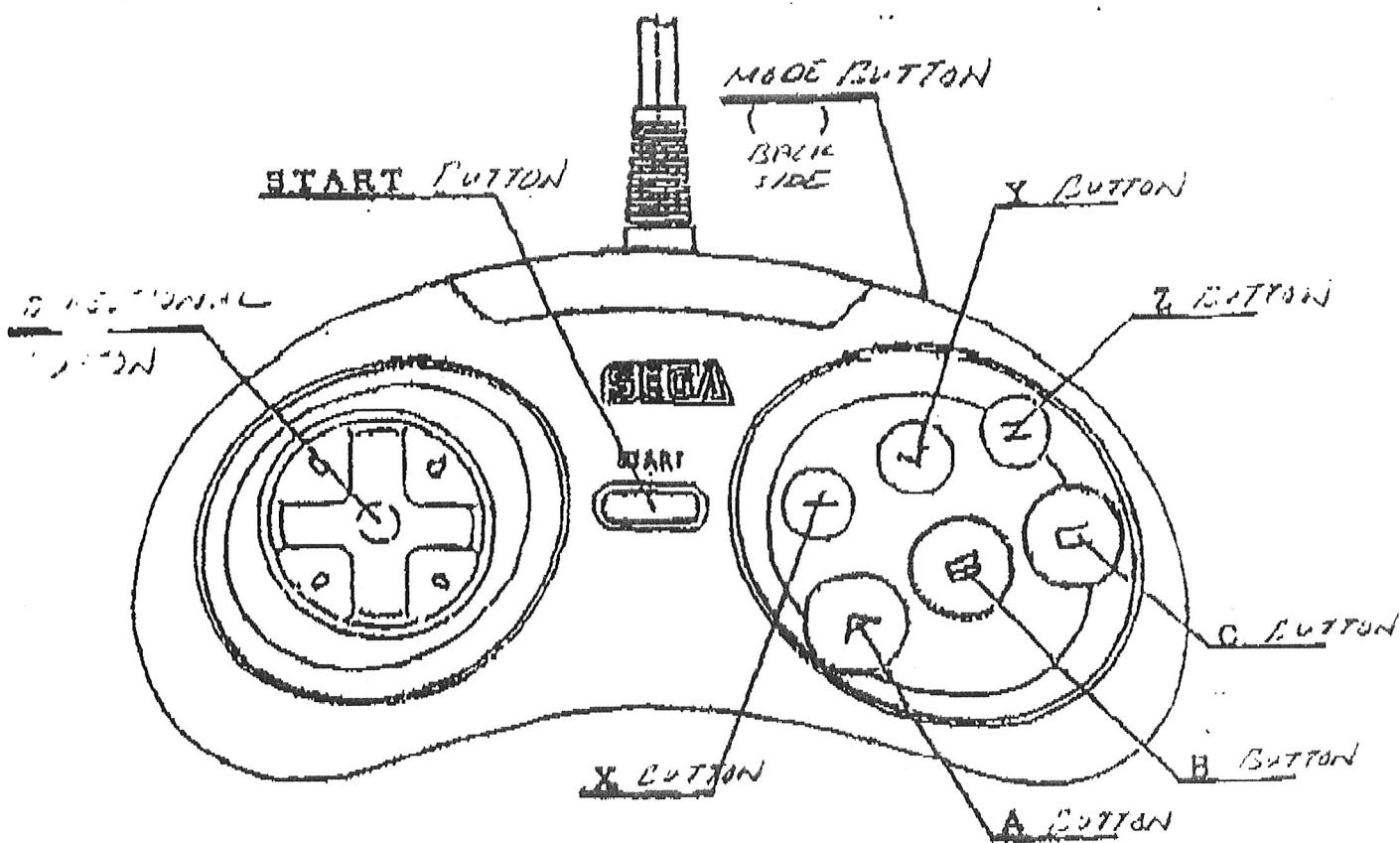


Software Production Specifications for Mega Drive 6-Button Control Pad

Button Configuration



Mega Drive 6-Button Control Pad:

- Upward-compatible with the current 3-button control pad
- Can be used with most software packages currently on the market
- Normal operation possible in 3-button mode (this will be explained further)
- X, Y, Z buttons are added to A, B, C buttons
- By turning power switch on the Mega Drive while pressing Mode Button on the side of the Control Pad, 3-button mode will be resulted - which allows similar performance to that of the current pad

It is important to remember that all software for the 6-button pad should also be playable on the 3-button pad. Therefore, software for the 6-button pad is written for the 3-button pad as well.

Similarly, specifications include the following 3 items:

1. Software for the 6-Button Control Pad
2. Button Setting
3. Pad Setting

These items are explained in detail as follows:

Software for the 6-Button Control Pad

- As explained above, software for the 6-button pad must also include all necessary performance features required for the 3-button pad.
- Because it is upward-compatible, ABC buttons of the 6-button pad must conform to those of the 3-button pad, and XYZ buttons must conform to ABC sub-buttons.
- To avoid complexity, 3-button operations should be considered in the software development as much as possible.
- Configuration must be designed so that all button settings could be easily changed to the user's preference.

Button Settings/(Initialization)

Note: The following button settings only apply to initialization setting. All the button settings explained here must be changeable through "configuration."

1. Mode Button

Reference: A feature of the 6-button pad is that when switching on the unit while holding mode button down, the pad's 6-button mode will change to that of the 3-button pad. However, if using 3-button exclusive software, even without using mode button, the XYZ buttons and mode button input will not be effective, and thus, actually never used.

How to use Mode Button:

1. *Using as Select Button)* Similar to the select button on Super Famicom, it will be used to select command on title screen. Generally, the selection is made through the directional button.

2. *Using during game*) Similar to ABC buttons, Mode Button is used during game. There are many ways for its use, but one way to use it is in conjunction with the Directional Button or ABCXYZ buttons. Care must be taken that it does not get more complex than necessary.

Example: In action games, using directional button with mode button can create dashes, etc.

2. When playing 6-button software on 6-button control pad

Button Function Allocation (Assignment)

Standard: 6-button pad is upward-compatible with the current 3-button pad. Therefore, the ABC functions of the 6-button pad should conform to those of a 3-button pad.

A	Positive, Special Function, Sub	(Frequency:3)
B	Negative, Cancel, Special Function, Sub	(Frequency:2)
C	Positive, Decide, Main	(Frequency:1)
Note: When using only 2 buttons, use ABC. Use A for high frequencies. (Create in accord with 3-button pad standards.)		
X	A sub-button (A rapid fire)	
Y	B sub-button (B rapid fire)	
Z	C sub-button (C rapid fire)	

Note: With 3-button pad, "Non-Reaction Button" was not created, however, with 6-button pad, the remaining buttons are set as Non-Reaction. In addition, Non-Reaction buttons should always be allocated to XYZ buttons, not to ABC buttons.

The button allocation should be based on the "standard"- as stated above -, and comply with one of the following:

1. Grouping (Allocation) according to the using frequency of the button

The lower ABC buttons, as main buttons ,should be assigned actions with high use frequency such as "normal shot," "attack," etc., and the upper XYZ buttons, as sub-buttons, should be assigned actions with lower use frequency, such as "special attacks," etc.

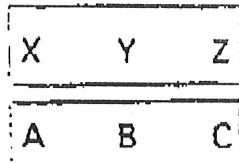
Also, for button configuration, fill the buttons from the outside of the pad in accord with the using frequency. With some games, this rule may not apply; in which case, the most appropriate button configuration should be made.

XYZ: Sub-Button

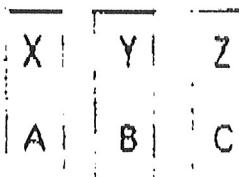
ABC: Main Button

2. Grouping (Allocation) according to the using objective of the button

Generally, when there are two main action categories such as "kick" and "punch," "punch" is assigned to the upper buttons and "kick" to the lower. In this case, the buttons are set horizontally from the outside as "strong," "medium," and "weak," and vertically, as "punch" and "kick" (upper level/lower level):



Also, the functions can be vertically grouped as "right," "center," and "left":



3. Grouping (Allocation) Examples for games using 6-button control pad:

(Note: This particular example is appropriate for special game systems based on the 6-button control pad. Since it is not a general example, please keep in mind that the primary scheme should be based on a 3-button control pad. This means, regardless of this example, game schemes should be based on the 3-button control pad performance.)

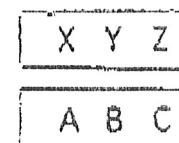
a) Shooting Game

(Vertical Scroll Shooting) --- Differentiation/Allocation of the upper and lower buttons per objective

XYZ buttons --- Mid-air attack (from right: strong/medium/weak)

ABC buttons --- Ground attack (from right: strong/medium/weak)

Mode button --- Changing the line of sight (changing screen)



(3D fighter jet shooting) --- Using ABC as main buttons and Y as sub-button

A button --- Acceleration

B button --- Volcan

Y button --- Missile

C button --- Deceleration (XY buttons are not used)



(Heavy shooting) --- XYZ as sub-buttons with rapid non-stop firing function added

B button --- Very strong bomb

AC buttons --- Normal shot

XYZ button --- Rapid fire

X	Y	Z
A	B	C

b) Action Game

(Hand to hand fight) --- Differentiation/Allocation of the upper and lower buttons per objective

XYZ buttons --- Punch (from right: strong/medium/weak)

ABC buttons --- Kick (from right: strong/medium/weak)

X	Y	Z
A	B	C

(Comical action game) --- Using ABC as main buttons and XYZ as sub-buttons

AX --- Dash (A for normal dash, X for major dash)

BY --- Jump (B for normal jump, Y for major jump)

CY --- Attack (C for normal attack, Y for major attack)

c) Role Playing Game

(Action role playing) --- Differentiation/Allocation of ABC buttons for fight and XYZ buttons for conversation

A button --- Using tools and items

B button --- Lifting things/Running

C button --- Brandishing a sword

XZ button --- Displaying "speak" command/Command decision

Y button --- Cancel

Mode button --- Save function

3. When playing 6-button control pad software on the 3-button control pad

A 3-button pad can substitute the 6-button pad through ABC button combinations.
(Note: It is not possible to abbreviate operations that can be performed when using the 6-button pad on a 3-button pad.)

Substituting the 6 button pad with a 3-button pad can be done through a number of ways, including combination use of the 3 buttons with the start button. However, the

actual configuration should be based on each game (make sure the configuration is well devised and is in good order).

Example: Hand-to-Hand Fight

Weak punch/kick	---	A button
Medium punch/kick	---	B button
Strong Punch/kick	---	C button

Punch and kick switching: Holding down the start button, "ABC buttons" make for punch while each single A,B,C button makes for kick.

Setting Up the Control Pad

Through "pad type variety" included in the main unit, software can change the button actions. (Generally, pad type should be checked during SEGA logo title screen display.)

1 player case:

1. When playing a game designed for the 6-button pad on a 6-button pad ABCXYZ and Mode Button should all react. (Configuration screen should indicate the use of 6-button pad.)
2. When playing a game designed for the 6-button pad on a 3-button pad 6-button pad action must be changed to that of a 3-button pad. (Generally, the configuration screen should indicate the use of the 3-button pad.)

Note: From now on, when creating software exclusively for the 3-button, XYZ and Mode Button of the 6-button pad must be made not to react.

2 Player case (1 P vs. 2 P, etc., when using 2 control pads):

When using 2 pads for 2 players, for each pad used by 1 player/2 players, software should change the button actions. (Generally, pad type is checked during SEGA logo title screen display, however, through software, pad type must be changeable during the game as well.)

1 P	6-button pad	6-button pad action (configuration for the 6-button pad)
2 P	3-button pad	3-button pad action (configuration for the 3-button pad)

Setting Up Configuration (Changing Buttons Setting)

- For configuration, two types of control pad(6-button pad and 3-button pad) must be prepared, and depending on the pad type, only one type should be displayed.
- If necessary, add Mode Button to the configuration as well.
- When changing to a button setting other than the "standard setting," in the case of current 3 button setting, the way this is done is through "ABC pattern rearrangement," however, with 6-button pad software, the combination pattern is complex, therefore, setting should be made for each single button.

Example: Fight action using the 6-button control pad

6-button pad configuration:

A button --- Weak kick
B button --- Medium kick
C button
X button
Y button
Z button

3-button pad configuration:

A button --- Weak kick
B button --- Strong kick
C button --- Weak kick
AB buttons both pressed
AC buttons both pressed
BC buttons both pressed