

# Operating Instructions

Digital AV Mixer  
**WJ-AVE5**



**Panasonic**

Before attempting to connect or operate this product, please read these instructions completely.

ENGLISH

DEUTSCH

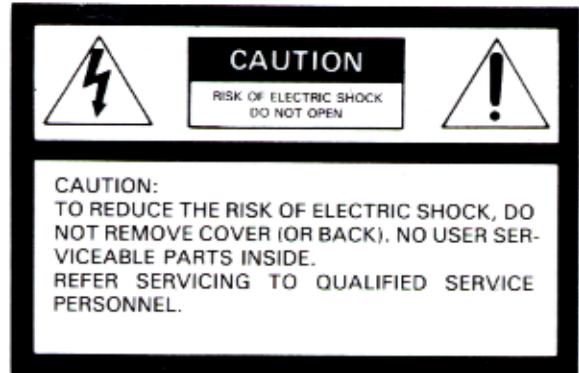
FRANÇAISE

ITALIANO

# ENGLISH VERSION

## CONTENTS

	Page
PREFACE .....	2
FEATURES .....	2
PRECAUTIONS .....	3
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS .....	4
SYSTEM CONNECTION .....	10
OPERATING PROCEDURE .....	11
A. MIX/WIPE EFFECT, WIPE MODE .....	11
B. DIGITAL EFFECT .....	14
C. SUPERIMPOSE EFFECT & BACK COLOUR .....	16
D. FADE CONTROL .....	17
E. AUDIO MIXER .....	18
SPECIFICATIONS .....	19
OPTIONAL ACCESSORIES .....	19



**CAUTION:**  
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO  
NOT REMOVE COVER (OR BACK). NO USER SER-  
VICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE  
PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For WJ-AVE5/B ..... For U.K. ....

### AC POWER CORD CONNECTION

The wires in this mains lead are coloured in accordance with the following code.

Blue: Neutral  
Brown: Live

At the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured red.

This model conforms to the EC directive (for radio interference 87/308/EEC).

This apparatus was produced to BS 800:1987.

The serial number of this product may be found on the bottom of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

## PREFACE

The Panasonic WJ-AVE5 Digital AV Mixer is designed for reproduction of the video images using digital processing technology.

This unit includes various functions to do so such as Mixing the video or audio signals, Digital effect, Superimpose, Fade control and much more. A sophisticated audio and video program can be completed using this Digital AV Mixer.

## FEATURES

- **BUILT-IN DIGITAL SYNCHRONIZER**

This built-in frame synchronizer allows video mixing of any two PAL-standard video sources.

- **SPECIAL EFFECTS — MOSAIC, PAINT, STILL, STROBE**

Using the built-in digital memories, special video effects are available for maximum variety in video creativity.

- **SUPERIMPOSE**

Input signal from A-bus, B-bus and EXT CAMERA can be superimposed on the picture.

- **98 WIPE PATTERNS AND JOYSTICK POSITIONER**

In combination with the wipe pattern buttons, up to 98 wipe patterns are available. The joystick positioner allows free positioning of the circle, square and diamond in combination of the wipe patterns, and picture-in-picture. The wipe has three kinds of mode, a Normal Wipe, a Soft Wipe and a Border Wipe.

- **AUDIO MIXING**

The built-in audio mixer can mix up to four audio sources, including a microphone. The Master Volume Control is available for the audio mixing.

- **FADE FUNCTION**

Fade-in and fade-out of video and video titles can be accomplished separately or in combination to meet requirements in video tape production.

- **VIDEO TITLE**

The WV-KB12 or WJ-TTL5 Keyboard-type Character Generator is an optional title producer designed for connection to this Digital AV Mixer. It allows quick and easy title setting and features an eight-page memory for WV-KB12 and ten-page memory for WJ-TTL5 that will hold titles produced.

## PRECAUTIONS

The WJ-AVE5 is a sensitive, high quality instrument and should be regarded as such. Because it is an electrical device, the danger of electric shocks exists if it is used carelessly.

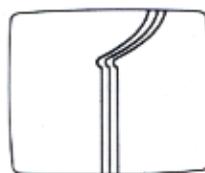
DON'T	DO'S
<ul style="list-style-type: none"><li>✗ DO not attempt to disassemble the instrument. In order to prevent electrical shock, do not remove screws or covers. There are no user-serviceable parts inside.</li><li>✗ Do not abuse the instrument. Avoid striking, shaking, etc. It could be damaged by improper handling or storage.</li><li>✗ Do not use strong or abrasive detergents when cleaning the instrument body.</li><li>✗ Do not expose the instrument to water or moisture, and do not operate it in wet areas if it is wet.</li><li>✗ Do not use the instrument in an extreme environment where high temperature or high humidity exist.</li></ul>	<ul style="list-style-type: none"><li>• Do refer all servicing to qualified service personnel.</li><li>• Do handle the instrument with care.</li><li>• Do use a dry cloth to clean the instrument when dirty. In case the dirt is hard to remove, use mild detergent and wipe gently.</li><li>• Do take immediate action if ever the instrument does become wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the instrument and also create the danger of electric shock.</li><li>• Use the instrument under conditions where temperatures are within 0°C - 40°C, and humidity is below 90%.</li></ul>

### Important Notice for Source 1 and 2 Video Signal:

- (1) If the input video signal does not meet with the PAL colour standard or the CCIR B/W standard video signal, this could cause a disturbance of synchronization.
- (2) If the signal to noise ratio (S/N) of the input signal is very low, this may be reflected in a low quality picture.
- (3) If the input video signal is very jittery, as in the case of poor VTR playback signal, this could cause a disturbance in synchronization or colour.
- (4) If the tracking noise is seen on the TV monitor, this could cause a disturbance in synchronization or colour so that adjust the tracking control of the VTR.
- (5) When either a character generator signal (from WV-KB12 · WJ-TTL5) or characters from a key camera is supplied, the edge of the character might become rough as shown below under the certain electronic conditions.



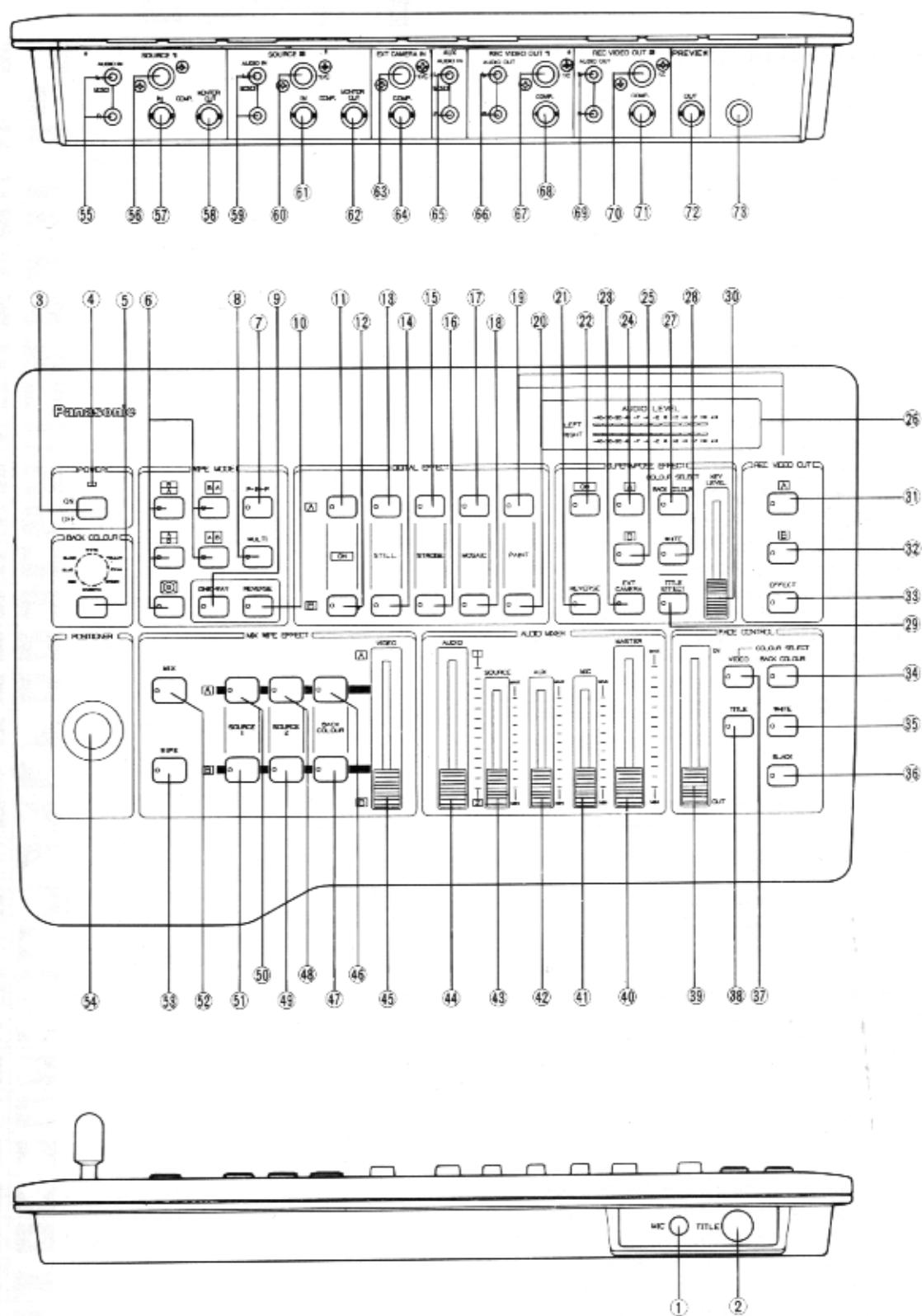
- (6) Flag waving (top of picture curls) may appear when certain VTR's are used as input signals (due to skew errors) or may appear due to the characteristics of the video monitor (due to AFC time constants).



- (7) The edge of the hard and border wipe in the circle wipe mode will be a zigzag. This phenomenon is normal and not a sign of failure.



## MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



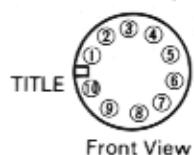
#### 1. Microphone Input Jack (MIC)

This jack is used to connect a microphone with a tip-ring-sleeve or tip-sleeve type phone plug.

#### 2. Title Input Connector (TITLE)

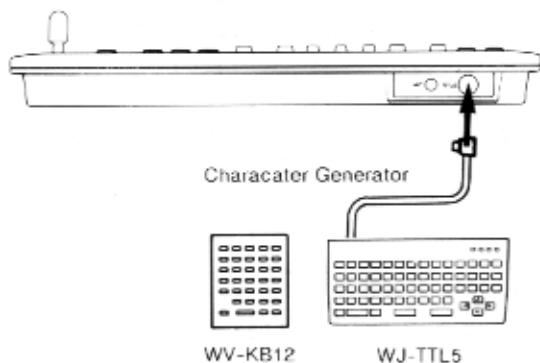
This connector is used to connect the optional Character Generator WV-KB12 or W-L-TTI 5.

- (1) : Character IN
  - (2) : Not used
  - (3) : Ground
  - (4) : Not used
  - (5) : Sync out
  - (6) : Not used
  - (7) : Ground
  - (8) : +9V OUT
  - (9) : Ground
  - (10) : ID (WV-KB12)



#### Notes:

- When WV-KB12 is used with this unit, the following functions of the WV-KB12 are Disabled:
    - Stopwatch display
    - Title colour setting
    - Title page display
  - During scrolling of titles in the smallest character size using WJ-TTL5, the place where new lines of character appear will gradually move up from the bottom of the screen to the middle of the screen.
  - Connect the cable of the WV-KB12 or WJ-TTL5 to the Title Input Connector (2) as shown below.



### 3. Power ON/OFF Switch (POWER ON/OFF)

Press this switch to turn on the power. The Power Indicator (4) lights up when this switch is pressed.

#### 4. Power Indicator (POWER)

## 5. Back Colour Selection Switch (BACK COLOUR)

This control is used to select the background colour for Mix, Wipe, Superimpose and Video Fader operations. One of the following eight background colours can be chosen: White, Yellow, Cyan, Green, Magenta, Red, Blue and Black. The colour changes by pressing this switch.

## 6. Wipe Pattern Selection Switches (WIPE MODE)

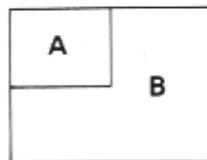
**Wipe Pattern Selection Switches (WIPER MODE)**  
 In combination of five switches, the following wipe patterns can be made as shown in the table. The LED lights when pressed. Please note that the positioning of the pattern by operating a Joystick Positioner (54) is effective for three patterns marked "P" in the table.

### 7. Picture-In-Picture Switch (P-IN-P)

A 1/4 sized - Picture-In-Picture mode will be obtained by pressing this switch once. The LED lights up. When this switch is pressed again, a 1/16 sized - Picture-In-Picture mode will be obtained. The positioning of the Picture-In-Picture mode can be operated by the Joystick Positioner (54). When this switch is pressed third time, this mode ends to return to a normal picture mode. Then LED lights off.

#### Notes:

- (1) When you change the Mix/Wipe Control (45) from A to B or B to A in P-IN-P mode, the pictures alter their position from B to A or A to B correspondingly.
- (2) When a 1/4 sized or 1/16 sized - picture is positioned to the left edge, the P-IN-P mode may not be completed in the fringe area for some television monitor.



- (3) The Strobe and the Still will not function when the picture-in-picture mode is used.

### 8. Multi Wipe Pattern Switch (MULTI)

When this switch is pressed once, the wiped pattern multiplied by four times. And when this switch is pressed again, the wiped pattern multiplied by sixteen times. The LED lights up when this mode is selected. The LED lights off when this switch is pressed three times to return to normal wipe mode.

### 9. One-Way Wipe Switch (ONE-WAY)

When this switch is pressed, the LED lights up, the wiping direction stays same in regardless of changing the Mix/Wipe Control (45).

### 10. Reverse Wipe Switch (REVERSE)

When this switch is pressed, the LED lights up, the position of the wiped pictures will be laid reversely.

### 11. A-bus Digital Effect ON/OFF Switch (ON)-A

This switch is the A-bus ON/OFF switch for the digital effects, such as STROBE, STILL, MOSAIC and PAINT.

### 12. B-bus Digital Effect ON/OFF Switch (ON)-B

This switch is the B-bus ON/OFF switch for the digital effects, such as STROBE, STILL, MOSAIC and PAINT.

### 13. A-bus Still ON/OFF Switch (STILL)-A

This switch is used to freeze the A-bus picture. Pressing this switch once, the A-bus image will freeze and the LED indicator in the switch lights. To return to a "live" picture, press the switch once more. The LED indicator goes off.

### 14. B-bus Still ON/OFF Switch (STILL)-B

This switch is used to freeze the B-bus picture. Pressing this switch once, the B-bus image will freeze and the LED indicator in the switch lights. To return to a "live" picture, press the switch once more. The LED indicator goes off.

### 15. A-bus Strobe ON/OFF Switch (STROBE)-A

This switch is used to obtain a strobe effect of the A-bus picture. Pressing this switch once, strobe effect is applied to the A-bus image and the LED indicator in the switch lights. The time interval of the strobe effect can be changed by pressing this switch repeatedly. Adjustment is possible from approx. 0.2 to 1 second in five steps. To return to a normal picture, press the switch once more. The LED indicator goes off.

### 16. B-bus Strobe ON/OFF Switch (STROBE)-B

This switch is used to obtain a strobe effect of the B-bus picture. Pressing this switch once, strobe effect is applied to the B-bus image and the LED indicator in the switch lights. The time interval of the strobe effect can be changed by pressing this switch repeatedly. Adjustment is possible from approx. 0.2 to 1 second in five steps. To return to a normal picture, press the switch once more. The LED indicator goes out.

### 17. A-bus Mosaic ON/OFF Switch (MOSAIC)-A

This switch is used to obtain a mosaic effect of the A-bus picture. Pressing this switch once, a mosaic effect is applied to the A-bus image and the LED indicator in the switch lights. The mosaic size can be changed in four steps by pressing this switch repeatedly.



When the mosaic effect is selected, the mosaic effect is not performed in the left and top edges. It does not indicate equipment failure. To return to a normal picture, press the switch once more, the LED indicator goes off.

### 18. B-bus Mosaic ON/OFF Switch (MOSAIC)-B

This switch is used to obtain a mosaic effect of the B-bus picture. Pressing this switch once, a mosaic effect is applied to the B-bus image and the LED indicator in the switch lights. The mosaic size can be changed in four steps by pressing this switch repeatedly.



When the mosaic effect is selected, the mosaic effect is not performed in the left and top edges. It does not indicate equipment failure. To return to a normal picture, press the switch once more, the LED indicator goes off.

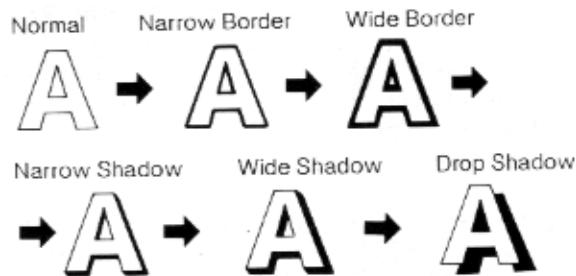
### 19. A-bus Paint ON/OFF Switch (PAINT)-A

This switch is used to obtain an oil-paint touch effect for the A-bus picture. Pressing this switch once, an oil paint touch effect is applied to the A-bus image and the LED indicator in the switch lights. The graduation of paint effect can be changed in 4 steps (2 bits to 5 bits). To return to a normal picture, press the switch once more. The LED indicator goes off.

**20. B-bus Paint ON/OFF Switch (PAINT)-B**

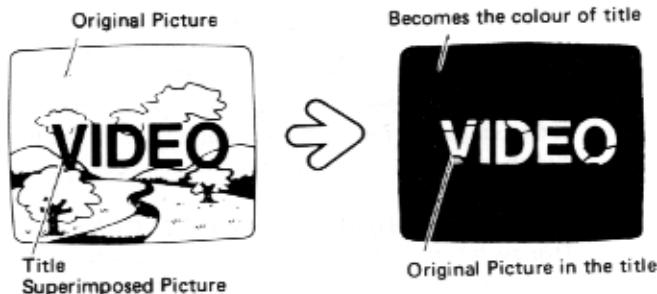
This switch is used to obtain an oil-paint touch effect for the B-bus picture. Pressing this switch once, an oil paint touch effect is applied to the B-bus image and the LED indicator in the switch lights. The graduation of paint effect can be changed in 4 steps (1 bit to 4 bits). To return to a normal picture, press the switch once more. The LED indicator goes off.

→ Normal → Narrow Border → Wide Border →  
→ Narrow Shadow → Wide Shadow → Drop Shadow



**21. Reverse Switch (REVERSE)**

This switch is used to select the polarity of the superimposed key signal.



**22. Superimpose ON/OFF Switch (ON)**

This is the master ON/OFF switch for the superimpose function.



When the superimpose effect is selected, the superimpose effect is not performed in the left and top edges. It does not indicate equipment failure.

**23. External Camera Selection Switch (EXT CAMERA)**

This switch is used to select a external camera as a key signal for the Superimpose Effect.

**24. A-bus Selection Switch (A)**

This switch is used to select a A-bus picture as a key signal for the Superimpose Effect.

**25. B-bus Selection Switch (B)**

This switch is used to select a B-bus picture as a key signal for the Superimpose Effect.

**26. Audio Level Indicator (AUDIO LEVEL)**

These LED indicators show the output level for the left and right channels respectively.

**27. Back Colour Switch (BACK COLOUR)**

This switch is used to select the colour of the superimposed titles chosen by the Back Colour Selection Switch (5).

**28. White Colour Switch (WHITE)**

This switch is used to select the colour of the superimposed titles as a white colour.

**29. Title Effect Switch (TITLE EFFECT)**

By depressing this switch, the superimposed titles can be changed as follows:

**30. Key Level Control (KEY LEVEL)**

This control is used to adjust the luminance level of the key signal.

**31. A-bus Recording Video Output Selection Switch (REC VIDEO OUT/A)**

This switch is used to select the A-bus picture as for the Recording Video Output signal. The LED lights up when this switch is selected.

**32. B-bus Recording Video Output Selection Switch (REC VIDEO OUT/B)**

This switch is used to select the B-bus picture as for the Recording Video Output signal. The LED lights up when this switch is selected.

**33. Effect Recording Video Output Selection Switch (REC VIDEO OUT/EFFECT)**

This switch is used to select the effected signal (Superimpose, Mix/Wipe or Fade) as for the Recording Video Output signal. The LED lights up when this switch is selected.

**34. Colour Selection Switch (BACK COLOUR)**

This switch is used to select the colour for the fade-out mode. The colour is set by the Back Colour Selection Switch (5). The LED lights up when this switch is selected.

**35. Colour Selection Switch (WHITE)**

This switch is used to select a white colour when the picture fades out in white. The LED lights up when this switch is selected.

**36. Colour Selection Switch (BLACK)**

This Switch is used to select a black colour when the picture fades out in black. The LED lights up when this switch is selected.

**37. Video Fade Switch (VIDEO)**

When this switch is selected, the picture will be faded in or out. The LED lights up when this switch is selected.

**38. Title Fade Switch (TITLE)**

When this switch is selected, the title will be faded in or out. The LED lights up when this switch is selected.

**39. Fade Lever (IN/OUT)**

Moving this lever from OUT to IN, fade-in of the picture takes place. Fade-out is accomplished by moving the lever from IN to OUT.

**40. Audio Master Level Control (MASTER, MAX/MIN)**

This is the overall attenuator for the Audio Mixer.

**41. Microphone Level Control (MIC, MAX/MIN)**

This is the attenuator for the microphone signal fed to the Microphone Input Jack (1).

**42. Auxiliary Audio Level Control (AUX, MAX/MIN)**

This is the input attenuator for the auxiliary audio signal fed to the Auxiliary Audio Input Connectors (65) on the rear panel.

**43. Source Level Control (SOURCE, MAX/MIN)**

This is the overall attenuator for the mixed AUDIO 1 and AUDIO 2 sound.

**44. Audio Control (AUDIO, 1/2)**

This control is used to balance the mixed audio signal fed to SOURCE 1 (AUDIO 1) input connector and the signal fed to SOURCE 2 (AUDIO 2) input connector on the rear panel.

**45. Mix/Wipe Control (VIDEO A, B)**

In the wipe mode, moving this lever from A to B will increase the portion of the B input, and vice versa. In the mix mode, video images are switched between A and B.

**46. A-bus Back Colour Selection Switch  
(BACK COLOUR)**

This switch is used to allocate the back colour signal to the A-bus input. The back colour signal can be set by the Back Colour Selection Switch (5). The LED lights up when this switch (46) is selected.

**47. B-bus Back Colour Selection Switch  
(BACK COLOUR)**

This switch is used to allocate the back colour signal to the B-bus input. The back colour signal can be set by the Back Colour Selection Switch (5). The LED lights up when this switch (47) is selected.

**Note:**

When the B-bus Back Colour Selection Switch (47) is selected from the B-bus Source 2 Selection Switch (49), the LED on the B-bus Source 2 Selection Switch (49) blinks.

This blinking tells you that the Source 2 picture will be selected when the B-bus Selection Switch (25) is pressed. The same procedure will take place when A-bus or Source 1 is used.

**48. A-bus Source 2 Selection Switch (SOURCE 2)-A**

This switch is used to allocate the source 2 video signal to the A-bus input. The LED lights up when this switch is selected.

**49. B-bus Source 2 Selection Switch (SOURCE 2)-B**

This switch is used to allocate the source 2 video signal to the B-bus input. The LED lights up when this switch is selected.

**50. A-bus Source 1 Selection Switch (SOURCE 1)-A**

This switch is used to allocate the source 1 video signal to the A-bus input. The LED lights up when this switch is selected.

**51. B-bus Source 1 Selection Switch (SOURCE 1)-B**

This switch is used to allocate the source 1 video signal to the B-bus input. The LED lights up when this switch is selected.

**52. Mix Mode Selection Switch (MIX)**

When this switch is pressed, the LED lights up, the mix mode is selected in the MIX/WIPE EFFECT.

**53. Wipe Mode Selection Switch (WIPE)**

When this switch is pressed, the LED lights up, the wipe mode is selected in the MIX/WIPE EFFECT. By pressing this switch, the wipe mode will be changed as follows:



**Note:**

When the Border Wipe is selected, the colour can be added on the border by the Back Colour Selection Switch (5).

**54. Joystick Positioner (POSITIONER)**

The position of the wiped pattern such as circle, square and diamond, which is selected by the Wipe Pattern Selection Switch (6) or the Picture-In-Picture Switch (7), can be freely set using this joystick.

**55. Source 1 Audio Connectors  
(SOURCE 1, AUDIO L/R)**

-6 dBV/15 kohms audio signals for the SOURCE 1 should be supplied to these input (IN) connectors. When the monophonic audio signal is fed to the L-channel, this signal will be distributed to the R-channel internally.

**56. Source 1 Y/C Video Input Connector  
(SOURCE 1, Y/C IN)**

The luminance (Y) and chroma (C) signals from VTR or colour TV should be supplied to this connector.

**Note:**

The Y/C input has a priority over the composite input in circuitry.

When both the Y/C video signal and the composite video signal are supplied to the SOURCE 1 connectors at the same time, only Y/C video signal goes into the circuit.

**57. Source 1 Video Input Connector  
(SOURCE 1, COMP.IN)**

A 1.0 Vp-p/75 ohms composite video signal should be supplied to the input (IN) connector.

**Notes:**

- (1) If the input signal does not meet the PAL colour standard or the CCIR B/W standard, this could cause synchronization error.
- (2) In case the S/N ratio of the input signal is very low, this may reflect to in a low-quality picture.
- (3) If the input video signal is very jittery, such as a picture played back on a VTR, synchronization or colour error may appear.

**58. Source 1 Video Output Connector  
(SOURCE 1, COMP. MONITOR OUT)**

A 1.0Vp-p/75 ohms composite video signal will be supplied at this connector for the monitoring purpose of the Source 1 Video Input signal.

**59. Source 2 Audio Connectors  
(SOURCE 2, AUDIO L/R)**

-6 dBV/15 kohms audio signals for the SOURCE 2 should be supplied to these input (IN) connectors. When the monophonic audio signal is fed to the L-channel, this signal will be distributed to the R-channel internally.

**60. Source 2 Y/C Video Input Connector  
(SOURCE 2, Y/C IN)**

The luminance (Y) and chroma (C) signals from VTR or colour TV should be supplied to this connector.

**Note:**

The Y/C input has a priority over the composite input in circuitry.  
When both the Y/C video signal and the composite video signal are supplied to the Source 2 connectors at the same time, only Y/C video signal goes into the circuit.

**61. Source 2 Video Input Connector  
(SOURCE 2, COMP. IN)**

The IN connector accepts a 1.0 Vp-p/75 ohm composite video signal.

**Notes:**

- (1) If the input signal does not meet the PAL colour standard or the CCIR B/W standard, this could cause synchronization error.
- (2) In case the S/N ratio of the input signal is very low, this may reflect to in a low-quality picture.
- (3) If the input video signal is very jittery, such as a picture played back on a VTR, synchronization or colour error may appear.

**62. Source 2 Video Output Connector  
(SOURCE 2, COMP. MONITOR OUT)**

A 1.0 Vp-p/75 ohms composite video signal will be supplied at this connector for the monitoring purpose of the Source 2 Video Input signal.

**63. Y/C External Camera Input Connector  
(EXT CAMERA IN Y/C)**

The luminance (Y) and chroma (C) signal from VTR or colour TV should be supplied to this connector.

**Note:**

1. The Y/C input has a priority over the composite input in circuitry.  
When both the Y/C video signal and the composite video signal are supplied to the External Camera Input connectors at the same time, only Y/C video signal goes into the circuit.
2. This input accepts only video camera signal and will not accept VTR playback signal.

**64. Composite Video External Camera Input Connector  
(EXT CAMERA IN COMP.)**

For the key signal in the superimpose mode, this connector accepts a 1.0 Vp-p/75 ohms composite video signal. The external sync is not necessary for the camera.

**Note:**

This input accepts only video camera signal and will not accept VTR playback signal.

**65. Auxiliary Audio Input Connectors (AUX AUDIO IN)**

Accept -6 dBV/15 kohms audio signal from an external audio source. When the monophonic audio signal is fed to the L-channel, this signal will be distributed to the R-channel internally.

**66. Recording Audio Output Connectors  
(AUDIO OUT 1, L/R)**

-6 dBV/1 kohms audio signals for recording are supplied at these connectors.

**67. Y/C Recording Video Output Connector  
(REC VIDEO OUT 1, Y/C)**

The luminance (Y) and chroma (C) signals are obtained from this connector when composite or Y/C signal is supplied to source 1 or 2.

**68. Recording Video Output Connectors  
(REC VIDEO OUT 1, COMP.)**

A 1.0 Vp-p/75 ohm composite video signal, as selected by the Recording Video Output Selection Switches (31), (32), (33), is provided at these connectors.

**69. Recording Audio Output Connectors  
(AUDIO OUT 2, L/R)**

-6 dBV/1 kohms audio signals for recording are supplied at these connectors.

**70. Y/C Recording Video Output Connector  
(REC VIDEO OUT 2, Y/C)**

The luminance (Y) and chroma (C) signals are obtained from this connector when composite or Y/C signal is supplied to source 1 or 2.

**71. Recording Video Output Connectors  
(REC VIDEO OUT 2, COMP.)**

A 1.0 Vp-p/75 ohm composite video signal, as selected by the Recording Video Output Selection Switches (31), (32), (33), is provided at these connectors.

**72. Preview Output Connector (PREVIEW OUT)**

A 1.0 Vp-p/75 ohm composite video signal of the EFFECT (all effect) image is provided at this connector.

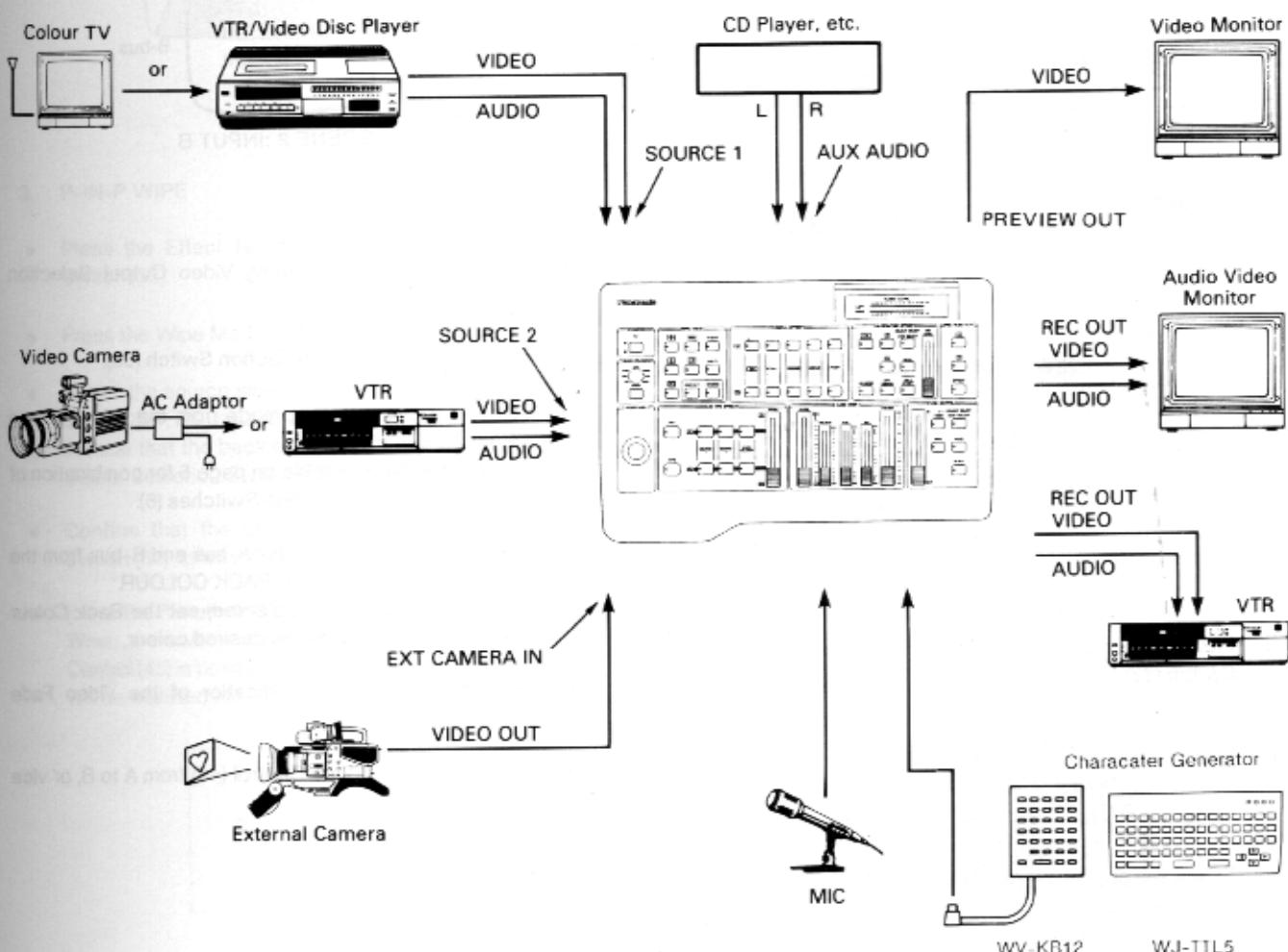
**73. Power Cord**

## SYSTEM CONNECTION

### Caution:

Keep the POWER ON/OFF switch turned OFF while making the connections.

1. Connect the coaxial cable with BNC connectors between the video output of the VTR, Video Disc Player, TV Tuner Output or Video Camera and the SOURCE 1 COMP. IN connector on the rear panel of the Digital AV Mixer or connect Y/C cable (4 pin) between VTR and the SOURCE 1 Y/C Video Input Connector on the rear panel of the Digital AV Mixer.
2. Connect the audio cable with pin plugs between the audio output of the VTR, Video Disk Player, TV Tuner Output or Video Camera and the SOURCE 1 AUDIO IN connectors on the rear panel of the Digital Av Mixer.
3. Connect the coaxial cable or Y/C cable (4 pin) and audio cable for the SOURCE 2 inputs of the Digital AV Mixer in the same manner as steps 1 and 2 above.
4. Connect the coaxial cable with BNC connectors between the video output of the external camera (B/W or colour camera for superimposing) and the EXT CAMERA IN connector of the Digital AV Mixer.
5. If the Character Generator WV-KB12 or WJ-TTL5 (sold separately) is used, connect the 10-pin cable connector of the Character Generator to the TITLE connector of the Digital AV Mixer.
6. If an auxiliary audio source is required, connect the audio cable with pin plugs between the audio output of the audio source (CD player, Tape Recorder or Record Player) and the AUX IN connectors of the Digital AV Mixer.
7. If necessary, connect the microphone cable with a tip-ring-sleeve type or tip-sleeve type phone plug to the MIC input connector of the Digital AV Mixer.
8. For previewing the image, connect the coaxial cable with BNC connectors between the PREVIEW OUT connector of the Digital AV Mixer and the VIDEO IN connector of a video monitor.
9. For recording, connect the coaxial cables with BNC connectors (Y/C cable) between the REC VIDEO OUT connectors of the Digital AV Mixer and the VIDEO IN connectors of the VTR and Video Monitor.
10. For recording, connect the audio cable with pin plugs between the REC AUDIO OUT connectors of the Digital AV Mixer and the AUDIO IN connectors of the VTR and Video Monitor.



System Connections

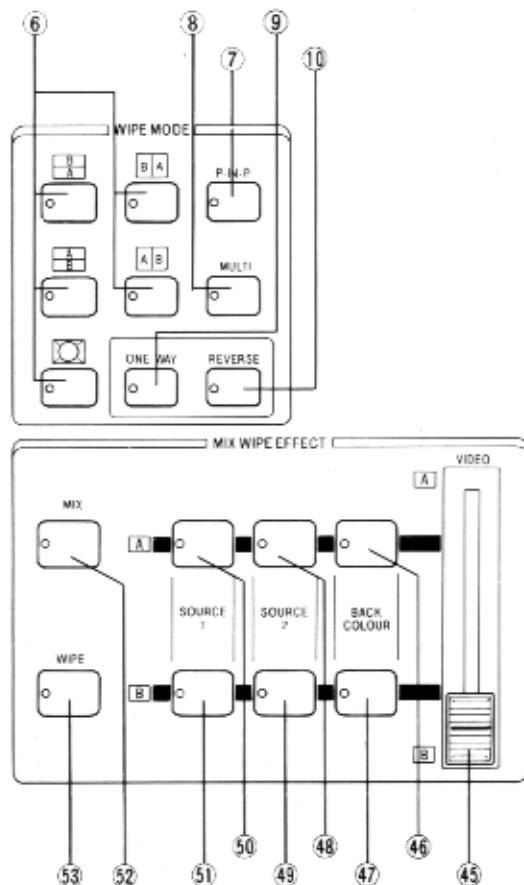
## OPERATING PROCEDURE

1. Make all necessary connections
2. Turn ON the Digital AV Mixer and all other equipment connected.
3. Prepare the script of the program.
4. Prepare all necessary title cards.

**Note:**

- Either the title cards with black letters on white or white on black can be used for the superimpose function.
5. Store all titles to be superimposed in the Character Generator WV-KB12/WJ-TTL5 while referring to the operating instructions of the WV-KB12/WJ-TTL5.

### A. MIX/WIPE EFFECT, WIPE MODE

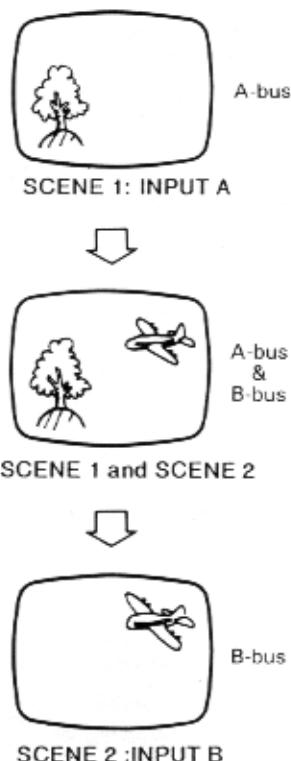


- Press the Effect Recording Video Output Selection Switch (33).

#### 1. MIX EFFECT

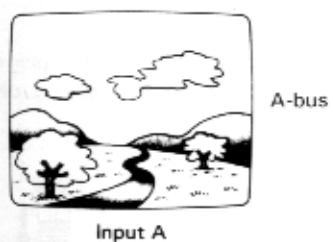
- Press the Mix Mode Selection Switch (52).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.

- Confirm that the LED indicator of the Video Fade Switch (37) lights off.
- Operate the Mix/Wipe Control (45) from A to B, or vice versa.



#### 2. WIPE EFFECT

- Press the Effect Recording Video Output Selection Switch (33).
- Press the Wipe Mode Selection Switch (53).
- Select the desired wipe mode from the Wipe Pattern Selection Switches (6). Refer to the pattern table on page 5 for combination of the Wipe Pattern Selection Switches (6).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.
- Confirm that the LED indicator of the Video Fade Switch (37) lights off.
- Operate the Mix/Wipe Control (45) from A to B, or vice versa.



Input A

A-bus



Wiped picture

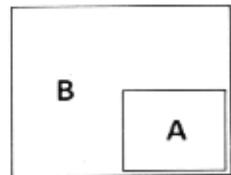
A-bus  
&  
B-bus



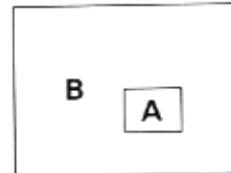
Input B

B-bus

- By sliding the Mix/Wipe Control (45) to A position in this conditions, the inserted picture B will be changed to A-bus picture as shown below.



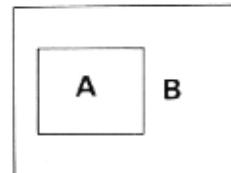
- Press the Picture-In-Picture Switch (7) again to obtain a 1/16 sized picture for insertion.



- The position of those 1/4 or 1/16 sized picture can be freely set using a Joystick Positioner (54).

**Notes:**

- (1) When a 1/4 or 1/16 sized picture is positioned to the left edge, the P-IN-P mode may not be performed in the fringe area for some television monitor.

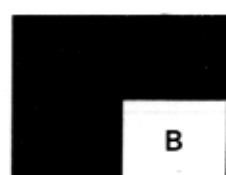


- (2) The image of the inserted picture may be slipped into two in horizontal depending on the position of the inserted picture.



- (3) In case that the B-bus picture is inserted in A-bus picture and,

- 1) when A-bus Recording Video Output Selection Switch (31) is pressed, only A-bus picture will be output.
- 2) when B-bus Recording Video Output Selection Switch (32) is pressed, the inserted B-bus picture with black background will be output.

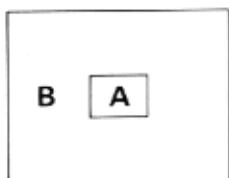


**Remark:**

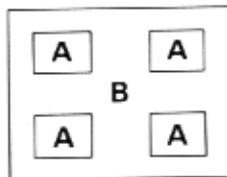
The Strobe and the Still will not function when the picture-in-picture mode is used.

#### 4. MULTI WIPE

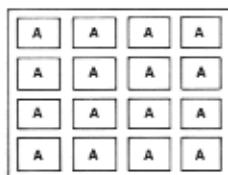
- Press the Effect Recording Video Output Selection Switch (33).
- Press the Wipe Mode Selection Switch (53).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case that the back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.
- Confirm that the LED indicator of the Video Fade Switch (37) lights off.
- Select the desired wipe pattern using the Wipe Pattern Selection Switches (6).



- Then press the Multi Wipe Pattern Switch (8) once to obtain a four times of multiplied wiped pattern.

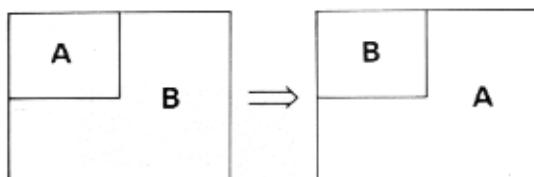


- If the Multi Wipe Pattern Switch (8) is pressed again, sixteen times of multiplied wiped pattern will be obtained.



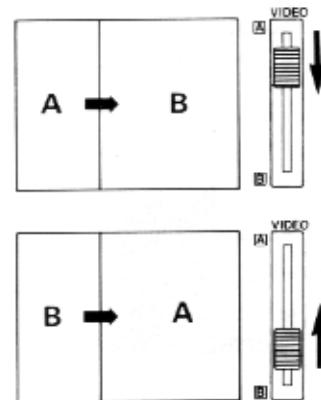
#### 5. REVERSE WIPE

- When this switch is pressed, the position of the wiped pictures will be laid reversely.



#### 6. ONE-WAY WIPE

- When this switch is pressed, the wiping direction stays same in regardless of the moving direction of the Mix/Wipe Control (45).



#### 7. WIPE MODE

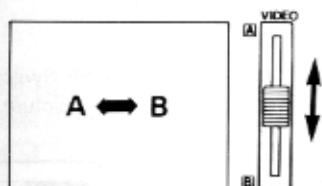
There is a choice of wipe mode from a Soft wipe or Border wipe.

- Press the Wipe Mode Selection Switch (53) twice to obtain a clear/wide edge. A choice of the colour on this border edge is available from the Back Colour Selection Switch (5).
- Press the Wipe Mode Selection Switch (53) third time to obtain a dimmed wiping edge. To return to a normal wipe mode, press the Wipe Mode Selection Switch (53) again.

#### 8. APPLICATION

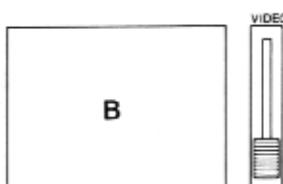
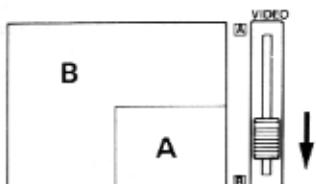
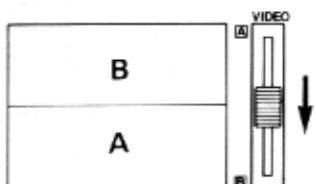
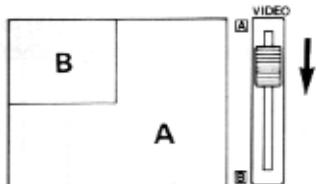
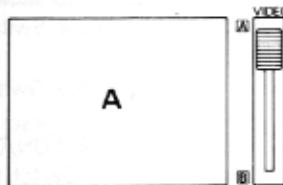
##### 8-1. Cut Wipe

- Press the Effect Recording Video Output Selection Switch (33).
- Press the Wipe Mode Selection Switch (53).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case that the back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.
- Confirm that the LED indicator of the Video Fade Switch (37) lights off.
- Do not select any wipe pattern from the Wipe Pattern Selection Switches (6).
- Slide the Mix/Wipe Control (45) up and down near the center position. The A-bus picture and the B-bus picture appear by turns.



#### 8-2. Cut-Multi wipe

- Press the Effect Recording Video Output Selection Switch (33).
- Press the Wipe Mode Selection Switch (53).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case that the back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.
- Confirm that the LED indicator of the Video Fade Switch (37) lights off.
- Do not select any wipe pattern from the Wipe Pattern Selection Switches (6).
- Press the Multi Wipe Switch (8) once.
- Slide the Mix/Wipe Control (45) from A position to B position slowly. The 1/4 sized A-bus picture will appear as shown.



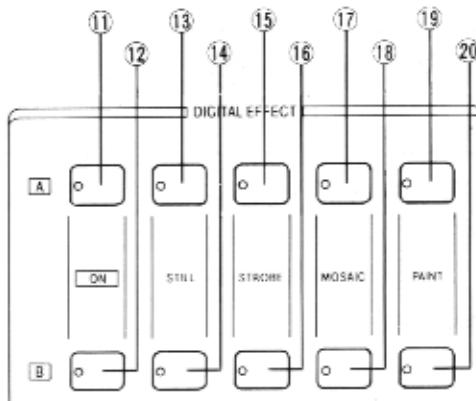
#### Note:

When the Multi Wipe Pattern Switch (8) is pressed twice, a 1/16 sized picture performs the same manner.

#### Remarks:

- (1) When the B-bus Back Colour Selection Switch (47) is selected after the B-bus Source 2 Selection Switch (49), the LED on the B-bus Source 2 Selection Switch (49) blinks. This blinking tells you that the Source 2 picture will be selected when the B-bus Selection Switch (25) is pressed. The same procedure will take place when A-bus or Source 1 is used.
- (2) When the B-bus Still ON/OFF Switch (14) is pressed while the B-bus Source 2 Selection Switch (49) has been selected, B-bus Source 1 Selection Switch (51) will not function. The same procedure will take place when A-bus or Source 1 is used.

## B. DIGITAL EFFECT

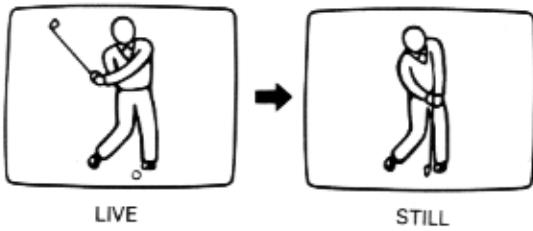


The following Effects will be mainly explained for A-bus picture as a example.

- (1) Press the Mix Mode Selection Switch (52).
- (2) Press A-bus Source 1 Selection Switch (50).
- (3) Slide Mix/Wipe Control (45) to A position.
- (4) Press the A-bus Digital Effect ON/OFF Switch (11).
- (5) Press the Effect Recording Video Output Selection Switch (33).

### 1. STILL

- Press the A-bus Still ON/OFF Switch (13) once to freeze the picture. The LED lights up.



- To return to a live picture, press the A-bus Still ON/OFF Switch (13) again. The LED lights off.

## 2. STROBE

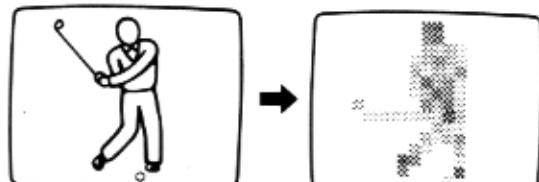
- Press the A-bus Strobe ON/OFF Switch (15) to obtain strobe effects. (This function can be much likened with still pictures played in slow motion of 0.2 to 1 second intervals.)
- The interval of strobe will be changed by pressing this switch as follows.  
First time - 0.2 sec., Second time - 0.4 sec., Third time - 0.6 sec.,  
Fourth time - 0.8 sec., Fifth time - 1.0 sec. (The interval is approximate.)



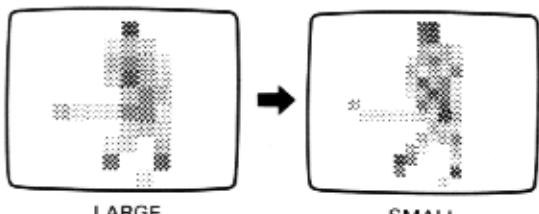
- The strobe effect will return to a normal, live picture when this switch is pressed sixth time.

## 3. MOSAIC

- Press the A-bus Mosaic ON/OFF Switch (17) to obtain a mosaic effect of the picture.



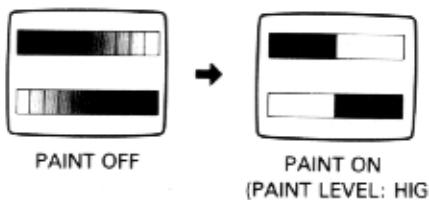
- The size of the rectangles can be changed in four steps by pressing this switch repeatedly.



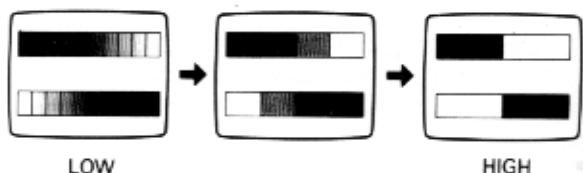
- To return to a normal picture, press this switch fifth time.

## 4. PAINT

- Press the A-bus Paint ON/OFF Switch (19) to obtain an oil-paint touch effect on the picture.



- The graduation of the paint can be changed in four steps by pressing this switch repeatedly.

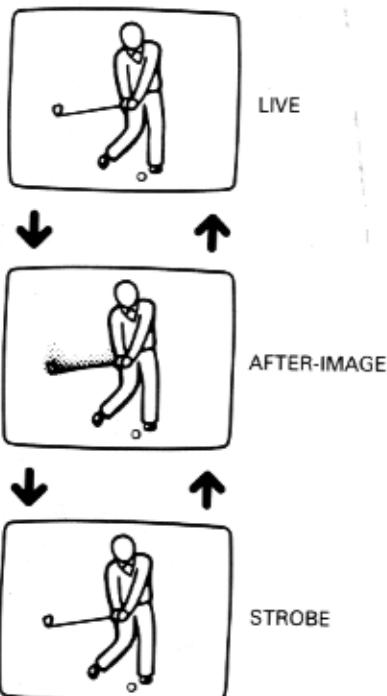


- To return to a normal picture, press this switch fifth time.

## 5. APPLICATIONS

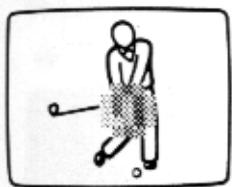
### 5-1.

- Select the A-bus Source 1 Selection Switch (50) and the B-bus Source 1 Selection Switch (51).
- Press the Mix Mode Selection Switch (52).
- Press the B-bus Digital Effect ON/OFF Switch (12) and the B-bus Strobe ON/OFF Switch (16).
- Move the Mix/Wipe Control (45) to the center position to obtain an after-image effect.

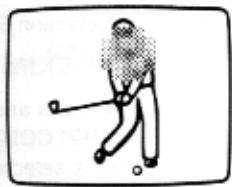


5-2.

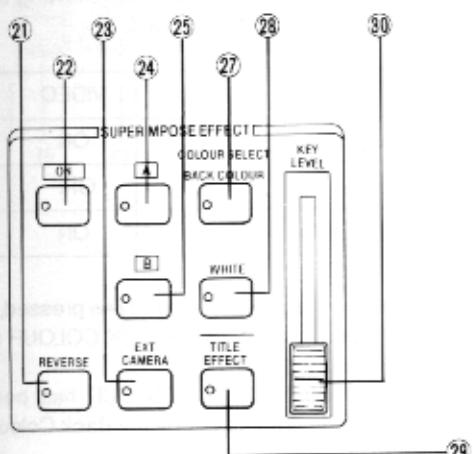
- Press the B-bus Mosaic ON/OFF Switch (18) and adjust the size of the rectangles by pressing the B-bus Mosaic ON/OFF Switch (18) repeatedly.
- Press the Wipe Mode Selection Switch (53).
- Select the Circle or Square wipe using Wipe Pattern Selection Switches (6).
- Operate the Mix/Wipe Control (45) for desired wipe size.



- Operate the Joystick Positioner (54) to position the wipe position on the screen.



## C. SUPERIMPOSE EFFECT & BACK COLOUR



- (1) Press the Effect Recording Video Output Selection Switch (33).
- (2) Press either the Mix Mode Selection Switch (52) or the Wipe Mode Selection Switch (53).

(3) Select the background image. Set Mix/Wipe Control (45) to lower position (B) for B-bus image as background or upper position (A) for A-bus image as background. The background image can be selected from the SOURCE 1, SOURCE 2 or BACK COLOUR for either position of A-bus or B-bus.

(4) Select the key image source (the one to be superimposed) by pressing one of the Superimpose Source Selection Switches (23), (24), (25).

### Note:

In case the Character Generator is used, connect it to the Title Input Connector (2).

(5) In case the back colour is to be selected, set the Back Colour Switch (27) to the desired colour or White Colour Switch (28).

Select the colour using Back Colour Selection Switch (5).

### Caution:

Do not simultaneously press the BACK COLOUR switch for the A-bus (B-bus) and the BACK COLOUR switch for the superimpose function.

(6) Press the Superimpose ON/OFF Switch (22) once to enter the function.

### Remark:

When the B-bus Back Colour Selection Switch (47) is selected after the B-bus Source 2 Selection Switch (49), the LED on the B-bus Source 2 Selection Switch (49) blinks.

This blinking tells you that the Source 2 picture will be selected when the B-bus Selection Switch (25) is pressed. The same procedure will take place when A-bus or Source 1 is used.

### 1. SUPERIMPOSE BY CAMERA

- Connect the camera with cable to the Composite Video External Camera Input Connector (64) or the Y/C External Camera Input Connector (63).
- Direct the camera at a picture or panel.
- Press External Camera Selection Switch (23). While observing the image on a video monitor, which is connected to the Preview Output Connector (72), adjust the Key Level Control (30) until a clear superimposed image is obtained.  
In case the title card is written with white letters on black, slide the Key Level Control from upper position.



In case the title card is written with black on white, slide the Key Level Control from lower position.

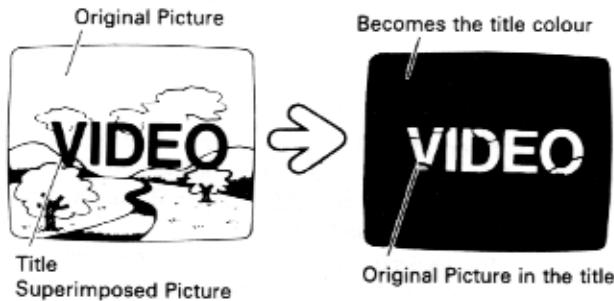


Note:

When the optional Character Generator WV-KB12 or WJ-TTL5 is only used for the superimpose, the Key Level Control (30) will not effect to the superimposing.

## 2. REVERSE EFFECT

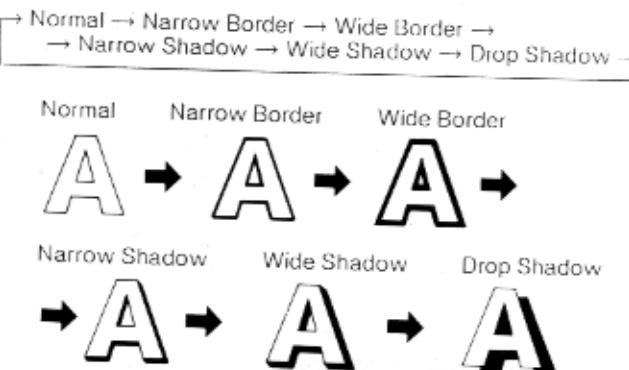
- Select the polarity of the key signal to be superimposed by pressing the Reverse Switch (21).



## 3. TITLE EFFECT

- If desired, the edge enhancement of the title can be obtained by pressing the Title Effect Switch (29) repeatedly.

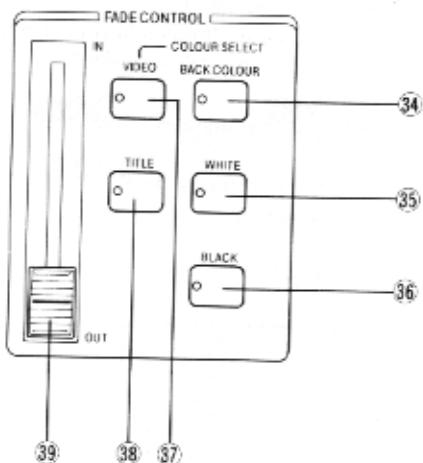
The effected picture will be as follows.



**Notes:**

- The superimposed titles by the Character Generator can be coloured. Press the Back Colour Switch (27) and select the colour by the Back Colour Selection Switch (5).
- When the White Colour Switch (28) is pressed for the superimposed titles by the Character Generator, the edge of the characters can be coloured by the Back Colour Selection Switch (5).

## D. FADE CONTROL



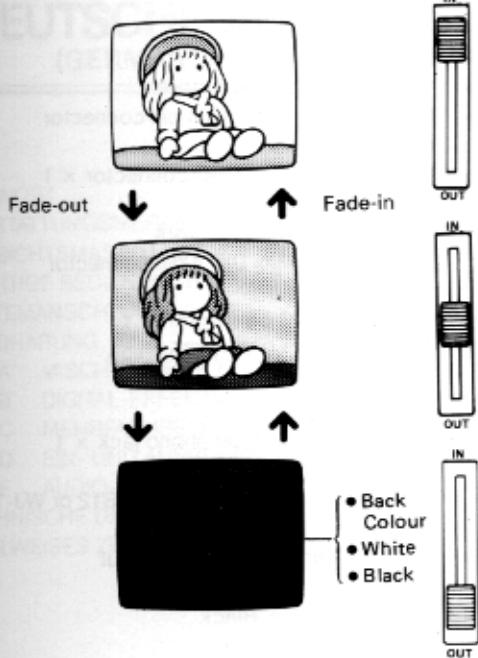
- Press the Effect Recording Video Output Selection Switches (33).
- Press either the Mix Mode Selection Switch (52) or the Wipe Mode Selection Switch (53).
- Select the source signal for A-bus and B-bus from the SOURCE 1, SOURCE 2 or BACK COLOUR. In case that the back colour is selected, set the Back Colour Selection Switch (5) to the desired colour.

### Fading Operation

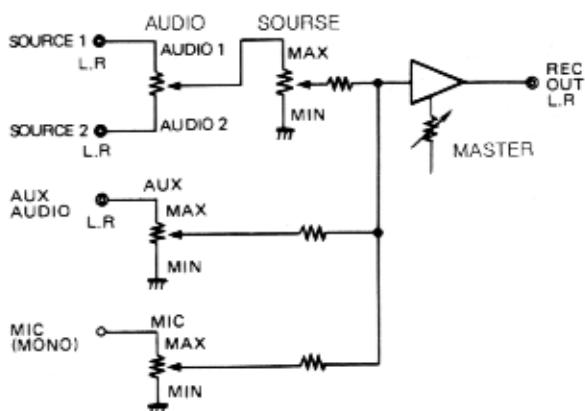
- Select the combination of the switches (37) and (38) whether picture and title are to be faded in and out or only picture or only title. The following table shows which button must be pressed.

	VIDEO	TITLE
VIDEO fade	ON	OFF
TITLE fade	OFF	ON
VIDEO & TITLE fade	ON	ON

- When the Video Fade Switch (37) is pressed, the display monitor has a choice from BACK COLOUR (34) WHITE (35) or BLACK (36). In case that the BACK COLOUR has been chosen, select the desired colour by the Back Colour Selection Switch (5). Slide the Fade Lever (39) from IN to OUT, or vice versa.

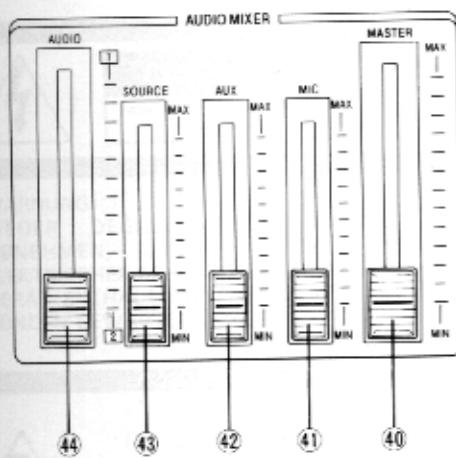


The following is a block diagram depicting the circuitry of the audio section.



- To record the SOURCE 1 audio signal, set the Audio Control (44) to the end position of "Audio1" and adjust the audio level by operating the Source Level Control (43).
- To mix the SOURCE 1 and SOURCE 2 audio signals, adjust the Audio Control (44).
- To mix the auxiliary audio signal for recording, adjust the Auxiliary Audio Level Control (42).
- To mix the microphone signal for recording, adjust the Microphone Level Control (41).
- To fade in or fade out the audio signal, adjust the Audio Master Level Control (40).

## E. AUDIO MIXER



WARNING

## SPECIFICATIONS

Source Input:	x2 (SOURCE 1 and SOURCE 2)
Video Input:	1.0 Vp-p/75 ohms PAL composite signal, BNC connectors
Y/C Input:	Y signal; 1 Vp-p, C signal; 0.3 Vp-p, 75 ohms, Mini DIN 4 pin connector
Audio Input:	-6 dBV/15 kohms, pin jack (Left and Right)
External Camera Input:	1.0 Vp-p/75 ohms CCIR or PAL composite signal, BNC connector x 1
Recording Output:	x2 (REC OUT 1 and REC OUT 2)
Video Output:	1.0 Vp-p/75 ohms, PAL composite signal, BNC connectors
Y/C Output:	Y signal; 1 Vp-p, C signal; 0.3 Vp-p 75 ohms, Mini DIN 4 pin connector
Audio Output:	-6 dBV/1 kohms, pin jack (left and Right)
Preview Video output:	1.0 Vp-p/75 ohms, PAL composite signal, BNC connector x 1
Monitor Output:	x2 (MONITOR OUT 1 and MONITOR OUT 2) 1.0 Vp-p/75 ohms, PAL composite signal, BNC connector.
External Sound Input:	
MIC Input (mono):	-60 dB/600 ohms, unbalanced, tip-ring-sleeve type phono jack x 1
AUX Input:	-6 dBV/15 kohms, pin jacks (Left and Right)
Character (TITLE) Input:	10-pin connector x 1 for optional Character Generator WV-KB12 or WJ-TTL5
Effects:	
Video:	Still, Strobe, Mosaic, Paint, Mix, Wipe, Superimpose, Fade-in/out
Audio:	Mix, Fade
Back Colours:	White, Yellow, Cyan, Green, Magenta, Red, Blue, Black
Wipe Patterns:	98 patterns
Others:	P-IN-P, MULTI, ONE-WAY, REVERSE
Gain:	Unity (Video)
Signal-to-noise Ratio (Typical):	Video: 45 dB (Composite), 45 dB (Y/C) Audio: 60 dB
Power Source:	240 AC, 50 Hz for WJ-AVE5/A and WJ-AVE5/B; 220V AC 50 Hz for WJ-AVE5/G
Power Consumption:	13W
Ambient Temperature:	0° - 40°C
Ambient Humidity:	Less than 90%
Dimensions:	420(W) x 70(H) x 280(D) mm
Weight:	2.8 kg

Weight and dimensions indicated the approximate.  
Specifications are subject to change without notice.

## OPTIONAL ACCESSORIES

- Character Generator WV-KB12, WJ-TTL5