

Document No: DD+DIS028.06E

DRYSTAR 5300
5365/100

► **Purpose of this document**

This document informs about the complete history of software releases and patches for the printer.

► **Document History**

Edition. Revision	Release Date	Changes
1.13	05-2007	compared to previous Revision 12: <ul style="list-style-type: none">Added information about software 2.1.0_C1. Details see section 8.

► **Referenced Documents**

Document	Title
DD+DIS058.07E	Drystar 5300 Service Bulletin No. 10, Software 2.1.0_C1 available to support new RoHS PCBs

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**WARNING:**

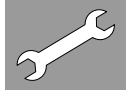
Improper operation or service activities may cause damage or injuries.

**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.

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8 SOFTWARE RELEASE 2.1.0_C118

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1 Software Release 1.81_C1

Type of new Software	1st customer release
Release Date	04/2004
Printers SNs	not registered
Availability	MEDNET, GSO Library* (25 MB size)
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

1.1 Supported features

All features as specified in the FRS (Functional Requirement Specifications), i.e.

- Printing diagnostic data according to the DICOM standard with a resolution of 320dpi.
- Printing on Drystar film material DT2B and DT2C.
- Supporting film sizes 11"x14" and 14"x17" (only one film size can be used at a time).

1.2 Limitations

- The printer start-up time is currently 13 minutes.
- User Interface screens are only available in English language.
- The 'mobile kit' is not yet available.
- Improvements for 'image hue' of both Blue & Clear Base film are preferred.
- At printer start-up it's possible that "Error messages" show up. The situation can be corrected by starting up once again.
- Restore of back-up file is serial number dependent
- Only Microsoft Internet Explorer 5.5 or higher is usable as browser application.

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1.3

Known Problems

- It is possible to do an incorrect installation or restore in case no SW file available on CF-card.
- Domain-name entry (when exceeding >248 chars) causes failing system-boots
- SW installation via browser from local CF-card not supported
- AE-title disappears from display (local keypad) after printing the first sheet of a multi copy job
- No back-up / restore of annotations

2

Software Release 1.82_C1

Type of new Software	SW Update (SW Patch, 4,6 MB)
Release Date	05/2004
Printers SNs	not registered
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

2.1

New Features

- No new features are built in. For a list of features of Software Rel. 1.81 refer to section 1.1

2.2

Solved Bugs

- Solved bug that wrong error messages show up at start-up. Examples: 'E211002 – Motor M2 defect', 'Camdrive defect', 'Current to TH too high', 'MOD02 – Please replace module', 'MOD05 – Please replace module', 'MOD07 – Please replace module'.

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2.3 Known Problems

See list of software release 1.80_C1 in section 1.2 and 1.3.

3 Software Release 1.90_C1

Type of new Software	SW Upgrade (25 MB)
Release Date	11/2004
Printers SNs	≥ 2199 (plus 2180)
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

3.1 New Features

- Support of additional user languages at the local display (user messages and key-operator menu): Currently supported: English (default), Chinese and Japanese. Other languages will follow (upload via keypad).
- Support of APIPA: Automatic Private IP Addressing is a new feature of the Drystar 5300 and an already existing feature of Windows-based operating systems (Windows 98, ME, 2000, and XP) that enables a service PC to automatically assign itself an IP address.

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3.2

Solved Bugs

- The fault "automatic film calibration at insertion of a new film package does not work" is corrected.
- More reliable RF-tag database due to increased CF card access speed and synchronized writing to the CF card.

3.3

Known Problems

- Helpfiles in the "Service Engineer Tools - Connectivity Tools" web pages are not displayed
- The refresh time on Key-Operator and Service Command browser pages (e.g. Change general settings; Print Head Calibration) is only 2.5 minutes as in previous releases. For SW Rel. 1.90 the refresh time was announced to be 5 minutes. Corrections are foreseen in release 2.

4

Software Release 1.92_C1

Type of new Software	SW Update (SW Patch, 2,5 MB)
Release Date	01/2005
Printers SNs	≥ 2393 (plus 2397 and 2403)
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

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4.1

Solved Bugs

- Error "E207010: - 12V out of tolerance on VILIS" in some cases was falsely displayed after replacement of the power supply. This is corrected now, as the tolerance has been redefined and enlarged.
- Due to an error in the "memory buffer allocation calculation" algorithm it sometimes happened that the printer replied to the modality with DICOM Error 0120: missing attribute. The problem appeared at some Konica-Minolta modalities in page mode with pixel sizes 3880 x 3100 and 3880 x 3008. This is corrected now.
- Logos (annotations) and the file portex.properties have been missing in the backup file. Now all logos and the file portex.properties are part of a backup.
- The QC image for 11x14" film size was printed in landscape format instead of portrait. This is corrected now.
- The Helpfiles in the "Service Engineer Tools - Connectivity Tools" web pages were not displayed. The missing files are added now.

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5 Software Release 1.93_C1

Type of new Software	SW Update (SW Patch, 2,6 MB)
Release Date	03/2005
Printers SNs	≥ 2630 (Konica ≥ 00185)
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

5.1 Solved Bug

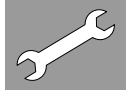
Some printers showed sporadic banding lines in the first half of the image. Fault frequency max. about 5 to 6 prints per film pack.

This fault was only visible in a flatfield and on clinical images with even, bright areas of great extent, like e.g. DSA images. .

Now the movement of the pickup motor to its home position is changed this way, that it cannot influence the filmrun anymore.

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6 Software Release 1.95_C1

Type of new Software	SW Update (SW Patch, 5 MB)
Release Date	01/2006
Printers SNs	Agfa ≥ 3927 (+ 3873, 3892, 3903, 3917, 3880, 3897, 3904, 3919, 3886, 3901, 3913, 3922, 3890, 3902, 3915) Konica ≥ 00380 (+ 00368, 00371, 00378)
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

6.1 New Features

- Language dataset "LNG_5300_R1.93C1" embedded
- Improved patch version control: This checks, that only newer patches can be installed on the printer.

6.2 Solved Bug

- Sporadic error messages "MOD 05, Please replace module" (MOD 05 is the output module) or "New Error E211001, Camdrive defect". The error logging indicated an overcurrent problem in different motors. The error disappeared after a reset of the printer. This error was caused by a wrong hardware signal on the Vilis CPU when the motors are activated.

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7 Software Release 2.0.0_C1

Type of new Software	SW Upgrade (26 MB)
Release Date	01/2006
Printers SNs	≥ 4105 (incl. 4098, 4102)
Availability	MEDNET, GSO Library* Spare Part Kit: CM+343357.0 or ABC Code: ERA3Q
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

7.1 New Features for the Operator

- **Support of additional languages for user messages and key-operator screens:** Chinese simplified*, Czech*, Danish*, Dutch*, English*, Estonian, Finnish*, French*, German*, Greek*, Hungarian, Italian*, Japanese*, Korean*, Latvian, Lithuanian, Norwegian*, Polish*, Portuguese*, Russian*, Slovakian, Slovenian, Spanish*, Swedish*, Turkish.
Note: The languages marked with an "*" were already available in the Language dataset "LNG_5300_R1.93C1".
- **Browser interface for operator:** Menu "Operator Tools" allows viewing of print jobs currently in the print queue.
Username / Password: Operator / Operator.

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- **Backside printing recognition:** The printer checks when the film arrives at the CDM, whether a small rectangle in the center of the film, at the very beginning of the printable area, has Dmax. In case the density is below a certain threshold, the film must be inserted wrong. The printer stops printing, informs the user of back-side printing, to check the correct positioning of the film and to remove the film jam.
- **No film calibration for RF Tag overruled printing:** In case the RF tag is missing, it is possible to configure the printer in the Service Menu for "printing with Dmax = 2.00" or "printing not possible". In case it is configured for "printing with Dmax = 2.00" and the automatic film calibration after n film packs (n = 1 to 99) is switched on, the automatic calibration is disabled for a film pack with missing RF tag.
- **RF tag order-number tracking at auto film-calibration:** The RF tag contains the order-number of the film. When auto film-calibration is enabled and set to n >1 film packs (i.e. between 2 and 99) there will also be calibrated when the order-number changes.
- **Logical printers are shown in key-operator menu now:** In key-operator menu "Show settings - 5 Logical printers" it is displayed, whether more than one logical printer is configured.

7.2

New Features concerning Service

- **Film info area on film adapted:** The amount and format of the displayed microtext data has changed (e.g. TMML info added).
- **Batch tools to adjust network parameters:**
Via commands "setip <IP address>" and "setsubnetmask <subnetmask>" it is possible to adapt the IP address and subnetmask on terminal level. This allows to adapt the IP address of the printer right after switch on.
- **Information in infocounter extended:** The infocounter is extended with info about Startup/Shutdown History (8.0 Startup/Shutdown History). Now each CDM calibration is logged in the infocounter section 3.5 Calibration History.

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- **Infocounter "FilmType Change History" is emptied with SW upgrade:** Because of many wrong entries in the past, the "FilmType Change History" is emptied with SW upgrade
- **Service Engineer Tool "Reset Calibration Data" added to the browser pages:** It is possible now to overwrite the film calibration and CDM calibration files by default values.
- **Maintenance action "Replace film input pickup rollers" removed:** The previous message "M4" with meaning to replace the pickup rollers is removed.
- **Automatic serial number entry after Emergency SW Installation:** In previous SW versions the serial number was lost, in case it was selected not to preserve the configuration data. In this case the serial number only could be get back again by restore of the backup.
- **Software for Regular and Emergency SW Installation can be stored on the same CF card::**
When the printer boots up with the SW CF card, the user will be asked at the local keypad "Install Emergency SW yes / no". After cancelling it is still possible to perform a regular SW upgrade via local keypad.

7.3

New Features concerning Connectivity

- **DICOM conformance level behavior implemented:** Two printer information levels can be defined via host profile:
0 (default) = No warnings are returned. Only 'Failure' status codes are activate. This means, that the printer either returns 'normal' or 'failure' (e.g. if printer is offline or film magazine is empty) to the modality.
1 = Warnings are returned. Refer to DICOM conformance status of the Drystar 5300 and the host system. If the host system does not support 'status level' 1, set this parameter to default (= 0).
- **Number of OEM LUTs extended:** All LUTs named between oem901.txt till oem999.txt which are available in directory C:\oemlut are displayed in the drop down list in the host profile. Before only one "handmade" OEM LUT named oem999.txt could be used.

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- **Host profile Parameter 'LR-Like printing' introduced:** While comparing images processed with the new thermal model and images printed with the LR5200 it showed, that the images of the LR still looked slightly different, despite the sharpness was comparable. Investigations of the linearity of the Laser Imager showed, that the LR5200 does not behave exactly as linear as a Drystar does: To get at Drystars with the new thermal model the same image impression as on the LR5200, an additional LUT has to be applied, to get the same "Non-linearity" as the Laser Imager. This LUT is applied before the specified taste LUT (Kanamori, Kanamori_like etc.) is applied.
Default: off. Possible settings: Off, low, medium. high.
Recommended setting to get the same image impression like on LR: low.
- **Host profile Parameter 'Print even if application type not supported' introduced:** This parameter defines, whether a print job should be printed, even if no Mammo film is available. Default: No. This parameter prevents that a Mammo modality sends images to the printer, which only has CR/DR films loaded.
- **Last received dicom attribute in host profile shown:** In the DICOM hostprofile editor there is a button to view the last received attributes from a configured modality. In previous SW versions it showed the last **used** attributes instead of the last received attributes.
- **Disabled input tray is reported to host modality:** A tray is disabled when there is a electrical defect detected in the tray or when there is no RF tag in the tray. A disabled tray is not set available for print-jobs now.

7.4

Improvements concerning Reliability

- **Improved RF-tag header reading:** Added a new retry mechanism in the RF tag reader. This results in less failures on reading RF tag's
- **Support of ISO RF tags:** The printer is able now to read the tags via I*code2 (ISO15693) compatible protocols.

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7.5

Improvements concerning Image Quality

- **Improved image sharpness due to a new Thermal Model:**

The thermal model is a mathematical description of the interaction Film – TH. The thermal model uses parameters like film thickness, thermal conductivity of the film, TH temperature; environmental temperature, print speed and resolution of the print head.

The new thermal model TMML (Thermal Model Multi Layer; R&D name of the product → marketing published it under 'A # Sharp') describes this interaction more accurate, leading to a very precise reproduction of the image. It does not use new parameters for calculating.

The image looks much sharper now, and has the image quality of a Laser Imager. For more info refer to the HealthCare Newsletter "Innovation at work: A#sharp" available on MEDNET, HealthCare Library.

- **Left/right shift print algorithm introduced:**

At this position, where the TH has to print always Dmax, i.e. at the left and right image border, the TH loses its characteristic relatively fast, which is determined by the Micro profile calibration in production.

As a consequence, the TH produces after many prints with the same film layout (e.g. 20/0) small print stripes at this position, where the black borders around the single image is located (only in print direction).

To prevent, that the TH has to print the black border always at the same position, a left/right shift algorithm is built in.

For each film pack the complete image information is shifted slightly:

- pack 1 has 0 mm shift
- pack 2 has +0.5mm shift
- pack 3 has 0 mm shift
- pack 4 has -0.5mm shift
- pack 5 has 0 mm shift
- and so on

The clear left and right borders are influenced by this shift mechanism but they are within specification.

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7.6 Improvements concerning Printer Handling

- **Job recovery improved:** A print job is recovered in following cases after it has been stored in RAM:
 - unauthorized opening of the tray
 - unauthorized opening of the printer's top cover
 - film jam during printing

Before recovered print jobs were printed in order "Last received - first printed". Now they are printed in order "First received – First printed".

7.7 Limitations

- Internal memory (Compact Flash) \geq 128 Mb required (128 MB = default)
- RAM \geq 512 Mb required (512 MB = default; Optional 1 GB)
- Only one module/spare part replacement per start-up allowed
- Only Microsoft Internet Explorer 5.5 or higher is usable as remote browser application;
- Proxy server settings have to be disabled when using the remote browser application (Tools - internet options - tab "connections" – button "LAN settings")

7.8 Known Problems

- Some eLabels can get corrupt when disconnecting the P1-connector before or during the start-up procedure, HW redesign of power-connector is needed for solving this problem.
- Back-up dataset made by 2.0.0 release are not compatible with 1.9.0 and 1.8.0 release
- Back-up dataset made by 1.9.0 or 1.8.0 release are not compatible with 2.0.0 release

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8 Software Release 2.1.0_C1

Type of new Software	SW Upgrade (57 MB)
Release Date	04/2007
Printers SNs	≥ 5274
Availability	MEDNET, GSO Library*
Prerequisites	None



*Note:

- On MEDNET always the latest free available basic release (and software patch if available) can be downloaded.
- A software patch for a certain basic release always contains all previous software patches for this release.

8.1 New Features

- support of RoHS conform PCBs. See also Service Bulletin No. 10, Drystar 5300, DD+DIS058.07E:

8.2 Improvements

- Latest language dataset has been embedded (2.0.0 AGFA LNG dataset)
- No system failure message anymore on the local display during software upgrade
- Configured language on the local keypad is persistent after reboot

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