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**Author:** Karl Kristensen

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**Title:**

RC8000 PCP Line printer process  
Reference Manual

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RC8000 PCP lineprinter process

Reference Manual

## 1.0 Introduction.

This manual describes the conventions of an external process controlling a PCP (Printer Control Protocol) printer.

The PCP printer is connected to RC8000 via a local area network (LAN) supported by IMC (inter module communication).

RC8000 is connected to LAN by an Attached Device Processor (ADP), and here the mapping between RC8000 operation and network operation takes place.

The network operations are handled by IMC.

The PCP printer is represented in RC8000 as an external process.

## 1.1 Changed.

- a reserve printer and release printer operation has been introduced.
- the output mode = 4 has been skipped.
- new status bits have been introduced.

## 2.0 General rules.

Operations can be initiated by an internal process that has initialized or reserved the process.

The external process is able to handle the following operations: sense, output, reserve printer and release printer message.

The operations are delivered to the external process with 'send message' and the possible results from the corresponding 'wait answer' are:

### 3.2 Reserve printer operation.

| Reserve printer message: | answer:     |
|--------------------------|-------------|
| 8<12                     | status word |
| 0                        | 0           |
| 0                        | 0           |
| timeout                  | 0           |
| name                     | 0           |
| .                        | 0           |
| .                        | 0           |
| .                        | 0           |

The operation is only allowed if the calling process has reserved the external printer process, then the selected printer is made ready for the calling process, if it is not in use.

If the printer is used from another host the operation is returned at once with the status already exist else the operation is outstanding until

- the reservation is completed
- or the time elapsed since the call is equal to timeout.

Name is the remote name (in the network) of the printer.

### 3.3 Release printer operation.

| release printer message: | answer:     |
|--------------------------|-------------|
| 10<12+0                  | status word |

The operation releases the connection, and makes it possible for other users to use the printer after a release process call.

Mode = 2.

In a message with mode=2 the answer will be returned at once before the block is printed. In case of a status error the next message will be returned with the information in the statusword. A nonzero statusword thus means that printing of the previous operation was not successfull, and the number of characters in the answer is not correct if a status is reported later. This mode is intended for use by systems with the ability to repeat a number of pages in case of statuserror.

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**Keywords:**

RC8000, Printer, External process  
Local Area Network, ADP.

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**Abstract:**

Reference Manual for RC8000 printer process.

The manual describes the user interface and the associate functions. It covers the specific aspects of using the RC8000 printer process.

Process for Local Area Network communication, and is meant to be used by RC8000 users.

(12 printed pages)

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RC8000 PCP lineprinter process

Reference Manual

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The external process is able to handle the following operations: sense, output, reserve printer and release printer message.

The operations are delivered to the external process with 'send message' and the possible results from the corresponding 'wait answer' are:

result = 1: Message accepted, answer contains further status information.

result = 2: Violation of user/reserver requierment.

result = 3: Unintelligible message: illegal operation, mode, or in case of output operation the specified core area outside calling process or first address > last address.

Result = 4: Malfunction, ADP controller troubles.

Result = 5: Receiver unknown, the specified external process does not exist.

### 2.1 Character conversion.

NL is printed as NL followed by CR

### 3.1 Sense operation.

Sense message:

answer:

0

status word

The device is sensed and the status word delivered in the answer.

### 3.2 Reserve printer operation.

|                          |             |
|--------------------------|-------------|
| Reserve printer message: | answer:     |
| 8<12                     | status word |
| 0                        | 0           |
| 0                        | 0           |
| timeout                  | 0           |
| name                     | 0           |
| .                        | 0           |
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The operation is only allowed if the calling process has reserved the external printer process, then the selected printer is made ready for the calling process, if it is not in use.

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### 3.3 Release printer operation.

|                          |             |
|--------------------------|-------------|
| release printer message: | answer:     |
| 10<12+0                  | status word |

The operation releases the connection, and makes it possible for other users to use the printer after a release process call.

### 3.4 Output operation.

|                       |                      |
|-----------------------|----------------------|
| output message:       | answer:              |
| 5<12 + mode           | status word          |
| first storage address | number of halfwords  |
| last storage address  | number of characters |

A textstring consisting of one or more lines is output from the storage area within the sending process pointed out by the message. Characters must be stored with three characters per word.

Output is terminated and answer returned to the sending process in the following cases:

- when all characters in the storage area is output.
- when a fault occurs on the device.
- when the device is set offline.
- when the event paper out occurs.

whichever occurs first.

If the device is deselected it has no effect other than delaying output until the device is selected again, unless the time in deselect state exceed 2 minutes. In that case timer status will be returned.

Output can be performed in two modes: 0, 2.

#### Mode = 0:

The storage area will be printed as one block and the message is returned either when the block has been printed or if an error occoured during the printing. In the latter case the cause of termination is described in the statusword. In the answer the number of halfwords and the number of charecters transfered by the message are shown.

Mode = 2.

In a message with mode=2 the answer will be returned at once before the block is printed. In case of a status error the next message will be returned with the information in the statusword. A nonzero statusword thus means that printing of the previous operation was not successful, and the number of characters in the answer is not correct if a status is reported later. This mode is intended for use by systems with the ability to repeat a number of pages in case of statuserror.

4.0 Summary of messages and answers.

|                 | message                                                    | answer:                                                   |
|-----------------|------------------------------------------------------------|-----------------------------------------------------------|
| sense:          | 0                                                          | 0                                                         |
| output message: | 5<12+mode<br>first storage address<br>last storage address | statusword<br>number of halfwords<br>number of characters |
| reserve printer | 8<12<br>0<br>0<br>timeout<br>name<br>.<br>.<br>.           | status<br>0<br>0<br>0<br>0<br>0<br>0<br>0                 |
| release printer | 10<12<br>0                                                 | status<br>0                                               |

Status bits.

The following bits can be returned in the statusword

0 intervention (printer fault or offline)

2 timer

5 end of paper

11-13 if bit 13<>0 an attempt to connect the printer or an output operation or a reserve printer operation has failed

and bit 11-12 hold the result:

0 the connection already exist  
1 the connection does not exist  
2 name error.

15 stopped.

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