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Automobile Direct Printer

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Features of Automobile Direct Printer

We offer an opportunity to Car Body Kits Shops, Car Body Styling Shops and Custom Made Car Shops resulting in increased revenue and profits through expanded niche market coverage.

We are a Japanese Enterprise, involved in the R&D & Manufacturing of unique digital color printers, for various niche applications.
Most recently we are proud to present the "Automobile Direct Printer", a unique, full-color printing machine, specially designed for printing graphics directly onto automobile bodies.

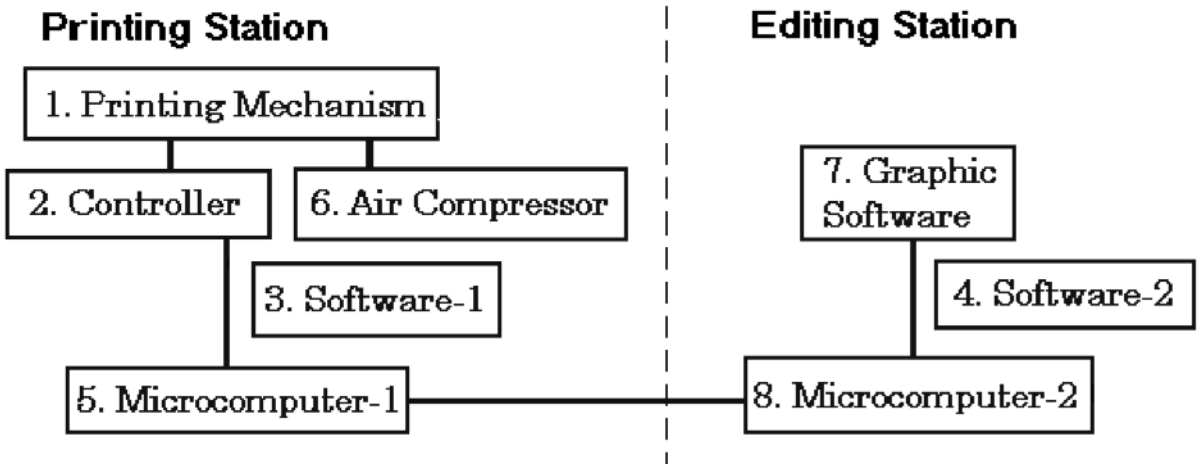
Automobile Direct Printer does not use the films.
So, it will make printing job at very low cost. Then, its profit margin is big.

Automobile Direct Printer does not need a paint booth (Spray Booth) equipment and its handling is easy.Automobile Direct Printer's print outdoor colorfastness is excellent.
Using Special inks, the printed image allows for ease of removal when graphics are no longer desired and coatings will in no way damage the original body surface.
Owners of Car Body Kits shops, Car Body Styling Shops and Custom Made Car Shops will find the introduction of the Automobile Direct Printer to be quite useful for increasing business opportunities and profit.

Voice of the customer

The printed graphics applied to my automobile by Automobile Direct Printer have made an enormous contribution to our sales activities. Many people get curious about our van when they see our mobile-billboard. People now talk to us when they see this new style of advertisement, some of them even try to catch us. Our vans are getting a lot more attention than before, when we just drove down the streets unnoticed. It is a great pleasure for the business owner to find potential customers only by driving around the street. I actually wondered in the beginning if automobile printing would bring good results, but we never knew until we really got into the action. It has helped create a good impression of our company. Many people have started to make contact with us by the telephone number on the automobile. And as a result, our sales are increasing gradually but steadily. Initially we started with a one van test program but have now printed all seven of our automobile, in response to the great response to this advertising method.

System Configuration



1.) Printing Mechanism

Manufactured by us

Refer to Specifications

2.) Controller

Manufactured by us

Refer to Specifications

3) Software-1

Manufactured by us

Function	Reproduce enlarged picture by printing mechanism

4) Software-2

Manufactured by us

Function	Image data scan and design, joint picture data processing

5) Microcomputer-I for Printing

* Windows PC

6) Air Compressor

* Capacity: more than 30 liter/min.
* Pressure: more than 0.5Mpa

7) Graphic Software

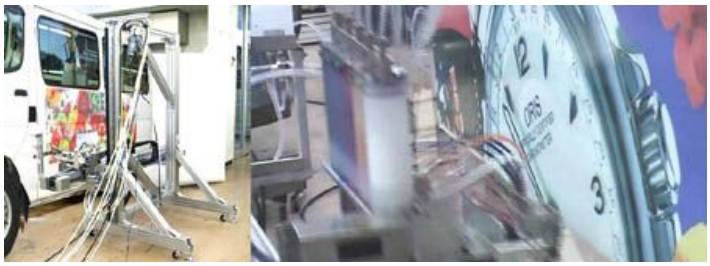
* Adobe Photoshop®, which is usable with Microcomputer-2

8) Microcomputer-2 for Image Editing

* Windows PC

NOTE:
1)-4) are provided upon purchase from us.
5)-8) have to be procured by the user/distributor.

SPECIFICATIONS



NNV1.2

NNV3.1

NNV7.0

Standard Model NNV Series Specifications

1) Printing Mechanism

Maximum printable size

VEHICLE ART ROBO NNV 1.2:	800mm(H) X 1200mm(W) X 120mm(D)
VEHICLE ART ROBO NNV 2.5:	1500mm(H) X 2500mm(W) X 200mm(D)
VEHICLE ART ROBO NNV 3.1:	2000mm(H) X 3100mm(W) X 200mm(D)
VEHICLE ART ROBO NNV 4.5:	2000mm(H) X 4500mm(W) X 200mm(D)
VEHICLE ART ROBO NNV 7.0:	2000mm(H) X 7000mm(W) X 200mm(D)
VEHICLE ART ROBO NNV 10.0:	2000mm(H) X 10000mm(W) X 200mm(D)
VEHICLE ART ROBO NNV 15.0:	2000mm(H) X 15000mm(W) X 200mm(D)

Dimensions (approx.)

VEHICLE ART ROBO NNV 1.2:	1700mm(H) X 1950mm(W) X 1310mm(D)
VEHICLE ART ROBO NNV 2.5:	2600mm(H) X 3420mm(W) X 1950mm(D)
VEHICLE ART ROBO NNV 3.1:	3080mm(H) X 4050mm(W) X 2100mm(D)

VEHICLE ART ROBO NNV 4.5:	3100mm(H) X 5400mm(W) X 2100mm(D)
VEHICLE ART ROBO NNV 7.0:	3100mm(H) X 7920mm(W) X 2200mm(D)
VEHICLE ART ROBO NNV 10.0:	3100mm(H) X 10920mm(W) X 2200mm(D)
VEHICLE ART ROBO NNV 15.0:	3100mm(H) X 15920mm(W) X 2200mm(D)

Weight (approx.)

NNV 1.2	130kgs
NNV 2.5	300kgs
NNV 3.1	340kgs
NNV 4.5	550kgs
NNV 7.0	730kgs
NNV 10.0	1050kgs
NNV 15.0	1580kgs

Printing pitch 0.40 0.72 1.20(mm/pixel)

Printing time

	Pitch	**Resolution(ppi)**	**Minutes**
in case that max. printable size is printed with NNV10.0modelⅣ	0.40mm	63.5	368
	0.72mm	35.3	205
	1.20mm	21.2	123

Color System	Cyan, Magenta, Yellow, Black and White 5 colors process Pixel Density Control Method	
Pigment	Our original Acetone based vinyl resin pigment	
Colorfastness	Over 5 years with over coating Over 2 years without over coating	
Operating Environment	**Temperature**	20–35 degrees Celsius
	Humidity	maximum 60%

2) Controller

Dimensions	204mm(H) X 378mm(W) X 342mm(D)
Power source	AC100V 50/60Hz
Weight(approx.)	17kgs
Interface	Parallel Interface
Power Consumption (approx.)	600W(max.)

Printing Station(INDENTICAL)

The printing Station consists of the Automobile Direct Printer Main frame, Our Controller, a Microcomputer.

Operation of the printing system is very simple, easy to apply, and can be utilized simply by selecting commands through our interactive menu display system.

Images are edited in the editing station, transferred to the printing station and printed by the Automobile Direct Printer.

Editing Station(INDENTICAL)

The Editing Station consists of our-original image scan & design software, high resolution scanner, micro computer , image editing software and media drives.

Our editing software enables joint printing. Images can be divided into as many as 64 sections, this allows for the production of images with a maximum size of 12mX24m.

The Editing Station enables any arrangement of the image; images, logos and letters can be arranged in terms of design, size and color.

Customized image data can be transferred to the printing station by the media disks or through a network, depending on users available hardware.

Estimated Printing Cost Per Square Meter Excluding Labor Cost

Pigment:

We exclusive pigment
(Cyan, Magenta, Yellow and Black)
1 bottle (100ml) = 3,000 Japanese Yen
Following is the production cost for a square meter in U.S. Dollar based on the $25.00 per bottle 100ml distributor cost.

1 square meter: 3.0 ml per color is required.

3/100 X 25.00 U.S.D. X 4 colors	= U.S.D 3.00 per square meter
Cost of Clear coating	= U.S.D. 1.00 per square meter
Total:	= U.S.D. 4.00 per square meter

Remarks:

Clorfastness is 2 years without over coating(Clear).
If you want over 5 years colorfastness, it is necessary to carry out over coating

Above pricing is based on distributor's print cost.

Resolution of the Automobile Direct Printer system

The printing method of the Automobile Direct Printer system is completely different from that of other printers.
The resolution in terms of "PPI" can be defined as follows:
PPI = Pixels Per Inch
For example, Pitch 1.28mm is corresponding to 19.8 PPI.

For the Automobile Direct Printer System, one pixel consists of the overlap of Y (Yellow) dot, M(Magenta) dot and C(Cyan) dot, each of which has 256 density grades.
Therefore one pixel is able to express 16.7 million colors {256 (Y) X 256(M) X 256 (C)}.
This principle is exactly the same as the pixel system on your TV screen.
K (Black) is added because the darkness of the image is supplemented with it. K dot also has 256 density grades.

On the other hand, all other printers employ "Dither Method Print System", whose resolution is explained by DPI (Dots Per Inch).
One dot consists of the overlap of Y dot, M dot and C dot, each of which has only two density grades (exist or not exist). The K dot also has two density grades.
Therefore, the number of dots in a certain area expresses color gradation.

The Automobile Direct Printer cannot be described in terms of DPI. The Automobile Direct Printer employs pixel-resolution system.

However, should we be forced to compare, we can state that an image printed at 19.8PPI(our mid-range PPI), if seen from a distance of 5 meters or more would compare to that of a 200DPI graphic.

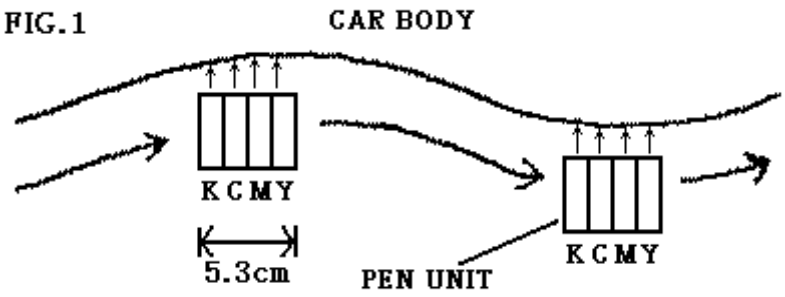
Characteristic Performance of ADP

Curved Surface Tracing System

In general, most cars have some small curves on their body surface.
In order to print precisely onto the car body, the distance between the spray nozzle tip on the pen unit and the surface must be constant.

See Fig.1.

FIG.1



In order to realize this operation, ADP has its own unique feature called the Curved Surface Tracing System, our unique patented system allows painting on curved surfaces, it maintains a constant distance between the nozzle tip on the pen unit and the surface of the curved surface.

To do this, it is necessary to collect car body data, i.e., the distance between the car body and the tip of the nozzle (Z-axis distance) for X.Y. coordinates at several points, as shown in the Fig.2.

In the Z-axis direction, maximum tracing range is 200 mm to the car body from the
nozzle tip. "O" of the Z-axis is determined by the set-up location of the VAR.
The relation between the body surface and body data is shown in the Fig.3.

FIG. 2

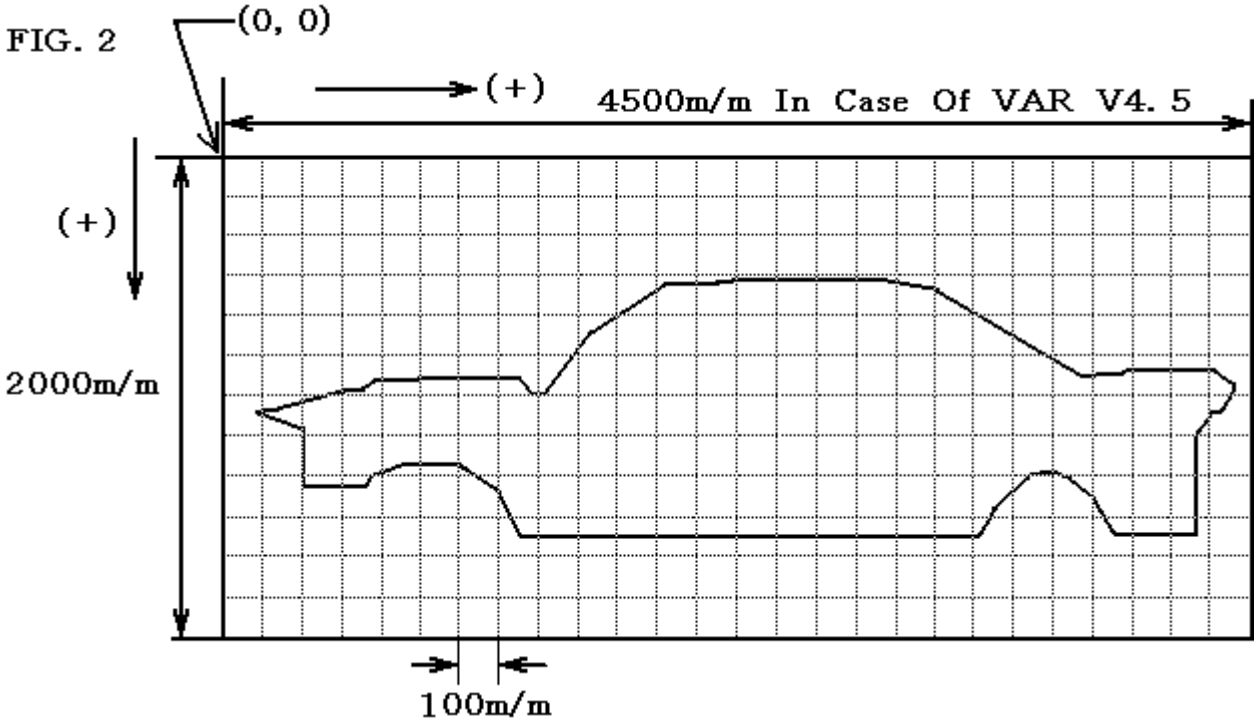
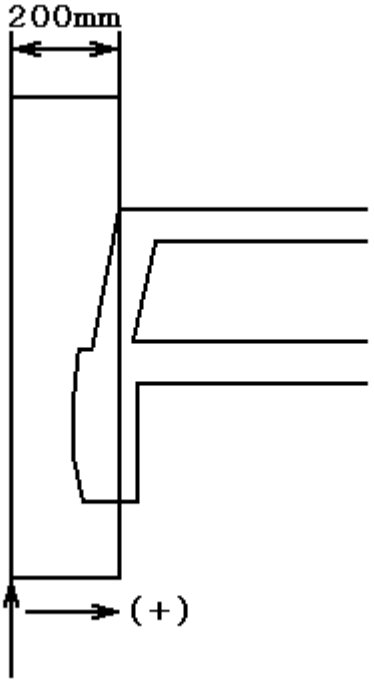


FIG. 3



This is Z axis coordinate "0"
Body data indicates the distance as to how many mm from here to the body.

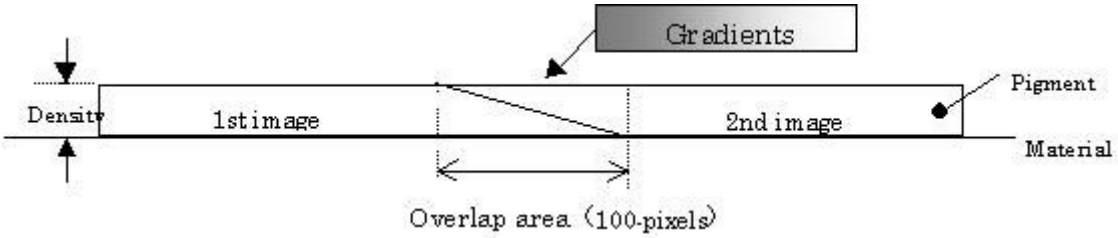
DATA INPUT

Data Input is made semi-automatically.
The distance for each measuring point is automatically inputted into the printing station computer.

Semi-Automatic Measuring Device
When the automatic measuring device is at the measuring point, push the marker forward until it touches the car body surface. The distance will display on the
device. Press the white button, and the distance will automatically be inputted into the printing station computer.

PRINTING JOINT IMAGES

Images can be joined together smoothly by arranging the joints. When dividing data, make a 100-pixel overlap area. Draw a gradient in the overlap area. Gradually lighten the density in the overlap area of the 1st image, then make the overlap image gradually darken in the 2nd image.
(Below figure ; example of a joint section)



Edit the overlap area in Photoshop.
This method is applicable to joints in the vertical direction.
The result will be tiling without any visible joint lines.

Application procedure

A. Design

This is a design process as to which part of the car body surface an image should be put on and what kind of an image should be printed.

A-1 Inputting appearance of the car into the microcomputer using digital camera

A-2 Transferring an image to be printed into the micro computer from the CD-ROM or image scanner or digital camera

A-3 Synthesizing appearance of the car and an image on the microcomputer into a rendering and outputting such a rendering onto the display or printer

A-4 Showing a rendering to the client to get their approval

B. Printing

This process is to print directly the specified image onto the specified place of the car body.

B-1 Setting the car body in almost parallel in front of the printing machine

B-2 Measuring body data on a part where printing should be made

Required time : about 5 minutes if the surface is almost flat
about 20 minutes if the surface has many curves
about 10 minutes as an average

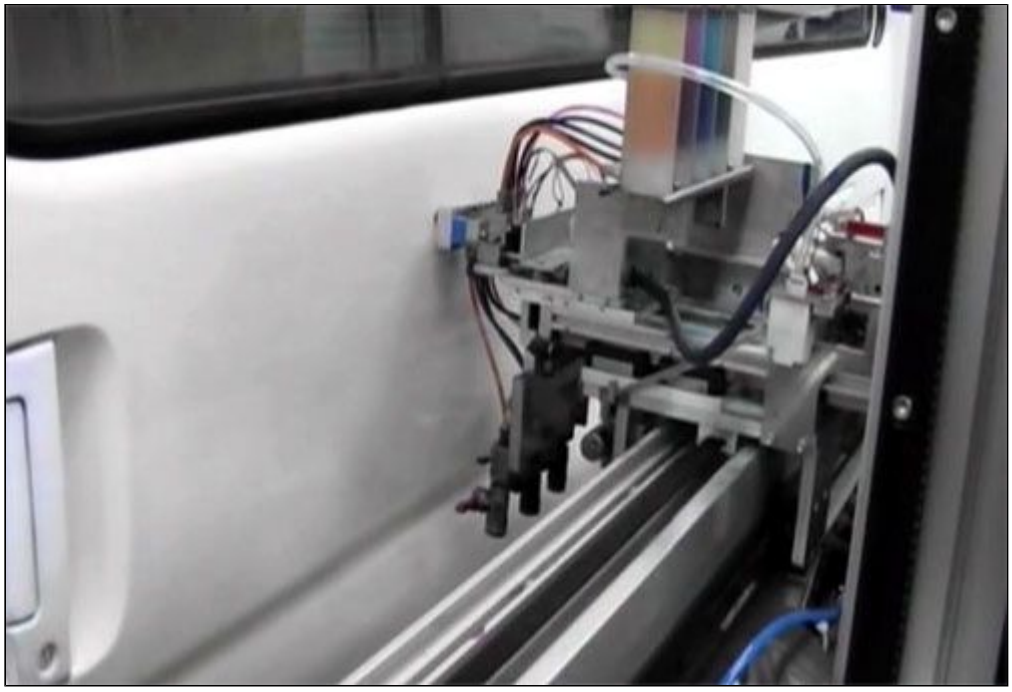
B-3 Wiping off the oil and grease from the part of car body to be printed on
Depending on its dirty condition, it will need 5-10 minutes.

B-4 Printing directly the specified image

Required time: about 40 minutes in case the size of the image is 2.5 feet in height *8.0 feet in width (20 square feet)

Required ink cost: about USD3.00

STEP 1



Measuring body data

STEP 2

Wiping off the oil and grease

STEP 3

printing directly

STEP 4

Printed image is erasable by acetone.
You can reprint easily.

CAR BODIES

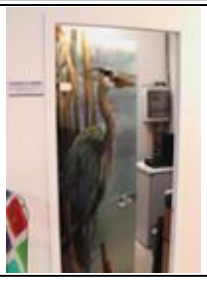

ALIGEN
IVECO
TRASLOCHI
PARQUETS

All is direct printed

■ glass ■




■ door ■



■ cover of PC■




■ carpet or cloth■


■ refrigerator ■

■ blind ■

■ surfing board■

■ musical instrument ■

■ glasses ■

■ table ■

■ fuel tank■

■ tent ■

■ display plate■

■ lantern ■

■ corrugated plate■

Frequently Asked Questions

Q1	How about the marketability of printing business done by ADP ?
A1	Advertising on automobile bodies is a rapidly expanding market (Especially advertising by an image printing) and is much more economical in terms of cost performance (CPM) than those of other advertising medias such as; television, radio, news paper, magazine, and billboard. ADP can print images on to automobile bodies easily at low cost. Therefore, the printings service preformed by ADP will contribute to the increase of sales and profits of those body shops who introduced the ADP system. ADP can be also used for the custom car market segment also, stripes, flames, names ect.

Q2	Can ADP print an image larger than the frame of the printer ? Can ADP be applied to big buses and trucks as well ?
A2	Yes, Our original software enables section printing up to 64 sections. At V2.5 , 12 meter in height and 20 meter in width can be printed.

Q3	How is ADP compared to adhesive backed vinyl films?
	1. Consider the time savings compared to printing, laminating and installing the films, ADP is undoubtedly faster overall. Cost of film, and UV protection films and installation costs can all be saved and consequently the profits will be increasing.

A3	2. If your print will have a limited lifetime requirement, it is recommendable that you apply a clear coating that does not contain a hardener, this will allow you to remove all prints and return car surface to its original appearance, no gummy adhesive residue is left, something that often happens when you remove vinyl. The other option is to not use clear coat at all, the printed image can be easily wiped off using ethyl alcohol when it is no longer needed. Either of these operation is more easily done than peeling off adhesive backed vinyls. 3. If you would like your graphics to have long life durability, it is recommendable to use a clear coat that contains hardener, these images will never peel off from the surface, something you often see happening when vinyl gets old and brittle.

Q4	Do images need to be clear coated ?
A4	The color fastness with clear coat is over 3 years. This clear coat treatment is normally made by hand spray gun using same method as normal body shop would use.

Q5	Does the color of a automobile matter ?
A5	We would say white is best. If printing on different color, painting white color underneath the image makes the image more vivid. White color can be painted either by handy spray gun or by ADP. Spraying by hand takes less time. ADP would print at very accurate location.

Q6	What kind of image can be used as a printing file ?
A6	Anything edited in the computer can be printed. but, the higher the resolution of the original file the better..

Q7	Can the file be transferred through an electronic network ?
A7	Yes, it only depends on the capability of the users system.