



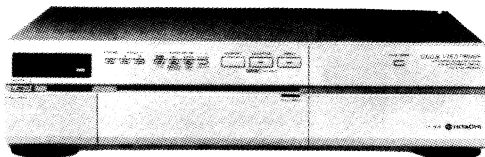
HITACHI

SERVICE MANUAL

TK

No. 3322E

VY-150E



Technical Data

SPECIFICATIONS

Model:	VY-150E
Printing System:	Sublimable dye thermal transfer line printing
Picture Memory:	1-frame memory(field A, field B)
Print Picture:	64-tone frame picture (interpolated frame picture in the field mode) Number of pixels printed : 563×640 dots
Printing Time:	Normal printing : Approx. 110 seconds/picture Reverse printing: Approx. 130 seconds/picture
Printing Media:	Ink paper: Cartridge type (exclusive) 3-colour sequential printing (yellow, magenta, cyan) Print paper: Cut paper: 100×140mm (standard size), Picture size: 84.5×110mm
Video Input:	S video input: Y (luminance signal) 1.0Vp-p, 75 ohm C (chrominance signal) 0.3Vp-p, 75 ohm Composite video input: 1.0Vp-p, 75 ohm (US pin) RGB input: RGB analogue still 0.7Vp-p, 75ohm, positive polarity (BNC) C. SYNC 0.3-4Vp-p, 75ohm, positive/negative polarity (BNC) fH=15.625kHz fV=50Hz
Video Output:	S video output: Y (luminance signal) 1.0Vp-p, 75 ohm C (chrominance signal) 0.3Vp-p, 75 ohm Composite video output: 1.0Vp-p, 75 ohm (US pin)
Input/output Combination Jack:	TV: PAL Composite video 1.0Vp-p, 75 ohm EXT. (VTR) : PAL Composite video 1.0 Vp-p, 75 ohm
Operating Temperature: Permissible Relative Humidity:	5°C~35°C 25 ~ 75%
Power input:	AC 220V 50Hz
Power Consumption:	Approx. 130W 0.8A (during printing) Approx. 20W (with power on)
Dimensions:	435(W)×111(H)×365(D)mm
Weight:	8.5kg
Accessories Provided:	1 — Video print kit 1 — EURO cable 1 — US pin cable 1 — S connector cable 1 — Paper tray 1 — Infrared remote control unit 2 — Batteries

Design and Specifications are subject to change without notice.

MANUALS RELATED TO THE VY-150E

Name of Manual	Language	Manual No.	Chapters included
Technical Data	English	3322E	Chapters 1-6
Technical Information	English	3323E	—

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

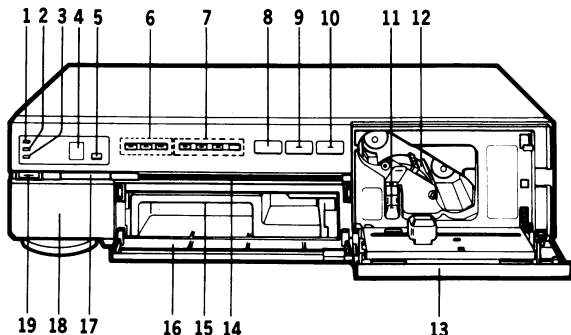
COLOUR VIDEO PRINTER

August

1990

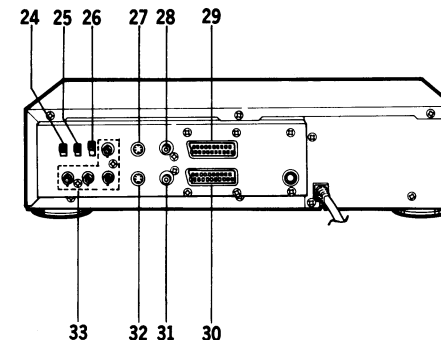
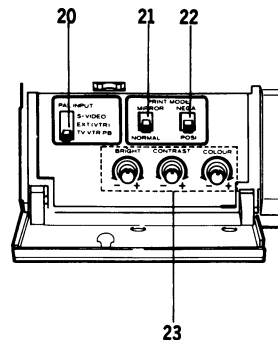
TOKAI WORKS

CONTROLS AND FUNCTIONS



- 1. READY INDICATOR**
When the indicator is lit, a picture can be printed.
- 2. PAPER INDICATOR**
Blinks when printing is attempted without print papers in the paper cassette.
- 3. INK INDICATOR**
Blinks when the ink paper is used up.
- 4. PRINT COUNTER**
Shows the number of prints to be made. Set the number by pressing the print number SET button.
- 5. PRINT NUMBER SET BUTTON**
Sets the number of prints to be made. The number is displayed in the print counter.
- 6. MEMORY SELECT BUTTONS**
Select FRAME, FIELD A or FIELD B when storing a picture in memory or printing it.
- 7. SUPERIMPOSE BUTTONS**
Use these buttons to superimpose the date or title on the print.
- 8. MEMORY BUTTON**
Press this button to store a picture.
• When the PAL/RGB INPUT SELECT switch is set to "RGB", no picture can be stored in memory.
- 9. MONITOR BUTTON (MEMORY/SOURCE)**
Use this button to switch the picture to be displayed on the TV screen.
When the indicator in the button is off, the picture from the input jacks appears on the TV screen. (SOURCE)
When the indicator in the button is lit, the picture to be printed appears on the TV screen. (MEMORY)
- 10. PRINT BUTTON**
Press to print.
- 11. CARTRIDGE EJECT LEVER**
Press to remove the print cartridge.
- 12. PRINT CARTRIDGE HOUSING SECTION**
Put a print cartridge in here.
- 13. CARTRIDGE DOOR**
- 14. PRINTED PAPER OUTLET**
Prints come out here.
- 15. PAPER CASSETTE**
- 16. CASSETTE DOOR**
- 17. REMOTE SENSOR**
Receives the infrared ray from remote control unit.
- 18. CONTROL DOOR**
- 19. OPERATE SWITCH**
Turns the system power on and off.
- 20. PAL INPUT SELECT SWITCH**
Using this switch, select the source (input equipment) from which you want to print.
S-VIDEO : To print a picture from equipment connected to S-VIDEO (Y/C) IN jack.
EXT.(VTR) : To print a picture from a VTR, video camera, video disc player, etc.
TV, VTR PB :
(1) To print a picture received by a TV connected to the printer via a EURO cable.
(2) To print a picture played back by a VTR connected to the printer via a EURO cable.

Controls behind the Door

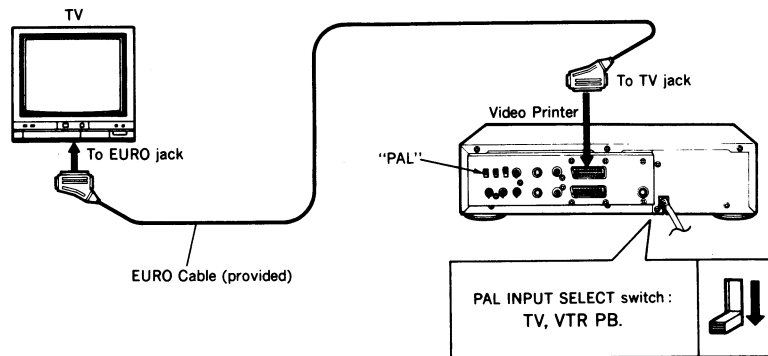


- 21. MIRROR REVERSE SWITCH**
In the "NORMAL" position, the picture is printed as it appears on the TV screen. "MIRROR" permits printing of an inverted mirror-image picture.
- 22. NEGA/POSI REVERSE SWITCH**
Usually, it is set to "POSI". In the "NEGA" position, the picture is printed with the colours reversed.
- 23. PRINT PICTURE CONTROLS**
Use these controls to adjust the brightness, contrast and colour density of the picture stored in memory.
- 24. PAL/RGB INPUT SELECT SWITCH**
Using this switch, select the source (input equipment) from which you want to print.
RGB: To print a picture from equipment connected to RGB IN jacks.
PAL: To print a picture from a VTR, video camera, video disc player, etc.
- 25. 75Ω TERMINATION SWITCH**
ON: Terminates R, G, B and SYNC input jacks with 75Ω.
OFF: Sets the R, G, B and SYNC input jacks to high impedance.
- 26. SYNC SIGNAL SELECT SWITCH**
Switches the positive sync signal to negative when a video signal is input via the RGB IN jacks.
Set to "┌┐" when a negative sync signal is input, to "└└" when a positive sync is input, and to "GRN" when the sync signal is present in the green signal.
- 27. S-VIDEO (Y/C) IN JACK**
Input separate Y/C (luminance/chrominance) signals.
- 28. VIDEO IN JACK**
Input a video signal.
- 29. TV JACK**
For connection with a TV with a EURO jack using a EURO cable.
- 30. EXT. (VTR) JACK**
Connect to equipment that outputs video signal (VTR, video disc player, etc.) using a EURO cable.
- 31. VIDEO OUT JACK**
Outputs the video signal.
- 32. S-VIDEO (Y/C) OUT JACK**
Outputs separate Y/C (luminance/chrominance) signals.
- 33. RGB IN JACKS**
Connect a video equipment with RGB output jacks to these jacks input video signals.

CONNECTIONS

Example 1: To print pictures of TV set (I)

- If your TV set has a EURO jack, follow the connection below.

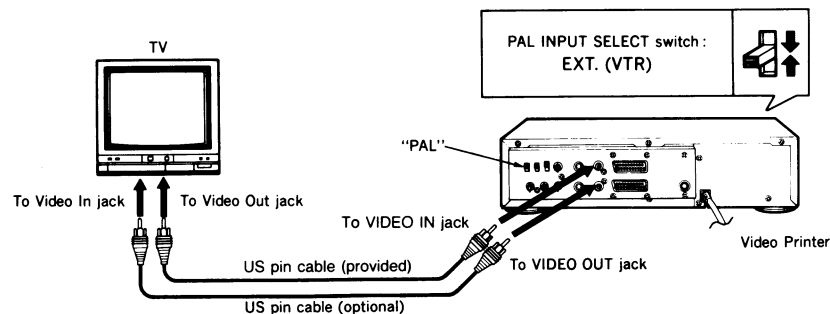


Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "TV, VTR PB.".
3. Do not connect any cord to the VIDEO OUT jack with the above connection.

Example 2: To print pictures of TV set (II)

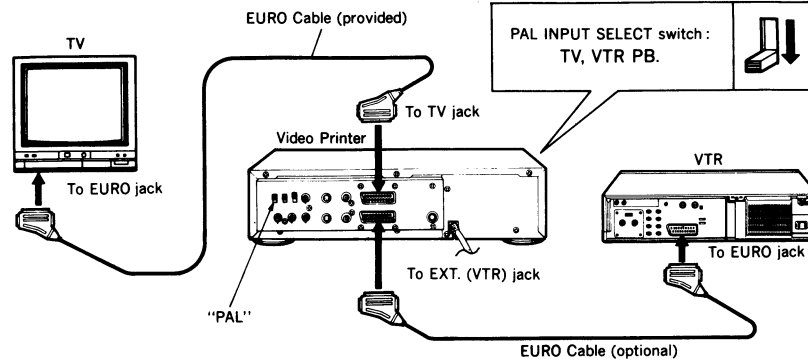
- If your TV set has video in/out jacks, follow the connection below.



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".

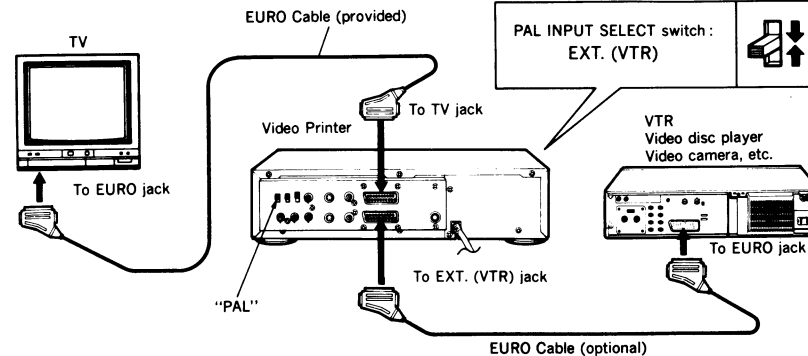
Example 3: To print pictures of TV broadcast and picture played back by a VTR.



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "TV, VTR PB.".
3. A picture of the TV broadcast is printed except during VTR playback.
4. The TV is switched to the picture played back from the VTR during VTR playback. Select the required VTR playback picture for printing.
5. Do not connect any cord to the VIDEO IN and OUT jacks with the above connection.

Example 4: To print pictures from external equipment (with EURO jack)

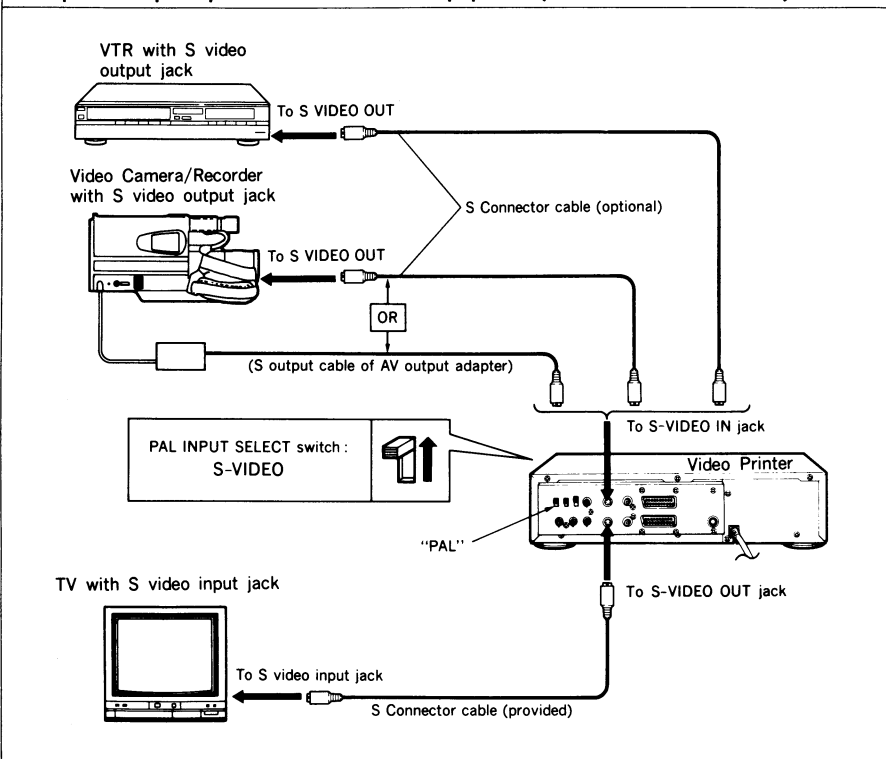


Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The above connection is the same as in Example 3. When the PAL INPUT SELECT switch is set to "EXT. (VTR)" in this state, the picture from the VTR is always input to the printer even if the VTR is not in the playback mode.
4. Even when the external equipment can output S-video signals (Y/C) from the EURO jack, the printer cannot print S-video signals with the above connection. Refer to Example 5 for printing S-video signals.

CONNECTIONS (continued)

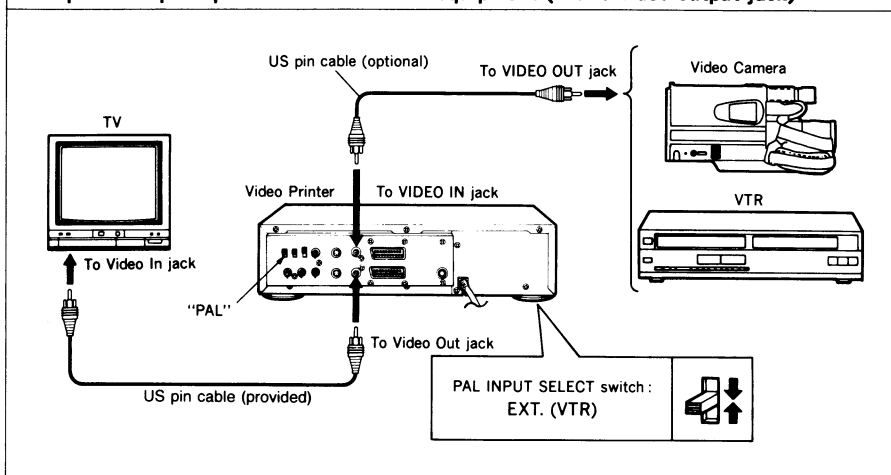
Example 5: To print pictures from external equipment (with an S-video terminal)



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "S-VIDEO".
3. When the TV is connected to the VIDEO OUT or TV jack of the printer with the above connection, you can only see the picture stored in memory (memorized picture).

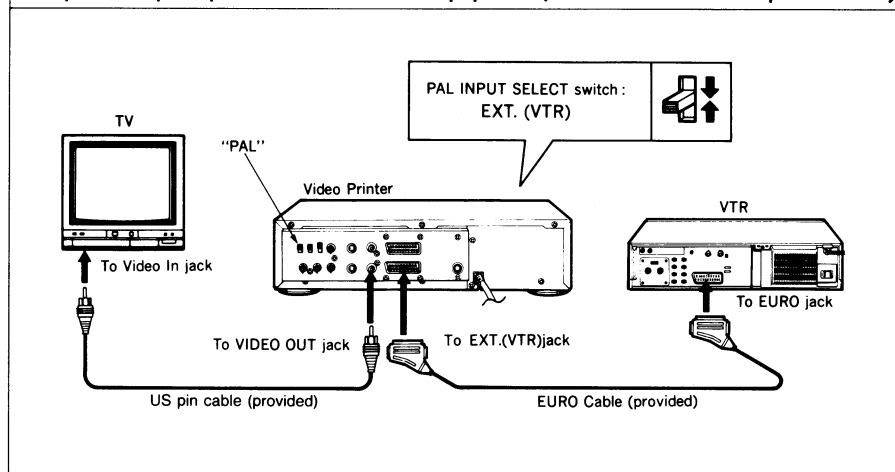
Example 6: To print pictures from external equipment (with a video output jack)



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The equipment connected to the VIDEO IN jack has priority over the equipment connected to the EXT. (VTR) jack.

Example 7: To print pictures from external equipment (Combination I of examples 4 and 6)

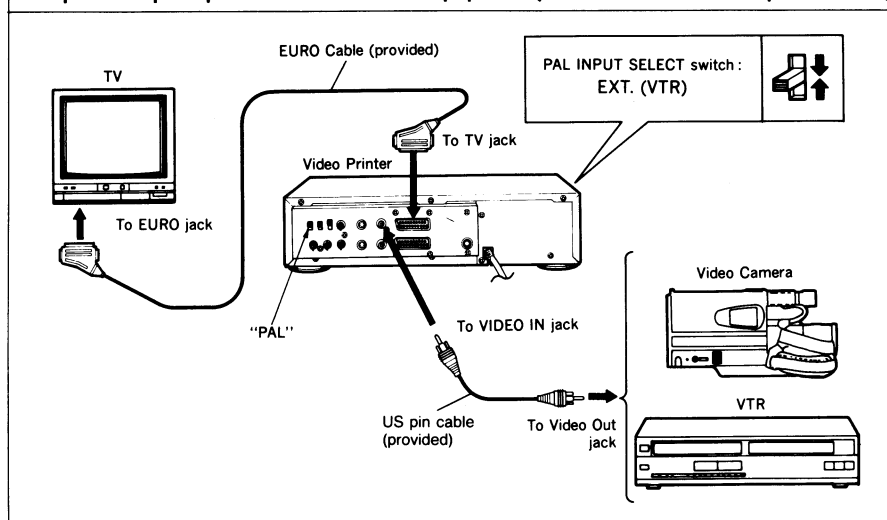


Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. Do not connect any equipment to the VIDEO IN jack with the above connection.

CONNECTIONS (continued)

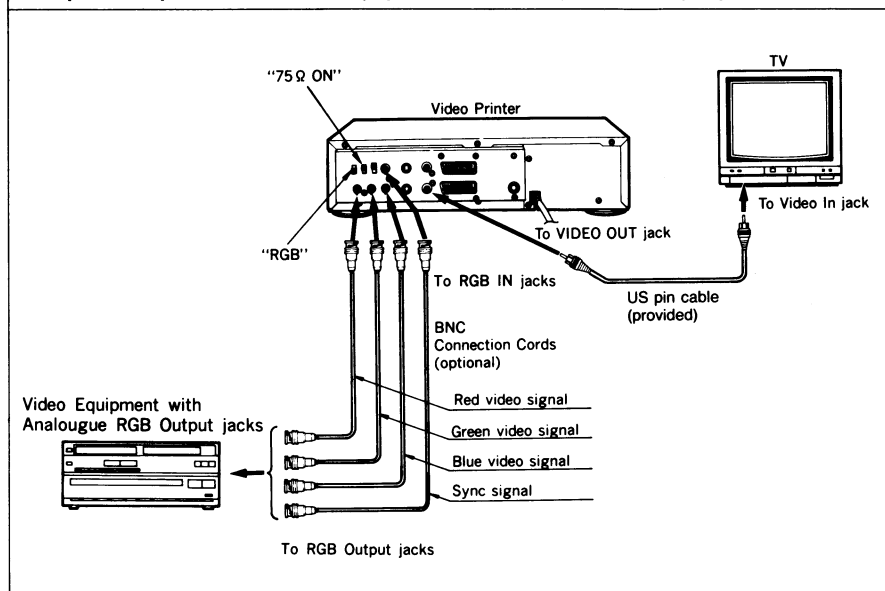
Example 8: To print pictures from external equipment (Combination II of examples 4 and 6)



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The equipment connected to the VIDEO IN jack has priority over the equipment connected to the EXT (VTR) jack.

Example 9: To print from a Video equipment with Analogue RGB output jack



Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "RGB".
2. Before connecting a video equipment with analogue RGB output jacks to the video printer, check that video equipment satisfies the input signal specifications of the printer. If a video equipment which does not satisfy the specifications is connected, the correct printing cannot be performed.

RGB input signal specifications

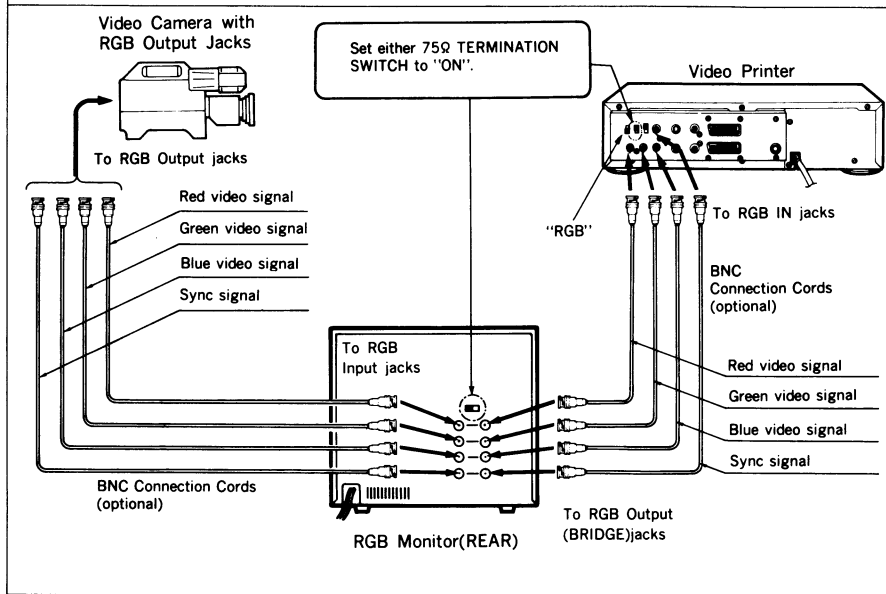
RGB input : 0.7Vp-p, 75ohm/high impedance, positive polarity

Composite sync input: 0.3-4Vp-p, 75ohm/high impedance, positive/negative polarity or sync on green.
 $f_H = 15.625\text{kHz}$, $f_V = 50\text{Hz}$

3. Change the sync signal select switch on the back of the printer according to the RGB input signals.
 - Set this switch to "GRN" when a sync signal is superimposed on the green video signal.
4. Set the 75Ω termination switch on the back of the printer to "ON".
5. The video printer does not store RGB signals in memory. Operate the video equipment which is supplying the RGB signals so the picture becomes still and then print it.

CONNECTIONS (continued)

Example 10: To print pictures from an RGB Monitor with RGB output (BRIDGE) jacks

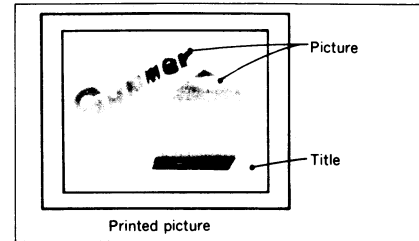


Notes:

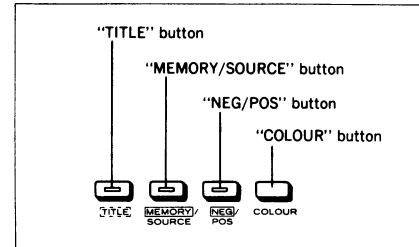
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "RGB".
2. Before connecting RGB signals to the printer, check that they satisfy the RGB input signal specifications (Refer to item 2 of Notes in Example 9).
3. Change the sync signal select switch on the back of the printer according to the RGB input signals.
 - Set this switch to "GRN" when a sync signal is superimposed on the green video signal.
4. Set either 75Ω termination switch of the printer or RGB monitor to "ON".
 - If both switches are set to "ON" (or "OFF"), the printed picture is extremely dark (or bright).
5. Connect another TV to the VIDEO OUT jack of the printer if you want to view the picture controlled by the printer (the picture adjusted by the print picture controls, etc.). (See the connection diagram in Example 9)
6. **The video printer does not store RGB signals in memory. Operate the video equipment which is supplying the RGB signals so the picture becomes still and then print it.**

TITLE SUPERIMPOSITION

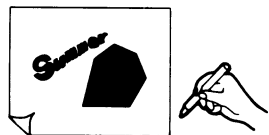

This allows you to print a picture with a superimposed title.



Buttons to operate

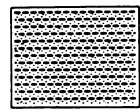



Prepare a title and shoot it with a camera/recorder

1. Draw the title to be superimposed on a large sheet of white paper using a black pen.
 
2. Connect the camera/recorder to the printer.
 - Read "CONNECTIONS" carefully.
3. Point the camera/recorder at the title prepared in step 1 to shoot it.
 - It is not necessary to record it.


- Raise the illumination so no shadow is produced.
- Also read the instruction manual of the camera/recorder carefully.

Store the title in memory

1. Press the TITLE button twice. The indicator in the button flashes and the MEMORY/SOURCE button indicator lights.
 - When a title has already been stored in memory, the stored title appears on the screen.
 - When a title has not still been stored, a noisy picture appears as shown below.

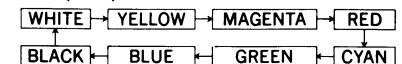
2. Press the MEMORY/SOURCE button. The indicator in the MEMORY/SOURCE button goes off and the picture from the camera/recorder appears on the screen.
 - The picture becomes rough and monochrome.

- Check that no shadow appears on the screen at this time. When the title is stored in memory with a shadow appearing and printing is started, unnecessary parts will be printed.
- The noise or title which appeared on the screen in step 1 will be erased.

3. Press the MEMORY/SOURCE button again to store the title in memory. The indicator in the MEMORY/SOURCE button lights.
 

This section is stored in memory as a title.

- If the stored title differs from the composition you desire, start from step 2 again.
4. Press the COLOUR button to select the colour of the superimposed title.

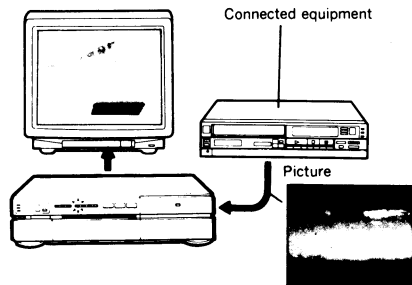


Notes:

- When the power is turned off, the title stored in memory is cleared.
- If the PAL INPUT SELECT switch is set to "TV, VTR PB.", a title is not stored in memory.

Print picture while inserting a title

1. Check that the MONITOR button indicator goes off while the TITLE button is blinking, to display the prepared title on the screen.
 - When the MONITOR button indicator is lit, press the MONITOR button to switch it off.
2. Make a picture appear on the screen.
 - Operate the connected equipment to make the picture appear on the screen.



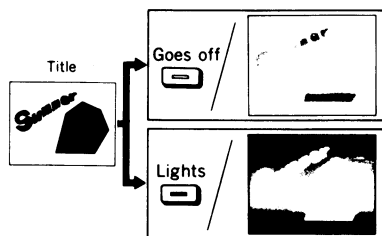
- When using the printer with the connection in example 1 or 3, set the MONITOR button to "MEMORY" (the indicator lights). when the button is set to "SOURCE" (the indicator goes off), you cannot see the title on the TV screen.
- The black portion of the prepared title becomes a "window" and the picture appears only in the window.

3. Perform steps 2 and 3 of "PRINTING:"



■ To reverse the title

When the NEG/POS button is pressed, the stored title is reversed.



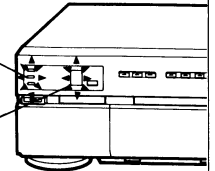
PAPER JAMS

When print paper jams or the ink paper is caught in the print cartridge, the READY, PAPER and INK indicators will flash to indicate a malfunction. Check the error code displayed by the print counter and take the following remedies.

- Print paper which is discharged without a picture printed can be used again.

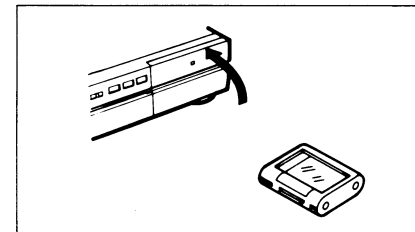
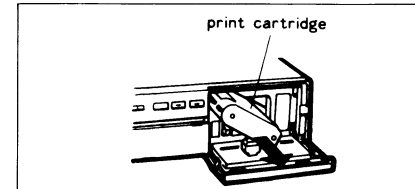
Blink simultaneously

Displays error code

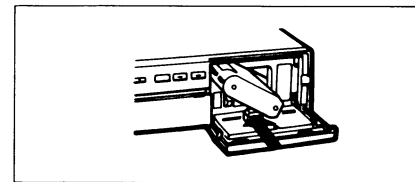


When "d" flashes

1. Open the cartridge door and remove the print cartridge.



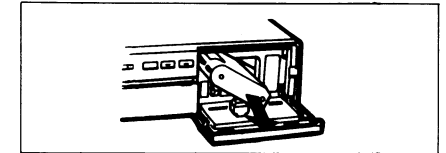
2. Close the cartridge door and wait until the READY indicator stops flashing. (The READY indicator will be OFF and the INK indicator will be flashing.)
3. Open the cartridge door again and reinsert the print cartridge.



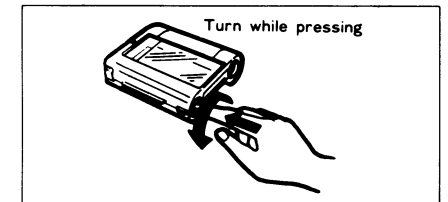
4. Confirm that the READY indicator is ON again before printing.
5. Press the PRINT button, or follow the normal printing.

When "A" flashes

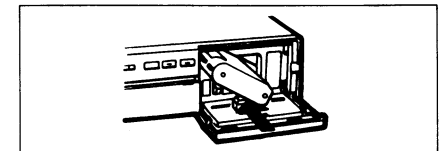
1. Open the cartridge door and remove the print cartridge.



2. Confirm that the ink paper is tight in the print cartridge. If the ink paper is loose, take up the slack as shown in the figure below.



3. Reinsert the print cartridge.



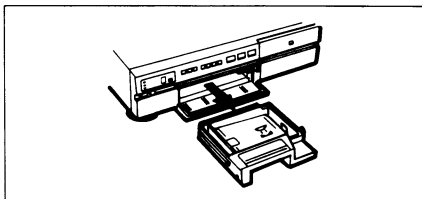
4. Confirm that the READY indicator is ON before printing.
5. Press the PRINT button, or follow the normal printing.

PAPER JAMS (continued)

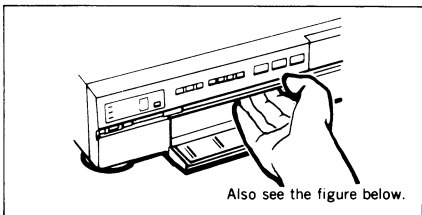
When "3" flashes

Print paper is clogged in the unit. Eject the paper by following the instructions below.

1. Open the cassette door and remove the paper cassette from the cassette compartment.

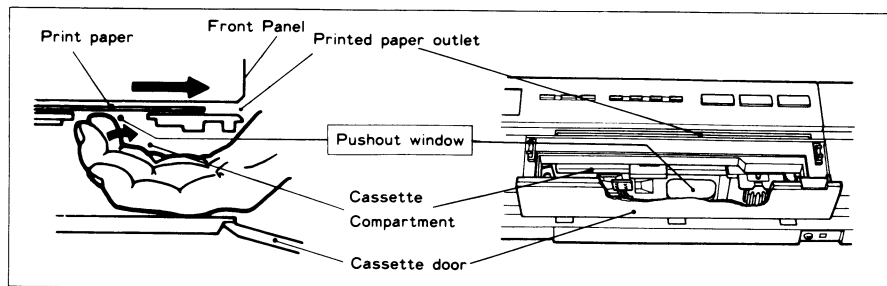


2. A small opening is provided on the ceiling of the cassette compartment. Push out the clogged paper with a finger tip through the opening. And the paper can now be pulled out from the paper outlet.

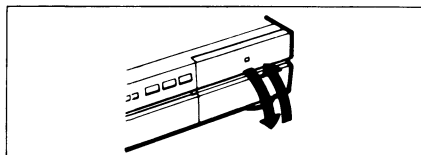


CAUTION

Do not touch the sections other than the pushout window when inserting your fingers through the opening to remove the print paper. It could cause a malfunction.



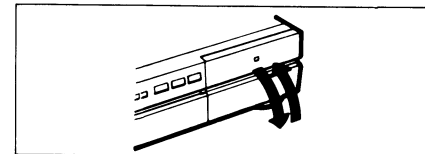
3. Insert the paper cassette back into the cassette compartment.
4. Open the cartridge door and then close it again with the print cartridge left in the compartment.



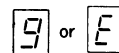
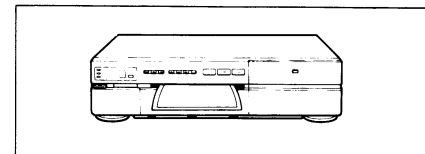
5. Confirm that the READY indicator is ON before printing.
6. Press the PRINT button, or follow the normal printing.

When one of "1, 2, 4, 5 or 8" flashes

1. Open the cartridge door and then close it again with the print cartridge left in the compartment. The paper, if jammed, will be ejected out automatically and the READY indicator will come ON.
2. If the READY indicator does not come ON, repeat step 1.



NOTE: Print paper which came out from the outlet can be reused if the paper is not damaged.



Do not attempt to repair the printer yourself. You may damage the mechanism inside. Consult the dealer from whom you purchased the printer.

VIDEO PRINT KIT

Be sure to use these exclusive kits with this printer.

Model	Size (mm)	Number of sheets	Content
VY-SS50A	100×140	50	50 sheet of print paper and a print cartridge.
VY-SC30W	100×140	30	Sticker-type sheets and a print cartridge for 30 prints.

NOTES:

The video print kit incorporates sheets of print paper and a print cartridge. Load them into the printer without changing the combination as this could cause a paper jam or defective printing.

- This printer is supplied with a standard type video print kit (30 sheets of print paper and a print cartridge).
- Do not stain the printing surface (without marking) of the paper with fingerprints, etc. as this could degrade the quality of printing.
- The sheets of print paper may stick to each other. Release them before loading.
- Do not leave the sheets of print paper while their printing surfaces (without markings) are in contact with each other.
- Do not use folded or bent print paper as this could cause a malfunction.
- Never use wet print paper.
- Do not touch the ink paper in the print cartridge with your fingers or pull it out.
- Check that the ink paper is not slack before loading the print cartridge.
- When the ink paper in the print cartridge is used up, replace the cartridge. Once used, a print cartridge cannot be reused.
- Do not store video print kits in a place where there is high temperature and humidity or a place exposed to direct sunlight.