



LASER IMAGER

DRYPRO model 751/752

DICOM3.0

Conformance Statement

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KONICA MEDICAL AND GRAPHIC CORPORATION

Revision History

Date	Version	Description
20/02/2002	Ver.1.00(First Release)	
17/04/2002	Ver.1.01	Changed the number of print valid pixels and vertical pixels for 14x11 PORT.
30/05/2003	Ver.1.02	Added patient name and patient ID. Changed the description of request image dimensions. Changed the company name.
18/06/2003	Ver.1.03	Changed the maximum valid size that can be specified of a requested image size

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0 INTRODUCTION

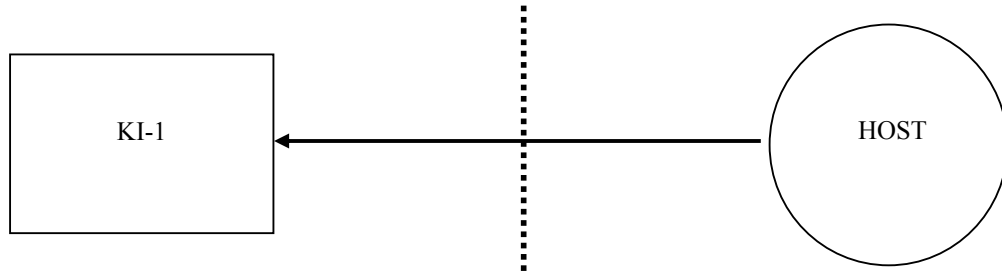
This document describes the compatibility of Konica Dry Imager DRYPRO model 751/752 (Print Management Service Class) with Dicom3.0.

Note: The descriptions in this document may change without prior notice.

1 IMPLEMENTATION MODEL

DRYPRO model 751/752 (SCP) is a laser imager to hardcopy images according to print requests from the Host (SCU).

1.1 Application Data Flow Diagram



1.2 Functional Definitions of AE's

When the SCP receives Verification or Print Management Service from SCU, the SOP class defined by Verification or Print Management Service Class is used.
 As for the operating method of SOP classes, the DIMSE service defined by each SOP class is used.
 DRYPRO model 751/752 (SCP) processes image data and hardcopies images according to the individual attribute values that are designated by the Host (SCU).

1.3 Sequencing of Real World Activities

This model is not applicable with the Sequence of Real-World Activities.

2 AE SPECIFICATION

2.1 DRYPRO MODEL751/752 Specification

DRYPRO model 751/752 receives print request associations and operates as an application entity.
 DRYPRO model 751/752 conforms as an SCP to the following SOP classes.

Table 1 Print Management Meta SOP Class

Meta SOP Class , SOP Class Name	Meta SOP Class , SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9
Presentation LUT SOP Class	1.2.840.10008.5.1.1.23

2.1.1 Association Establishment Policies

Hereinafter, conditions for establishing association will be described.

2.1.1.1 General

DRYPRO MODEL 751/752 utilizes DICOM Upper Layer Services to establish association with SCU.
 An association is made for each Verification and Basic Print Service Request.

2.1.1.2 Number of Associations

The number of associations that DRYPRO model 751/752 can support at the same time is 16.

2.1.1.3 Asynchronous Nature

DRYPRO model 751/752 supports asynchronous N-EVENT messages.
 However, these are transmitted as required.

2.1.1.4 Implementation Identifying Information

The implementation class UID for DRYPRO model 751/752 is "1.2.392.200036.9107.500.402".

The implementation version for DRYPRO model 751/752 is "KC_DPRO1_X.XXXXX".

* X.XXXXX indicates the software version.

e.g. KC_DPRO_1.00R00

2.1.2 Association Initiation Policy

DRYPRO model 751/752 starts associations to publish asynchronous N-EVENT messages.

2.1.3 Association Acceptance Policy

DRYPRO model 751/752 establishes associations from the association establishment request from the Host (SCU).

2.1.3.1 Real World Activities

2.1.3.1.1 Associated Real World Activity

Image data and various parameters are sent to the imager with the command from the Host (SCU) in order to print image data on films.

Request for C-ECHO, Film Session, Film Box, or Image Box can be sent with the command from the Host (SCU).

2.1.3.1.2 Proposed Presentation Contexts

DRYPRO model 751/752 can receive the presentation contexts listed in the following table.

Table 2 Proposed Presentation Contexts

Abstract syntax		
Name	UID	Role
Verification SOP Class	1.2.840.10008.1.1	SCP
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	SCP
Presentation LUT SOP Class	1.2.840.10008.5.1.1.23	SCP

Extended negotiation can be conformed to as required.

The following transmission structure is valid against the individual SOP classes mentioned above.

Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2

2.1.4 SOP Class Compatibility

2.1.4.1 Verification SOP Class

This model is applicable with Verification SOP Class.
 When this model receives a C-ECHO Request, it returns a C-ECHO Response.

2.1.5 Basic Grayscale Print Management Meta SOP Class

This model conforms to the Basic Grayscale Print Management Meta SOP Class.
 The following SOP classes are supported.

Table 3 Supported SOP Class and UID Value

SOP Class	UID
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4
Printer SOP Class	1.2.840.10008.5.1.1.16

2.1.5.1 Basic Film Session SOP Class

Table 4 Film Session

Tag	Name of item	VR	VM	Value
(2000,0010)	Number of Copies	IS	1	1~99
(2000,0020)	Print Priority	CS	1	LOW, HIGH, MED
(2000,0030)	Medium Type	CS	1	CLEAR FILM, BLUE FILM, DR Clear Base, DR Blue Base
(2000,0040)	Film Destination	CS	1	PROCESSOR, BIN1~BIN5
(2000,0060)	Memory Allocation	LO	1	Set the required memory contents. Indicate in KB.
(2010,015E)	Illumination	US	1	
(2010,0160)	Reflected Ambient Light	US	1	

Tags other than those listed above will not be checked.
 Furthermore, this model can conform to non-conforming header data as required.

2.1.5.2 Basic Film Box SOP Class

Table 5 Film Box

Tag	Name of item	VR	VM	Value
(0010,0010)	Patient's Name	PN	1	
(0010,0020)	Patient' ID	LO	1	
(2010,0010)	Image Display Format	ST	1	STANDARD\C,R ROW\R1,R2
(2010,0030)	Annotation Display Format ID	CS	1	P1 : PORTRAIT L1 : LANDSCAPE TM : TIME CC : Copy Count ID : Modality ID MS : Message
(2010,0040)	Film Orientation	CS	1	PORTRAIT LANDSCAPE
(2010,0050)	Film Size ID	CS	1	11INX14IN 14INX14IN 14INX17IN
(2010,0060)	Magnification Type	CS	1	NONE : No interpolation BILINEAR : Bilinear interpolation REPLICATE : Replicate interpolation CUBIC : Cubic B-Spline interpolation
(2010,0080)	Smoothing Type	CS	1	1~7 Only for (2010,0060) = CUBIC
(2010,0100)	Border Density	CS	1	BLACK WHITE
(2010,0120)	Min Density	US	1	0~100
(2010,0130)	Max Density	US	1	100~350
(2010,0140)	Trim	US	1	YES : With trim frame NO : Without trim frame
(2010,0150)	Configuration Information	ST	1	Imager LUT indication is as shown below. KC_LUT=1 ~ KC_LUT=7

Tags other than those listed above will not be checked.

Furthermore, this model can conform to non-conforming header data as required.

2.1.5.3 Basic Grayscale Image Box SOP Class

Table 6 Image Box

Tag	Name of item	VR	VM	Value
(0028,0002)	Samples per Pixel	US	1	
(0028,0004)	Photometric Interpretation	CS	1	MONOCHROME1 : Minimum VO1 pixel = White MONOCHROME2 : Minimum VO1 pixel = Black
(0028,0010)	Rows	US	1	Pixels in imager Y orientation
(0028,0011)	Columns	US	1	Pixels in imager X orientation
(0028,0034)	Pixel Aspect Ratio	IS	2	
(0028,0100)	Bits Allocated	US	1	Bits allocated in pixel. Non-used bits are included. 0008 : 8(8bits) 000A : 16(12bits) Those other than the above result in an error.
(0028,0101)	Bits Stored	US	1	Bits in 1 pixel 0008 : 8bits 000C : 12bits
(0028,0102)	High Bit	US	1	Pixel data MSB(Most Significant Bit). 0007 : (Bits Stored =8) 000B : (Bits Stored =12)
(0028,0103)	Pixel Representation	US	1	Pixel data representation 0000 : Integer with no marks
(2020,0010)	Image Position	US	1	Image position that structures a page.
(2020,0020)	Polarity	CS	1	NORMAL REVERSE
(2020,0030)	Requested Image Size	CS	1	(Note 1)
(7FE0,0010)	Pixel Data	OW/ OB	1	

Tags other than those listed above will not be checked.
Furthermore, this model can conform to non-conforming header data as required.

Note 1: Requested image size

Multi-format is supported only when each image size in one film box is of the same size. When a different requested image size is specified in each image box, the requested image size specified in the image box that was first sent will be applied.

The maximum valid size that can be specified for each film is listed below. When the specified size exceeds the valid range, data will be printed by neglecting the requested image size. In this case, the ratio between the requested image size and the actual print size can be printed on the film. However, the ratio will not be printed if the more than the total number of pixels is specified due to image aspect, etc.

Film Size	Film Orientation	Requested Image Size (mm)	
		Border on	Border off
14x17	Portrait	342	354
	Landscape	418	426
14x14	Portrait	342	354
	Landscape		350
11x14	Portrait	267	275
	Landscape	342	354

2.1.5.4 Printer SOP Class

Table 7 Printer

Tag	Name of item	VR	VM	Value
(0008,0070)	Manufacture	LO	1	KONICA
(0008,1090)	Manufacture's Model Name	LO	1	DRYPRO
(0018,1000)	Device Serial Number	LO	1	Serial Number of the DRYPRO
(0018,1020)	Hardcopy Device Software Version	LO	1	Software Version of the DRYPRO
(2110,0010)	Printer Status	CS	1	NORMAL WARNING FAILURE
(2110,0020)	Printer Status Info	CS	1	See Appendix C
(2110,0030)	Printer Name	LO	1	DRYPRO

2.1.6 Presentation LUT SOP Class

Table 8 Presentation LUT

Tag	Name of item	VR	VM	Value
(2050,0010)	Presentation LUT Sequence	SQ	1	
(0028,3002)	LUT Descriptor	US\US	3	
(0028,3003)	LUT Explanation	LO	1	
(0028,3006)	LUT Data	US or SS	1-n	
(2050,0020)	Presentation LUT Shape	CS	1	IDENTITY/LIN OD

3 COMMUNICATION PROFILES**3.1 Supported Communication Stacks**

It provides the TCP/IP network communication support defined by the DICOM3.0 PART8.

3.2 TCP/IP Stack

The TCP/IP stack is succeeded from the Windows2000 system environment.

3.2.1 Physical Media Support

This model supports the following physical media by standard.
- 10 BaseT, 100BaseTX

4 EXTENSIONS/SPECIALIZATIONS/PRIVATIZATIONS

The following attributes are supported in the Basic Film Box SOP Class.

- None

The following attributes are reserved in the Basic Film Box SOP Class.

- (2011,0010)
- (2011,1011)
- (2011,1021)
- (2011,1030)
- (2011,1031)
- (2011,1040)
- (2011,1050)
- (2011,1060)
- (2011,1070)
- (2011,1080)
- (2011,1090)

The following attributes are reserved in the Printer SOP Class.

- (2011,0010)
- (2011,10A0)
- (2011,10A1)
- (2011,10B0)
- (2011,10B1)
- (2011,10B2)
- (2011,10C0)
- (2011,10C1)
- (2011,10D0)
- (2011,10D1)
- (2011,10E0)
- (2011,10F0)

5 CONFIGURATION

The following attributes are supported in the Basic Film Box SOP Class.

5.1 AE Title/Presentation Address Mapping

The following are used as environment constituting information.

- Host AE name

DRYPRO model 751/752 AE name (Default: KC_DPRO1_P001)

- Host IP address

- Host TCP port number 600-9999 (for receiving)

- Host TCP port number 600-9999 (for N-EVENT)

6 SUPPORT OF EXTENDED CHARACTER SETS

For elements in which the VR is SH (short column), LO (long column), ST (short text), LT (long text), or PN (person's name), extended characters can be used by specifying an extended character repertoire in the attribute specific character group (0008,0005) for SC image IOD. The extended character repertoire uses ISO 2022 IR87 or ISO 2022 IR13\ISO 2022 IR87.

Appendix.A (Characteristic state code)

A.1 Basic Film Session SOP Class

A.1.1 N-CREATE

SCU can use N-CREAE to request SCP to create Basic Film Session SOP Instance.

N-CREATE Success	DRYPRO model 751/752 (SCP) produces a Basic Film Box SOP instance and initializes its attribute.
N-CREATE Failure	DRYPRO model 751/752 (SCP) has not yet produced a Basic Film Box SOP instance.
N-CREATE Warning	DRYPRO model 751/752 (SCP) was not able to produce a Basic Film Box SOP instance in the specified method.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

0000H (Success)	
0116H (Warning)	Default Value was used.
B605H (Failure)	Density Value that cannot be supported was specified.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

<Unique status codes>

No unique status code exists.

A.1.2 N-SET

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

0000H (Success)	
0116H (Warning)	Default Value was used.
B605H (Failure)	Density Value that cannot be supported was specified.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

<Unique status codes>

No unique status code exists.

A.1.3 N-ACTION

SCU can use N-ACTION to request SCP to print one copy or more from the film box that is attributed to a Film Session.

N-ACTION Success	DRYPRO model 751/752 (SCP) received a film attributed to a Film Session to print.
N-ACTION Failure	DRYPRO model 751/752 (SCP) did not print a Film Session.
N-ACTION Warning	DRYPRO model 751/752 (SCP) did not print a Film Session in the specified method.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

No common status codes in the Print Management Service Class exists.
--

<Unique status codes>

0000H (Success)	A film attributed in a Film Session was received for printing.
0105H (Warning)	Operation was invalid.
0112 (Failure)	Specified Film Session did not exist.
B605H (Failure)	Print Queue was full.
C603H (Failure)	Image Size was larger than Image Box Size.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

A.1.4 N-DELETE

SCU can use N-DELETE to request SCP to delete the entire Basic Film Session SOP Instance hierarchical structure.

N-DELETE Success	DRYPRO model 751/752 (SCP) deleted the specified hierarchical structure of SOP Instance.
N-DELETE Failure	DRYPRO model 751/752 (SCP) did not delete the specified hierarchical structure of SOP Instance.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

No common status codes in the Print Management Service Class exists.
--

<Unique status codes>

No unique status code exists.

A.2 Basic Film Box SOP Class

A.2.1 N-CREATE

SCU can use N-CREAE to request SCP to create Basic Film Box SOP Instance.

N-CREATE Success	DRYPRO model 751/752 (SCP) produces a Basic Film Box SOP instance and initializes its attribute.
N-CREATE Failure	DRYPRO model 751/752 (SCP) has not yet produced a Basic Film Box SOP instance.
N-CREATE Warning	DRYPRO model 751/752 (SCP) produced a Basic Film Box SOP instance in the specified method using the initial value.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

0000H (Success)	
0116H (Warning)	Default Value was used.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

<Unique status codes>

No unique status code exists.

A.2.2 N-SET

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

0000H (Success)	
0116H (Warning)	Default Value was used.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

<Unique status codes>

No unique status code exists.

A.2.3 N-ACTION

SCU can use N-ACTION to request SCP to print one copy or more of one film in a Film Session.

N-ACTION Success	DRYPRO model 751/752 (SCP) received a film attributed to a Film Session to print.
N-ACTION Warning	DRYPRO model 751/752 (SCP) cannot print a Film Session in the specified method.
N-ACTION Failure	DRYPRO model 751/752 (SCP) did not print a Film Session.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

No common status codes in the Print Management Service Class exists.
--

<Unique status codes>

0000H (Success)	
0116H (Warning)	Default Value was used.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

A.2.4 N-DELETE

SCU can use N-DELETE to request SCP to delete the Basic Film Session SOP Instance hierarchical structure.

N-DELETE Success	DRYPRO model 751/752 (SCP) deleted the specified hierarchical structure of SOP Instance.
N-DELETE Failure	DRYPRO model 751/752 (SCP) did not delete the specified hierarchical structure of SOP Instance.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

No common status codes in the Print Management Service Class exists.
--

<Unique status codes>

No unique status code exists.

A.3 Basic Film Session SOP Class

A.3.1 N-SET

SCU can use N-SET to request SCP to update a Basic Grayscale Image Box SOP Instance. SCU specifies just the Basic Grayscale Image Box SOP Instance UID that is attributed in the Film Box SOP Instance that was last produced and specifies the attribute list which is set with an attribute value.

N-SET Success	DRYPRO model 751/752 (SCP) updated an attribute specified in the SOP Instance.
N-SET Failure	DRYPRO model 751/752 (SCP) did not update an attribute specified in the SOP Instance.
N-SET Warning	DRYPRO model 751/752 (SCP) was not able to operate in the specified method.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

0000H (Success)	
0116H (Warning)	Default Value was used.
0120H (Failure)	No Value was specified.
0160H (Failure)	Specified Value was not supported.

* DRYPRO MODEL 751/752 sends A-ABORT in case of that an internal error or unknown error happened.

<Unique status codes>

No unique status code exists.

A.4 Printer SOP Class

A.4.1 N-GET

SCU can use N-GET to request SCP to get SOP Instance.

N-GET Success	DRYPRO model 751/752 (SCP) searched the SOP Instance.
N-GET Failure	DRYPRO model 751/752 (SCP) did not search the SOP Instance.

DRYPRO model 751/752 (SCP) returns one of the following status codes to the Host (SCU).

<Common status codes in the Print Management Service Class>

0000H (Success)	U/M	:	Printer status, printer status data
	U/U	:	Manufacturer, model name, installation serial number, software version printer name

<Unique status codes>

No unique status code exists.

Appendix.B (Imager Format)

For PROTRAIT/LANDSCAPE

FOTMAT	11X14	14X14	14X17
STANDARD\1,1	0	0	0
STANDARD\1,2	0	0	0
STANDARD\2,1	0	0	0
STANDARD\1,3	0	0	0
STANDARD\3,1	0	0	0
STANDARD\2,2	0	0	0
STANDARD\2,3	0	0	0
STANDARD\3,2	0	0	0
STANDARD\2,4	0	0	0
STANDARD\4,2	0	0	0
STANDARD\3,3	0	0	0
STANDARD\3,4	0	0	0
STANDARD\4,3	0	0	0
STANDARD\3,5	0	0	0
STANDARD\5,3	0	0	0
STANDARD\4,4	0	0	0
STANDARD\3,6	0	0	0
STANDARD\6,3	0	0	0
STANDARD\4,5	0	0	0
STANDARD\5,4	0	0	0
STANDARD\4,6	0	0	0
STANDARD\6,4	0	0	0
STANDARD\5,5	0	0	0
STANDARD\4,7	0	0	0
STANDARD\7,4	0	0	0
STANDARD\5,6	0	0	0
STANDARD\6,5	0	0	0
STANDARD\4,8	0	0	0
STANDARD\8,4	0	0	0
STANDARD\5,7	0	0	0
STANDARD\7,5	0	0	0
STANDARD\6,6	0	0	0
STANDARD\5,8	0	0	0
STANDARD\8,5	0	0	0
STANDARD\6,7	0	0	0
STANDARD\7,6	0	0	0
STANDARD\6,8	0	0	0
STANDARD\8,6	0	0	0
STANDARD\7,7	0	0	0
STANDARD\6,9	0	0	0
STANDARD\9,6	0	0	0
STANDARD\7,8	0	0	0
STANDARD\8,7	0	0	0
STANDARD\6,10	0	0	0
STANDARD\10,6	0	0	0
STANDARD\7,9	0	0	0
STANDARD\9,7	0	0	0
STANDARD\8,8	0	0	0

* The above formats are supported regardless of the film size and P/L.

For MIX

FOTMAT	11X14	14X14	14X17
ROW3,2	0	0	0
ROW2,3	0	0	0
ROW3,3,2	0	0	0
ROW2,3,3	0	0	0
ROW4,4,2	0	0	0
ROW2,4,4	0	0	0
ROW3,3,3,2	0	0	0
ROW2,3,3,3	0	0	0
ROW3,1,	0	0	0
ROW1,3	0	0	0
ROW2,2,1	0	0	0
ROW1,2,2	0	0	0
ROW3,3,1	0	0	0
ROW1,3,3	0	0	0
ROW3,3,3,1	0	0	0
ROW1,3,3,3	0	0	0

Appendix.C (Status Information)

Other restriction on the image data

- Different image size should not be in a film format.
- Printable Pixel Matrix (PP)

Film Size	Film Orientation	Columns	Row
14 X 17	Portrait	8550	10225
	Landscape	10450	8325
14 X 14	Portrait	8550	8325
	Landscape		
11 X 14	Portrait	6675	8325
	Landscape	8550	6450

- Maximum Input image size for each film size, orientation and format can be calculated by following formula.

Maximum Input size in Column: $(PP - 300 - 50(Nh - 1)) / Nh$

Maximum Input size in Row: $(PP - 525 - 50(Nv - 1)) / Nv$

PP = Printable Pixel Matrix, Nh = Number of frames in Column, Nv = Number of frames in Row

ex.: In the case of Film Size 14 x 17, 3 x 4 frames (12 on one format) and Portrait;

Maximum Input size in Column: $(8550 - 300 - 50(3 - 1)) / 3 = 2716$

Maximum Input size in Row: $(10225 - 525 - 50(4 - 1)) / 4 = 2387$

- Specified Input Image Size for 1 on 1 format in fixed pixel pitch (80µm).

Film Size	Film Orientation	Columns	Row
14 X 17	Portrait	4272	5112
	Landscape	5224	4162
14 X 14	Portrait	4272	4162
	Landscape		
11 X 14	Portrait	3336	4162
	Landscape	4272	3224

NO	Value	Description
1	COVER OPEN	Tray or Door in Printer or Cover in Processor has been opened.
2	ELEC DOWN	Printer is down due to the electrical hardware trouble.
3	ELEC SW ERROR	Printer is down by the software error.
4	EMPTY 11 × 14	11 × 14 Film EMPTY
5	EMPTY 11 × 14 CLR	11 × 14 Clear Film EMPTY
6	EMPTY 11 × 14 BLUE	11 × 14 Blue Film EMPTY
7	EMPTY 11 × 14DR C	11 × 14 DR Clear Film EMPTY
8	EMPTY 11 × 14DR B	11 × 14 DR Blue Film EMPTY
9	EMPTY 14 × 14	14 × 14 Film EMPTY
10	EMPTY 14 × 14 CLR	14 × 14 Clear Film EMPTY
11	EMPTY 14 × 14 BLUE	14 × 14 Blue Film EMPTY
12	EMPTY 14 × 14DR C	14 × 14 DR Clear Film EMPTY
13	EMPTY 14 × 14DR B	14 × 14 DR Blue Film EMPTY
14	EMPTY 14 × 17	14 × 17 Film EMPTY
15	EMPTY 14 × 17 CLR	14 × 17 Clear Film EMPTY
16	EMPTY 14 × 17 BLUE	14 × 17 Blue Film EMPTY
17	EMPTY 14 × 17DR C	14 × 17 DR Clear Film EMPTY
18	EMPTY 14 × 17DR B	14 × 17 DR Blue Film EMPTY
19	EXPOSURE FAILURE	Unknown problem in the Optical unit
20	FILM TRANSP ERR	Error in film transportation
21	CHECK PRINTER	Printer is not ready.
22	PRINTER INIT	The printer is not prepared due to normal warm-up status, etc.
23	UNKNOWN	Unknown trouble

* Shaded items are extended error code.

Konica

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