUSIVE MESSAGES

ID	Description	R	C	D	E
—	DEVICE ID	○			
42	PANEL MODE	○			
4B	KEYBOARD MODE	○			
4E	PANEL MODE CHANGE		○		
4A	KEYBOARD MODE CHANGE		○		
41	PROGRAM PARAMETER CHANGE		○		

ID	Description	R	C	D	E
40	PROGRAM PARAMETER SAVE	○	○		
4C	ALL PROG PARA & ALL COMBI PARA SAVE	○		○	
49	COMBINATION PARAMETER SAVE	○	○		
4D	ALL COMBINATION PARAMETER SAVE	○			
23	DATA, MODE LOAD, CHANGE COMPLETED				○
24	DATA SAVE, LOAD ERROR				○
21	WRITE COMPLETED				○
22	WRITE ERROR				○

R: Transmit When Request Message Received
C: Transmit When Mode or No. Change
D: Transmit When Data Transfer Mode
E: Transmit When Data, Mode Load, Change or Write

7 0 7 SYSTEM EXCLUSIVE HEADER

1111 0000 (F0) : Exclusive Status
0100 0010 (42) : KORG ID
0011 nnnn (3n) : Format ID n:Cannel
0001 1010 (1A) : 707 ID

(1)DEVICE ID

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
1111 0111	EOX

(2)PANEL MODE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0010	PANEL MODE 42H
0000 0mmm	Mode Data (See NOTE 1)
1111 0111	EOX

(3)KEYBOARD MODE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1011	KEYBOARD MODE 4BH
0000 00dd	Data (See NOTE 2)
1111 0111	EOX

(4)PANEL MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1110	PANEL MODE CHANGE 4EH
0000 0ddd	Data (See NOTE 1)
1111 0111	EOX

(5)KEYBOARD MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1010	KEYBOARD MODE CHANGE 4AH
0000 00dd	Data (See NOTE 2)
1111 0111	EOX

(6)PROGRAM PARAMETER CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0001	PROGRAM PARAMETER CHANGE 41H
0ddd dddd	PARAMETER No.
0ddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	EOX

(7)PROGRAM PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0000	PROGRAM PARAMETER SAVE 40H
0ddd dddd	Data (See NOTE 3)
⋮	
1111 0111	EOX

(8)ALL PROGRAM & COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1100	ALL PROGRAM & COMBINATION PARAMETER SAVE 4CH
0ddd dddd	Data (See NOTE 4)
⋮	
1111 0111	EOX

(9)COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1001	COMBINATION PARAMETER SAVE 49H
0ddd dddd	Data (See NOTE 5)
⋮	
1111 0111	EOX

(10)ALL COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1101	ALL COMBINATION PARAMETER SAVE 4DH
0ddd dddd	Data (See NOTE 6)
⋮	
1111 0111	EOX

(11) DATA, MODE LOAD, CHANGE COMPLETED

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0011	DATA, MODE LOAD, CHANGE COMPLETED 23H
1111 0111	EOX

(13) WRITE COMPLETED

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0001	WRITE COMPLETED 21H
1111 0111	EOX

(12) DATA SAVE, LOAD ERROR

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0100	DATA SAVE, LOAD ERROR 24H
1111 0111	EOX

(14) WRITE ERROR

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0010	WRITE ERROR 22H
1111 0111	EOX

2. RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES

Status	Second	Third	Description	ENA
1000 nnnn	0kkk kkkk	0xxx xxxx	Note Off *1	A
1001 nnnn	0kkk kkkk	0000 0000	Note Off *1	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On vvv vvvv=1-127 *1	A
1011 nnnn	0000 0001	0vvv vvvv	Modulation Intensity	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry	E
1011 nnnn	0000 0111	0vvv vvvv	Volume	C
1011 nnnn	0000 1010	000x xxxx	Panpot (A)	C
1011 nnnn	0000 1010	001x xxxx	Panpot (A+B)	C
1011 nnnn	0000 1010	010x xxxx	Panpot (A+B)	C
1011 nnnn	0000 1010	011x xxxx	Panpot (B)	C
1011 nnnn	0100 0000	00xx xxxx	Damper Off	C
1011 nnnn	0100 0000	01xx xxxx	Damper On	C
1011 nnnn	0100 0001	00xx xxxx	Portamento Off	C
1011 nnnn	0100 0001	01xx xxxx	Portamento On	C
1011 nnnn	0110 0000	0000 0000	Data Increment	E
1011 nnnn	0110 0001	0000 0000	Data Decrement	E
1011 nnnn	0111 1010	0000 0000	Local Control Off	A
1011 nnnn	0111 1010	0111 1111	Local Control On	A
1011 nnnn	0111 1011	0000 0000	All Notes Off	A
1011 nnnn	0111 1100	0000 0000	OMNI OFF(All Notes Off)	A
1011 nnnn	0111 1101	0000 0000	OMNI ON(All Notes off)	A
1011 nnnn	0111 1110	0xxx xxxx	(All Notes Off)	A
1011 nnnn	0111 1111	0000 0000	(All Notes Off)	A
1100 nnnn	0ppp pppp	-----	Program Change *2	
1101 nnnn	0vvv vvvv	-----	Channel Pressure (After Touch)	C
1110 nnnn	0xxx xxxx	0bbb bbbb	Bender Change	C

Notes: x : Does not apply

*1 : Note Number 0kkk kkkk=0-127

Out Of Range Of 24-96 DATA Is Shifted By Octave Till Within Range

*2 : Over 99 Number DATA Is Subtracted By 100 (PROGRAM MODE)

ex100 → 00, 127 → 27

Over 9 Number DATA Is Subtracted By 10 Till Under 10 (COMBINATION MODE)

ex10 → 0, 127 → 7

2-2 SYSTEM REAL TIME MESSAGES

Status	Description
1111 1110	Active Sensing

Receive While ACT On

2-3 SYSTEM EXCLUSIVE MESSAGES

—	DEVICE ID REQUEST
12	PANEL MODE REQUEST
1B	KEYBOARD MODE REQUEST
4E	PANEL MODE CHANGE
4A	KEYBOARD MODE CHANGE
41	PROGRAM PARAMETER CHANGE
10	PROGRAM PARAMETER SAVE REQUEST
1C	ALL PROGRAM PARAMETER SAVE REQUEST
19	COMBINATION PARAMETER SAVE REQUEST
1D	ALL COMBINATION PARAMETER SAVE REQUEST
11	PROGRAM WRITE REQUEST
1A	COMBINATION WRITE REQUEST
40	PROGRAM PARAMETER LOAD
4C	ALL PROGRAM & COMBINATION PARAMETER LOAD
49	COMBINATION PARAMETER LOAD
4D	ALL COMBINATION PARAMETER LOAD

(1)DEVICE ID REQUEST

Byte	Description
1111 0000	Exclusive Status
0100 0010	KORG ID
0100 nnnn	Format ID 4nH(n=ch)
1111 0111	EOX

(2)PANEL MODE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 0010	PANEL MODE REQUEST 12H
1111 0111	EOX

(3)KEYBOARD MODE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1011	KEYBOARD MODE REQUEST 1BH
1111 0111	EOX

(4)PANEL MODE CHANGE

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1110	PANEL MODE CHANGE 4EH
0000 0mmm	Mode Data (See NOTE 1)
1111 0111	EOX

(5)KEYBOARD MODE CHANGE

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1010	KEYBOARD MODE CHANGE 4AH
0000 00mm	Mode Data (See NOTE 2)
1111 0111	EOX

(6)PROGRAM PARAMETER CHANGE

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER

Byte	Description
0100 0001	PROGRAM PARAMETER CHANGE 41H
Oppp pppp	Parameter No.
Oddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	EOX

(7)PROGRAM PARAMETER SAVE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 0000	PROGRAM PARAMETER SAVE REQUEST 10H
1111 0111	EOX

(8)ALL PROGRAM PARAMETER SAVE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1100	ALL PROGRAM PARAMETER SAVE REQUEST 1CH
1111 0111	EOX

(9)COMBINATION PARAMETER SAVE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1001	COMBINATION PARAMETER SAVE REQUEST 19H
1111 0111	EOX

(10)ALL COMBINATION PARAMETER SAVE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1101	ALL COMBINATION PARAMETER SAVE REQUEST 1DH
1111 0111	EOX

(11)PROGRAM WRITE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 0001	PROGRAM WRITE REQUEST 11H
0ppp pppp	Write Program No. (0-99) *2
1111 0111	EOX

(12)COMBINATION WRITE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1010	COMBINATION WRITE REQUEST 1AH
0ppp pppp	Write Combination No. (0-9) *2
1111 0111	EOX

(13)PROGRAM PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 0000	PROGRAM PARAMETER LOAD 40H
0ddd dddd	Data (See NOTE 3)
1111 0111	EOX

(14)ALL PROGRAM & COMBINATION PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1100	ALL PROGRAM & COMBINATION PARAMETER LOAD 4CH
0ddd dddd	Data (See NOTE 4)

Byte	Description
1111 0111	EOX

(15)COMBINATION PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1001	COMBINATION PARAMETER LOAD 49H
0ddd dddd	Data (See NOTE 5)
1111 0111	EOX

(16)ALL COMBINATION PARAMETER LOAD

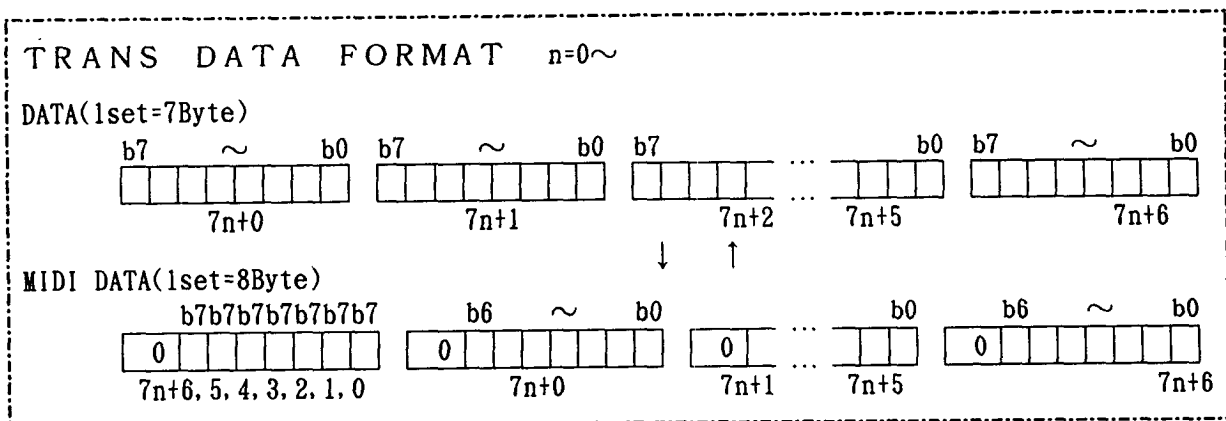
Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1101	ALL COMBINATION PARAMETER LOAD 4DH
0ddd dddd	Data (See NOTE 6)
1111 0111	EOX

NOTE 1: PANEL MODE DATA

- 0: PROGRAM MODE
- 1: VOICE PARAMETER MODE
- 2: COMBINATION PARAMETER MODE
- 3: FUNCTION MODE
- 4: COMBINATION MODE

NOTE 2 : KEYBOARD MODE

- 0: SINGLE 1: LAYER
- 2: DOUBLE 3: MULTI



NOTE 3 : PROGRAM PARAMETER SAVE (LOAD) FORMAT (Current Type)

[Parameter No. 0],, [Parameter No. 80] (81+3)×8/7=96Byte

NOTE 4 : ALL PROGRAM & COMBINATION PARAMETER SAVE(LOAD) FORMAT (Compress Type)

[Prog. No. 00(66Byte)],, [Prog. No. 99(66Byte)], [Combi. No. 0(38Byte)],
, [Combi. No. 9(38Byte)] 66×100+38×10=6980, 6986×8/7=7984Byte

NOTE 5 : COMBINATIN PARAMETER SAVE (LOAD) FORMAT (Current Type)

[Parameter No. 0],, [Parameter No. 50] (51+5)×8/7=64Byte

NOTE 6 : ALL COMBINATION PARAMETER SAVE (LOAD) FORMAT (Compress Type)

[Combi. No. 0(38Byte)],, [Combi. No. 9(38Byte)] 38×10=380, 385×8/7=440Byte

MIDI IMPLEMENTATION CHART

FUNCTION		Transmitted	Recognized	Remarks
Basic Channel	Default Change	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode	Default Messages Altered	1 Omni ON/OFF *****	1	Ignored
Note number:	Actual Notes	24 - 96 *****	0 - 127 24 - 96	
Velocity	Note on Note off	o ⁹ⁿ x ^{V=15-127}	o ⁹ⁿ x ^{V=1-127}	
After Touch	Keys Ch's	x o	x o	*1
Pitch bend		o	o	*1
Control Change	1 6 7 10 64 65 96 97	o o o x o o o o	o o o o o o o o	Pitch MG *1 Data entry *3 Volume *1 Panpot *1 Sustain *1 Portamento switch *1 Data increment *3 Data decrement *3
Program Change	Actual No.	o 0 - 99 *****	o 0 - 127 0 - 99	*2, *5
System Exclusive		o	o	Voice data dump, etc. *3
System Common	: Song pos. : Song sel. : Tune	x x x	x x x	
System Real time	: Clock : Commans	x x	x x	
Aux Message	: Local ON/OFF : All note off : Active sensing : Reset	x x o o	o o 123 - 127 o o	*4
<p>NOTES: *1 Transmit/receive if CONTROL is ON in FUNCTION Mode. *2 Transmit/receive if PROGRAM is ON in FUNCTION Mode. *3 Transmit/receive if EXCLUSIVE is ON in FUNCTION Mode. *4 Transmit/receive if ACTIVE SENSING is ON in FUNCTION Mode. *5 Only the final two digits of program numbers of over 100 will be recognized.</p>				

Mode1: OMNI ON, POLY

Mode 2: OMNI ON, MONO

o : Yes

Mode3: OMNI OFF, POLY

Mode 4: OMNI OFF, MONO

x : No

SPECIFICATIONS

Keyboard:	49 keys (C -- C), Initial Touch, Aftertouch.	
Voices:	8 voices simultaneously (Single Mode).	
Programs:	100 Programs, 10 Combinations.	
	MCR-02 RAM Card:	2 Bank (200 Programs, 20 Combinations).
	MCR-03 RAM Card:	4 Bank (400 Programs, 40 Combinations).
Function Mode:	Master Tune:	±50 cents.
	Transpose:	±12 semitones.
	Footswitch Assign:	Damper, Portamento, Program Up, Program Down.
	Save to RAM Card.	
	Load from RAM Card.	
	Memory Protect:	Internal Off/On, External Off/On.
	MIDI:	Transmit/Receive Channel (1--16), Omni Off/On, Local Off/On.
	MIDI Filtering:	Active Sensing Off/On, Program Change Off/On, Control Change Off/On, Exclusive Off/On. Data Transfer.
	Wheel Assign:	Modulation, Volume.
Voice Parameter Mode:	Pitch:	OSC 1, OSC 2, Detune.
	Pitch EG:	Start Level, Attack, Attack Level, Decay, Release, Release Level.
	OSC 1 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 2 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 1 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 1 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	Modulation Generator:	Waveform (Triangle, Sawtooth, Square, Sample & Hold), Frequency, Delay Time, Pitch Intensity, Timbre/Ampl. Intensity, Timbre Select (Off, OSC 1, OSC 2, OSC 1+2), Ampl. Select (Off, OSC 1, OSC 2, OSC 1+2).
	Portamento:	Mode, Time
	Control Wheels:	Pitch Bend: Bend Pitch (±1 octave max.), Bend Timbre; Modulation: Pitch Intensity, Timbre Intensity, Modulation Speed.
	Velocity:	OSC 1 Timbre EG, OSC 2 Timbre EG, OSC 1 Ampl. EG, OSC 2 Ampl. EG.
	After Touch:	Pitch MG, Timbre, OSC 1 Ampl. Level, OSC 2 Ampl. Level.
	Assign Mode:	Poly/Unison, Trigger (Single/Multi: in Unison Mode only), Detune (in Unison Mode only).
	Voice Name:	Max. 10 characters.
	Octave:	Low, Middle, High.
Combi Parameter Mode:	Controller:	Source, Group 1 -- 8 Off/On.
	Modulation Generator:	Source, Group 1 -- 8 Off/On.
	Pan:	Group 1 -- 8 (A, B, A+B)
	Volume:	Group 1 -- 8 (0 -- MAX.).
	No. of Voices:	Group 1 -- 8 (max. 8 voices).
	MIDI Receive Channel:	Group 1 -- 8 (MIDI Channel 1 -- 16).
	Interval/Detune:	Interval (0 -- 12 semitones), Detune (±50 cents, MAX.).
	Key Split/Octave Shift:	Key Split Group 1 (C1 -- C7), Key Split Group 2 (C1 -- C7), Octave Shift Group 1 (+2 octaves, MAX.), Octave Shift Group 2 (-2 octaves, MAX.).
Panel Selection Switches:	Combination, Program, Card.	

Panel Mode Switches:	Parameter, Keyboard Mode, Function.
Programmer Controls:	Numeric keys (0 -- 9), Cursor keys (◀ ▶), Write, Compare, Value slider (also serves as EG2 slider), Up/Yes, Down/No.
Performance Editor Controls:	Timbre slider, EG1 slider, EG2 slider (also serves as Value slider), Portamento (Off/On), Wheel Reverse (Off/On).
Volume Slider:	0 -- MAX.
Display:	LCD (Liquid Crystal Display), Backlit, 20 Characters x 2 Rows.
Card Slot:	x 1
Input Jacks:	Footswitches 1 and 2.
Output Jacks:	Output (A/MIX., B), Phones.
MIDI Jacks:	IN, OUT, THRU.,
Power Supply:	DC 9V.
Weight:	4.9 kg (10 lbs 12 oz) Including batteries.
Dimensions (W x H x D):	763 x 102 x 299 mm (30.0" x 4.0" x 11.8")
Supplied Accessories:	AC Power Cord, Connection Cable.

* Design and specifications are subject to change without notice.

Parameter List:

FUNCTION	0	MASTER TUNE	5	MEMORY PROTECT
	1	TRANSPOSE	6	MIDI (CH/OMNI/LOCAL)
	2	FOOT SW 1, 2 ASSIGN	7	MIDI (FILTERING/EXCLUSIVE)
	3	SAVE TO RAM CARD	8	MIDI DATA TRANSFER
	4	LOAD FROM CARD	9	WHEEL ASSIGN
VOICE PARAMETER	1	PITCH	01	PORTAMENTO
	2	PITCH EG	02	CONTROL WHEEL
	3	OSC1 WAVEFORM	03	VELOCITY
	4	OSC2 WAVEFORM	04	AFTER TOUCH
	5	OSC1 TIMBRE EG	05	ASSIGN MODE
	6	OSC2 TIMBRE EG	06	VOICE NAME
	7	OSC1 AMPL EG	07	OCTAVE
	8	OSC2 AMPL EG		
	9	MODULATION GENERATOR		
COMBI PARAMETER	0	CONTROLLER	4	NO. OF VOICE
	1	MODULATION GENERATOR	5	RECEIVE CHANNEL
	2	PAN	6	INTERVAL/DETUNE
	3	VOLUME	7	KEY SPLIT/OCT SHIFT

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Mexico 1, D.F.
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Alcorcon (Madrid)
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110-112 Nakorn Kasem Soi 1 Bangkok 10100
Phone: 43357

THAILAND

Attn: Mr Chatchai Asavaraksawong
Phone: 222-5281
Telex: 82249 NSPROD TH

THE NETHERLANDS

Milestone B.V.
Gildenweg 16, Zwijndrecht, P.O. Box 207
Phone: (078) 10 0044

U.A.E.

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Music Gallery
P.O. Box 1675, Deria-Dubai
Phone: 221509

U.S.A.

KORG U.S.A., Inc.
89 Frost St., Westbury, New York 11590
Phone: 516-333-9100

URUGUAY

Man/Pozze Internacional
Casilla de Correo 6243, Montevideo

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Musik-Meyer GmbH
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Phone: (06421) 809-0

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KORG

15-12, Shimotakaido 1-chome, Suginami-ku, Tokyo, Japan



6211 GTH Printed in Japan

KORG

Performing Synthesizer

707

OWNER'S MANUAL

INTRODUCTION

Thank you and congratulations on your purchase of the KORG 707. To obtain optimum performance from this advanced digital synthesizer, please read this manual carefully.

FEATURES OF THE KORG 707

1. DIGITAL VOICE GENERATION

The 707 features warm, digitally generated sounds, each of which combines two oscillators to create rich and complex tones. Each oscillator can be set to a variety of waveforms. By using separate EG'S (Envelope Generators) to control each oscillator's timbre and level, the character of each note can change in time, providing the random tonal variations that occur in actual acoustic instruments. Natural, expressive acoustic sounds plus exciting contemporary synthesizer voices: the 707 can do it all!

2. PROGRAMS AND COMBINATIONS

The 707 can store up to 100 programs in its internal memory. You can easily edit existing programs to make your own programs. Also available are three kinds of program combinations. The LAYER mode lets you play two programs at once across the entire range of the keyboard. The DOUBLE mode lets you assign separate programs to the upper and lower sections of the keyboard. The innovative MULTI mode allows you to select up to eight different voices, each with its own programmable volume, for real-time 8-track multi-timbral performance, using an external sequencer such as the KORG SQD-8.

3. RESPONSIVE KEYBOARD

A full 49-note keyboard (C2 -- C6) responds to your playing with Velocity Sensitivity and After Touch to control both volume and timbre. All programs can be played in full 8-note polyphony.

4. SLEEK DESIGN AND PORTABILITY

The 707, with its stylish looks, optimum controller placement, compact size, and light weight, serves as an excellent portable synthesizer/remote keyboard controller. Two sturdy strap locks on either side of the instrument are provided for attaching a shoulder strap.

5. PERFORMANCE FEATURES

A range of performance features let you add real expression to your playing. The Pitch Bend Control Wheel enables you to bend the overall pitch of the instrument and the Modulation/Volume Control Wheel lets you modulate pitch, vibrato and timbre or change the overall volume of the instrument. The operation of both Control Wheels may be reversed for performing convenience when using the 707 as a strap-on keyboard. The Performance Editor includes controllers for timbre, envelope length, portamento, and other vitally useful performance functions.

6. RAM CARD/ROM CARD

More programs and combinations are available on optional KORG ROM (Read Only Memory) cards, which can be loaded into the 707's internal memory in seconds. Also available are RAM (Random Access Memory) cards on which you can store your own programs and program combinations. ROM and RAM cards from the KORG DS-8 Digital Synthesizer can also be used with the 707.

7. FOOTSWITCH

Optional footswitches are available from KORG. These can be assigned to control a variety of functions, including program change, portamento, and sustain.

8. MIDI COMPATIBILITY

The 707 is fully compatible with MIDI (Musical Instrument Digital Interface) allowing it to interface with other MIDI devices such as sequencers, drum machines and effect units. See your KORG dealer for details on the wide range of advanced MIDI equipment available from KORG.

IMPORTANT SAFETY PRECAUTIONS

LOCATION

The 707 should not be used under the following conditions for long periods, or malfunctions may occur:

- In direct sunlight.
- In extremes of temperature or humidity.
- In sandy or dusty environments.

POWER SUPPLY

- Use only with rated AC voltage. If you intend to use your 707 in an area or country having a different voltage, be sure to use the proper transformer unit to convert to the rated voltage.
- To avoid noise or degraded sound quality, do not connect your 707 to an AC outlet or AC extension cord that is being used by other equipment.

INPUT/OUTPUT JACKS & CONNECTION CORDS

Use standard guitar-type cords with phone plugs, such as the cable supplied with your 707, for input and output connections to the rear panel. Never insert any other kind of plug into these jacks.

PREVENTING ELECTRICAL INTERFERENCE

The 707 is a sophisticated unit that uses advanced microprocessor circuitry. Therefore, it may perform erratically if exposed to electrical interference from other electrical devices and fluorescent lamps. Avoid operating the 707 near possible sources of interference. If interference appears to be causing problems, the 707's computer circuits can be reset to their initial state by turning off the 707's power and waiting 10 seconds. When you turn on the 707's power once more, normal operation should be resumed.

HANDLE GENTLY

All of the 707's keys, buttons, knobs, switches, sliders, and performance wheels are built to KORG's high standards of durability. However, they should be treated with care and sensitivity. Excessive force may cause damage.

CLEANING

Wipe the exterior of the 707 with a soft, dry cloth. Never use paint thinner, benzene or other solvents.

KEEP THIS MANUAL

Store this manual in a safe place so that it can be referred to at any time.

MEMORY BACKUP

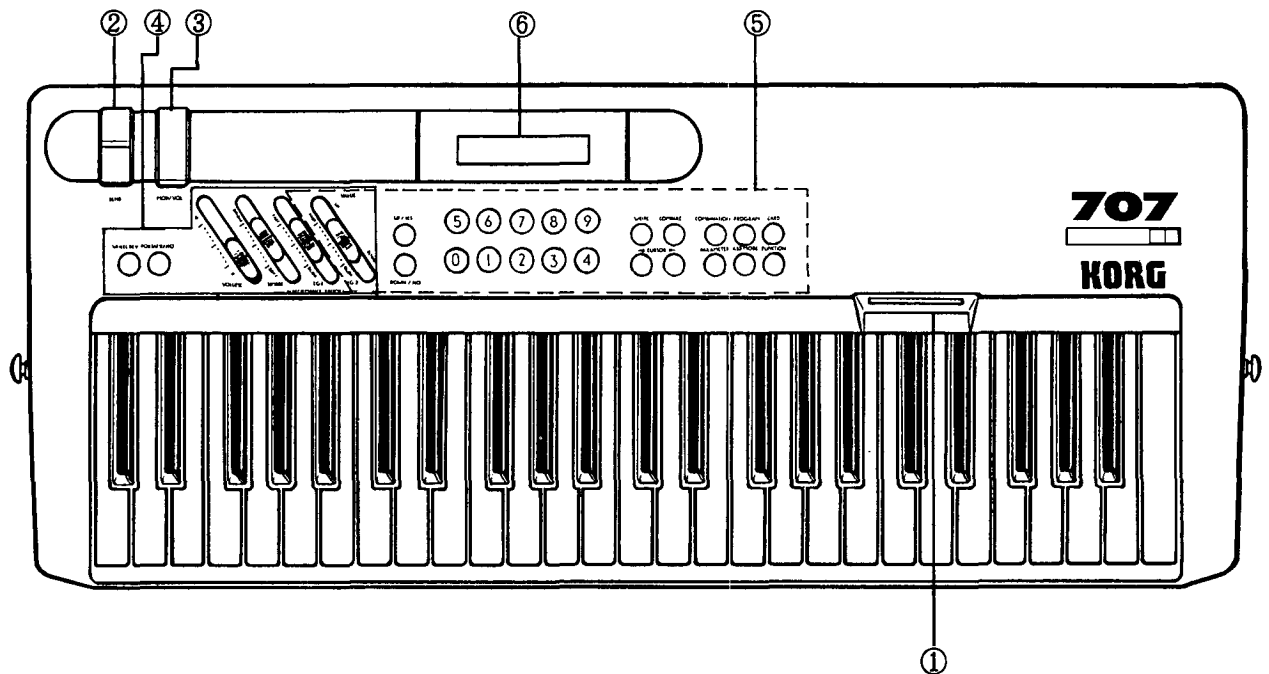
- The 707 has a backup battery that preserves the program and combination data stored in the 707's internal memory, even when the power is turned off. This battery has a life of about five years, after which time it should be replaced. Do not attempt to replace the battery yourself. Contact your local KORG dealer for battery replacement.
- To avoid risk of losing valuable program or combination data we suggest you always save this data onto an optional KORG RAM card. Then, if any data is accidentally altered or lost due to a malfunction in the 707, it can be reloaded from the RAM card in just a few seconds.

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FEATURES & FUNCTIONS

CONTROL PANEL



- ① CARD SLOT
- ② PITCH BEND WHEEL
- ③ MODULATION/VOLUME WHEEL
- ④ PERFORMANCE EDITOR CONTROLS
 - VOLUME SLIDER
 - TIMBER SLIDER
 - EG1 SLIDER
 - EG2 SLIDER (also serves as VALUE SLIDER when used in programming)
 - PERFORMANCE WHEEL REVERSE KEY
 - PORTAMENTO OFF/ON KEY
- ⑤ PROGRAMMER/MODE CONTROLS
 - UP/YES KEY, DOWN/NO KEY, NUMERIC KEYS 1 -- 9
 - CURSOR KEYS
 - COMBINATION KEY
 - PROGRAM KEY
 - CARD (INTERNAL/EXTERNAL MEMORY) KEY
 - PARAMETER KEY
 - KEYBOARD MODE KEY
 - FUNCTION KEY
 - WRITE KEY
 - COMPARE KEY
- ⑥ LCD PANEL

⑤ PHONES
Plug stereo headphones into this jack.

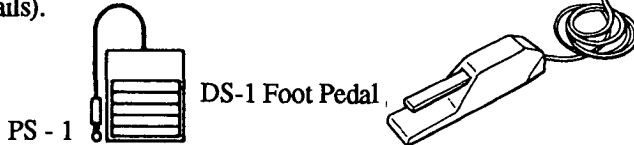
[CAPTION]
KH-1000 Headphones

② AC CORD
Insert the plug into a wall socket.

REAR PANEL AND BASIC SETUP

④ FOOTSWITCHES 1 & 2

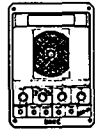
For connection of two footswitches, both of which can be assigned to Portamento Off/On or Damper. In addition, Footswitch 1 can be assigned to Program Up, and Footswitch 2 to Program Down (see FUNCTION MODE chapter, JOB #2 for more details).



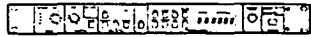
⑥ AUDIO OUTPUTS

For connection to amplifiers, mixers or stereo systems. Use outputs A and B for stereo monitoring. Use only output A/MONO for mono monitoring.

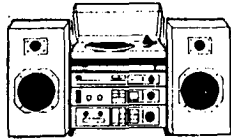
Monitor



Amplifier



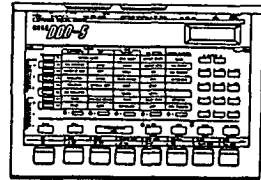
Stereo System



③ MIDI CONNECTORS

Use these jacks to connect to other MIDI equipment (see the MIDI APPLICATIONS chapter for more information).

DDD-5 Digital Drum Machine



SG-1D MIDI Keyboard



DRV-2000 Digital Reverb

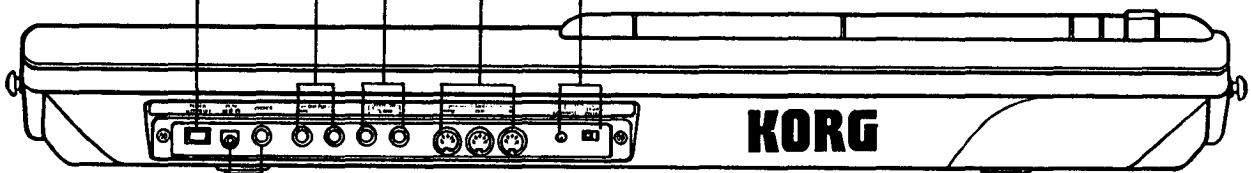


① POWER SWITCH

After everything is properly connected, turn the power on. The LCD will display "KORG 707 Performing Synth" and go through a short initialization routine, followed by the display for Program 00.

⑦ LCD CONTROLS (LIGHT ON/OFF, CONTRAST)

Two convenient LCD controls are provided for adjusting the display to the desired brightness and contrast.



SELECTING PROGRAMS AND COMBINATIONS

ABOUT PROGRAM NUMBERS

The 707 can store up to 100 different sounds in its internal memory. These sounds are called "programs", and are numbered 00 thru 99. When you want to store a program, you must assign it to a program number. When you want to recall that program, you do it by selecting the same program number. All 707 programs can be played in full 8-voice polyphony (i.e., you can play up to 8 notes at the same time).

INTERNAL/EXTERNAL PROGRAMS

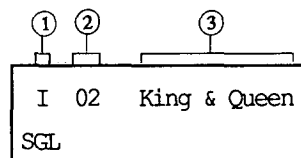
The programs stored in the 707's internal memory are called "internal" programs. You can also select programs that are stored on a handy data card, which is inserted in the 707's card slot. These programs are called "external" programs. There are two basic types of KORG data card: a ROM (Read Only Memory) card which contains 100 preset programs and 10 combinations which cannot be altered; and a RAM (Random Access Memory) card onto which you can save your own programs and combinations. For more information about data cards, see jobs #3 and #4 in the FUNCTION MODE chapter.

SELECTING A PROGRAM NUMBER

1. After turning on the 707, the Program mode will automatically be called up with program #00 selected. The PROGRAM button's LED will be lit. You can now select a program from the internal memory.
2. If you wish to select a program stored on a RAM card or ROM card, insert the card in the slot and press CARD.
3. Select the program number using the numeric keys or the UP/YES and DOWN/NO keys. Always enter a two-digit number.

RANGE: 00 -- 99.

For example, to select internal program 2, (press CARD repeatedly until you see the I, or internal memory display as shown below), then press "0" followed by "2". On the LCD you'll see:



- ① Indicates internal memory
- ② Program number
- ③ Program name

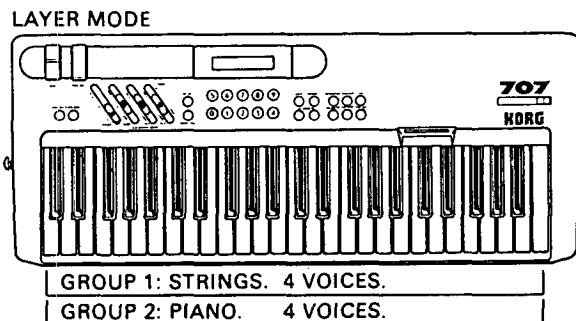
ABOUT COMBINATIONS

On the 707 you can also select "combinations" of more than one program. LAYER and DOUBLE combinations are dual-program combinations allowing you to play two sounds at the same time on the 707 keyboard. The MULTI combination uses up to eight programs, and is designed for use with a sequencer that can store up to eight separate tracks of music. These combination types make up three of the 707's four keyboard modes. Like programs, combinations can be stored on a KORG RAM card.

When a program (internal or external) is used in a combination, it is known as a "group". A variety of functions can be set for groups (for example, transposing, detuning, or assigning to one or both of the 707's outputs). See the COMBINATION PARAMETER chapter for more information.

LAYER COMBINATIONS

LAYER combinations have two groups, both of which can be played across the entire range of the 707's keyboard. For example, you could combine a piano program with a string program, so that when you press a key you hear piano and strings at the same time. In this mode, you can play up to four notes at a time.

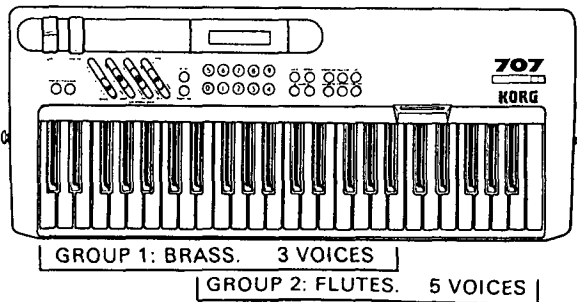


DOUBLE COMBINATIONS

DOUBLE combinations have two groups, with one (Group 1) assigned to the lower part of the 707's keyboard, and the other (Group 2) assigned to the upper part. You can select the upper note limit of Group 1 and the lower note limit of Group 2, and change the octave pitch of each group (see COMBINATION PARAMETER job #7). You can also select how many voices are assigned to each group (see COMBINATION PARAMETER job #4).

For example, you could have a brass program (with three voices) assigned to the lower part of the keyboard, and a flute program (with five voices) assigned to the upper part. In the middle part of the keyboard the two programs could overlap, to provide an interesting dual sound. If the range of the brass is too low to be useful, Group 1 can be transposed up by one or two octaves. If the range of the flutes is too high to be useful, Group 2 can be transposed down by one or two octaves.

DOUBLE MODE

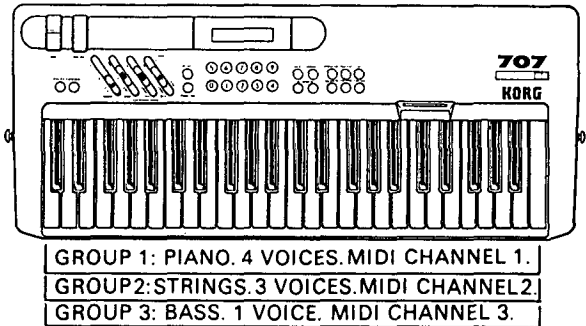


MULTI COMBINATIONS

MULTI combinations have eight groups, each of which can contain a different program and can be played across the entire range of the 707's keyboard. MULTI combinations are designed to be used with a sequencer (such as the KORG SQ-8) that can store and play back eight tracks of music data on different MIDI channels. You can select a different MIDI channel for each group (see COMBINATION PARAMETER, job #5) so that when you play the data stored in the sequencer, you hear eight tracks of music, each with a different sound.

You can also assign up to eight voices to each group (see COMBINATION PARAMETER, job #4). As the 707 has a maximum capability of 8-voice polyphony, this would mean that you might use less than eight groups. For example, you could assign four voices to Group 1, which contains a piano program; three voices to Group 2, which contains a string program and one voice to Group 3 which contains a bass program. Music data would be recorded onto three tracks of the sequencer, with each track and group set to a matching MIDI channel number.

KEYBOARD MODE: MULTI



See the MIDI APPLICATIONS chapter for more information on how to use MULTI combinations.

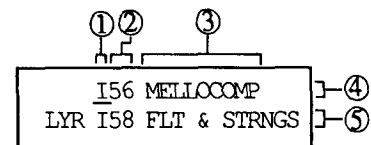
SELECTING A COMBINATION

1. After turning on the 707, press COMBINATION. You can now select a combination in internal memory.
2. If you wish to select a program combination stored on a RAM card or ROM card, insert the card in the slot and press CARD.
3. Select the combination number using the numeric keys or the UP/YES and DOWN/NO keys.

RANGE : 0--9.

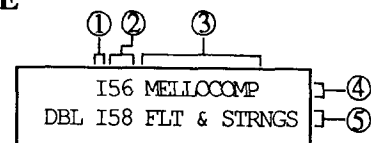
The LCD will show one of the following types of displays, according to the type of combination selected.

LAYER



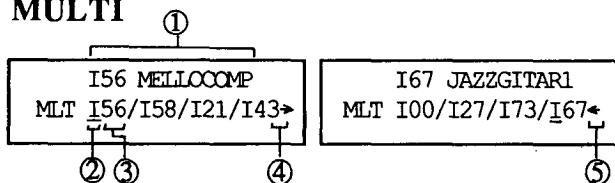
- ① Memory indicator
- ② Program number
- ③ Program name
- ④ Group 1
- ⑤ Group 2

DOUBLE



- ① Memory indicator
- ② Program number
- ③ Program name
- ④ Group 1
- ⑤ Group 2

MULTI



- ① Current program selected by cursor
- ② Memory indicator
- ③ Program number
- ④ Arrow indicating continuation of parameters on next page
- ⑤ Arrow indicating continuation of parameters on previous page

See HOW TO EDIT A COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter, to find out how to change programs that are assigned to combinations. You'll also find out how to change a combination from one keyboard mode to another (LAYER, DOUBLE or MULTI), and how to edit parameters in the combination.

FOOTSWITCH SELECTION

You can select programs by using one or two optional footswitches such as the KORG PS-1. This is convenient when you are playing live, as it leaves your hands free for playing and for manipulating the Control Wheels and Performance Editor controls. When assigned to make program changes, Footswitch 1 steps up through the programs and Footswitch 2 steps down through the programs. It's most convenient to store your programs in the order that you need them for your performance: Program 00 for Song 1, program 01 for Song 2, etc. Both footswitches can also be assigned to control Damper or Portamento On/Off (see the Function Mode chapter, Job #2 for more details).

PERFORMANCE FEATURES

The 707 features a variety of controllers and performance functions. By using them, you can add real expression and dynamics to your playing.

CONTROL WHEELS

Two Control Wheels at the top left of the front panel allow you to change the sound of the 707 as you play. The Pitch Bend Wheel lets you raise and lower the pitch by a programmable amount, as well as adjust the timbre of the sound (see the VOICE PARAMETER MODE chapter, Job #02) by moving the wheel up or down. The Modulation/Volume Wheel can be assigned to control either modulation or volume. Modulation (a regular cyclical variation in the sound) can be applied to pitch, volume, or timbre for various special effects (see the VOICE PARAMETER MODE chapter, Job #9).

PERFORMANCE EDITOR

The 707's PERFORMANCE EDITOR selection on the control panel features four sliders. These allow you to add expression to your playing.

NOTE 1:

When you turn on the 707, or when you select a program or combination, the two PERFORMANCE EDITOR keys will be reset to their default settings, as follows:

WHEEL REVERSE:	NORMAL
PORTAMENTO:	OFF

NOTE 2:

PORTAMENTO can also be turned ON or OFF by a foot switch connected to one of the FOOT SW connectors on the rear panel. Use FUNCTION Job #2 to assign the Portamento function to the foot switch.

TIMBRE SLIDER

The TIMBRE slider controls the timbre (tone) of the 707. In the center position, the timbre will be as programmed (see the VOICE PARAMETER MODE chapter, Jobs #3, #4, #5, and #6). Move the slider up to brighten it, down to soften it.

NOTE 3:

If the timbre has been set to its most brilliant level in the VOICE PARAMETER MODE, the TIMBRE slider cannot brighten the sound any further.

The Pitch Bend Wheel can also be used to change timbre, and may in some programs brighten the sound beyond the highest position of the Performance Editor's TIMBRE slider.

EG1, EG2 SLIDERS

EG stands for ENVELOPE GENERATOR. These sliders control the note length (overall envelope length) of the two oscillators that generate the 707's sounds. The EG1 slider controls OSC1, the EG2 slider controls OSC 2. In the center position, envelope length will be as programmed. Move the slider up to shorten envelope length, down to lengthen it.

NOTE:

These sliders affect the length of the TIMBRE EG and AMPLITUDE EG of each oscillator, NOT the PITCH EG. See VOICE PARAMETER, Jobs #2, #5 and #7 for explanations of EG's.

PORTAMENTO SWITCH

The 707 has a Portamento function, which creates a gradual change in pitch between notes, for a sliding effect. The portamento rate can be varied (see VOICE PARAMETER, Job #01).

This switch turns the Portamento ON or OFF. When turned ON, its LED lights.

ASSIGNABLE FOOTSWITCH

Allows you to use optional footswitches (such as the KORG PS-1), connected to the FOOT SW jacks on the rear panel, to make program changes, sustain sounds just as you would with a piano's damper pedal, or turn the Portamento function ON or OFF.

Use FUNCTION Job #2 to assign one of these functions to the foot switch.

CREATING PROGRAMS AND COMBINATIONS

On the 707, you can create programs and combinations to suit your own style of playing. This is done by editing individual parameters and functions to create the exact sound you are looking for.

The 707 has two special editing modes. Each mode contains a number of "jobs" (listed on the Job Table on the 707's control panel). Each job contains a number of "parameters" -- individual functions which can be turned OFF or ON, or set to a specific value.

The two modes are as follows:

VOICE PARAMETER MODE:

This mode lets you create new programs. It has nine jobs, numbered 1 thru 9, which are used to program the tone and structure of a voice. This mode also has seven additional jobs, numbered 01 thru 07, which set performance parameters (such as Control Wheel range or velocity sensitivity).

COMBINATION PARAMETER MODE:

This mode lets you set parameters when creating new program combinations. It has eight jobs, numbered 0 thru 7.

NOTE:

You do not need to enter this mode if you are only selecting programs for a new combination.

HOW TO EDIT A PROGRAM

Here we explain in detail a typical program editing job. Once you understand this example, you'll be able to edit virtually any job in the Voice Parameter mode, because most jobs are accessed and edited in the same way. (There are a few exceptions, which will be described individually in the VOICE PARAMETER MODE chapter.)

NOTE:

When selecting a mode for editing, the PROGRAM key (with the KBD MODE key) can be considered as a "pivot" point for switching between the COMBINATION and VOICE PARAMETER modes. For example, it is necessary to first select the SINGLE keyboard mode before entering the VOICE PARAMETER mode. To do this, press PROGRAM, then KBD MODE (until SINGLE appears on the LCD), then PARAMETER. Similarly, it is necessary to select a keyboard mode other than SINGLE to enter the COMBINATION PARAMETER mode. To do this, press PROGRAM, then KBD MODE (until LYR, DBL, or MLT appear), then PARAMETER.

For our example we'll select a program for editing, then select one job (Job #9: Modulation Generator) and edit its parameters. Later in this chapter we'll explain how you store the newly edited program.

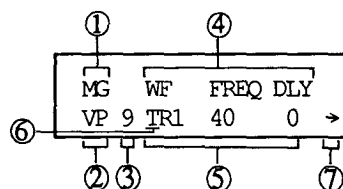
NOTE:

Setting parameters in the Combination Parameter and Function modes is done in the same way as setting parameters in the Voice Parameter mode.

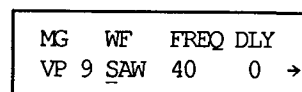
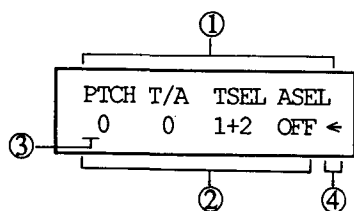
- 1) Select the program you wish to edit. Also, press KBD MODE until the 707 is set to the Single keyboard mode.
- 2) Press the PARAMETER key. Its LED will light. The LCD will show the first job in this mode (Job #1: PITCH).

PTCH	OSC1	OSC2	DTN
VP	1	8	1 0

- 3) You can now edit parameters in this job. Since for our example we're using Job #9, press Numeric key 9 (note: some jobs in the Voice Parameter mode have a two-figure number, so for them you'll have to press "0" and then another Numeric key). The LCD will display Job #9: MODULATION GENERATOR.



- ① Job name
- ② Type of parameter (VP = Voice Parameter)
- ③ Job number
- ④ Parameter names
- ⑤ Parameter values/settings
- ⑥ Cursor at first parameter
- ⑦ Arrow indicating continuation of parameters on next page



New waveform setting

- ① Parameter names
- ② Parameter values/settings
- ③ Cursor at first parameter
- ④ Arrow indicating continuation of parameters on previous page

4) These are typical job displays. The seven parameters for this job are spread out over two display "pages." The parameter type, job name, and job number appear at the left end of the first LCD page. On the top of both LCDs are the parameter names, under each of which is the current parameter value or setting. Most job displays are laid out like this one, either on one page or two. Any exceptions will be clearly explained where appropriate.

In Job #9 there are seven parameters. The cursor will appear under the first parameter, which in this case is "WF" (Waveform).

5) There are two ways to edit this parameter: the VALUE slider, or the UP/YES and DOWN/NO keys.

The VALUE slider is useful for rapid changes, especially when a parameter has a wide range of values. As you move the VALUE slider up, the parameter value increases. As you move the VALUE slider down, the parameter value decreases. Though the VALUE slider serves also as the EG 2 slider in performance, it automatically assumes the function of a parameter editor in the COMBINATION, VOICE PARAMETER, and FUNCTION modes. Pressing the PROGRAM key will automatically assign it to control EG 2.

The UP/YES and DOWN/NO keys change the parameter setting in single steps. Each time you press the UP/YES key the parameter value increases by one unit. Each time you press the DOWN/NO key the parameter value decreases by one unit.

This parameter (Waveform) has four settings (TRIANGLE, SAWTOOTH, SQUARE, SAMPLE & HOLD), so it's advisable to use the UP/YES and DOWN/NO keys to select the waveform (which will appear on the LCD as "TRI" "SAW", "SQUR" or "S/H"). For example, pressing the UP/YES key once will change the waveform to SAWTOOTH.

6) To select another parameter, use the CURSOR keys. Using the CURSOR keys will allow you to move between parameters and pages. Each time one of these keys is pressed it moves the cursor to the parameter immediately to the right or left (depending on the direction of the arrow marked above the key).

In our example, pressing the CURSOR right key will move the cursor one parameter to the right, to the "FREQ" (frequency) parameter.

7) Since this parameter has a wide value range (0 -- 63), it is quicker to edit it by using the VALUE slider. Or you can use the VALUE slider to quickly set an approximate value, then use the UP/YES and DOWN/NO keys to "fine-tune" the setting.

8) Continue moving the cursor to other parameters, and alter their values or settings in the same way, as long as you like. The parameters on the second LCD page may be viewed and edited by repeatedly pressing the CURSOR right key.

Similarly, when on the second page, return to the first page is done by repeatedly pressing the CURSOR left key. The arrow on the far right of both LCDs indicates that another page of parameters exists, and the direction of the arrow indicates which CURSOR key to use for going to the other page. (At the end of this section are some additional examples of the 707's cursor movement.)

After you have edited the parameters of this job to your satisfaction, return to step 3, select another job, and edit its parameters.

NOTE:

At any time during editing, you can compare the sound of the edited program with the original by pressing the COMPARE key. The LCD will change to show the original parameter values, and a small case letter "c" will appear on the top right portion of the LCD to indicate recall of the original program. To continue editing where you left off, press COMPARE again.

MORE ABOUT THE USE OF THE CURSOR KEYS

Some job parameter displays are laid out with several rows or columns. The CURSOR keys in these jobs therefore move the cursor up and down as well as left and right; the CURSOR left key also moves the cursor up, and the CURSOR right key moves it down. The cursor always goes to the last available parameter in a column or row before moving to the next or previous column or row. Further explanation of cursor movement in these exceptional cases is given with the description of the jobs in which they appear. (See VOICE PARAMETER Jobs #02, #03, #04; COMBINATION PARAMETER Job #7; and FUNCTION PARAMETER Job #2.)

HOW TO EDIT A COMBINATION

There are two basic procedures involved in editing a combination.

First, while in the Program mode, press the KBD MODE key to select which keyboard mode the combination will use, and which programs will make up the combination.

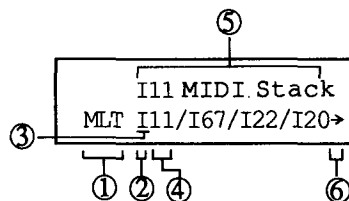
NOTE:

The SINGLE keyboard mode can also be selected, should you wish to use the 707's combination memory to store single voices. However, none of the Combination Parameter jobs can be called up for editing your SINGLE mode combination.

Second, call up the Combination Parameter mode by pressing the PARAMETER key and edit parameters in the selected combination. Setting parameters in the 707's Combination Parameter mode is done in exactly the same way as setting parameters in the Voice Parameter mode, except that you select the LAYER (LYR), DOUBLE (DBL), or MULTI (MLT) keyboard mode to get started. Refer to the previous section for details.

Here's how you carry out the first procedure:

- 1) Press PROGRAM.
- 2) Select the keyboard mode you wish to use for the new combination by pressing the KBD MODE key until the desired keyboard mode appears in the display. For example, MULTI mode.



- ① Keyboard mode
- ② Indicates internal program
- ③ Cursor under first program
- ④ Program number
- ⑤ Type of memory, number, and name of cursor-selected program
- ⑥ Arrow indicating continuation of parameters on next page

In this mode, eight different programs are assigned to the eight program slots. The LCD shows the type of memory and the program number. The cursor is positioned under the first program slot.

- 3) You can now select a Program for this slot, using the normal program selection procedure (see the SELECTING PROGRAMS AND COMBINATIONS chapter).
- 4) Press the CURSOR right key to move the cursor to the next slot, and select another program. Continue moving the cursor and selecting programs until you have selected programs for all eight program slots. You can now either store the new Combination, or edit its parameters.

NOTE:

You can NOT store a Combination if it contains both internal and external (RAM or ROM card) programs. This type of combination can ONLY be used for performance, and can NOT be stored. For storing, a combination should contain ONLY internal or external programs, and should be stored to the corresponding memory. To get around this, move programs between the internal and external memories (using the program store procedure) until all selected programs are in the same memory. Then create a combination using these selected programs.

An alternative method for entering the COMBINATION PARAMETER mode, useful when selecting a specific Combination instead of a specific Program, is to press COMBINATION, then CARD (to select the type of memory), then the UP/YES and DOWN/NO keys (to select the desired combination), and, finally, PARAMETER. If the combination selected is LAYER, DOUBLE, or MULTI, you can now edit COMBINATION parameters.

STORING AN EDITED PROGRAM OR COMBINATION

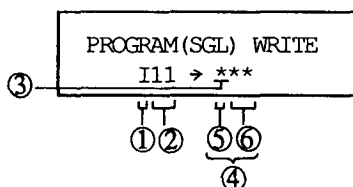
This section explains how to store an edited program so that all the new data is preserved for instant recall at any time. Combinations are stored in exactly the same way, except that in step 3 you enter a combination number (range: 0 -- 9).

- 1) Press FUNCTION.
- 2) Press numeric key 5.
- 3) Press the DOWN/NO key to turn the internal memory protect OFF.
- 4) Press FUNCTION once again to return to the edited program.

NOTE:

The above four steps, related to control of the memory protect function, are explained in more detail in the FUNCTION MODE chapter, Job. #5.

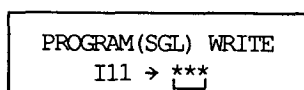
- 5) Press WRITE. The LCD will show that you wish to store the Voice Parameters of the program that you have edited (for example, internal program 00).



- ① Indicates internal program
- ② Program number
- ③ Cursor at memory position
- ④ Program destination
- ⑤ Memory type to be loaded into
- ⑥ New program number

- 6) Press CARD until "I" shows in the display if you wish to store the program in the 707's internal memory. Press CARD until "E" shows if you wish to store the program on a RAM card (a card must be inserted into the card slot for this purpose).

- 7) Use the Numeric keys to select the destination in which to store the sprogram. RANGE: 00 -- 99. The LCD will now show the complete program destination (for example, internal memory number 12).



Program destination

If you change your mind and want to enter a different program destination, simply press WRITE again and return to step 2. You'd want to do this if the selected program destination already contained a program you wish to keep.

You can also cancel the write operation, by pressing DOWN/NO.

- 8) To store the program, press UP/YES. The program will be stored in the new destination, and the LCD will return to the Program Select mode.

NOTE:

Since program and combination write operations cannot be performed with a new, unformatted RAM card, you will need to format the new RAM card before storing data. See the FUNCTION MODE chapter, Job #3, SAVE TO RAM CARD regarding formatting procedures.

QUICK GUIDES

To recap, here are quick guides to editing programs and combinations on the 707.

PROGRAM EDITING

- 1) Select a program.
- 2) Press KBD MODE to select the Single keyboard mode.
- 3) If desired, press PARAMETER to select the Voice Parameter mode, and edit the parameters. Press COMPARE to compare the edited program with the original. (This step may be omitted if you only wish to store the program to a new memory location.)
- 4) After editing, press WRITE. Then select a program storage destination (internal or external) by pressing the CARD key. Then press UP/YES to store the program.
- 5) The 707 will return to the Program Select mode.

COMBINATION EDITING

- 1) Press PROGRAM, and select a keyboard mode.
- 2) Assign new programs to groups within the combination, by moving the cursor to each group and selecting programs.
- 3) If desired, press PARAMETER to select the Combination parameter mode, and edit parameters. (This step can be omitted).
- 4) After editing, press FUNCTION and turn the memory protect off. Press WRITE, then select a combination storage destination (internal or external) using the CARD key. Then press UP/YES to store the combination.
- 5) The 707 will return to the Combination Select mode.

THE VOICE PARAMETER MODE

This chapter describes in detail the jobs and parameters available in the Voice Parameter mode. (Refer to the CREATING PROGRAMS AND COMBINATIONS chapter for descriptions of the procedures used for selecting and editing jobs and parameters. Any exceptions to these procedures will be described in this chapter.)

The Voice Parameter mode is selected by pressing PARAMETER (after first selecting the program that you wish to edit, and setting the 707 to the SINGLE keyboard mode by pressing KBD MODE).

Newly edited programs should be stored, or they will be lost as soon as another program is selected. See STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter.

Jobs available in the Voice Parameter mode are as follows:

JOB #1: PITCH

FUNCTIONS

- 1) To set the pitch of OSC 1 and OSC 2. Oscillator pitch is measured in harmonic series, relative to organ footages. A pitch of 1 is comparable to an 8 foot pipe; a pitch of 2 indicates a 4 foot pipe; a pitch of 0.5 indicates a 16 foot pipe, etc.
- 2) To set the amount of detune. This adds richness to any voice by slightly altering the tuning of OSC 2 relative to OSC 1.

PARAMETERS

PITCH	OSC1	OSC2	DTN
VP 1	_8	1	0

OSC 1: Pitch of OSC 1.

RANGE: 0.5 -- 15.

OSC 2: Pitch of OSC 2.

RANGE: 0.5 -- 25.

DTN: Detuning.

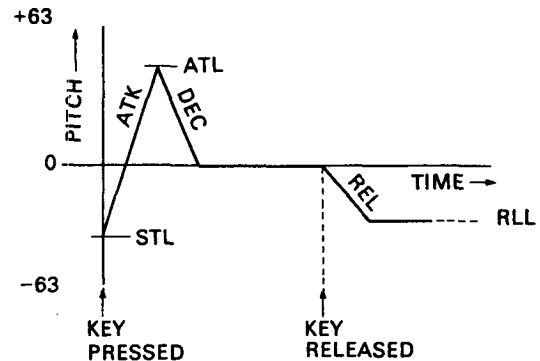
RANGE: 0 -- 3.

JOB #2: PITCH EG

FUNCTION

The pitch envelope generator sets how the pitch of the oscillators will change over time, related to the voice's attack, sustain and decay.

PITCH EG GRAPH



Used subtly, the Pitch EG can add expression and feel to acoustic-sounding voices. Higher settings can create wild effects in synth-type voices.

PARAMETERS

PEG	STL	ATK	ATL
VP 2	_0	0	0 >

DEC	REL	RLL
_0	0	0 <

STL: Start level. The pitch at which the voice will start when a note is played.
RANGE: ± 63 (0 is standard pitch).

ATK: Attack rate. The rate at which the pitch will change from the Start level to the Attack level.
RANGE: 0 -- 63.

ATL: Attack level. The peak level of the pitch.
RANGE: ± 63 .

DEC: Decay Rate. The rate at which the pitch will return from the Attack level to the standard level, while a key is held down.
RANGE: 0 -- 63.

REL: The rate at which the pitch will change to the Release level after a key is released.
RANGE: 0 -- 63.

RLL: Release level. The level to which the pitch will fall after a key is released.
RANGE: ± 63 .

JOB #3: OSC 1 WAVEFORM

FUNCTIONS

1. To select a waveform for OSC 1.
2. To select a variety of tonal effects for OSC 1.
3. To set keyboard tracking for OSC 1, so its tone will change over the range of the keyboard.

PARAMETERS

WF1	TYPE	SPCT	RING	
VP 3	3	1	0	→

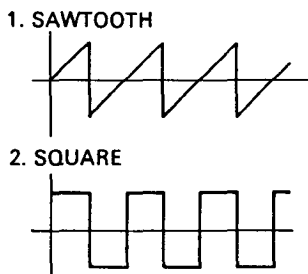
LIMIT	KBD	
OFF	0	←

TYPE: The type of waveform.
RANGE: 1 (Sawtooth), 2 (Square), 3 (Bright Sawtooth) and 4 (Bright Square).

NOTE:

When OSC 2 is set to XMOD, no sound is output from OSC 1.

SAWTOOTH/SQUARE WAVES



SPCT: Spectrum. Alters the resonance of the tone, from a full, bassy timbre to a bright, high timbre.
RANGE: 1 -- 8.

RING: Ring modulation. A special effect that can be used to create metallic sounds. Ideal for bell or cymbal voices.
RANGE: 0 -- 3.

LIMIT: Limits the amount of timbre modulation created by the Control (Modulation) Wheel, by After Touch, or by the Timbre EG (see job #5). When turned OFF, modulation can be increased to produce noise-type voices, especially if the OSC 2 waveform type is set to XMOD.
RANGE: ON, OFF.

KBD: Keyboard tracking. Sets the amount by which the timbre of OSC 1 will change over the range of the keyboard. When activated, sounds the tone will brighten as higher notes are played, and soften as lower notes are played.
RANGE: 0 -- 3.

JOB #4: OSC 2 WAVEFORM

FUNCTIONS

The functions of this job are similar to job #3 for OSC 1, except as noted below.

PARAMETERS

WF2	TYPE	SPCT	RING	
VP 4	XMD	2	0	→

LIMIT	KBD	
ON	2	←

TYPE: The type of waveform.
RANGE: 1 (Sawtooth), 2 (Square), and XMOD (OSC 1 modulates OSC 2, to produce complex waveforms).

NOTE:

When XMOD is selected, no sound is output from OSC 1, since it is only used to modulate OSC 2.

- All other parameters in this job are identical to job #3 (OSC 1 WAVEFORM).

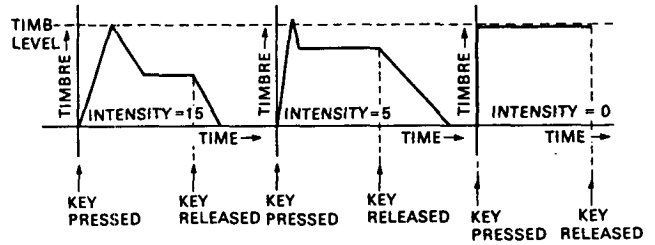
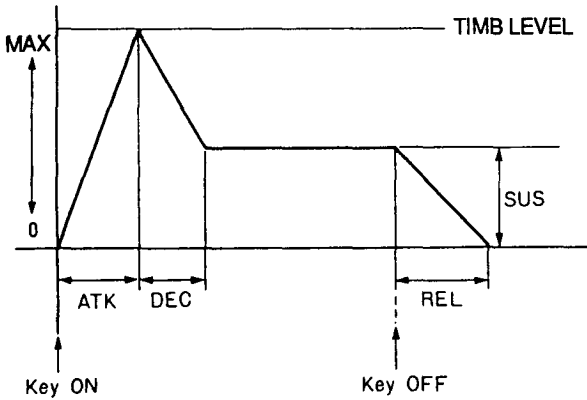
JOB #5: OSC 1 TIMBRE EG

FUNCTIONS

The timbre envelope generator allows you to:

1. Set how the timbre of OSC 1 will change over time, related to the voice's attack, decay, sustain and release.

TIMBRE EG GRAPH



- Set keyboard tracking for OSC 1, so its timbre EG will change over the range of the keyboard.

PARAMETERS

TEG1	TIMB	INT	KBD	
VP 5	99	12	0	→

ATK	DEC	SUS	REL	
5	15	15	15	←

TIMB: Timbre. Sets the peak level of the timbre EG. At the minimum setting OSC 1 becomes a pure sine wave. At the maximum setting, maximum tonal variation is possible. This function can be limited to avoid noise-type timbres by setting the LIMIT parameter to ON (see job #3).
RANGE: 0 -- 99

INT: Intensity. Sets the intensity of timbre modulation by the timbre EG. At the minimum setting, no tonal variation occurs. The voice becomes organ-like, as set by the Timbre parameter. At the maximum setting; full modulation occurs as programmed.
RANGE: 0 -- 15.

The following graphs show the effect of the Intensity parameter.

KBD: Keyboard tracking. Sets the amount by which the timbre EG rates of OSC 1 changes over the range of the keyboard. The timbre EG rates will shorten as higher notes are played, and lengthen as lower notes are played.
RANGE: 0 -- 3.

ATK: Attack rate. The rate at which timbre increases (becomes brighter) to the Timbre setting when a key is pressed.
RANGE: 0 -- 31.

DEC: Decay Rate. The rate at which timbre decreases (becomes softer) from the Timbre setting to the Sustain level, while a key is held down.
RANGE: 0 -- 31.

SUS: The level at which timbre remains while a key is held down.
RANGE: 0 -- 15.

REL: The rate at which timbre decreases after a key is released.
RANGE: 0 -- 15.

JOB #6: OSC 2 TIMBRE EG

The functions and parameters of this job are identical to job #5 OSC 1 TIMBRE EG, as applied to OSC 2.

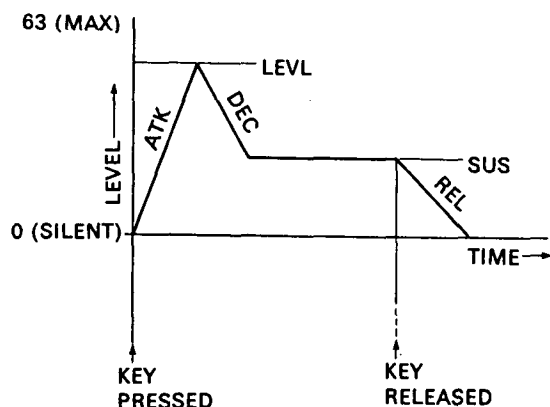
JOB #7: OSC 1 AMPLITUDE EG

FUNCTIONS

The amplitude envelope generator allows you to:

- Set how the level (volume) of OSC 1 changes over time, in terms of attack, decay, sustain and release. This allows you to recreate the natural "shape" of acoustic sounds, or create unique sound shapes of your own.

AMPLITUDE EG GRAPH



- Set keyboard tracking for OSC 1, so that its amplitude EG rates change over the range of the keyboard.

PARAMETERS

AEG1	LEVEL	KBD		ATK	DEC	SUS	REL
VP 7	<u>17</u>	0	→	<u>0</u>	20	0	10

LEVEL: Level. Sets the peak level of OSC 1. At the minimum setting, OSC 1 is silent. At the maximum setting, maximum level variation occurs.

RANGE: 0 -- 63.

KBD: Keyboard tracking. Sets the amount by which the amplitude EG rates of OSC 1 changes over the range of the keyboard. The amplitude EG rates will shorten as higher notes are played, and lengthen as lower notes are played.

RANGE: 0 -- 3.

ATK: Attack rate. The rate at which level increases to the Level setting when a key is pressed.

RANGE: 0 -- 31.

DEC: Decay Rate. The rate at which level decreases from the Level setting to the Sustain level while a key is held down.

RANGE: 0 -- 31.

SUS: The level at which the sound remains while a key is held down.

RANGE: 0 -- 15.

REL: The rate at which level decreases after a key is released.

RANGE: 0 -- 15.

NOTE:

If the sound should become distorted when playing a chord, due to the tone setting, lower the LEVEL parameters of OSC 1 AMPL EG and OSC 2 AMPL EG (Jobs #7 and #8).

JOB #8: OSC 2 AMPLITUDE EG

The functions and parameters of this job are identical to job #7 (OSC 1 AMPLITUDE EG), as applied to OSC 2.

JOB #9: MODULATION GENERATOR

FUNCTION

To add vibrato, wah-wah and tremolo to a selected voice, by modulating the voice with an LFO (Low Frequency Oscillator).

NOTE:

The After Touch function and the Modulation/Volume Wheel let you add modulation even if the modulation level is set at zero (see parameters PTCH and T/A in this job).

PARAMETERS

MG	WF	FREQ	DLY	PTCH	T/A	TSEL	ASEL
VP 9	<u>SAW</u>	37	20	<u>0</u>	11	OFF	1+2

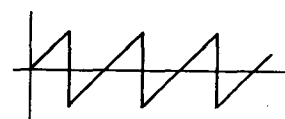
WF: Waveform of the LFO.

RANGE: TRIANGLE, SAWTOOTH, SQUARE, SAMPLE & HOLD.

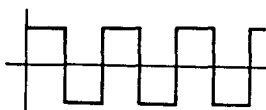
TRIANGLE



SAWTOOTH



SQUARE



SAMPLE & HOLD



FREQ: Frequency of the LFO (modulation speed).
RANGE: 0 -- 63.

DLY: Modulation delay time. Can be set so the modulation "fades in" gradually after you play a note. If you set a long delay time, modulation will only be heard on long notes; short notes will have little or no modulation.
RANGE: 0 -- 31.

PTCH: Amount of vibrato (pitch modulation).
RANGE: 0 -- 63.

T/A: Amount of wah-wah and tremolo (timbre/amplitude modulation)
RANGE: 0 -- 63.

TSEL: Timbre Select. Apply wah-wah to OSC 1, OSC 2 or both.
RANGE: OFF, 1, 2, 1+2.

ASEL: Amplitude Select. Apply tremolo to OSC 1, OSC 2 or both.
RANGE: OFF, 1, 2, 1+2.

JOB #01: PORTAMENTO

FUNCTION

To set the rate and mode of portamento, creating a pitch "sliding" effect between notes.

PARAMETERS

PORTAMENT	MODE	TIME
VP01	_1	32

MODE: This parameter sets one of two types of portamento for each ASSIGN mode (see job #05). These are as follows:

In the POLY mode, portamento mode 1 creates a random type of portamento, where notes seem to slide up and down in random fashion. With portamento mode 2, the slide will always begin from the last note that was played.

In the UNISON mode, portamento mode 1 creates a pitch slide between every note, no matter how you play. With portamento mode 2, the slide only happens between notes which are played legato (i.e., notes that are played before the previous note is released).

TIME: Sets the speed of the pitch slide. (Total slide time will depend on the pitch distance between notes.)
RANGE: 0 -- 63.

JOB #02: CONTROL WHEELS

FUNCTIONS

1. To set the pitch bend range of the Pitch Bend Wheel. Moving the wheel up raises the pitch, and moving it down lowers the pitch.

Note:

The wheel's operation can be reversed (up = lowered pitch; down = raised pitch), by pressing the WHEEL REVERSE key, to suit individual playing styles or while using the 707 as a shoulder-worn, remote keyboard. All descriptions of wheel operation that follow are with the Wheel Reverse key OFF.

2. To set the timbre range of the Pitch Bend Wheel. This effect can be applied with or without pitch bend. Up = bright (timbre level increased); down = soft (timbre level decreased).
3. To set the pitch and timbre ranges of the Modulation/Volume Wheel. Pitch modulation (or vibrato) and Timbre modulation (or wah-wah) increase as the wheel is moved up and decrease as it is moved down.
4. To set the modulation speed of the Modulation/Volume Wheel. The waveform and frequency of modulation is set using VOICE PARAMETER Job #9, MODULATION GENERATOR.

PARAMETERS

WHL BEND:PITCH	_2
VP02	TIMBRE 0 >

MOD:P.INT	_2	SPEED	0
T.INT	0		<

Parameters in this job are arranged in vertical columns. The cursor is moved up and down each column before moving to the next or previous column. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

BEND: PITCH. Pitch bend range of the Pitch Bend Wheel.
RANGE: 0 -- 12 semitones in either direction.

BEND: TIMB. Timbre range of the Pitch Bend Wheel.
RANGE: 0 -- 3.

MOD: SPEED. Modulation speed range of the Modulation/Volume Wheel.
RANGE: 0 -- 3.

JOB #03: VELOCITY

FUNCTIONS

To set how much the Timbre EGs and Amplitude EGs of OSC 1 and OSC2 respond to key velocity. You can set these functions so that the harder you play a note, the brighter (Timbre EG) and/or louder (Amplitude EG) it becomes.

PARAMETERS

VEL	TEG1	6	TEG2	0
VP03	AEG1	4	AEG2	4

Parameters in this job are arranged in horizontal rows. The cursor is moved left and right in each row before moving to the next or previous row. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

TEG1: Timbre EG 1. Sets how much key velocity will affect the Timbre EG of OSC 1.
RANGE: 0 -- 7.

TEG2: Timbre EG 2. Sets how much key velocity will affect the Timbre EG of OSC 2.
RANGE: 0 -- 7.

AEG1: Amplitude EG 1. Sets how much key velocity will affect the Amplitude EG of OSC 1.
RANGE: 0 -- 7.

AEG2: Amplitude EG 2. Sets how much key velocity will affect the Amplitude EG of OSC 2.
RANGE: 0 -- 7.

JOB #04: AFTER TOUCH

FUNCTIONS

To set how much the intensity of the vibrato, timbre, OSC 1 level and OSC 2 level are affected by After Touch. You can set these functions so that the harder you press on a key after playing it, the stronger the vibrato becomes (Pitch Modulation), the brighter the timbre becomes (Timbre) and/or the louder each oscillator becomes (Amp 1 and Amp 2).

PARAMETERS

AFTR	PMOD	3	TIMB	0
VP04	AMP1	0	AMP2	0

Parameters in this job are arranged in horizontal rows. The cursor is moved left and right in each row before moving to the next or previous row. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

PMG: Pitch Modulation Generator. Sets how much vibrato is applied to OSC 1 and OSC 2 by After Touch. The rate and type of vibrato are set using job #9 MODULATION GENERATOR.
RANGE: 0 -- 7.

TIMB: Timbre. Sets how much the timbre of OSC 1 and OSC 2 is increased by After Touch.
RANGE: 0 -- 7

AMP 1: OSC 1 amplitude. Sets how much the level of OSC 1 is increased by After Touch.
RANGE: 0 -- 7.

AMP 2: OSC 2 amplitude. Sets how much the level of OSC 2 is increased by After Touch.
RANGE: 0 -- 7

JOB #05: ASSIGN MODE

FUNCTIONS

1. To set the 707 to play in 8-note polyphonic mode (POLY) or in monophonic UNISON mode, where eight voices sound together when a single key is pressed.
2. In the UNISON mode only, to set TRIGGER and DETUNE functions.

The TRIGGER function, when set to MULTI, lets you trigger the envelope generator every time a note is played in the UNISON mode (even if the previous note is still held; i.e., no Note Off signal has been sent). If set to SINGLE, the envelope generators are triggered only if the previous note has first been released (i.e., a Note Off signal has been sent).

The DETUNE function allows you to detune the pitches of the eight voices in the UNISON mode. This provides a rich chorus effect, with variable depth.

NOTE:

When using the LAYER keyboard mode, the key assignment programmed for Group 1 affects Group 2 as well, regardless of Group 2's assignment. For example, when Group 1 is in the POLY mode, Group 2 is played in POLY even if it is set for UNISON in this job.

PARAMETERS

POLY mode display:

```
ASS MODE
VP05 POLY
```

UNISON mode display:

```
ASS MODE TRIG DTN
VP05 UNSN MLTI 3
```

TRIG: Trigger.
RANGE: SINGLE, MULTI.

DETUNE:
RANGE: 0 -- 3

JOB #06: PROGRAM NAME

FUNCTION

To set a new name (of up to 10 characters) for a program.

PARAMETERS

```
VOICE NAME
VP06 FANTASIA 1
```

When you enter this job, the cursor appears at the first character space. To select a character, use the VALUE slider and/or the UP/YES and DOWN/NO keys. The available characters are as follows:

	!	"	#	\$	%	&	'	()	*	+
,	-	.	/	0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?	@	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	{	|	}	→	←

Once you select a character, use the CURSOR keys to move the cursor to another character and select a character for it as described above. Do this until you have finished entering the name of your choice.

JOB #07: OCTAVE

FUNCTION

To set the octave transposition of the program. Since the keyboard of the 707 is one octave shorter than most synthesizer keyboards, a programmable octave setting is provided for playing programs in the desired range.

NOTE:

This job has no effect on the MIDI note number that is transmitted. For example, a C3 played in the LOW octave setting will actually be one octave lower in the audio output, or a C2 note. Any MIDI devices connected to the 707, however, will respond to the note as a C3.

PARAMETERS

```
OCTAVE
VP07 LOW
```

The normal range of the 707's keyboard is C2 - C6.

RANGE: LOW (C1 - C5), MIDDLE (C2 - C6), HIGH (C3 - C7).

THE COMBINATION PARAMETER MODE

This chapter describes, in detail, the jobs and parameters available in the Combination Parameter mode. (See the CREATING PROGRAMS AND COMBINATIONS chapter for descriptions of the procedures used for selecting and editing jobs and parameters. Any exceptions to these procedures will be described in this chapter.)

The Combination Parameter mode can be selected in two ways: 1> By pressing COMBINATION, selecting the combination you wish to edit, and then pressing PARAMETER to edit the combination; 2> by pressing the KBD MODE key and selecting any keyboard mode other than SINGLE, and then pressing PARAMETER to edit a new combination.

Newly edited combinations should be stored, or they will be lost as soon as another combination or program is selected. (See STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter.)

Not all jobs in the Combination Parameter mode can be called for all keyboard modes, as shown in the following chart.

"Y": can be called; "N": cannot be called.

JOB	LAYER	DOUBLE	MULTI
#0: Controller	Y	Y	Y
#1: Modulation Generator	Y	Y	Y
#2: Pan	Y	Y	Y
#3: Volume	Y	Y	Y
#4: Number of Voices	N	Y	Y
#5: Receive Channel	N	N	Y
#6: Interval/Detune	Y	Y	N
#7: Key Split/Octave Shift	N	Y	N

NOTE:

If you try to call a Combination Parameter job that cannot be called from the current keyboard mode, the LCD will show "UNAVAIL IN THIS KBD MODE". Select the correct keyboard mode, press Combination Parameter and try again.

Parameter selection will only be described for one keyboard mode in each job. For example, job #6 (NO. OF VOICES) can be selected in either the DOUBLE or MULTI mode, but instructions will be given only for selecting the number of voices in the DOUBLE mode. Operation is exactly the same for the MULTI mode, except that eight groups are available instead of two, and the parameters are displayed on two separate pages.

Jobs available in the Combination Parameter mode are as follows:

JOB #0: CONTROLLER

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

1. To select which program group's controllers will be used to control the combination. Controllers include PITCH BEND WHEEL, MODULATION WHEEL, AFTERTOUCH, and FOOTSWITCHES 1 and 2. The program assigned to the selected ("source") group contains the controller parameter settings.
2. To select which program groups in a combination will receive controller signals.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

```
CTL SRC 1: 2:
CPO _1 O N OFF
```

SOURCE: Select which program group's controllers control the combination.

RANGE: Groups 1 -- 2 (LAYER, DOUBLE modes), Groups 1 -- 8 (MULTI mode).

The LCD also shows the group numbers (1 and 2 in the example shown, 1 thru 8 for the MULTI mode). You can set the controller effect either ON or OFF for each group.

NOTE:

In the MULTI mode, MIDI data received from controllers (such as modulation wheels) or after touch (from a remote keyboard, for example) is received at the channel of the group selected here. All groups are influenced by this data.

JOB #1: MODULATION GENERATOR

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

1. To select which group's Modulation Generator will control the combination. The program assigned to the selected ("source") group contains the Modulation Generator settings.
2. To select which groups in a combination will receive Modulation Generator signals.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

MG SRC 1: 2:
CP1 <u>1</u> O N O N

SOURCE: Select which group's Modulation Generator will control the combination.
RANGE: Groups 1 -- 2 (LAYER, DOUBLE modes), Groups 1 -- 8 (MULTI mode).

The LCD also shows the group numbers (1 and 2 in the example shown, 1 thru 8 for the MULTI mode). You can set the Modulation Generator effect either ON or OFF for each group.

JOB #2: PAN

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTION

To assign each group to one or both of the 707's outputs. If output A is monitored on the left, and output B on the right, this would allow you to hear the group in the left (A), right (B), or center (A+B) positions in the stereo image.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

PAN 1: 2:
CP2 <u>A+B</u> B

Groups are numbered 1: and 2: (LAYER, DOUBLE modes) or 1: thru 8: (MULTI mode). Set the PAN for each group.

RANGE: A, B, A+B

JOB #3: VOLUME

KEYBOARD MODE: LAYER, DOUBLE, MULTI

FUNCTIONS

To set the volume for each group.

PARAMETERS

The following LCD display appears when the LAYER mode is selected.

VOLUME 1: 2:
CP3 <u>63</u> 63

RANGE: 0 - 63

JOB #4: NO. OF VOICES

KEYBOARD MODE: DOUBLE, MULTI

FUNCTION

To assign the number of voices to each group. The 707 has a limit of 8 voices.

PARAMETERS

The following LCD display appears when the DOUBLE mode is selected.

NoVOICE 1: 2:
CP4 <u>4</u> 4

Assign voices to each group (group numbers are 1: and 2: in the DOUBLE mode, 1: thru 8: in the MULTI mode). Total number of voices available: 8.

RANGE: 0 -- 8

JOB #5: RECEIVE CHANNEL

KEYBOARD MODE: MULTI

FUNCTION

To assign MIDI channels to each of the eight groups, so they can be individually controlled by MIDI data from an external MIDI device.

PARAMETERS

RECV ch 1: 2: 3:	4: 5: 6: 7: 8:
CP5 _1 2 3 →	_4 5 12 13 6 ←

Groups are numbered 1: thru 8:. Set the MIDI Receive Channel for each group.

RANGE: 1 -- 16.

JOB #6: INTERVAL/DETUNE

KEYBOARD MODE: LAYER, DOUBLE

FUNCTIONS

1. To raise the pitch of Group 2 in semitone steps up to 12 semitones (1 octave).
2. To detune Group 2 (slightly alter its pitch) by up to ±25 cents (1 cent = 1/100th of a semitone).

PARAMETERS

INTERVAL	DETUNE
CP6 _0	2

INTERVAL: The amount that Group 2's pitch is raised.

RANGE: 0 -- 12 semitones.

DETUNE: The amount that Group 2 is detuned.

RANGE: -31 -- +32.

JOB #7: KEY SPLIT/OCTAVE SHIFT

KEYBOARD MODE: DOUBLE

FUNCTIONS

1. To assign the two groups to different sections of the keyboard. Group 1 can be assigned to the lower part of the keyboard, and its upper note limit set. Group 2 can be assigned to the upper part of the keyboard, and its lower note limit set.

NOTE:

The range of the 707 keyboard is C2 -- C6. For controlling external MIDI devices, note limits can be set anywhere from C1 to C8. Bar graphs on the LCD provide a visual representation of the note range, from C1 to C8 (one block indicates one octave).

2. To alter the pitch of either or both of the two groups, by one or two octaves.

PARAMETERS

SPLIT 1: B 3 III	OCT SHIFT 1: +1
CP7 2: C 4 III →	2: 0 ←

Parameters in this job are arranged in vertical columns. The cursor is moved up and down each column before moving to the next or previous column. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

KEY SPLIT 1: Set the upper note limit of Group 1.
RANGE: C1 -- C8.

KEY SPLIT 2: Set the lower note limit of Group 2.
RANGE: C1 -- C8.

OCT SHIFT 1: Raise the pitch of Group 1 by one or two octaves.
RANGE: 0, +1, +2.

OCT SHIFT 2: Lower the pitch of Group 2 by one or two octaves.
RANGE: 0, -1, -2.

THE FUNCTION MODE

Settings in this mode are made the same way as in the Voice Parameter mode (see the CREATING PROGRAMS AND COMBINATIONS chapter). However, Function mode settings do not need to be stored -- they are remembered by the 707 as soon as they are set. Function settings are global; this means that the Function value that you set while in one program will be active for ALL programs.

Press FUNCTION to enter the Function mode. After setting functions, press FUNCTION again to return to where you were.

NOTE:

You can enter the FUNCTION mode from any other mode. However, when you leave the FUNCTION mode, you automatically return to the previous mode. For example, if you enter FUNCTION from PROGRAM, you can return to PROGRAM either by pressing the PROGRAM key or by pressing the FUNCTION key again.

Jobs available in the Function mode are as follows:

JOB #0: MASTER TUNE

FUNCTION

To tune the pitch of the 707 (in order to match the pitch of accompanying instruments).

DISPLAY

TUNE	|	
0 b	|	#

Move the cursor to the left to flatten (lower) the pitch, or to the right to sharpen (raise) the pitch. When the cursor is centered, the 707 is at standard Concert Pitch (A = 440 Hz).

RANGE: ±50 cents.

JOB #1: TRANSPOSE

FUNCTION

To alter the pitch of the 707, in semitone steps, for automatic transposing to any key.

DISPLAY

TRANSPOSE	|	
1 C = C -	|	+

Use the UP/YES and DOWN/NO keys to move the lower bar to change the pitch; moving the bar to the left lowers the pitch, and to the right raises the pitch. When the cursor is centered the 707 is at normal pitch. The letter following the equal sign indicates the amount of key change from the center key of C.

RANGE: ±12 semitones (1 octave).

JOB #2: FOOTSWITCH 1, 2 ASSIGN

FUNCTION

To assign optional footswitches (such as the KORG PS-1 or PS-2 Footswitch) to execute Program Up (Footswitch 1), Program Down (Footswitch 2), Portamento On/Off, or Damper On/Off.

DISPLAY

FOOT SW 1:DAMPER
2 2:PROG DOWN

Parameters in this job are arranged in a vertical column.

The cursor is moved up and down the column by pressing the CURSOR keys. (See the CREATING PROGRAMS AND COMBINATIONS chapter, HOW TO EDIT A PROGRAM for more about cursor movement in this and other jobs.)

The footswitch can be assigned to one of the following functions:

PROGRAM UP: Pressing the footswitch advances through the 707's programs in order.

PROGRAM DOWN: Pressing the footswitch changes the 707's program in reverse order.

NOTE 1:

Program Up can only be assigned to Footswitch 1, and Program Down only to Footswitch 2.

DAMPER ON/OFF: Pressing the footswitch turns the Portamento function on and off. The LED of the PORTAMENTO key will light when the function is on. Pressing PORTAMENTO at any time overrides the footswitch.

NOTE 2:

Two footswitches cannot be assigned to the same function at once.

NOTE 3:

Use a normally open footswitch (such as the KORG PS-1 or PS-2) for proper operation. Use of a normally closed footswitch will result in reversed operation (i.e., lifting up on the switch will trigger the selected function).

JOB #3: SAVE TO RAM CARD

FUNCTION

To save a complete "bank" of 100 programs and 10 combinations to a KORG RAM card. Once saved, the data can be loaded back into the 707 at any time (see job #6).

Three types of KORG RAM cards are available: MCR-01, MCR-02 and MCR-03. These can save 1, 2, or 4 banks of data, respectively.

NOTE 1:

When data is saved into a RAM cardbank, all data currently in the bank will be erased.

NOTE 2:

Single programs and combinations can also be saved to RAM card (see STORING AN EDITED PROGRAM OR COMBINATION in the CREATING PROGRAMS AND COMBINATIONS chapter). Single programs and combinations will ALWAYS be saved to Bank #1 of any RAM card that can store more than one Bank.

DISPLAY

The following display will appear if an MCR-03 card is used.

SAVE TO RAM CARD				
3	BANK?	1	2	3 4

The SAVE operation is executed as follows:

1. Move the cursor to the required bank (you only need to do this if the RAM card can store more than one bank).
2. Press UP/YES. The LCD will show "ARE YOU SURE?". At this point you can cancel the SAVE operation by pressing DOWN/NO.
3. To save the data, press UP/YES again. The LCD will show "SAVE COMPLETED".

CARD ERROR MESSAGES

The LCD will show the following messages, to warn of errors in the SAVE operation.

"NO CARD INSERTED"

You need to insert a RAM card before executing the SAVE operation.

"MEMORY PROTECTED"

You need to turn OFF the external memory protect before executing the SAVE operation (see job #4).

"WRITE IMPOSSIBLE ROM/PROTECTED RAM CARD"

1. You are trying to save data to a ROM card. Remove the ROM card and insert a RAM card, or...
2. The RAM card's own memory protect function is turned on. Remove the RAM card, turn its memory protect off, and put it back in the 707's card slot, and try saving data again.

"RAM CARD BATTERY LOW"

The battery in the RAM card is running low, and there is a danger that data may not be saved correctly. Replace the battery before trying to save data.

JOB #4: LOAD FROM CARD

FUNCTION

To load a complete "bank" of 100 programs and 10 combinations into the 707's internal memory from a KORG RAM card or ROM card.

NOTE 1:

When data is loaded, all programs and combinations already in the 707 will be erased.

NOTE 2:

Single programs and combinations can also be loaded from a card into the 707 by first selecting an external program or combination and then carrying out the store operation (see **STORING AN EDITED PROGRAM OR COMBINATION** in the **CREATING PROGRAMS AND COMBINATIONS** chapter).

DISPLAY

LOAD FROM CARD
4 BANK? 1 2 3 4

The following display will appear if an MCR-03 card is used.

The LOAD operation is executed as follows:

1. Move the cursor to the required bank (you only need to do this if the card contains more than one bank of data).
2. Press UP/YES. The LCD will show "ARE YOU SURE?". At this point you can cancel the LOAD operation by pressing DOWN/NO.
3. To load the data, press UP/YES again. The LCD will show "LOAD COMPLETED".

CARD ERROR MESSAGES

In addition to the card error messages explained in job #5, the following message may appear when you select the LOAD function:

"NO DATA IN CARD".

1. The card contains no data (for example, a new RAM card). Replace it with a card that contains data.
2. The data on the card is not 707 data. Replace it with a card that contains 707 data.

NOTE:

Cards with data saved from the KORG DS-8 Digital Synthesizer may also be loaded to the 707. However, since some features are not common to both instruments, some data cannot be loaded and some parameters will be set to default values, as follows:

DS-8 data that cannot be loaded:

VOICE PARAMETER - MULTI EFFECT
COMBINATION PARAMETER - MULTI EFFECT,
MULTI EFFECT IN/OUT

707 default values (no corresponding parameters in DS-8):

VOICE PARAMETER, OCTAVE (Job 07) = MIDDLE
VOICE PARAMETER, CONTROL WHEEL (Job 02),
MOD P. INT = 0, T. INT = 0
COMBINATION PARAMETER, VOLUME (Job 3) =
63 (for all groups)

JOB #5: MEMORY PROTECT**FUNCTION**

To set a Memory Protect function for the internal memory or external memory (RAM card). When turned ON, this prevents new programs or combinations from being stored.

DISPLAY

MEMORY PROTECT
5 INT:O N EXT:O N

INT: Internal memory. Set to ON or OFF.

EXT: External memory (RAM card). Set to ON or OFF.

JOB #6: MIDI CH/OMNI/LOCAL**FUNCTIONS**

1. To select the MIDI channel on which the 707 receives and transmits all MIDI data. This should be the same MIDI channel as any external MIDI equipment connected to the 707.

NOTE:

In the MULTI keyboard mode, you can set each of the eight groups to a different MIDI channel. See Combination Parameter job #5.

2. To turn the OMNI mode either ON or OFF. When the 707 is set to OMNI it will receive MIDI data on all 16 MIDI channels.
3. To turn the LOCAL mode either ON or OFF. For normal use this should be ON. When turned OFF, the 707's keyboard and Control Wheels will control only external MIDI devices connected to the 707's MIDI OUT; the 707's own oscillators will be controlled only by external devices connected to the 707's MIDI IN jack.

DISPLAY

MIDI Ch	OMNI	LOCAL
6	1	OFF ON

CHANNEL: MIDI channel.
RANGE: 1 -- 16.

OMNI: Set to ON or OFF.

LOCAL: Set to ON or OFF.

JOB #7: MIDI FILTERING/EXCLUSIVE

FUNCTION

Allows you to select which types of MIDI data will be received and transmitted by the 707. These are:

1. **ACTIVE SENSING.** A safety function which automatically silences the 707 if a MIDI data transmission fault occurs. This function checks the MIDI signal every 300 msecs.
2. **PROGRAM CHANGE.** Transmission and reception fo MIDI program change messages.
3. **CONTROL.** Transmission and reception of all MIDI controller data, including CONTROL WHEEL functions, VELOCITY and AFTER TOUCH.
4. **EXCLUSIVE.** Transmission and reception of MIDI SYSTEM EXCLUSIVE data. This should be turned ON when executing the MIDI Data Transfer operation (see job #8).

NOTE:

When the SYSTEM EXCLUSIVE function is turned ON and you select a Program on the 707, all the parameter data of the selected program will be transmitted via the 707's MIDI OUT connector. However, a program change message will not be sent.

DISPLAY

MIDI ACT PRG CTL EXC
7 <u>0</u> N O N O N OFF

The following four MIDI functions can be set to either ON or OFF.

ACT: Active sensing.

PRG: Program change.

CTL: Controller data.

EXC: System exclusive data (for MIDI data transfer).

JOB #8: MIDI DATA TRANSFER

FUNCTION

To transfer the data of all 100 programs to another 707. The MIDI OUT of the transmitting 707 should be connected to the MIDI IN of the receiving 707. Both 707s should be set to SYSTEM EXCLUSIVE ON (see job #8).

DISPLAY

DATA TRANSFER
8 ARE YOU SURE ?

After selecting this function, press UP/YES to execute the Data transfer. (If the transmitting 707's SYSTEM EXCLUSIVE function is turned off, the LCD will show "EXCLUSIVE OFF!" and you should turn this function ON using job #8.)

JOB #9: WHEEL ASSIGN

FUNCTION

To assign Modulation/Volume Control Wheel to affect either modulation or volume.

DISPLAY

WHEEL ASSIGN
9 MODULATION

Use the UP/YES or DOWN/NO keys to select either MODULATION or VOLUME.

RANGE: MODULATION, VOLUME.

MIDI APPLICATIONS

The 707 is fully compatible with MIDI. MIDI stands for Musical Instrument Digital Interface, and is now the standard "language" by which digital musical instruments can communicate with each other.

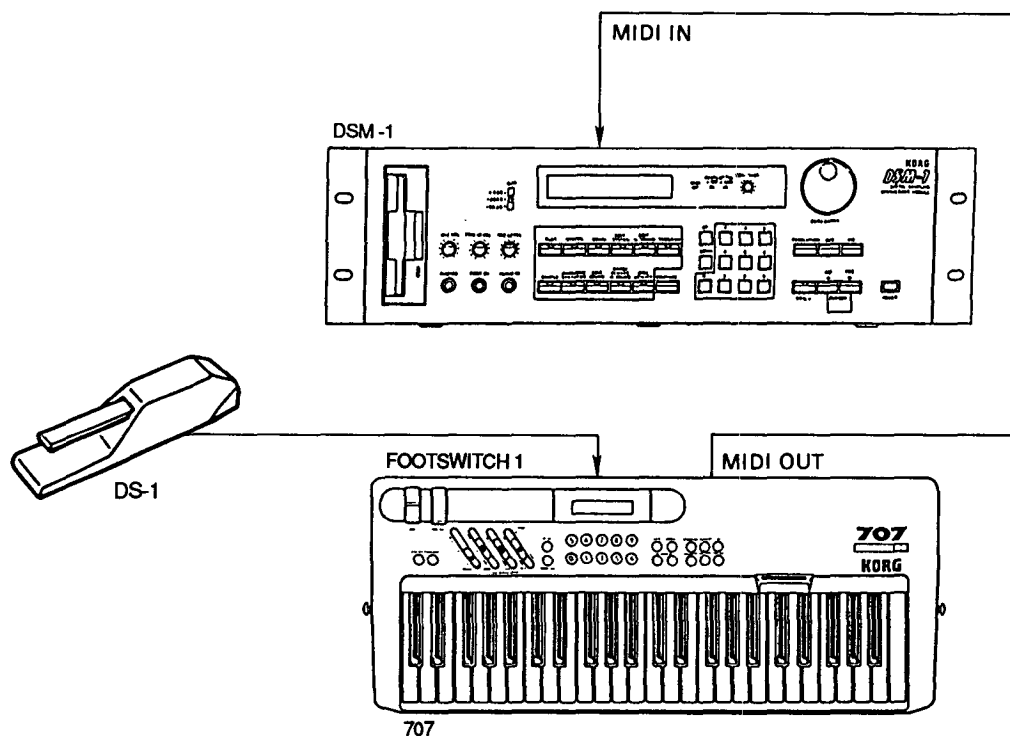
Through the use of MIDI, the 707 can be used to control other MIDI synthesizers (such as the KORG DSS-1 Digital Sampling Synthesizer, or the DW-8000 Digital Waveform Synthesizer) as well as synthesizer modules and samplers (such as the DSM-1 Digital Sampling Synthesizer Module).

The following illustrations and explanations show some of the possible applications of MIDI, and should help you to create useful MIDI systems of your own.

BASIC MIDI SETUP

1. Make certain that the MIDI cable is plugged into the MIDI OUT jack of the 707 and into the MIDI IN jack of the synthesizer or module you wish to control.
2. Using FUNCTION Mode Job #6, set the 707's transmit channel to the same as the receiving channel on the other synthesizer or module.
3. Check FUNCTION Mode Job #7 that the PROGRAM CHANGE and CONTROL parameters are set to ON. This will enable you to change voices as well as use pitch bend and after touch on the other synthesizer with the 707.

APPLICATION #1: SYNTHESIZER AND SAMPLER SYSTEM



Many synthesizer players like to combine two instruments: a digital synthesizer like the 707, for rich digital sounds, and a sampling synthesizer such as the KORG DSM-1, which opens up unlimited possibilities by allowing you to sample and play literally any sound. In this setup, the 707 "plays" the DSM-1 with full touch sensitivity and after touch. A KORG PS-1 pedal switch

is used for the PROGRAM UP function on the 707, which sends program change messages to the DSM-1.

Note:

Connect the footswitch to the Footswitch 1 jack on the rear panel and use FUNCTION Mode Job #2 to assign the footswitch connected to Footswitch 1 to PROGRAM UP.

APPLICATION #2: MIDI SEQUENCER SYSTEM

When the 707 is set to MULTI mode, it interfaces perfectly with a MIDI sequencer like the KORG SQD-8, a compact yet versatile 8-track device. Each track of the SQD-8 can be transmitted over a different MIDI channel, to control individual groups in the 707 and control a rhythm machine such as the DDD-5 Dynamic Digital Drums.

For example, you could record a monophonic line on each of the SQD-8's tracks. Then, on playback, assign each of the 707's groups to a different MIDI channel. Result: a MIDI "orchestra" of eight digital instruments.

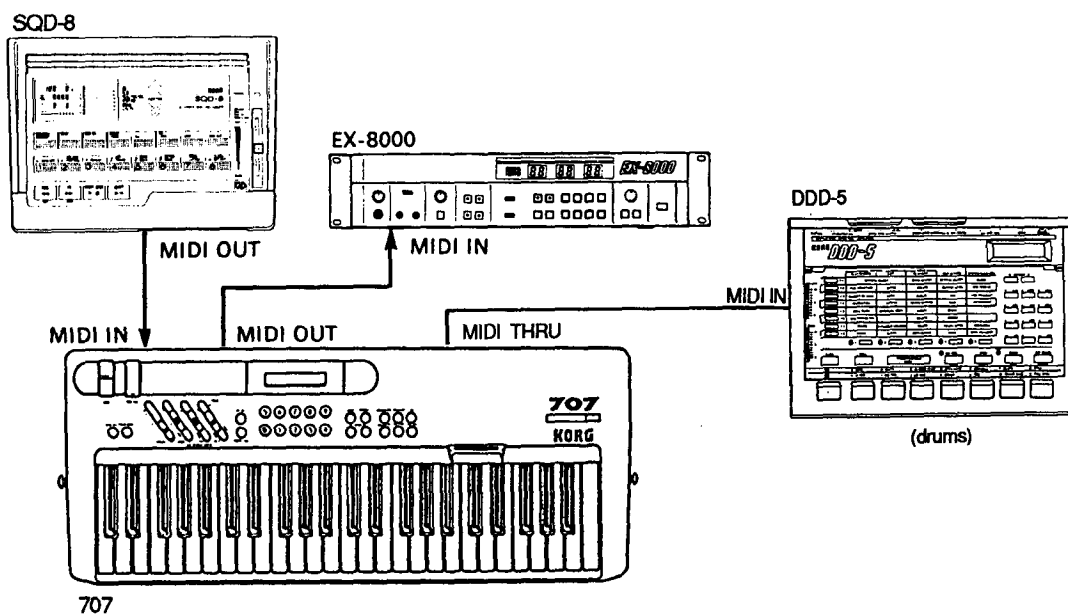
Many variations are possible: track 1 on the SQD-8 could play a 5-note piano part over MIDI channel 1, while track 2 plays a three-note string part over MIDI channel 2. You would then assign 707 groups 1 thru 5 to MIDI Receive Channel 1, and groups 6 thru 8 to MIDI Receive Channel 2. Result: a five-voice piano part plus a rich three-voice string part.

In our application example, the 707 is also controlling an EX-8000 Programmable Polyphonic Synthe Module, which features the same powerful digital voices as the DW-8000 Programmable Digital Waveform Synthesizer. While the SQD-8 plays up to eight parts of music using the 707 as a sound source, the 707's keyboard can be used to play the EX-8000, allowing you to add improvisations to the music stored in the SQD-8.

Also shown in the setup is the DDD-5 Dynamic Digital Drums. By assigning the MIDI channel of one track of the SQD-8 to the same as the DDD-5's receive channel, the excitement of real drum sounds and rhythms can be added to the already impressive instrumentation of the 707 and the EX-8000.

Settings for this MIDI application:

1. Use COMBINATION Mode Job #5 to set the MIDI receive channel of each group in the 707 to match the MIDI channels of the corresponding tracks on the SQD-8.
2. Use FUNCTION Mode Job #6 to set the 707's basic MIDI channel to match the MIDI receive channel of the EX-8000. This job also lets you set the "LOCAL" function to OFF, so that the 707's keyboard plays only the EX-8000, not the 707's internal oscillators.



MIDI IMPLEMENTATION

1. TRANSMITTED DATA 1-1 CHANNEL MESSAGES

Status	Second	Third	Description	ENA
1000 nnnn	0kkk kkkk	0100 0000	Note Off kkk kkkk=24-96 (49Key + Transpose)	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On kkk kkkk=24-96 (49Key + Transpose) vvv vvvv=15-127	A
1011 nnnn	0000 0001	0vvv vvvv	Modulation (Modulation Wheel) vvv vvvv=0-127	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry (Edit Slider) vvv vvvv=0-127	E
1011 nnnn	0000 0111	0vvv vvvv	Volume (Modulation Wheel) vvv vvvv=0-127	C
1011 nnnn	0100 0000	0000 0000	Damper Off (Assignable Pedal 1,2)	C
1011 nnnn	0100 0000	0111 1111	Damper On (Assignable Pedal 1,2)	C
1011 nnnn	0100 0001	0000 0000	Portamento Off (A. Pedal1,2, Panel SW)	C
1011 nnnn	0100 0001	0111 1111	Portamento On (A. Pedal1,2, Panel SW)	C
1011 nnnn	0110 0000	0000 0000	Data Increment (UP/YES Switch)	E
1011 nnnn	0110 0001	0000 0000	Data Decrement (DOWN/NO Switch)	E
1100 nnnn	0ppp pppp	---- ----	Program Change ppp pppp=0-99 (Program) ppp pppp=0-9 (Combination)	P
1101 nnnn	0vvv vvvv	---- ----	Channel Pressure (After Touch) vvv vvvv=0-127	C
1110 nnnn	0000 0000	0bbb bbbb	Bender Change (Bend Wheel) *1 bbb bbbb=00-64-127	C
1110 nnnn	0111 1111	0111 1111	Bender Change (Max) (Bend Wheel) *1	C

Notes: nnnn=MIDI Channel Number(0-15)
 *1: Only When DATA is at Max. LSB=7FH
 0000H - 4000H - 7F00H, 7F7FH(129step)
 (Min) (Center) (Max)

ENA:Trans Enable = A : Always Enable
 C : Control On
 P : Program On
 E : Exclusive On

1-2 SYSTEM REAL TIME MESSAGES

Status	Description
1111 1110	Active Sensing

Trans While ACT On

1-3 SYSTEM EXCLUSIVE MESSAGES

ID	Description	R	C	D	E
—	DEVICE ID	○			
42	PANEL MODE	○			
4B	KEYBOARD MODE	○			
4E	PANEL MODE CHANGE		○		
4A	KEYBOARD MODE CHANGE		○		
41	PROGRAM PARAMETER CHANGE		○		

ID	Description	R	C	D	E	
40	PROGRAM PARAMETER SAVE	○	○			R:Transmit When Request Message Received
4C	ALL PROG PARA & ALL COMBI PARA SAVE	○		○		C:Transmit When Mode or No. Change
49	COMBINATION PARAMETER SAVE	○	○			
4D	ALL COMBINATION PARAMETER SAVE	○				D:Transmit When Data Transfer Mode
23	DATA, MODE LOAD, CHANGE COMPLETED				○	
24	DATA SAVE, LOAD ERROR				○	E:Transmit When Data, Mode Load, Change or Write
21	WRITE COMPLETED				○	
22	WRITE ERROR				○	

7 0 7 SYSTEM EXCLUSIVE HEADER

1111 0000 (F0) : Exclusive Status
 0100 0010 (42) : KORG ID
 0011 nnnn (3n) : Format ID n:Cannel
 0001 1010 (1A) : 707 ID

(1)DEVICE ID

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
1111 0111	EOX

(2)PANEL MODE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0010	PANEL MODE 42H
0000 0mmm	Mode Data (See NOTE 1)
1111 0111	EOX

(3)KEYBOARD MODE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1011	KEYBOARD MODE 4BH
0000 0odd	Data (See NOTE 2)
1111 0111	EOX

(4)PANEL MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1110	PANEL MODE CHANGE 4EH
0000 0ddd	Data (See NOTE 1)
1111 0111	EOX

(5)KEYBOARD MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1010	KEYBOARD MODE CHANGE 4AH
0000 0odd	Data (See NOTE 2)
1111 0111	EOX

(6)PROGRAM PARAMETER CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0001	PROGRAM PARAMETER CHANGE 41H
0ddd dddd	PARAMETER No.
0ddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	EOX

(7)PROGRAM PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 0000	PROGRAM PARAMETER SAVE 40H
0ddd dddd	Data (See NOTE 3)
⋮	
1111 0111	EOX

(8)ALL PROGRAM & COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1100	ALL PROGRAM & COMBINATION PARAMETER SAVE 4CH
0ddd dddd	Data (See NOTE 4)
⋮	
1111 0111	EOX

(9)COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1001	COMBINATION PARAMETER SAVE 49H
0ddd dddd	Data (See NOTE 5)
⋮	
1111 0111	EOX

(10)ALL COMBINATION PARAMETER SAVE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1101	ALL COMBINATION PARAMETER SAVE 4DH
0ddd dddd	Data (See NOTE 6)
⋮	
1111 0111	EOX

(11) DATA, MODE LOAD, CHANGE COMPLETED

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0011	DATA, MODE LOAD, CHANGE COMPLETED 23H
1111 0111	EOX

(13) WRITE COMPLETED

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0001	WRITE COMPLETED 21H
1111 0111	EOX

(12) DATA SAVE, LOAD ERROR

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0100	DATA SAVE, LOAD ERROR 24H
1111 0111	EOX

(14) WRITE ERROR

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0010 0010	WRITE ERROR 22H
1111 0111	EOX

2. RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES

Status	Second	Third	Description	ENA
1000 nnnn	0kkk kkkk	0xxx xxxx	Note Off *1	A
1001 nnnn	0kkk kkkk	0000 0000	Note Off *1	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On vvv vvvv=1-127 *1	A
1011 nnnn	0000 0001	0vvv vvvv	Modulation Intensity	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry	E
1011 nnnn	0000 0111	0vvv vvvv	Volume	C
1011 nnnn	0000 1010	000x xxxx	Panpot (A)	C
1011 nnnn	0000 1010	001x xxxx	Panpot (A+B)	C
1011 nnnn	0000 1010	010x xxxx	Panpot (A+B)	C
1011 nnnn	0000 1010	011x xxxx	Panpot (B)	C
1011 nnnn	0100 0000	00xx xxxx	Damper Off	C
1011 nnnn	0100 0000	01xx xxxx	Damper On	C
1011 nnnn	0100 0001	00xx xxxx	Portamento Off	C
1011 nnnn	0100 0001	01xx xxxx	Portamento On	C
1011 nnnn	0110 0000	0000 0000	Data Increment	E
1011 nnnn	0110 0001	0000 0000	Data Decrement	E
1011 nnnn	0111 1010	0000 0000	Local Control Off	A
1011 nnnn	0111 1010	0111 1111	Local Control On	A
1011 nnnn	0111 1011	0000 0000	All Notes Off	A
1011 nnnn	0111 1100	0000 0000	OMNI OFF(All Notes Off)	A
1011 nnnn	0111 1101	0000 0000	OMNI ON(All Notes off)	
1011 nnnn	0111 1110	0xxx xxxx	(All Notes Off)	A
1011 nnnn	0111 1111	0000 0000	(All Notes Off)	A
1100 nnnn	0ppp pppp	— —	Program Change *2	
1101 nnnn	0vvv vvvv	— —	Channel Pressure (After Touch)	C
1110 nnnn	0xxx xxxx	0bbb bbbb	Bender Change	C

Notes: x : Does not apply

*1 : Note Number 0kkk kkkk=0-127

Out Of Range Of 24-96 DATA Is Shifted By Octave Till Within Range

*2 : Over 99 Number DATA Is Subtracted By 100 (PROGRAM MODE)

ex100 → 00, 127 → 27

Over 9 Number DATA Is Subtracted By 10 Till Under 10 (COMBINATION MODE)

ex10 → 0, 127 → 7

2-2 SYSTEM REAL TIME MESSAGES

Status	Description
1111 1110	Active Sensing

Receive While ACT On

2-3 SYSTEM EXCLUSIVE MESSAGES

—	DEVICE ID REQUEST
12	PANEL MODE REQUEST
1B	KEYBOARD MODE REQUEST
4E	PANEL MODE CHANGE
4A	KEYBOARD MODE CHANGE
41	PROGRAM PARAMETER CHANGE
10	PROGRAM PARAMETER SAVE REQUEST
1C	ALL PROGRAM PARAMETER SAVE REQUEST
19	COMBINATION PARAMETER SAVE REQUEST
1D	ALL COMBINATION PARAMETER SAVE REQUEST
11	PROGRAM WRITE REQUEST
1A	COMBINATION WRITE REQUEST
40	PROGRAM PARAMETER LOAD
4C	ALL PROGRAM & COMBINATION PARAMETER LOAD
49	COMBINATION PARAMETER LOAD
4D	ALL COMBINATION PARAMETER LOAD

(1)DEVICE ID REQUEST

Byte	Description
1111 0000	Exclusive Status
0100 0010	KORG ID
0100 nnnn	Format ID 4nH(n=ch)
1111 0111	EOX

(2)PANEL MODE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 0010	PANEL MODE REQUEST 12H
1111 0111	EOX

(3)KEYBOARD MODE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 1011	KEYBOARD MODE REQUEST 1BH
1111 0111	EOX

(4)PANEL MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1110	PANEL MODE CHANGE 4EH
0000 0mmm	Mode Data (See NOTE 1)
1111 0111	EOX

(5)KEYBOARD MODE CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0100 1010	KEYBOARD MODE CHANGE 4AH
0000 00mm	Mode Data (See NOTE 2)
1111 0111	EOX

(6)PROGRAM PARAMETER CHANGE

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER

Byte	Description
0100 0001	PROGRAM PARAMETER CHANGE 41H
Oppp pppp	Parameter No.
Oddd dddd	Parameter Value LSB
0000 000d	Parameter Value MSB
1111 0111	EOX

(7)PROGRAM PARAMETER SAVE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 0000	PROGRAM PARAMETER SAVE REQUEST 10H
1111 0111	EOX

(8)ALL PROGRAM PARAMETER SAVE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 1100	ALL PROGRAM PARAMETER SAVE REQUEST 1CH
1111 0111	EOX

(9)COMBINATION PARAMETER SAVE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 1001	COMBINATION PARAMETER SAVE REQUEST 19H
1111 0111	EOX

(10)ALL COMBINATION PARAMETER SAVE REQUEST

Byte	Description
F0, 42, 3n, 1A	EXCLUSIVE HEADER
0001 1101	ALL COMBINATION PARAMETER SAVE REQUEST 1DH
1111 0111	EOX

(11)PROGRAM WRITE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 0001	PROGRAM WRITE REQUEST 11H
0ppp pppp	Write Program No. (0-99) *2
1111 0111	EOX

(12)COMBINATION WRITE REQUEST

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0001 1010	COMBINATION WRITE REQUEST 1AH
0ppp pppp	Write Combination No. (0-9) *2
1111 0111	EOX

(13)PROGRAM PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 0000	PROGRAM PARAMETER LOAD 40H
0ddd dddd	Data (See NOTE 3)
⋮	
1111 0111	EOX

(14)ALL PROGRAM & COMBINATION PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1100	ALL PROGRAM & COMBINATION PARAMETER LOAD 4CH
0ddd dddd	Data (See NOTE 4)

Byte	Description
1111 0111	EOX

(15)COMBINATION PARAMETER LOAD

Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1001	COMBINATION PARAMETER LOAD 49H
0ddd dddd	Data (See NOTE 5)
⋮	
1111 0111	EOX

(16)ALL COMBINATION PARAMETER LOAD

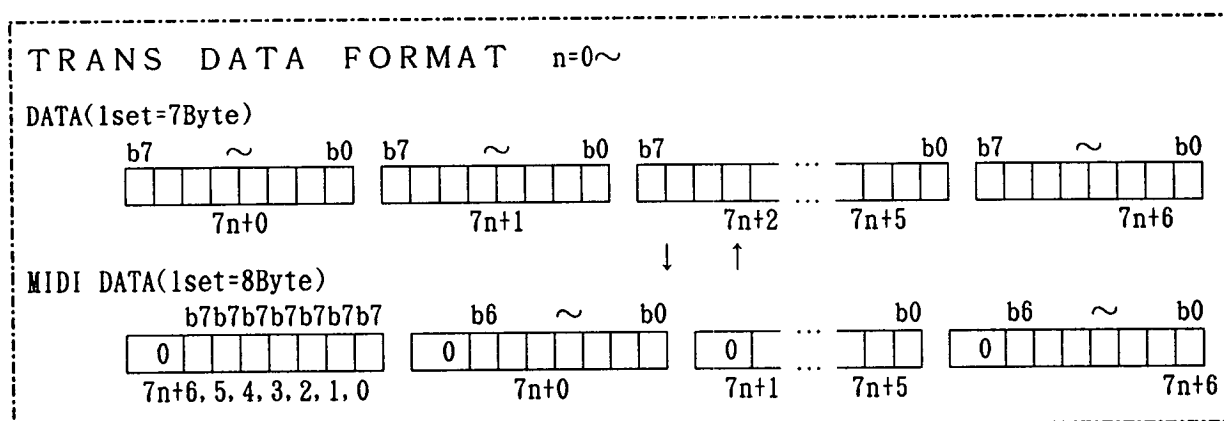
Byte	Description
F0. 42. 3n. 1A	EXCLUSIVE HEADER
0100 1101	ALL COMBINATION PARAMETER LOAD 4DH
0ddd dddd	Data (See NOTE 6)
⋮	
1111 0111	EOX

NOTE 1: PANEL MODE DATA

- 0: PROGRAM MODE
- 1: VOICE PARAMETER MODE
- 2: COMBINATION PARAMETER MODE
- 3: FUNCTION MODE
- 4: COMBINATION MODE

NOTE 2 : KEYBOARD MODE

- 0: SINGLE 1: LAYER
- 2: DOUBLE 3: MULTI



NOTE 3 : PROGRAM PARAMETER SAVE (LOAD) FORMAT

(Current Type)

[Parameter No. 0], ..., [Parameter No. 80] (81+3)×8/7=96Byte

NOTE 4 : ALL PROGRAM & COMBINATION PARAMETER SAVE(LOAD) FORMAT (Compress Type)

[Prog. No. 00(66Byte)], ..., [Prog. No. 99(66Byte)], [Combi. No. 0(38Byte)],

..., [Combi. No. 9(38Byte)] 66×100+38×10=6980, 6986×8/7=7984Byte

NOTE 5 : COMBINATIN PARAMETER SAVE (LOAD) FORMAT

(Current Type)

[Parameter No. 0], ..., [Parameter No. 50] (51+5)×8/7=64Byte

NOTE 6 : ALL COMBINATION PARAMETER SAVE (LOAD) FORMAT

(Compress Type)

[Combi. No. 0(38Byte)], ..., [Combi. No. 9(38Byte)] 38×10=380, 385×8/7=440Byte

MIDI IMPLEMENTATION CHART

FUNCTION		Transmitted	Recognized	Remarks
Basic Channel	Default Change	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode	Default Messages Altered	1 Omni ON/OFF *****	1	Ignored
Note number:	Actual Notes	24 - 96 *****	0 - 127 24 - 96	
Velocity	Note on Note off	0 9n, V=15-127 x	0 9n, V=1-127	
After Touch	Keys Ch's	x o	x o	*1
Pitch bend		o	o	*1
Control Change	1 6 7 10 64 65 96 97	o o o x o o o o	o o o o o o o o	Pitch MG *1 Data entry *3 Volume *1 Panpot *1 Sustain *1 Portamento switch *1 Data increment *3 Data decrement *3
Program Change	Actual No.	o 0 - 99 *****	o 0 - 127 0 - 99	*2, *5
System Exclusive		o	o	Voice data dump, etc. *3
System Common	: Song pos. : Song sel. : Tune	x x x	x x x	
System Real time	: Clock : Commans	x x	x x	
Aux Message	: Local ON/OFF : All note off : Active sensing : Reset	x x o o	o o 123 - 127 o o	*4
<p>NOTES: *1 Transmit/receive if CONTROL is ON in FUNCTION Mode. *2 Transmit/receive if PROGRAM is ON in FUNCTION Mode. *3 Transmit/receive if EXCLUSIVE is ON in FUNCTION Mode. *4 Transmit/receive if ACTIVE SENSING is ON in FUNCTION Mode. *5 Only the final two digits of program numbers of over 100 will be recognized.</p>				

Model1: OMNI ON, POLY

Mode 2: OMNI ON, MONO

o : Yes

Mode3: OMNI OFF, POLY

Mode 4: OMNI OFF, MONO

x : No

SPECIFICATIONS

Keyboard:	49 keys (C -- C), Initial Touch, Aftertouch.	
Voices:	8 voices simultaneously (Single Mode).	
Programs:	100 Programs, 10 Combinations.	
	MCR-02 RAM Card:	2 Bank (200 Programs, 20 Combinations).
	MCR-03 RAM Card:	4 Bank (400 Programs, 40 Combinations).
Function Mode:	Master Tune:	±50 cents.
	Transpose:	±12 semitones.
	Footswitch Assign:	Damper, Portamento, Program Up, Program Down.
	Save to RAM Card.	
	Load from RAM Card.	
	Memory Protect:	Internal Off/On, External Off/On.
	MIDI:	Transmit/Receive Channel (1--16), Omni Off/On, Local Off/On.
	MIDI Filtering:	Active Sensing Off/On, Program Change Off/On, Control Change Off/On, Exclusive Off/On. Data Transfer.
	Wheel Assign:	Modulation, Volume.
Voice Parameter Mode:	Pitch:	OSC 1, OSC 2, Detune.
	Pitch EG:	Start Level, Attack, Attack Level, Decay, Release, Release Level.
	OSC 1 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 2 Waveform:	Type, Spectrum, Ring, Limit, Keyboard Track.
	OSC 1 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Timbre EG:	Timbre, EG Intensity, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 1 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	OSC 2 Ampl. EG:	Level, Attack, Decay, Sustain, Release, Keyboard Track.
	Modulation Generator:	Waveform (Triangle, Sawtooth, Square, Sample & Hold), Frequency, Delay Time, Pitch Intensity, Timbre/Ampl. Intensity, Timbre Select (Off, OSC 1, OSC 2, OSC 1+2), Ampl. Select (Off, OSC 1, OSC 2, OSC 1+2).
	Portamento:	Mode, Time
	Control Wheels:	Pitch Bend: Bend Pitch (±1 octave max.), Bend Timbre; Modulation: Pitch Intensity, Timbre Intensity, Modulation Speed.
	Velocity:	OSC 1 Timbre EG, OSC 2 Timbre EG, OSC 1 Ampl. EG, OSC 2 Ampl. EG.
	After Touch:	Pitch MG, Timbre, OSC 1 Ampl. Level, OSC 2 Ampl. Level.
	Assign Mode:	Poly/Unison, Trigger (Single/Multi: in Unison Mode only), Detune (in Unison Mode only).
	Voice Name:	Max. 10 characters.
	Octave:	Low, Middle, High.
Combi Parameter Mode:	Controller:	Source, Group 1 -- 8 Off/On.
	Modulation Generator:	Source, Group 1 -- 8 Off/On.
	Pan:	Group 1 -- 8 (A, B, A+B)
	Volume:	Group 1 -- 8 (0 -- MAX.).
	No. of Voices:	Group 1 -- 8 (max. 8 voices).
	MIDI Receive Channel:	Group 1 -- 8 (MIDI Channel 1 -- 16).
	Interval/Detune:	Interval (0 -- 12 semitones), Detune (±50 cents, MAX.).
	Key Split/Octave Shift:	Key Split Group 1 (C1 -- C7), Key Split Group 2 (C1 -- C7), Octave Shift Group 1 (+2 octaves, MAX.), Octave Shift Group 2 (-2 octaves, MAX.).
Panel Selection Switches:	Combination, Program, Card.	

Panel Mode Switches:	Parameter, Keyboard Mode, Function.
Programmer Controls:	Numeric keys (0 -- 9), Cursor keys (◀▶), Write, Compare, Value slider (also serves as EG2 slider), Up/Yes, Down/No.
Performance Editor Controls:	Timbre slider, EG1 slider, EG2 slider (also serves as Value slider), Portamento (Off/On), Wheel Reverse (Off/On).
Volume Slider:	0 -- MAX.
Display:	LCD (Liquid Crystal Display), Backlit, 20 Characters x 2 Rows.
Card Slot:	x 1
Input Jacks:	Footswitches 1 and 2.
Output Jacks:	Output (A/MIX., B), Phones.
MIDI Jacks:	IN, OUT, THRU.,
Power Supply:	DC 9V.
Weight:	4.9 kg (10 lbs 12 oz) Including battery's.
Dimensions (W x H x D):	763 x 102 x 299 mm (30.0" x 4.0" x 11.8")
Supplied Accessories:	AC Power Cord, Connection Cable.

* Design and specifications are subject to change without notice.

Parameter List:

FUNCTION	0	MASTER TUNE	5	MEMORY PROTECT
	1	TRANSPOSE	6	MIDI (CH/OMNI/LOCAL)
	2	FOOT SW 1, 2 ASSIGN	7	MIDI (FILTERING/EXCLUSIVE)
	3	SAVE TO RAM CARD	8	MIDI DATA TRANSFER
	4	LOAD FROM CARD	9	WHEEL ASSIGN
VOICE PARAMETER	1	PITCH	01	PORTAMENTO
	2	PITCH EG	02	CONTROL WHEEL
	3	OSC1 WAVEFORM	03	VELOCITY
	4	OSC2 WAVEFORM	04	AFTER TOUCH
	5	OSC1 TIMBRE EG	05	ASSIGN MODE
	6	OSC2 TIMBRE EG	06	VOICE NAME
	7	OSC1 AMPL EG	07	OCTAVE
	8	OSC2 AMPL EG		
	9	MODULATION GENERATOR		
COMBI PARAMETER	0	CONTROLLER	4	NO. OF VOICE
	1	MODULATION GENERATOR	5	RECEIVE CHANNEL
	2	PAN	6	INTERVAL/DETUNE
	3	VOLUME	7	KEY SPLIT/OCT SHIFT

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CANADA

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H4T 1W1
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Phone: 43357

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Phone: 222-5281
Telex: 82249 NSPROD TH

THE NETHERLANDS

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Phone: (078) 10 0044

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Abdulla Sultan Al-Sharhan
Music Gallery
P.O. Box 1675, Deria-Dubai
Phone: 221509

U.S.A.

KORG U.S.A., Inc.
89 Frost St., Westbury, New York 11590
Phone: 516-333-9100

URUGUAY

Man/Posze Internacional
Casilla de Correo 6243, Montevideo

WEST GERMANY

Musik-Meyer GmbH
Postfach 1729, 3550 Margurg/Lann
Phone: (06421) 809-0

	KORG PERFORMING SYNTHESIZER 707	
	PRELOAD PROGRAM LIST	

PROGRAMS

*KEYBOARDS	*MIDI STACKS	*ORGANS	*BELLS	*BRASS
00 Tine Piano	01 Wonderland	02 King&Queen	03 Log&Mallet	04 BrssEnsmbl
10 Skiboard 1	11 Midi Stack	12 Jazz Organ	13 Steel Drum	14 Brass Sect
20 WavePiano	21 Double 707	22 Soap Opera	23 GenderDrum	24 FrenchHorn
30 Clav.	31 Bell+Brass	32 Rock Organ	33 Vibes	34 Bassoon
40 Reed Piano	41 Bell&Synth	42 PipeOrgan1	43 Marimba	44 Clarinet
50 Bell Grand	51 Fantasy 2	52 Drawbars	53 Celeste	54 40's Saxes
60 Harpsichrd	61 MidiMallet	62 Perc Organ	63 AfroMallet	64 707 Brass
70 Piano 1	71 Fantasy 1	72 SynthVocal	73 Kalimba	74 SnapBrass
80 Piano 2	81 Mallet+Pad	82 Org&Synth	83 Space Bell	84 Trumpets
90 Muted Clav	91 E. P+Strngs	92 PipeOrgan2	93 St. Mary's	94 Flute
*SOLOS	*ANALOG SOUNDS	*GUITAR & BASS	*STRINGS	*PERCUSSIONS
05 LazerSynth	06 India	07 Slap Bass	08 SoloViolin	09 ElecDrum
15 Harmonica	16 SqrWavePdl	17 Lazer Bass	18 Bell&Strgs	19 BassDrumC2
25 Synth Lead	26 HybridKeys	27 Round Bass	28 PizzChiff	29 CongaG2+C3
35 Pop Lead	36 Chunga	37 AnalogBass	38 Orchestra	39 Racketball
45 Rock Lead	46 What'sit	47 Harp	48 Strings&HC	49 Cowbell
55 GuitarLead	56 MelloComp	57 NylonGitar	58 Flt&Strngs	59 TomReverb
65 SquareLead	66 Envelopes	67 JazzGitar1	68 BowStrings	69 Snare
75 Mini Solo	76 Mr. Analog	77 MuteGuitar	78 Orchestra2	79 Handclaps
85 Wah Lead	86 SynRise	87 Banjo	88 Cellos	89 Hi Hat
95 Delay Line	96 ¥¥ 707 ¥¥	97 HeavyMetal	98 EasyStreet	99 The Storm

COMBINATIONS

0 MULTI	07 Slap Bass	/00 Tine Piano	/30 Clav.	/39 Racketball
	19 BassDrumC2	/80 Hi Hat	/11 Midi Stack	/35 Pop Lead
1 MULTI	19 BassDrumC2	/69 Snare	/89 Hi Hat	/59 TomReverb
	39 Racketball	/49 Cowbell	/29 CongaG2+C3	/09 ElecDrum
2 LAYER	24 FrenchHorn			
	18 Bell&Strgs			
3 LAYER	78 Orchestra2			
	38 Orchestra			
4 LAYER	46 What'sit			
	11 Midi Stack			
5 DOUBL	27 Round Bass	/67 JazzGitar1		
6 LAYER	14 Brass Sect			
	84 Trumpets			
7 DOUBL	07 Slap Bass	/26 HybridKeys		
8 LAYER	08 SoloViolin			
	55 BowStrings			
9 MULTI	37 AnalogBass	/87 Banjo	/23 GenderDrum	/66 Envelopes
	97 HeavyMetal	/11 Midi Stack	/27 Round Bass	/95 Delay Line

MEMO

NOTICE:

Korg products are manufactured under strict specifications and voltages required by each country. These products are warranted by the Korg distributor only in each country. Any Korg product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

KORG

15-12, Shimotakaido 1-chome, Suginami-ku, Tokyo, Japan



6211 GTH Printed in Japan