Document No: DD+DIS066.07E

This no. is needed for production line only:
A359223.0

DRYSTAR 5500

Type 5364/100

Drystar 5500 Software 4.2.0_C1
Upgrade Instructions

► ## Purpose of this document

This Enclosure is part of

- Software 4.2.0_C1 on MEDNET, GSO Library

- Software 4.2.0_C1 on CD ROM as part of following spare parts:

  - o Themis PCB + RAM (ROHS)   CM+358908.X
  - o Crius PCB + RAM (ROHS)   CM+358909.X
  - o MEC PCB (ROHS)   CM+358911.X
  - o 128 MB RAM (ROHS)   CM+358917.X
  - o 256 MB RAM (ROHS)   CM+358918.X
  - o DSH PCB (ROHS)   CM+359197.X

It describes all steps of the Software Upgrade Procedure to Software 4.2.0_C1

- Dispose the Enclosure document after finishing your task
  (observe the confidentiality note below).

- For an overview of valid enclosures please refer to MedNet GSO library
  General Info => Agfa HealthCare => Publications => Enclosures =>
  General - Enclosures

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Agfa Company Confidential

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AGFA *Agfa*

WARNING:

Improper operation or service activities may cause damage or injuries.

INSTRUCTION:

(1)   Read the "Generic Safety Directions" document
      (see MEDNET GSO => General Info => Agfa HealthCare => Publications =>
      Service Manual) prior to attempting any operation, repair or maintenance task on
      the equipment.

(2)   Strictly observe all safety directions within the "Generic Safety Directions" and
      on the product.

LIST OF CONTENTS

Subject   **Drystar 5500 Software 4.2.0_C1 Upgrade**

Required tools:

- Service PC with CD ROM drive

Additional tools, depending on selected type of software upgrade:

| A Software Upgrade via floppies | • Floppy drive in the service PC |
| | • 17 new, formatted floppy disks |

| B Software Upgrade via network | • crossed network cable (EB+72010270 or commercially available) |
| | • or, for recent PC models (which autodetect the type of network connection): standard network cable (commercially available) |

Required time:

- Approx. 60 minutes for Software Upgrade via PC (network)
- Approx. 90 minutes for Software Upgrade via floppies

Printer Software / Hardware precondition:

The software upgrade can be performed at any Drystar 5500
equipped with Software 1.8X, 2.0X, 3.XX or 4.0X, no matter on the hardware status.

New Features / Improvements of Software 4.2.0_C1:

Software 4.2.0_C1 has following new features / improvements implemented compared
to software 4.0.1_C1:

- o New functionality "support of ROHS conform PCBs"
- o Corrections in error.xml, the file which describes the error codes (symptoms, defects and solutions)
- o Queue is stopped immediately now after entering Service Operator menu

Content of the Drystar 5500 Software Rel. 4.2.0_C1 CD:

Subdirectory	Content
DRYSTAR5500\4.2.0C1_floppy_install	Software to be copied on 17 new, formatted floppies
DRYSTAR5500\4.2.0C1_remote_install	• ZIP file for software installation via browser • File Remote_emergency_install.bat for emergency software installation via network
Java	Java Virtual Machine (JVM). Only required in case it is not yet installed on the PC and emergency software installation via batch file has to be made.
DRYSTAR5500\Documentation	This enclosure document

The CD also contains software for Drystar 5503, and - depending on the release of the CD - also for Drystar 4500.

1   Introduction

Drystar 5500 software release 4.2.0_C1 is a mandatory upgrade for printers where one of the following ROHS* conform spare parts has been installed:

- o   Themis PCB + RAM (ROHS)   CM+358908.X
- o   Crius PCB + RAM (ROHS)   CM+358909.X
- o   MEC PCB (ROHS)   CM+358911.X
- o   128 MB RAM (ROHS)   CM+358917.X
- o   256 MB RAM (ROHS)   CM+358918.X
- o   DSH PCB (ROHS)**   CM+359197.X

* ROHS stands for <u>R</u>estriction <u>of</u> certain <u>h</u>azardous <u>s</u>ubstances. For more information refer to Drystar 5500 / Drystar 5500 Service Bulletin No. 40.

** For the DSH board software $\geq$ 3.10_C1 is sufficient

NOTE:

After installation of a RoHS compliant printed circuit board (PCB) the printer possibly boots-up with message ERROR SYSTEM FAILURE.

Required Steps, depending on Printer Condition after Replacement of the PCB:

A Printer shows **READY** or **WARNING** or **Error HCXXXXX**

#	Step	See section
1	Preparation	2
2	Software Upgrade 4.2.0_C1 via Browser.	3.1
3	Finalization	4

B Printer shows **ERROR SYSTEM FAILURE**

#	Step	See section
1	Emergency Software Upgrade to 4.2.0_C1 via Batch File	3.2
2	Finalization	4

NOTE:

Software upgrade is also possible via floppies. Refer to sections 5.4 and 5.5.

2 Preparation

The preparation is split up in following main tasks:

#	Tasks	Refer to section
1	Check current Software version and AE-title	2.1
2	Perform backup of machine specific data	2.2

2.1   Check of currently installed Software Release and AE-Title

(1) In the key-operator menu select '1 Show Settings – 1 General'.

(2) Check the currently installed software release at the printer:

- In case software 4.2.0_C1 (or higher) is already installed no software upgrade is required.

- In case software < 3.0.0_C1 is installed, additional steps are required, as this version does not yet have the A#-sharp functionality. For details refer to document DD+DIS430.05E in section 7 of the Technical Documentation Drystar 5500/5503.

(3) Select '2 Show Settings – 3 Network - Dicom'

(4) Check the AE-title of the printer: Write it down to compare it with the AE-title after the upgrade

2.2   Backup of Machine specific data

(1) In the key-operator menu select '5 Save Configuration'

(2) Follow the further instructions on the screen

(3) When finished, verify that the backup floppy is readable: Copy the content of the floppy to the hard disk drive of the Service PC and open the ZIP file. In case the ZIP file can be opened, the machine specific data are readable.

3   Upgrade to Software 4.2.0_C1

This section describes the software upgrade ...

- via browser. See section 3.1

- via remote_emergency_install.bat file. See section 3.2

CAUTION:

Power failure during software upgrade may cause that the printer cannot start-up anymore, as the Key, MEC, Themis and Crius boards are re- programmed.
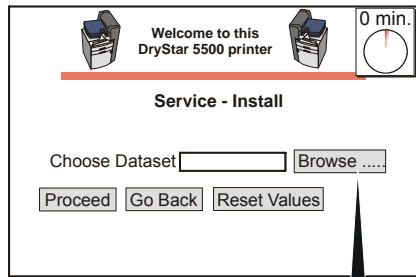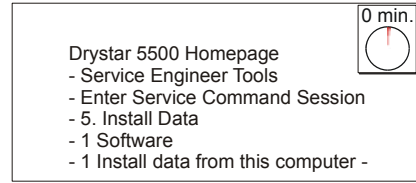
DO NOT SHUTDOWN the printer during software installation.

DOCUMENT CONTROL NOTE:
The controlled version of this document resides on MedNet. Any printed copy of this document is uncontrolled.

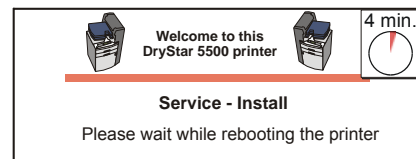Revision 0   DRYSTAR 5500   Page 7 of 20
05-2007   Type 5364/100   Agfa Company Confidential
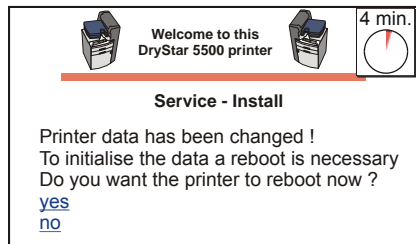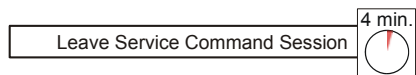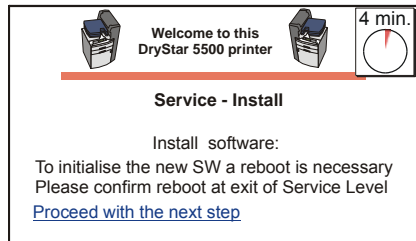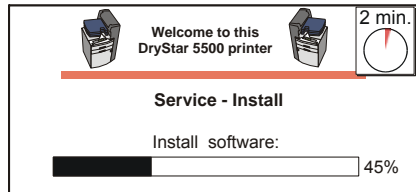
3.1   Software Upgrade via Browser

(1)   Connect the Service PC via network cable to the printer. Possibly you have to adapt the IP address of the service PC.
Refer to 5.3.

(2)   Enter the printer IP address in the browser address window

(3)   Select 'Service Engineer Tools'

(4)   Enter username and password for the Service Engineer Tools

(5)   Select 'Enter Service Command Session'

(6)   Select '5 Install Data – 1 Software – 1 Install Data from this computer - Browse'

(7)   In directory DRYSTAR5500\4.2.0_C1_remote_in stall on the Software CD ROM choose file 'DS55_SWR_R4.2.0C1.zip'.

(8)   Select 'Proceed'.
The different browser screens are shown in Figure 1.
The local keypad shows:

```
    REMOTE ACCESS ACTIVE

 action via local keypad disabled

(re-enabling of local keypad after
  termination of remote session)
```
5364_enc_402.cdr

(9)   Reboot the printer when requested by the browser screen.

Now no user intervention is required anymore the next approx. 12 minutes.
Refer to Figure 2 next page.

(10) When the printer shows the READY screen, continue with Finalization of the upgrade, section 4.


```
Drystar 5500 Homepage          0 min.
- Service Engineer Tools
- Enter Service Command Session
- 5. Install Data
- 1 Software
- 1 Install data from this computer -
```

```
                                0 min.
   Welcome to this
   DryStar 5500 printer

        Service - Install

Choose Dataset [_____]  Browse ....
[Proceed] [Go Back] [Reset Values]
```
Browse for file SWR_drystar5500_R4.0.0C1.zip in directory \remote on software CD ROM

```
                                2 min.
   Welcome to this
   DryStar 5500 printer

        Service - Install

Install  software:
[██████        ]         45%
```

```
                                4 min.
   Welcome to this
   DryStar 5500 printer

        Service - Install

Install  software:
To initialise the new SW a reboot is necessary
Please confirm reboot at exit of Service Level
Proceed with the next step
```

```
                                4 min.
Leave Service Command Session
```

```
                                4 min.
   Welcome to this
   DryStar 5500 printer

        Service - Install

Printer data has been changed !
To initialise the data a reboot is necessary
Do you want the printer to reboot now ?
yes
no
```

```
                                4 min.
   Welcome to this
   DryStar 5500 printer

        Service - Install

Please wait while rebooting the printer
```
5364_enc_401.cdr

Figure 1

NOTE:

✓

- The printer will make several resets during software installation.

- After the complete ZIP file is uploaded it takes approx. 12 minutes until the printer is operational again.

- After approx. 16 minutes (from start of the software installation) the printer shows the READY screen.

- In case the printer hangs with message "Error - System Failure" for more than 10 minutes, perform an emergency software upgrade procedure. See section 3.2 (via batch file) or 5.5 (via floppies).
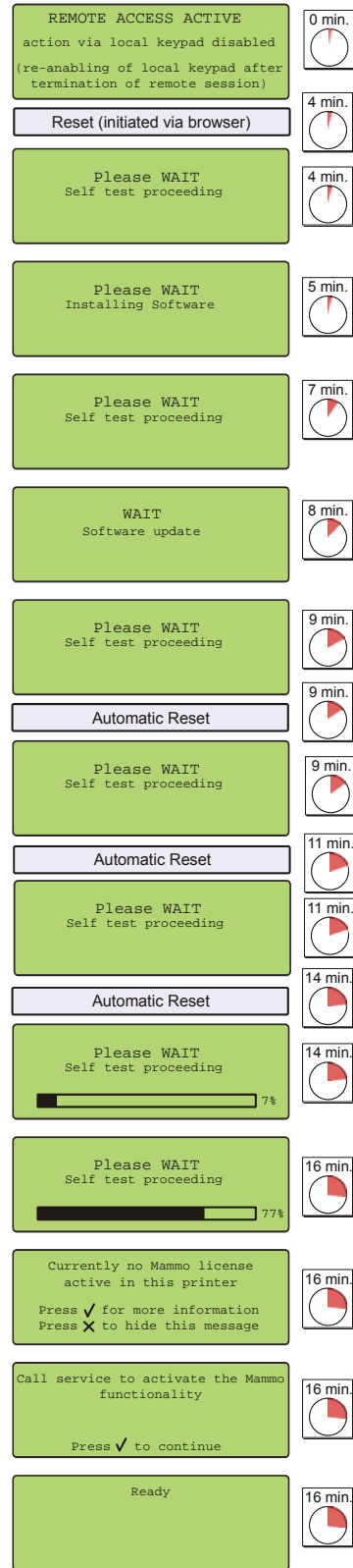
Figure 2

3.2   Emergency Software Upgrade to 4.2.0_C1 via Batch File

How?   (1) Get the printer IP address. See section 5.2.

(2) Make a network connection from service PC to the printer. See section 5.3.

(3) In the Windows explorer doubleclick on file
DRYSTAR5500\4.2.0C1_remote_install\Remote_Emergency_install.bat
(which is available on the Software CD ROM).

(4) In the window that opens (refer to Figure 3) enter the IP address of the printer and select install.
See section 3.2.1 if error 'jview' is not recognized as an internal or external command' is displayed.

(5) Follow the further instructions on the screen

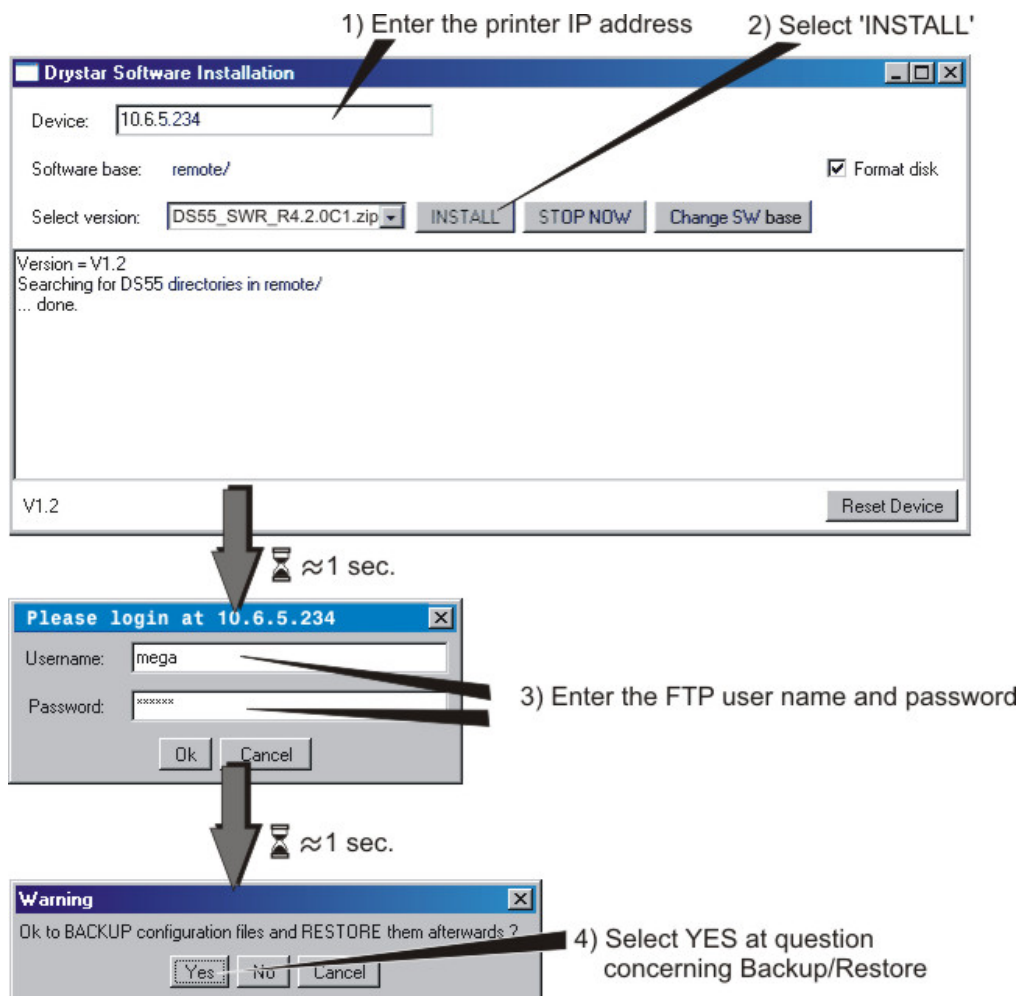(6) Wait till the printer shows the READY screen. If software installation fails, refer to section 3.2.2

Figure 3

✓ NOTE:
During Software upgrade via batch file following steps are executed internally:
- A backup of the printer specific data is created and copied to RAM
- The software is sent from the PC to the printer via FTP and inflated
- The boards are programmed
- The backup is restored from RAM

3.2.1 Troubleshooting Error 'jview is not recognized as an internal or external command'

Executing the batch files requires the Java Virtual Machine, either from Microsoft or Sun. If the Microsoft Java Virtual Machine (VM) is not installed, error "'jview' is not recognized as an internal or external command' will be displayed.

Proceeding:

(1) Select "Start - Settings - Control Panel - System"

(2) Check the installed operating system

A: Your operating system is Windows 2000, XP or XP SP1:

(3) On the CD ROM select directory Java\ForW2K - XP - XP SP1

(4) Double-click on file "msjavx86.exe" to install the Microsoft Java VM.

(5) Follow the further instructions

(6) When finished, doubleclick again on file DRYSTAR5500\4.2.0C1_remote_install\Remote_Emergency_install.bat

B: Your operating system is Windows XP SP1a, XP SP2 or Vista:

(3) Copy directory DRYSTAR5500\4.2.0C1_remote_install to the service PC

(4) Replace file Remote_emergency_install.bat in directory DRYSTAR5500\4.2.0C1_remote_install with the Remote_emergency_install.bat file you find in directory Java\For XP SP 1A - XP SP2 - Vista

(5) Execute the "new" Remote_emergency_install.bat file

- If the window of Figure 3 (see page 10) is displayed, continue with software installation via batch file.

- If message "javaw is not recognized as an internal or external command" is shown, proceed with step (6).

(6) On the CD ROM select directory Java\For XP SP 1A - XP SP2 - Vista

(7) Double-click on file "jre_1_5_0_03-windows-i586-p.exe" to install the SUN Java VM

(8) When installation is finished, reboot the service PC.

(9) Doubleclick again on file DRYSTAR5500\4.2.0C1_remote_install\Remote_Emergency_install.bat

3.2.2   Troubleshooting a failed Software Installation via Remote_Emergency_install.bat File

In case the software upgrade was not successful, e.g. printer is 10 minutes after the last reboot still hanging with message 'Wait selftest proceeding' or starts up with message 'ERROR System Failure' proceed as follows:

(1) Connect the service PC to the printer and open a terminal session. Check the current status of the printer.

(2) In case there is an evidence of a failed software installation, restart the batch file

(3) Retry the software installation with the batch file.

A logfile of the software installation named 'swins.log' is created in the same directory where the 'remote_emergency_install.bat' file is executed.

If it is executed from a write protected medium (e.g. CD ROM), the 'swins.log' file is not created.

4   Finalization of the upgrade

The finalization of the upgrade is split up in following main tasks:

#	Tasks	Refer to
1	Check displayed software version	4.1
2	Verify the successful software upgrade	4.2
3	If printer was in ERROR SYSTEM FAILURE state: Check previously installed software version.	4.3
4	Perform backup of Machine Specific Data	4.4

4.1   Check of AE Title and displayed Software Version

(1) In the key-operator menu select '2 Show Settings – 1 General'.

(2) Check the installed software release. It has to show 'R4.2.0 C1''

(3) Select '2 Show Settings – 3 Network - Dicom'

(4) Compare the AE-title of the printer with the previous setting as noted in section 2.1: It has to show the same AE-title than before the upgrade

4.2   Verifying the successful Software Upgrade

(1) In the service menu select '8 Adjust & Calibrate – 4 Print Testimage'

(2) Print a 'SMPTE_lin.TIF' and a 'medical_image.tif' test image.

(3) If possible, print a technical and medical image of each modality.

(4) At the light box check the image quality of all images.

(5) In case of image faults troubleshoot as described in section "3.3 Troubleshooting" of the Technical Documentation.

4.3   If Printer was in Error System Failure State: Checking the previously installed Software Version.

If the software upgrade has been made at a printer with display "ERROR SYSTEM FAILURE" e.g. after installation of a ROHS conform printed circuit board proceed as follows:

(1) In the windows explorer double-click on the printer backup ZIP file (on floppy or - if available - on the service PC hard disk)

(2) Double-click on file bac.zip

(3) Double-click on file 'infocounters_old\0\infocounters.txt'

(4) Search for entry "1.4 Software info"

(5) If software < 3.0.0_C1 was installed, additional steps are required, as this version does not yet have the A# Sharp functionality. For details refer to document DD+DIS430.05E in section 7 of the Technical Documentation Drystar 5500.

(6) If software ≥ 3.0.0_C1 was installed continue with the next section.

4.4   Backup of Machine Specific Data

(1)   In the Service Menu on the local keypad select '3 Save Data - 2 Machine Specific data' and follow the further instructions on the display.

5   Appendix

The Appendix contains following information:

Topic	Refer to
Setup of the HyperTerminal for serial connection	5.1
How to get the printer IP address	5.2
How to connect to the Drystar 5500 via network	5.3
Software Upgrade to 4.2.0_C1 via Floppies	5.4
Emergency Software Upgrade to 4.2.0_C1 via Floppies	5.5

5.1   Setup of the HyperTerminal for serial Connection

NOTE:

The Hyper Terminal setup as displayed here can be used for all AGFA HealthCare printers and digitizers.

Instead of the HyperTerminal following other programs can be recommended to connect to terminal level:

1) xt.
    xt.exe is an AGFA program, which is part of the IMOS package. It can be started in a DOS box by typing "xt"

2) IMOS Start Menu.
    The IMOS Start Menu software has a terminal built in. Select "tools - terminal". Depending on the configuration of IMOS Start, either a DOS box with xt will be opened or a Hyper Terminal window will pop-up.

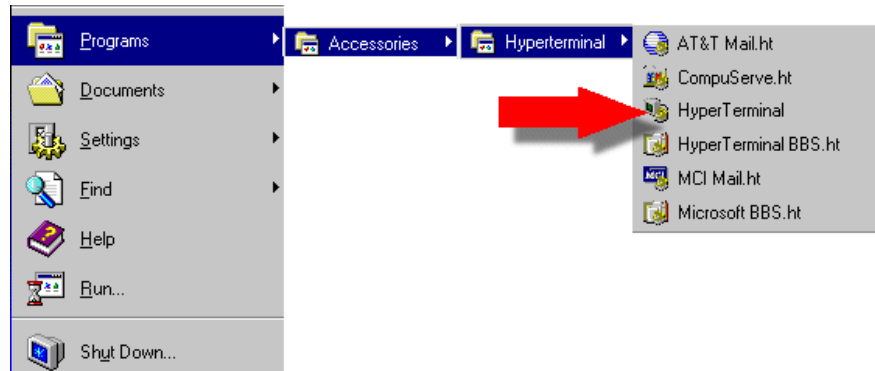(1) To start the setup of the HyperTerminal, go to "Programs - Accessories - HyperTerminal - HyperTerminal"

Figure 4

(2) Enter a name for the connection, e.g. AGFA

Figure 5

(3) Select COM1 or COM2 for communication port (depending on what you are using on the Service PC)

Figure 6

(4) Make the setup of the HyperTerminal session as displayed here, i.e.

- - 9600 Bps
- - 8 data bits
- - No parity
- - 1 stop bit
- - Flow control Xon/Xoff
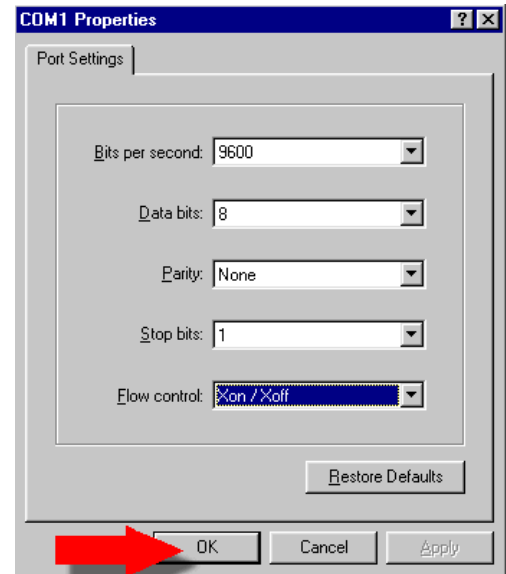
(5) Select "OK"

Figure 7

5.2   Getting the Printer IP Address

Following possibilities exist to get the printer IP address:

A Printer is booted up
1.   Select Key-operator menu "2 Show Settings - 3 Network-Dicom"
2.   Select Service Menu "1 Show info - 2 Network Info"

B Printer hangs with "Error - System Failure"

1.   Look-up the IP address in file "infocounters_old\0\infocounters.txt, which is located in the backup ZIP file on floppy or a previous backup made via browser.

2.   Connect to the PC via Hyperterminal (see 5.1) and type "show info":
      Parameter "Net ID" shows the printer IP address.

3.   Connect to the PC via Hyperterminal and switch off/on the printer:
      After approx. 130 lines the line "TCP/IP Net0 Internet address is ....." is displayed.

4.   Connect to the PC via Hyperterminal and type "sym -p":
      Parameter "symbol NET.ADDRESS" shows the printer IP address.

5.3   Connection to the Printer via Network

Connection to the printer via network may be required ….

- To connect to the printer service web pages e.g. for software installation
- To perform software upgrade via "remote_emergency_install.bat" file

Case 1: Service PC can be connected to the hospital network:

USAGE

(1)   Get the IP address and subnet mask for the Service PC from the hospital network administrator.

(2)   Enter IP address and subnet mask as displayed in Figure 10 to Figure 13

(3)   Connect the Service PC to the network

- For connection to the printer service web pages: Start the browser (Internet Explorer $\geq$ 5) and Enter the IP address of the printer in the address window. See section 3.1

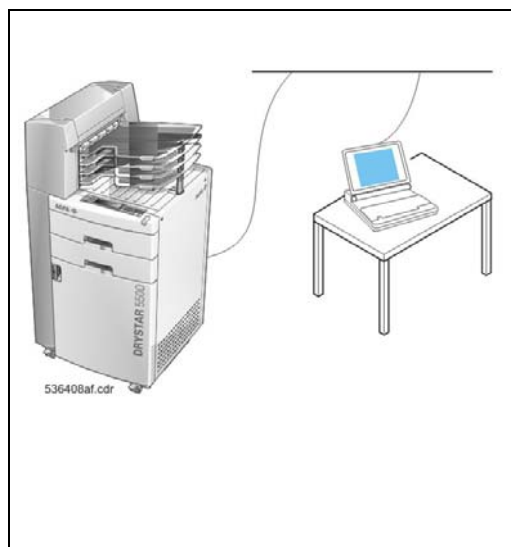- For software upgrade via "remote_emergency_install.bat" file: Double-click the batch file. See section 3.2

Figure 8

Case 2: Service PC can **not** be connected to the hospital network:

(1)   Look up the printer IP address and subnet mask in the printer key operator menu "show settings - Network".

(2)   Define an IP address for the Service PC by adding or subtracting "1" to the last digit of the IP address.
Example:
Printer IP address =   10.6.5.121
Service PC address =   10.6.5.122

(3)   Enter IP address and subnet mask as displayed in Figure 10 to Figure 13.

(4)   Use a crossed network UTP cable to connect the network interface of the Service PC directly with the network interface of the printer.
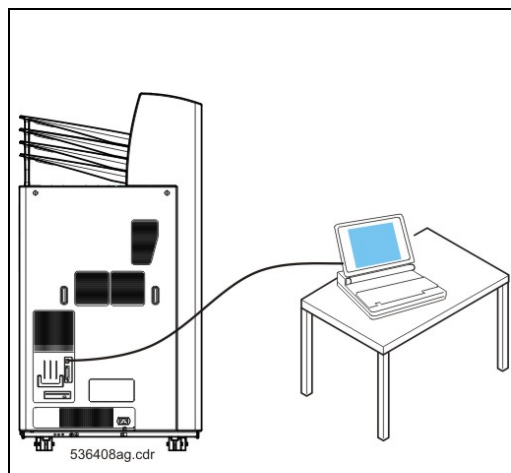

Figure 9

Recent service PCs also auto-detect the type of connection and allow direct connection from PC to printer via "normal" network cable.

- For connection to the printer service web pages: Start the browser (Internet Explorer $\geq$ 5) and Enter the IP address of the printer in the address window. See section 3.1
- For software upgrade via "remote_emergency_install.bat" file: Double-click the batch file. See section 3.2
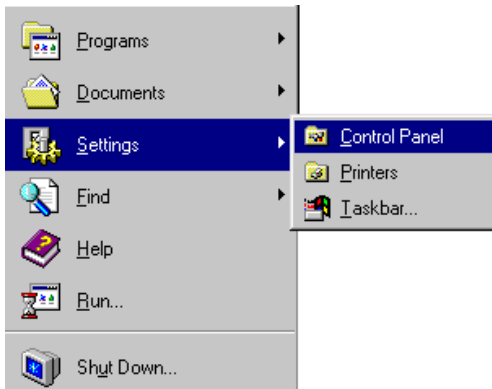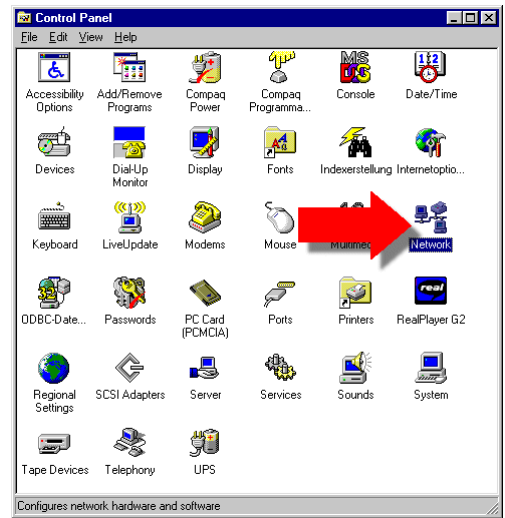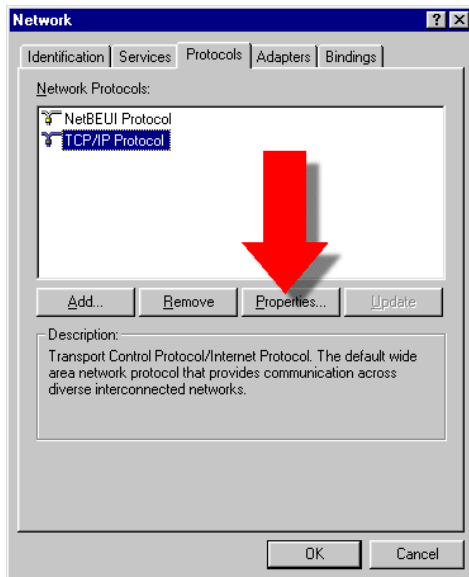
Adapting the printer IP address:
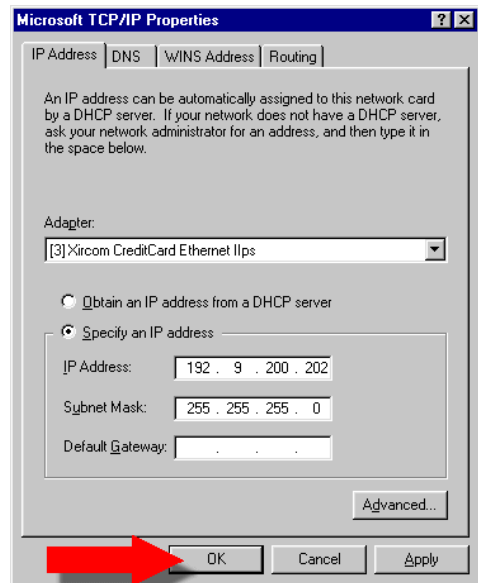

Figure 10

Figure 11

Figure 12

Figure 13

✓ NOTE:

Default Subnet Masks (set for NO sub netting)

Class	First 3 digits of IP	Subnet mask
A	0...127	255.0.0.0
B	128...191	255.255.0.0
C	192...223	255.255.255.0

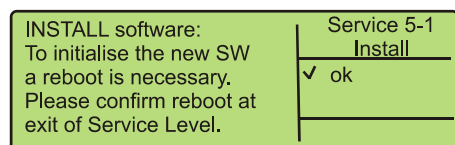## 5.4   Software Upgrade to 4.2.0_C1 via Floppies

CAUTION:

Power failure during software upgrade may cause that the printer cannot start-up anymore, as the Key, MEC, Themis and Crius boards are re- programmed.

DO NOT SHUTDOWN the printer during software installation.

(1) Copy the content of directories DRYSTAR5500\4.2.0C1_floppy_install\diskXX from CD ROM to floppy. 17 floppies are required.
(2) In the Service Menu on the local keypad select '5 Install data - 1 Software'.

(3) Insert floppy 1, this means **skip floppy 0** and follow the further instructions on the display until all floppies are loaded. See also NOTE next page.
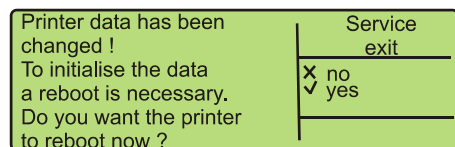
(4) When all floppies are loaded (takes approx. 20 min.), leave service mode as instructed by the printer

```
INSTALL software:              Service 5-1
To initialise the new SW         Install
a reboot is necessary.        ✓ ok
Please confirm reboot at
exit of Service Level.
```
536408aa.cdr

Figure 14

(5) Select the confirm key to reboot the printer
(6) Wait till the printer shows the READY screen: This takes approx. 15 minutes. The printer makes several reboots in between.

```
Printer data has been            Service
changed !                          exit
To initialise the data        ✗ no
a reboot is necessary.        ✓ yes
Do you want the printer
to reboot now ?
```
536408ab.cdr

Figure 15

✓ NOTE:

After each floppy the integrity of the copied data is checked. In case of an irregularity, the display will indicate this fact. In this case proceed as follows:

(1) Make a new version of the corrupt floppy. Use a brand new floppy from good quality. In some cases the floppy will have to be made on another PC floppy drive.

(2) Retry the installation of the specific floppy.

5.5   Emergency Software Upgrade to 4.2.0_C1 via Floppies

⊘ **CAUTION:**
Loss of configuration data possible. In this case printer can only be made operational again if a backup of configuration data is available.

Only select not to preserve the printer configuration in case a backup of the configuration data is available on floppy. First check, that the floppy is readable.

(1) Copy the content of directories DRYSTAR5500\4.2.0C1_floppy_install\diskXX from CD ROM to floppy. 17 floppies are required.

(2) Insert **floppy 0** in the printer floppy drive and switch the printer on.

(3) After approx. 3 minutes the question is displayed 'Are you sure to proceed'? Confirm the question about formatting of the hard disk by pressing the confirm key.

EMERGENCY SOFTWARE INSTALLATION
Are you sure to proceed?
HARRDISK will be formatted.
On keypad: (V) to proceed, (X) to abort
On terminal keyboard: (Y)es or (N)o

536408ah.cdr

Figure 16

(4) In the next screen the question will be asked: 'Do you want to preserve the printers configuration?' Press the confirm key to keep the printer configuration.
Note: The printer configuration will be copied to RAM during formatting of the hard disk.

EMERGENCY SOFTWARE INSTALLATION
Do you want to preserve the printers configuration? If not the installation wizard has to be reexecuted.
On keypad: (V) to preserve, (X) for not
On terminal keyboard: (Y)es or (N)o

536408ai.cdr

Figure 17

(5) Follow the further instructions on the display.

(6) Wait till the printer shows the READY screen.