Manual Tecnico alphaJET C
Compatible con alphajet E
Lista de recambios

Product Manager: Andres Martos © 2011
alphaJET C - Construction and function
Construction and function

Principle of continuous-inkjet

Ultrasonic transducer: converts the electrical signal into mechanical oscillation.

Charge electrode: transmits the charge to the separating ink drops

Ink supply

Nozzle

Point of drop separation inside the charge electrode

Detection electrode: measures test charges sent from the charge electrode to calibrate the charge moment

The separation of the drops must take place within the charge electrode, because a drop only can be charged during the separation!

High voltage electrode (+)

High voltage electrode (-)

Gutter collecting the unused drops

Training: alphaJET C
Construction and function
Print head: in general

1  Upper deflection electrode
2  Detection pin
3  Charging electrode
4  Nozzle
5  Lower deflection electrode
6  Gutter
Construction and function
Print-head – front view

Valve V1: Ink on
Valve V2: Bleeding

"Head closed" detecting magnet
Upper deflection electrode
Counterpart for the head close magnet
Detection electrode
Charge electrode
Ultrasonic transducer (hidden)
Nozzle
Flap holding magnet
Lower deflection electrode (ground)
Gutter
Hall-Sensor for "head closed" recognition
Magnifying glass
Valve cover plate
Strobo LED: for drop monitoring
Construction and function
Print-head – rear view with cover plate removed

- **High voltage resistor**
- **Inkflow sensor**
- **Charge detect amplifier board**
- **Securing screws for upper deflection unit**
- **Drop outlet slot**
- **Cover plate (sealed)**
1-head inking system, (schematic presentation)

01 = Outlet tube
02 = Level switch
D1 = Flow restrictor for measuring the viscosity time
D2 = Flow restrictor for limiting the quantity supplied by the pressure pump
D3 = Flow restrictor in the absorber
F1 = Main filter
F2 = Ink return filter
F3 = Filter for valve V3
F4 = Filter for valve V4
F5 = Air filter
IFS = Inkflow sensor
P1 = Pressure pump
P2 = Suction pump
PA = Pulsation absorber
PM = Protection mesh
PS = Pressure sensor
V1 = Ink-on valve
V2 = Bleeding valve
V3 = Solvent-add valve
V4 = Ink-add valve
2-head inking system, (schematic presentation)
1-head inking system, (colour schematic presentation)
Construction and function
2-head inking system (realistic presentation)
alphaJET C - Electronics
Electronics

Control unit

Line 2
- PS
- Encoder
- IO
- Alarm

Line 1
- PS
- Encoder
- IO
- Alarm

Serial 1
Serial 2
URF 2

Opto-IO 2
Opto-IO 1

UPIF 1
UPIF 2

Control Unit
- CPU (Pc104)

Power-Supply

UPIF = Universal Printer Interface
Electronics
Print unit

- Remote
- RUN/STOP
- Power-Supply
- Mainboard
- Headboard 1
- Headboard 2
- Inksystem
- Head 2
- Head 1
Electronics

Internal connections

- Display
- Keyboard
- Keyboard Ctrl
- Opto I/O Line 1
- Opto I/O Line 2
- Headb. Line 1
- Headb. Line 2
- Mainboard
- Pwr Supply
- PC104
- Control Unit
- X1: Keyboard
- X2
- X3
- X4
- X5: Keyboard
- X6: Power
- X7
- X8
- X9
- X10
- X11
- X12
- X13
- X14
- X15
- X16
- X17
- X18
- X19
- X20
- X21
- Run
- Stop
- External UPIF
- 110V
- 200-230V
- Power
- Solvent Switch
- Temperature Sensor
- Stirrer
- Pressure Pump
- UPIF
- VGA
- UPIF
- 115V
- 200-230V
- REMOTE
- X1: Power
- X2: X19
- X3: X4
- X4: X4
- X5: X5
- X6: X6
- X7: X7
- X8: X8
- X9: X9
- X10: X10
- X11: X11
- X12: X12
- X13: X13
- X14: X14
- X15: X15
- X16: X16
- X17: X17
- X18: X18
- X19: X19
- X20: X20
- X21: X21

Training: alphaJET C
Electronics

Control unit connectors

To keyboard controller

Power supply connector

UPIF 1

Microcontroller 167/168

Keyboard PC 104-CU

UPIF 2

Opto-I/O line 1

Opto-I/O line 2
Electronics
Mainboard connectors

- Fan recovery
- Valves
- Solvent-switch
- Temperature sensor
- Pressure sensor
- Ink sensor
- Pressure safety switch
- Headboards
- Diagnostics
- Optional
- MEK-recovery
- Control unit supply voltage
- Case fan
- Main fuse
- Main power input
- Run/stop button
- Pressure pump + Suction pumps 1+2
- Suction pumps 3+4
- Microcontroller 167/168
- Main power input
- Run/stop button
- Pressure pump + Suction pumps 1+2
- Suction pumps 3+4

Training: alphaJET C
Foil 16
### Electronics

#### Mainboard connectors part 1

**X3: MEK - recovery**

<table>
<thead>
<tr>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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<tbody>
<tr>
<td>BK</td>
<td>BN</td>
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- Supply element
- Supply element

**X4: Fan - recovery**

<table>
<thead>
<tr>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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</thead>
<tbody>
<tr>
<td>BU</td>
<td>WH</td>
<td>RD</td>
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GND
Rotation sensor
24V

**X5: Fan - case**

<table>
<thead>
<tr>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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</thead>
<tbody>
<tr>
<td>BU</td>
<td>WH</td>
<td>RD</td>
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GND
Rotation sensor
24V

**X6: Valves**

<table>
<thead>
<tr>
<th>Pin #4</th>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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<tbody>
<tr>
<td>YE</td>
<td>GN</td>
<td>BN</td>
<td>WH</td>
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</tbody>
</table>

24V
V4 (Ink)
24V
24V (Solvent)

**X8: Solvent switch**

<table>
<thead>
<tr>
<th>Pin #4</th>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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<tbody>
<tr>
<td>GN</td>
<td>WH</td>
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</tbody>
</table>

Switch
Switch

**X9: Temperature sensor**

<table>
<thead>
<tr>
<th>Pin #3</th>
<th>Pin #2</th>
<th>Pin #1</th>
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</thead>
<tbody>
<tr>
<td>GY</td>
<td>GY</td>
<td></td>
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</tbody>
</table>

Sensor
Sensor
Electronics
Mainboard connectors part 2

X11: Pressure pump, suction pump head 1+2
- PIN#1, #3, #5: Motor -
- PIN#6: Suction pump 2 +
- PIN#4: Suction pump 1 +
- PIN#2: Pressure pump +

X12: Pressure sensor
- PIN#3, #5: Motor -
- PIN#4: Suction pump 3 +
- PIN#2: Suction pump 4 +

X13: Suction pump 3 + 4
- PIN#2, #4, #6, #8: GND
- PIN#7: Visco up
- PIN#5: Visco down
- PIN#3: Tank up
- PIN#1: Tank down

X14: Remote input
- PIN#3, #5: Motor -
- PIN#4: Suction pump 3 +
- PIN#2: Suction pump 4 +

X15: Ink sensors
- PIN#7: Visco up
- PIN#5: Visco down
- PIN#3: Tank up
- PIN#1: Tank down

X16: Safety switch
- PIN#3, #5: Motor -
- PIN#6: Suction pump 2 +
- PIN#4: Suction pump 1 +
- PIN#2: Pressure pump +

X16: Safety switch
- PIN#3: Motor -
- PIN#6: Suction pump 2 +
- PIN#4: Suction pump 1 +
- PIN#2: Pressure pump +

PIN#1, #3, #5: Motor -
PIN#6: Suction pump 2 +
PIN#4: Suction pump 1 +
PIN#2: Pressure pump +
F2 - 30 V~ Input from transformer
F3 - Supply Head & Headboard, connected over the Main Controller
Electronics

Charge connectors

to the upper deflection unit
Ferrite core
Marking side

Isolated HV - resistor

X7 - GND
X6 – Signal (highlighted line end)
1 ½ are wrapped meanders

Signal X6
GND X7
+12V supply
Charge detection elektrode

+U Hallsensor
GND Hallsensor
HV detection output

Carge detection output
Electronics

**HS - Charge conectors**

- X7 - GND
- X6 – Signal (highlighted line end)
- 1 ½ are wrapped meanders
- Ferrite core
- Marking side
- Isolated HV - resistor

- +U Hallsensor
- GND Hallsensor
- Carge detection output
- HV detection output
- Charge detection elektrode
- GND X7
- Signal X6
- +12V supply
Electronics
Headboard connectors

- Print head
- Diagnostics
- Address jumper
- UPIF
- Mainboard
- Microcontroller 167/168

Training: alphaJET C
Electronics
Print head socket

<table>
<thead>
<tr>
<th></th>
<th>Pin #18</th>
<th>Pin #16</th>
<th>Pin #15</th>
<th>Pin #17</th>
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<td>GND</td>
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<td>GND</td>
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<tr>
<td>Modulation voltage</td>
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<td></td>
</tr>
<tr>
<td>GND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V1 (Ink on)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charge detection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head open</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 24V</td>
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<tr>
<td>+ 24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 24V</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

GND

LED –
V2 (Bleed)

GND

HV detection

+ 12V

Ink flow (Gutter)
Electronics
Resistors and amplifier in the rear side at the print head

18 kΩ resistor (Charge electrode)

33 Ω resistor (Hallsensor)

200 MΩ resistor (HV)

Ink Flow sensor
Electronics
Diagram: Rear side with connections
Electronics

External connections (overview)

Assignments:
1: Main supply
2: Main fuse
3: Main switch
4: Remote socket
5A: Print head A connection
5B: Print head B connection
6: Product sensor / encoder
7: Input & output options
8: Alarm-outputs (voltage free)
9: Optional interface (UPIF)
10: RS 232 serial port connector
Electronics

External connections (in detail)

In the alphaJET-C there are two connection sockets wired in parallel available for connecting the product sensors and the encoders. It does not matter to which of the two sockets the product sensor or the encoder is connected. It is therefore also possible to feed through the signals from one alphaJET-C into the next one (pay attention to the driver capacity of the sensors). The operation of the remote socket is equivalent to the RUN/STOP button on the front side of the alphaJET-C.

The special input circuit of the machine requires that the sensor signal of a product sensor with push-pull output stage (see the latter's data sheet) must be connected to the input of the product sensor via a diode (e.g. 1N4148).

Also the signal for an optional input, which is supplied by an output with push-pull output stage, must be connected to the input via a diode.

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**Product sensor- / encoder-socket**

1 GND Int.
2 GND Ext.
3 Encoder track A (speed)
4 + UB Ext. (max. 30 VDC)
5 + UB Int. (approx. 24 VDC)
6 Input Product Sensor
7 Encoder track B (direction)
Housing Shield

**Optional signal inputs and outputs**

1 GND Ext. (Outputs)
2 GND Int.
3 GND Ext. (Inputs)
4 Output 0: Line is printing
5 Input 0: *Reset distance (DMS)
6 Output 1: Ink or solvent empty
7 Input 1: Reset print mark divider
8 Output 2: Print ready
9 VCC Ext. (Inputs)
10 VCC Int.
11 VCC Ext. (Outputs)
12 Input 4: ExtText - ext. text selection (bit 0); Textlist - Reset text list
13 Input 3: Reset product counter
14 Input 5: ExtText - ext. text selection (bit 1); Textlist - Reset text list with print cancellation
15 Input 6: ExtText - ext. text selection (bit 2)
16 VCC Ext. (Outputs)
Housing Shield

**Alarm output**

1 NC (opening contact)
2 C (centre contact)
3 NO (closing contact)
4 PE

**Remote socket**

1 -IN
2 +IN

*In italics = not standard
Electronics
Serial Interface

For the data connection from alphaJET to alphaJET as well as from alphaJET to PC or to other controls the serial interface is used. The connecting cable has to be a so-called serial link cable (null modem cable).

Configuration of a cable for the connection from alphaJET to alphaJET as well as from alphaJET to PC:

Configuration of a cable for the connection from alphaJET to other controls (e. g. PLC):

Background:
While the alphaJET sets the pin RTS (# 7) to high, the alphaJET reads in the pin CTS (# 8). If the signal CTS is high, the alphaJET uses the selected interface configuration (in the menu: System/Serial). If the signal CTS is low, the alphaJET automatically switches the interface parameters to the “panic mode” (19200,8,E,1).

While the alphaJET sets the pin DTR (# 4) to high, the alphaJET reads in the pin DSR (# 6). If the signal DSR is high, the settings in the menu System/Serial are used with activated “CU”, which means that commands are sent to all connected devices. If the signal DSR is low, “CU” is not activated and “commands-to-all” are suppressed.

Pin 1: DCD  
Pin 2: RxD  
Pin 3: TxD  
Pin 4: DTR (Output)  
Pin 5: GND  
Pin 6: DSR (Input)  
Pin 7: RTS (Output)  
Pin 8: CTS (Input)
Electronics

Data transfer

AlphaJet-C

BetaJet-C

AlphaJet-C
alphaJET C - Controller 168
### Controller

#### Features of controllers

<table>
<thead>
<tr>
<th>Controller</th>
<th>Data storage examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main controller</td>
<td>Data get stored in the main controller such as adjusted pump voltage of the suction and the pressure pump as well as ink type and so on.</td>
</tr>
<tr>
<td>CU controller</td>
<td>Data get stored in the cu controller such as all configuration and text files and all setup attitudes!</td>
</tr>
<tr>
<td>Head controller</td>
<td>Data get stored in the head controller such as adjusted print mode, actually loaded text, high voltage value, load up value data and so on.</td>
</tr>
</tbody>
</table>
**Controller**

**Download module “Controller 168”**

These listed orders are needed if a not programmed controller get installed in the system of the AJC system.

With this orders you can individually program the controller separate.

<table>
<thead>
<tr>
<th>call</th>
<th>Declaration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP 1 1</td>
<td>With this order the controller is programmed by the head 1 on the headboard!</td>
</tr>
<tr>
<td>DSP 1 2</td>
<td>With this order the controller is programmed by the head 2 on the headboard!</td>
</tr>
<tr>
<td>DSP 1 3</td>
<td>With this order the controller is programmed by the head 3 on the headboard!</td>
</tr>
<tr>
<td>DSP 1 4</td>
<td>With this order the controller is programmed by the head 4 on the headboard!</td>
</tr>
<tr>
<td>MC 1 0</td>
<td>With this order the controller is programmed on the main board!</td>
</tr>
<tr>
<td>CU167 1 1</td>
<td>With this order the controller is programmed on the 1st head board(head 1)!</td>
</tr>
<tr>
<td>CU167 1 2</td>
<td>With this order the controller is programmed on the 2nd head board(head 2)!</td>
</tr>
</tbody>
</table>
## Printing speeds

The following printing speeds are possible for a machine with a 55 µm nozzle:

### Modulation frequency [Hz]: 87719

<table>
<thead>
<tr>
<th>Mode</th>
<th>Drops</th>
<th>Vmax (m/sec)</th>
<th>Vmax (m/min)</th>
<th>Vmax (m/sec)</th>
<th>Vmax (m/min)</th>
<th>Max. print frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1g</td>
<td>25</td>
<td>1.46</td>
<td>87.72</td>
<td>1.17</td>
<td>70.18</td>
<td>3508</td>
</tr>
<tr>
<td>1HS</td>
<td>15</td>
<td>2.44</td>
<td>146.20</td>
<td>1.95</td>
<td>116.96</td>
<td>5847</td>
</tr>
<tr>
<td>1HS7</td>
<td>10</td>
<td>3.65</td>
<td>219.30</td>
<td>2.92</td>
<td>175.44</td>
<td>8772</td>
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<tr>
<td>1HS5</td>
<td>7</td>
<td>5.22</td>
<td>313.28</td>
<td>4.18</td>
<td>250.63</td>
<td>12531</td>
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<tr>
<td>2g</td>
<td>51</td>
<td>0.72</td>
<td>43.00</td>
<td>0.57</td>
<td>34.40</td>
<td>1719</td>
</tr>
<tr>
<td>2HS</td>
<td>31</td>
<td>1.18</td>
<td>70.74</td>
<td>0.94</td>
<td>56.59</td>
<td>2829</td>
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<tr>
<td>2HS14</td>
<td>19</td>
<td>1.92</td>
<td>115.42</td>
<td>1.54</td>
<td>92.34</td>
<td>4617</td>
</tr>
<tr>
<td>3g</td>
<td>79</td>
<td>0.46</td>
<td>27.76</td>
<td>0.37</td>
<td>22.21</td>
<td>1110</td>
</tr>
<tr>
<td>3HS</td>
<td>47</td>
<td>0.78</td>
<td>46.66</td>
<td>0.62</td>
<td>37.33</td>
<td>1866</td>
</tr>
<tr>
<td>4g</td>
<td>95</td>
<td>0.38</td>
<td>23.08</td>
<td>0.31</td>
<td>18.47</td>
<td>923</td>
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<tr>
<td>4HS</td>
<td>71</td>
<td>0.51</td>
<td>30.89</td>
<td>0.41</td>
<td>24.71</td>
<td>1235</td>
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<tr>
<td>5g</td>
<td>122</td>
<td>0.30</td>
<td>17.98</td>
<td>0.24</td>
<td>14.38</td>
<td>719</td>
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<tr>
<td>6g</td>
<td>162</td>
<td>0.23</td>
<td>13.54</td>
<td>0.18</td>
<td>10.83</td>
<td>541</td>
</tr>
<tr>
<td>1 UHS</td>
<td>9</td>
<td>4.06</td>
<td>243.66</td>
<td>3.25</td>
<td>194.93</td>
<td>9746</td>
</tr>
<tr>
<td>2 UHS</td>
<td>25</td>
<td>1.46</td>
<td>87.72</td>
<td>1.17</td>
<td>70.18</td>
<td>3508</td>
</tr>
</tbody>
</table>

The following printing speeds are possible for a machine with a 70 µm nozzle:

### Modulation frequency [Hz]: 65146

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<thead>
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<th>Mode</th>
<th>Drops</th>
<th>Vmax (m/sec)</th>
<th>Vmax (m/min)</th>
<th>Vmax (m/sec)</th>
<th>Vmax (m/min)</th>
<th>Max. print frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1g</td>
<td>25</td>
<td>1.09</td>
<td>65.15</td>
<td>0.87</td>
<td>52.12</td>
<td>2605</td>
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<tr>
<td>1HS</td>
<td>15</td>
<td>1.81</td>
<td>108.58</td>
<td>1.45</td>
<td>86.86</td>
<td>4343</td>
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<tr>
<td>1HS7</td>
<td>10</td>
<td>2.71</td>
<td>162.87</td>
<td>2.17</td>
<td>130.29</td>
<td>6515</td>
</tr>
<tr>
<td>1HS5</td>
<td>7</td>
<td>3.88</td>
<td>232.66</td>
<td>3.10</td>
<td>186.13</td>
<td>9307</td>
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<tr>
<td>2g</td>
<td>51</td>
<td>0.53</td>
<td>31.93</td>
<td>0.43</td>
<td>25.55</td>
<td>1277</td>
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<td>2HS</td>
<td>31</td>
<td>0.88</td>
<td>52.54</td>
<td>0.70</td>
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<td>2HS14</td>
<td>19</td>
<td>1.43</td>
<td>85.72</td>
<td>1.14</td>
<td>68.57</td>
<td>3429</td>
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<tr>
<td>3g</td>
<td>79</td>
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<td>20.62</td>
<td>0.27</td>
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<td>825</td>
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<tr>
<td>3HS</td>
<td>47</td>
<td>0.58</td>
<td>34.65</td>
<td>0.46</td>
<td>27.72</td>
<td>1386</td>
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<tr>
<td>4g</td>
<td>95</td>
<td>0.29</td>
<td>17.14</td>
<td>0.23</td>
<td>13.71</td>
<td>685</td>
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<td>4HS</td>
<td>71</td>
<td>0.38</td>
<td>22.94</td>
<td>0.31</td>
<td>18.35</td>
<td>917</td>
</tr>
<tr>
<td>5g</td>
<td>122</td>
<td>0.22</td>
<td>13.35</td>
<td>0.18</td>
<td>10.68</td>
<td>533</td>
</tr>
<tr>
<td>6g</td>
<td>162</td>
<td>0.17</td>
<td>10.05</td>
<td>0.13</td>
<td>8.04</td>
<td>402</td>
</tr>
<tr>
<td>1 UHS</td>
<td>9</td>
<td>3.02</td>
<td>180.96</td>
<td>2.41</td>
<td>144.77</td>
<td>7238</td>
</tr>
<tr>
<td>2 UHS</td>
<td>17</td>
<td>1.60</td>
<td>95.8</td>
<td>1.28</td>
<td>76.64</td>
<td>3832</td>
</tr>
</tbody>
</table>
Menu overview: special keys
Print menu / Info key

PRINT MENU
- Line
- Printlabel
- Configuration
- State
- Service
- Production-Counter
- Free Space
  - FlashDisk
  - RamDisk
  - Ram

INFO
- Line
- Error
- Class
- Code

OK
Start
Stop
Count

Clear

Errors

Version
- Error
- SystemID
- Class
- Code
- Date
- Time
- Count

Training: alphaJET C
Menu overview

Text menu

- New
  - OK
  - Backup
  - Restore

- Copy
  - OK
  - Backup
  - Restore

- Delete
  - No
  - Yes
  - New
  - Block
  - Format
  - Move
  - Copy

Text format:
- Font
- Bottom Up
- B→A
- Negative
- Proportional
- double space
- StrokeWidth
- CharacterWidth
- field index

In italics = option

Training: alphaJET C
Menu overview

Configuration menu

- **New**
  - OK
  - Backup
  - Restore

- **Copy**
  - OK
  - Backup
  - Restore

- **Delete**
  - No
  - Yes

- **Edit**
  - Printlength
  - Density
  - Printposition
  - BottomUp

- **Load**
  - OK
  - Install
  - Head
  - IO
  - ProgPar
  - Printstart
  - PS signal inverse
  - Start only forward
  - Printmarkdivider
  - Distance in mm
  - from End → Start
  - Start → Start
  - Flighttime
  - OPS

- **Config**
  - Shaft-Encoder
  - Resolution
  - Tolerance
  - Left - Right
  - Right - Left
  - Direction Inv.
  - PS
  - Progress
  - Print Frequency
  - Speed
  - Capacity used
  - Pixel
  - Forward
  - OffsetY
  - OffsetX HeadX

*In italics = option*
Menu overview

Service menu

Service
- Inksystem
- Head X

Funct.
- Press.-Pump
- Suctionpump
- Ink
- Ready
- Purge
- Bleed
- StabTest
- Clean Noz.

Special
- Add ink
- Add solvent
- First Fill
- Empty system
- Thicken ink
- Wash system
- Empty head
- Wash head

Status Inksystem
- Press.
- Temp
- Visco
- Inklevel
- Filltime
- Ink-Watch
- Visco top
- Visco bottom
- Solvent empty
- Add ink
- Add Solvent

Status Head X
- Inkflow
- HV [V]
- Ink
- Bleed
- Head open
- Suctionpump

Phasing
- Head
- Modulation
- Phase
- Bar 1:
  Point of changing charge value
- Bar 2:
  Separation of the drops

AutoMod

Setup
- Printmode
- HV [%]
- Modulation
- IFlowWatch OFF
- Mod-Frequency
- Pressure
- Visco-Offset
- HVMin
- HVMax
- Suctionpump
- InkType
- Nozzle Size
- Heads Line1
- Heads Line2
Menu overview

System menu

- System
  - LocalSysID
  - Language
  - EditorHeight
  - LabelViewHeight
  - DummyFields

- Line
  - Name
  - Device
  - LineMerge

- Serial
  - ComXActive
  - Baudrate
  - Parity
  - Control Unit

- Pass
  - active
  - Basiclicence
  - Password 1...4
  - Licence

- Time
  - Hour
  - Minute
  - Day
  - Month
  - Year

AutoOn  AutoOff

All
Menu overview

File menu

File

..
font
logo
ajc.pmf
ascii.tbl
autocfg.ini
buffer.clp
comm.exe
cu.exe
cu.ini
cu167.exe
...
...
Copy
Delete
alphaJET C - Commissioning and Maintenance
Commissioning and maintenance

Maintenance

Regular maintenance work:

- **Daily:**
  - Check both storage containers
  - Clean the head

- **Weekly:**
  - Clean the machine
  - Clean and - if necessary - replace the air mat

- **½-yearly or after 1,500 – 2,000 operating hours**
  - Change the main filter
  - Change the ink return filter(s)
  - Carry out an ink exchange

- **Yearly:**
  - Replace the air filter
Commissioning and maintenance

Cleaning the print-head

Clean the following components:

1. Upper deflection unit
2. Detection electrode
3. Charge electrode
4. Nozzle
5. Lower deflection electrode
6. Gutter

Ensure that the print-head is dried thoroughly after the cleaning work has been carried out!

Do not clean the nozzle prior to switching off, so that it then will be blocked by an ink drop!
Commissioning and maintenance

Rinsing the gutter

1 Cleaning bottle
2 Gutter
Commissioning and maintenance

Filter exchange

Exchange the main ink filter as well as the return filter after 1,500 to 2,000 operating hours respectively every ½ year - or after emptying the inking system!

- Check the ink pressure prior to exchanging the filter.
- You must always ensure that the ink pressure has been deflated before you interfere with the inking system. Wait for at least 15 min. (after switching of the alphaJET) before dismantling a component from a part of the inking system that was under pressure.
- Separate the main filter by undoing the spigot nuts (3) on both of the screw connections on the connecting tubes. Use absorbent paper to remove any ink remains that still remain in the filter. The fitting of the new filter component is carried out by carefully placing the end of the tube in the screw connector and tightening up the the spigot nuts (3) afterwards. Use new cable ties to fix the filter in place.
- Return filters can be removed after pulling the end of the tubes out of the tube spouts. The fitting of the new filter is carried out analogous to the removal of the old one.
Commissioning and maintenance

Ink exchange

Empty the system (drain off the ink)
- Switch off the machine
- Take the draining tube (2)
- Carefully remove the closing plug (1) and feed the open end into an empty bottle (at least 1 litre).
- Start the machine in SERVICE-mode and then use the **Empty system** command in the service-menu.
- Re-fit the closing plug to the draining tube.

Filling the system (First Fill)
- Fill the ink-bottle with ink (approx. 0.5 litre)
- Close the gutter using the gutter plug
- Start the machine in service-mode
- Select the **First Fill** command in the service-menu. The filling process starts automatically and stops after approx. 20 minutes. In order to remove any air remaining in the system, operate the print-head for approx. 15 minutes using the **Bleed** service function.
Commissioning and maintenance
Switching off for a longer period of time

1. Shutdown time > 4 days:
   • Rinse the gutter thoroughly.
   • Use the seals provided with the machine to close the gutter and the nozzle.
   • Store the machine in an upright position in a cool and dry location.

   **Re-commissioning:**
   No special measures required.

2. Shutdown time > 14 days (pigmented inks only with alphaJET disconnected from the mains):
   • Whilst the machine is switched off, the ink that remains internally in the viscosimeter will be fed out through the outlet tube.
   • Afterwards the viscosimeter must be filled with solvent. Put approximately 20 ml of solvent (by using a plastic pipette bottle) into the outlet tube.

   **Re-commissioning:**
   No special measures required.

   **Please note:** If the alphaJET (for pigmented inks) remains connected to the mains, do not fill the viscosimeter with solvent as the automatic start-up process is active! (If there was a disconnection from the mains, please switch the machine on and off, so that the automatic start-up process works properly.)

3. Shutdown time > 4 months (all inks):
   • In this case we recommend that the inking system is emptied by using the relevant command in the service-menu.
   • Afterwards fill up with solvent (“First fill”).

   **Re-commissioning:**
   The solvent remaining internally in the inking system is drained using the “Empty system” command. Afterwards it must be re-filled with ink again (“First fill”).
Commissioning and maintenance

Transport

Before an alphaJET-C is transported, always ensure that the machine has been prepared in accordance with the transport conditions:

When you are sure that the alphaJET-C will be placed in an upright position during the transport, only the following tasks have to be carried out:

- Empty the ink-bottle and close it with an air-tight lid.
- Empty the solvent bottle.
- Close the suction tube with a plug.
- Close the gutter with the gutter plug.
- Close the nozzle with the nozzle plug.

If upright transport cannot be guaranteed, then do the following in addition to the above:

- Empty the inking system.
alphaJET C - Troubleshooting
Troubleshooting
Adjusting the ink stream

Correct ink stream setting

Aperture slot
Training: alphaJET C

Troubleshooting

Self-diagnostics after being switched on

After being switched on, the alphaJET will start a self-test, which will check the following sectors among other things:

- Operating voltage: 24 V, ±12 V
- Special printer voltages: modulation, charging
- Test: module, RAM, clock and bus inter-communications

After this test has been completed, the alphaJET will go to the print-ready state. The following sectors will be tested prior to this:

- Function of the pressure and suction pumps
- Ink pressure, ink sensors
- Ink flow
- Optimum phasing
- High voltage for deflection field
# Troubleshooting: Diagnostics and system reports

## Error codes - control unit section

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cause</th>
<th>Elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Event-Manager started</td>
<td>Is always registered upon start of the system.</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>PU–Reset</td>
<td>Main board controller defective.</td>
<td>• Replace the main board.</td>
</tr>
<tr>
<td>101</td>
<td>Encoder Detection Error</td>
<td>The encoder supplies clock pulses to phase B only</td>
<td>• Replace the encoder.</td>
</tr>
<tr>
<td>102</td>
<td>Communication Error <strong>UPIF</strong></td>
<td>Incorrect transmission between the control unit and printing unit.</td>
<td>• Check the plug connections.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check and, if necessary, replace the control unit or the headboard, if necessary the main board.</td>
</tr>
<tr>
<td>103</td>
<td>Format File Error</td>
<td>The configuration to be loaded is no longer available.</td>
<td>• Load a different configuration and check the values.</td>
</tr>
<tr>
<td>104</td>
<td>Label File Error</td>
<td>The text to be loaded is not available.</td>
<td>• Load a different text. When using the “ExtText” print program</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check the connected inputs for text selection as well as the reference list (Text-Load).</td>
</tr>
<tr>
<td>105</td>
<td>Fonts/logos loaded in part only</td>
<td>Too many fonts and logos have been stored or logo/font files are defective.</td>
<td>• Delete all unnecessary logos.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Delete logo/font files.</td>
</tr>
<tr>
<td>106</td>
<td>Print buffer in a too small</td>
<td>Print label exceeds print storage.</td>
<td>• Redesign (reduce) print image.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Change storage configuration (in file sbsize.ini).</td>
</tr>
<tr>
<td>107</td>
<td>UPIF/Serial transmission error</td>
<td>The serial transmission between control and printing unit.</td>
<td>• Check plug connectors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check and, if necessary, replace the control unit or the headboard, if necessary the main board.</td>
</tr>
<tr>
<td>108</td>
<td>UPIF/DMA transmission error</td>
<td>The print data transmission between control and printing unit is disturbed.</td>
<td>• Check plug connectors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check and, if necessary, replace the control unit or the headboard, if necessary the main board.</td>
</tr>
<tr>
<td>109</td>
<td>File transfer error</td>
<td>An error has occurred during transmission of data via the serial interface.</td>
<td>• Check the connection cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Compare the settings of the serial interface for receiver and transmitter.</td>
</tr>
<tr>
<td>110</td>
<td>MPL-Program failed to be loaded</td>
<td>The MPL-Program to be loaded is not available.</td>
<td>• Load a different MPL-Program and check the values.</td>
</tr>
<tr>
<td>112</td>
<td>MPL-runtime error</td>
<td>The MPL print program selected is defective. The print controller is disabled.</td>
<td>• Load a different MPL print program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Eliminate the program error from the MPL program and reload it.</td>
</tr>
</tbody>
</table>
## Troubleshooting: Diagnostics and system reports

### Error codes - control unit section

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cause</th>
<th>Elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>Communication Error: Unknown command</td>
<td>The command received is unknown.</td>
<td>• Electromagnetic disturbances.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Non-Compatible program versions.</td>
</tr>
<tr>
<td>114</td>
<td>Loading error: System setting</td>
<td>An initialization file for the system configuration is</td>
<td>• Check and, if necessary, correct all settings in the system configuration and restart.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>defective or missing.</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>Insufficient main memory</td>
<td>The available main memory is insufficient.</td>
<td>• Check the memory setting. Switch AJC off and on again.</td>
</tr>
<tr>
<td>116</td>
<td>No RAM-Disk</td>
<td>No RAM-Disk was found.</td>
<td>• Wrong CU version (PC version on AJC or AJC version on PC).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• RAM-Disk (CU167) defective.</td>
</tr>
<tr>
<td>117</td>
<td>Insufficient unassigned RAM-Disk-memory</td>
<td>There are too many files on the RAM-Disk.</td>
<td>• Delete files (texts, configurations).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• RAM-Disk (CU167) defective.</td>
</tr>
<tr>
<td>118</td>
<td>Loading error: specific printer parameter</td>
<td>Configuration file (specific printer parameters)</td>
<td>• Check and, if necessary, correct all settings in the service field.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>defective or missing.</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Not compatible terminal version</td>
<td>Terminal (PC) software and printer software are</td>
<td>• Update the software.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>incompatible with each other.</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>Unknown MPL command</td>
<td>MPL version and printer software incompatible with each</td>
<td>• Update the software.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>other or MPL program defective.</td>
<td>• Correct the MPL-program.</td>
</tr>
<tr>
<td>600</td>
<td>Print stop</td>
<td>No longer ready for printing.</td>
<td>• Re-establish readiness for printing.</td>
</tr>
<tr>
<td>601</td>
<td>Auto stop</td>
<td>The counter of the Auto stop function has elapsed.</td>
<td>• Reactivate or deactivate the counter function.</td>
</tr>
<tr>
<td>602</td>
<td>Print during printing</td>
<td>Printing is triggered during a printing process.</td>
<td>• Check of the application (Product sensor signal).</td>
</tr>
</tbody>
</table>
## Troubleshooting: Diagnostics and system reports

### Error codes - printer section

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cause</th>
<th>Elimination</th>
</tr>
</thead>
</table>
| 200 | "Ink tank empty" | Ink level below a value of 50. | • Refill the ink bottle.  
• Check the ink adding valve (V4). |
| 201 | “Solvent empty” | Solvent bottle empty. | • Refill the solvent bottle.  
• Check the solvent adding valve (V3). |
| 202 | “Viscosity Warning\(\pm 50\)” | Fill time deviation at least 5 seconds. | • No error, if the ink has been replaced only a short time before.  
• Check the solvent adding valve (V3). |
| 203 | Ink pressure out of range | Ink pressure too high / too low by at least 12%. | • Check the pressure pump (P1).  
• Check the sieve (positioned before P1).  
• Check the pressure sensor and the cable. |
| 204 | RTC Warning | Communication with the real-time clock defective (applicable to pigmented ink only). | • Hardware error.  
• Call the customer service. |
| 205 | “Data lost” | Mirrored system data and parameters stored in the printing unit are lost.  
This error occurs whenever the controller MC167 on the main board has been replaced. | • Check all parameters in the Service/Setup window and readjust them.  
• Call the customer service. |
| 206 | “Communication Warning/UPIF/PFO:Error Data” | Serial communication between the control unit and the printing unit defective.  
Intense radiated interference. | • Check the UPIF cable (40 pins).  
• Call the customer service if this error occurs repeatedly. |
| 207 | “Timeout: Filletime” | Upper viscosity electrode without ink for at least 10 minutes.  
Mixtank overfilled.  
Flow restrictor D1 blocked.  
Electrode not connected. | • Let a little ink flow out.  
• Check the flow restrictor.  
• Check the ink electrodes. |
| 208 | “Ink tank full \ error” | The ink level has reached the upper ink electrode.  
Valve V3 or V4 defective. | • Check all of the ink electrode connections.  
• Check valve V3, V4. |
| 209 | “Viscosity out of range” | Filltime deviation at least 12 seconds.  
“Add solvent” warning has been neglected; V3 defective. | • Add solvent.  
• Check V3. |
## Troubleshooting: Diagnostics and system reports

### Error codes - printer section

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cause</th>
<th>Elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>“Fan Error/MEK”</td>
<td>Cooling air blower for solvent defective or too slow.</td>
<td>• Check the cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• If necessary, replace the blower.</td>
</tr>
<tr>
<td>211</td>
<td>“Fan Error/AJ”</td>
<td>Main cooling air blower defective or too slow.</td>
<td>• Check the cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• If necessary, replace the blower.</td>
</tr>
<tr>
<td>212</td>
<td>“MEK power failure”</td>
<td>Supply voltage applied to the solvent recovery unit defective.</td>
<td>• Check the connector or replace the unit.</td>
</tr>
<tr>
<td>213</td>
<td>“Temperature sensor error”</td>
<td>Ink temperature sensor defective or not connected.</td>
<td>• Check the sensor and the cable, or replace the sensor.</td>
</tr>
<tr>
<td>214</td>
<td>“Overpressure switch !”</td>
<td>Ink pressure protective switch released.</td>
<td>• Replace the ink filter.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ink filter clogged.</td>
<td>• Clean / replace D3.</td>
</tr>
<tr>
<td>215</td>
<td>“Pressure sensor error”</td>
<td>No pressure sensor detected.</td>
<td>• Check the sensor and the cable.</td>
</tr>
<tr>
<td>216</td>
<td>“Supply Voltage Error”</td>
<td>One of the operating voltages (+12 VDC, −12 VDC, +24 VDC, solvent recovery unit) is incorrect.</td>
<td>• Check the fuse F3.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>218</td>
<td>&quot;Debit pressure not attainable&quot;</td>
<td>Ink level in the mixtank too low; sieve before the pressure pump clogged. Pressure pump defective.</td>
<td>• Check the ink level; clean the sieve; check the pressure pump, if necessary, replace it.</td>
</tr>
<tr>
<td>219</td>
<td>Pressure pump defective</td>
<td>Autodiagnosis: pressure pump or main board defective</td>
<td>• Check and if necessary, replace the pressure pump.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>220</td>
<td>Suction pump defective</td>
<td>Autodiagnosis: suction pump error.</td>
<td>• Check and if necessary, replace the suction pump.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>221</td>
<td>MC / FPGA Transmission error</td>
<td>Autodiagnosis: error in transmission between main board and FPGA.</td>
<td>• Check the ribbon cable connection between main board and head board.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>222</td>
<td>DSP transmission error</td>
<td>Autodiagnosis: error in transmission between main board and DSP.</td>
<td>• Check the ribbon cable connection between main board and head board.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>223</td>
<td>Headboard Configuration</td>
<td>The configured head board failed to be detected.</td>
<td>• Check the configuration (Service $\rightarrow$ Setup)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
</tbody>
</table>
## Troubleshooting: Diagnostics and system reports

### Error codes - printer section

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cause</th>
<th>Elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>224</td>
<td>Suction pump supply defective</td>
<td>Main board electronics for suction pump(s) defective.</td>
<td>• Check the fuses F5, F6, F7, F9.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>250</td>
<td>&quot;ENC-Frequency too high&quot;</td>
<td>Encoder frequency exceeded maximum value. Belt conveyor running too quickly, or encoder defective.</td>
<td>• Check the speed of the belt conveyor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check the encoder.</td>
</tr>
<tr>
<td>251</td>
<td>&quot;Automatic phasing not possible&quot;</td>
<td>Incorrect modulation voltage.</td>
<td>• Check the modulation voltage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ink too old.</td>
<td>• Check / clean the charge detect sensor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wrong or missing drop build-up.</td>
<td>• Check the charge detect signal.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charge detect signal too weak (charge detector board).</td>
<td>• Replace the ink.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Replace the load detector board or the head board.</td>
</tr>
<tr>
<td>252</td>
<td>&quot;Error Modulation Voltage&quot;</td>
<td>Incorrect modulation voltage.</td>
<td>• Replace the head board.</td>
</tr>
<tr>
<td>253</td>
<td>&quot;Charge Voltage error&quot;</td>
<td>Charging voltage incorrect.</td>
<td>• Replace the head board.</td>
</tr>
<tr>
<td>254</td>
<td>DSP / FPGA transmission error</td>
<td>Error in transmission from DSP to FPGA (head board)</td>
<td>• Replace the head board.</td>
</tr>
<tr>
<td>255</td>
<td>UPIF transmission error (PU)</td>
<td>Data transmission between control unit and DSP defective.</td>
<td>• Check the ribbon cable connection between control unit and head board.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Call the customer service.</td>
</tr>
<tr>
<td>258</td>
<td>&quot;HV value out of range&quot;</td>
<td>High voltage too low.</td>
<td>• Check the print head or dirt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value for HVmax too high.</td>
<td>• Check the HV cable and the electrode insulation.</td>
</tr>
<tr>
<td>259</td>
<td>&quot;Error Deflection Field&quot;</td>
<td>High-voltage flashover.</td>
<td>• Clean the print head.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Print head dirty.</td>
<td>• Check / reduce the HV value.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value for HVmax too high.</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>&quot;Ink Flow missing&quot;</td>
<td>Ink jet missed gutter; ink too old.</td>
<td>• Clean the nozzle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Replace the ink.</td>
</tr>
<tr>
<td>262</td>
<td>&quot;Head Board Error&quot;</td>
<td>More print heads have been configured than are actually available.</td>
<td>• Check the settings in the Service / Setup window (in the supervisor mode).</td>
</tr>
</tbody>
</table>
## Troubleshooting

### Troubleshooting: tips

<table>
<thead>
<tr>
<th>Determined problem</th>
<th>Possible reason</th>
<th>Repair</th>
</tr>
</thead>
</table>
| The voltage at the pressure pump is too high (> 8 volts). The audible rotation of the pump is too high (>2 rps). No or not enough ink pressure is built up. | 1. The diaphragm inside the pressure pump is defective.  
2. The valves inside the pressure pump are soiled.  
3. The protection mesh in the supply tube is blocked.  
4. The main filter is blocked.  
5. The protection mesh in the pulsation absorber inlet or the restrictor D3 in the outlet are blocked. | 1. Change the pump.  
2. Clean the valves inside the pump / change the pump.  
3. Change the supply tube of the pump.  
4. Change the main filter.  
5. Change or clean the mesh in the left connector / the restrictor in the right connector of the absorber. |
| The voltage at the pressure pump is too low (<5 volts). The ink pressure varies. The viscosity measuring possibly doesn’t work correctly (too long cycles). | 1. The flow restrictor D2 is partly or totally blocked.  
2. The ink is much too thick. (Solvent bottle empty or solvent add valve V3 defective.) | 1. Renew flow restrictor D2 completely.  
2. Refill solvent bottle / change valve V3. |
| No or an apparently wrong viscosity measuring though the pump rpm is normal.       | The visco-measuring restrictor D1 is partly or totally blocked (e.g. after a longer shut down period). | Change visco-measuring restrictor D1. |
| Insufficient / varying suction at the gutter.                                     | 1. The ink return filter is soiled  
2. The valves inside the suction pump are contaminated or defective. | 1. Change ink return filter.  
2. Change pump or clean / change valve plates. |
| Recovered solvent gets into the printhead. Restless position of the XX’es in the Phasing display. Frequent contamination of the printhead. Solvent is visible at the bottom of the air filter. | 1. The machine was operated with horizontally orientated back panel.  
2. The cooling element is defective.  
3. An ink with very low viscosity has been filled into the system. | 1. Drain the air filter +  
1. Assemble the back panel.  
2. Replace the recovery unit.  
3. Leave opened the lower bleed screw of the air filter until viscosity is normal |
| Visible interferences on the inkstream (pulsations coming from the pressure pump). | 1. The protection mesh in the pulsation absorber inlet / the restrictor D3 in the pulsation absorber outlet is blocked.  
2. The main filter is blocked. | 1. Change / clean the mesh (left connector) or the restrictor D3 (right connector).  
2. Change the main filter. |
| Viscosity never reaches value 0.                                                   | Solvent add Valve V3 doesn’t close correctly. Permanent minimal solvent addition.                                                              | Change V3.                                                                                                                                  |
| Varying ink pressure / pressure safety switch releases.                           | 1. Blocked main filter F1.  
2. Blocked restrictor D3.  
2. Clean / replace restrictor.  
3. Clean / replace protection mesh. |
alphaJET C - Spare part overview
Spare part overview

Control Unit

- Ribbon cable COM2 DSUB9 (1007.3245)
- Ribbon cable COM 1 DSUB9 (1007.3246)
- Modul 168 programmed for CU (1011.4791)
- LCD activ adapter board (1011.4893)
- Fan Control Unit (1011.3333)
- Ribbon cable PC104 keyboard to CU mainboard (1007.3255)
Spare part overview
Control Unit

I/O Board A
(1011.4773)

I/O Board B
(1011.4778)
Spare part overview

Control Unit

Main power supply CU (1011.4782)

PC 104 with Flash and LCD adapter since AJC 5894 (1007.1292)
Spare part overview

Display

- LCD display ¼ VGA (1007.1692)
- Keyboard controller since AJC 5894 (1011.4788)
- Ribbon cable keyboard controller to CU (1011.2985)
- Ribbon cable keyboard controller to LCD adapter (1011.3010)
Spare part overview
Headboard, main board and controller

Module 168 programmed for Headboard (1011.4792)

Module 168 programmed for Mainboard (1011.4793)

Headboard (1011.5056)

Mainboard (1011.5046)
## Spare part overview

### Ink system

<table>
<thead>
<tr>
<th>Part</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airfilter</td>
<td>1010.3547</td>
</tr>
<tr>
<td>Mixtank</td>
<td>1010.9327</td>
</tr>
<tr>
<td>Inkbottle</td>
<td>1010.2233</td>
</tr>
<tr>
<td>Inkbottle-pigmentet</td>
<td>1010.2234</td>
</tr>
<tr>
<td>Solventbottle</td>
<td>1010.9340</td>
</tr>
<tr>
<td>Flow restrictor</td>
<td>1010.6353</td>
</tr>
<tr>
<td>Inkfilter</td>
<td>1010.3543</td>
</tr>
<tr>
<td>90 ° Coupling plug</td>
<td>1006.4907</td>
</tr>
<tr>
<td>Coupling socket</td>
<td>1006.4905</td>
</tr>
<tr>
<td>Union-Tee</td>
<td>1008.6961</td>
</tr>
<tr>
<td>Pulsation absorber</td>
<td>1010.2579</td>
</tr>
<tr>
<td>Pneumatic restrictor</td>
<td>1011.0427</td>
</tr>
<tr>
<td>Valve block complete</td>
<td>1011.0183</td>
</tr>
<tr>
<td>Solventfilter</td>
<td>1010.3542</td>
</tr>
<tr>
<td>Mainfilter</td>
<td>1010.3535</td>
</tr>
<tr>
<td>Protection mesh for diaphragm pressure pump</td>
<td>1010.8826</td>
</tr>
</tbody>
</table>
Spare part overview

Ink System

- Magnet valve (1008.6505)
- Ribbon cable head 1/2 and lines 1/2 (1011.3050) Head 1L2H (1011.3051) Head 2
- Pressure Sensor (1007.5209)
- Suction pump (1000.9876)
- Pressure pump (1000.9885)
- Transformer (1011.6463)
Spare part overview

Ink system - head tube connectors

- Luer coupler socket (1008.7278)
- Luer coupler plug (1008.7303)
- Coupling socket (1006.4905)
- Coupling plug (1006.4906)
- Coupling with mesh for ink supply tube red (1011.0411)
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