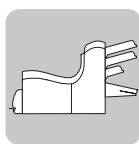
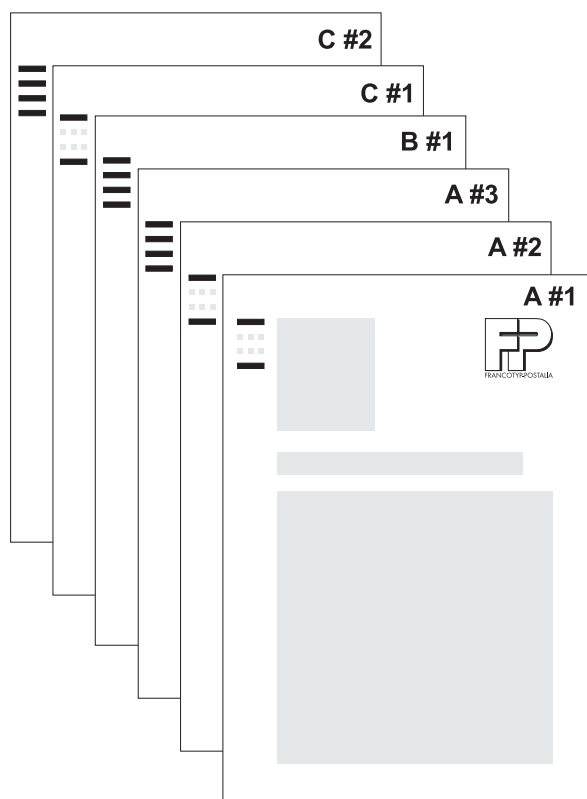


# OMR Programmer's Guide



**FPi 2000 Inserting Machine**  
Issue September 2004

### Machine data

Machine type                      FPi 2025

Serial number                     

OMR code                              OMR-2

FP code level (OMR-2)              Low Level

### Customer service settings for OMR-2

Commands	Command	Active
	Start	<input type="checkbox"/>
	Inserting	<input type="checkbox"/>
	Parity	<input type="checkbox"/>
	Safety	<input type="checkbox"/>

Code length                       characters

Line spacing                       mm               inch               pt




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## 1 Preface

The present guide describes the rules for programming OMR marks in order to process documents in FPi 2000 Inserting machines.

You will not always have access to all commands described here in your machine. For further information please refer to chapter 4 "Basic read code structure".

### What is OMR?

OMR - Optical Mark Recognition

is an additional function for document processing in accordance with barcodes printed directly on the documents. In the FPi 2000 display this function is referred to as OMR.

FPi 2025 machines from our FPi 2000 Inserting machines series can optionally be fitted with this function.

### Target group

This guide is aimed at programmers who are responsible for preparing documents for OMR processing on FPi 2000 Inserting machines.

### Operator Manual

If you need further information on the use of the inserting machine, please refer to the appropriate operator manual.

This manual describes all actions by the operator for job programming, loading the machine and processing with and without the OMR function.



Warning! Risk of injury! Please refer to the safety instructions in the operator manual if you are performing tests on the machine.

### Further documents and assistance

Test material is available from Francotyp-Postalia. This enables you to check the machine's optical reading features.

Check cards enable quick checking of the read codes.

The Service Manual describes the settings that the Service technician must undertake.

### Terms

At the end of this guide there is a "Small OMR Lexicon" which explains some important technical terms.

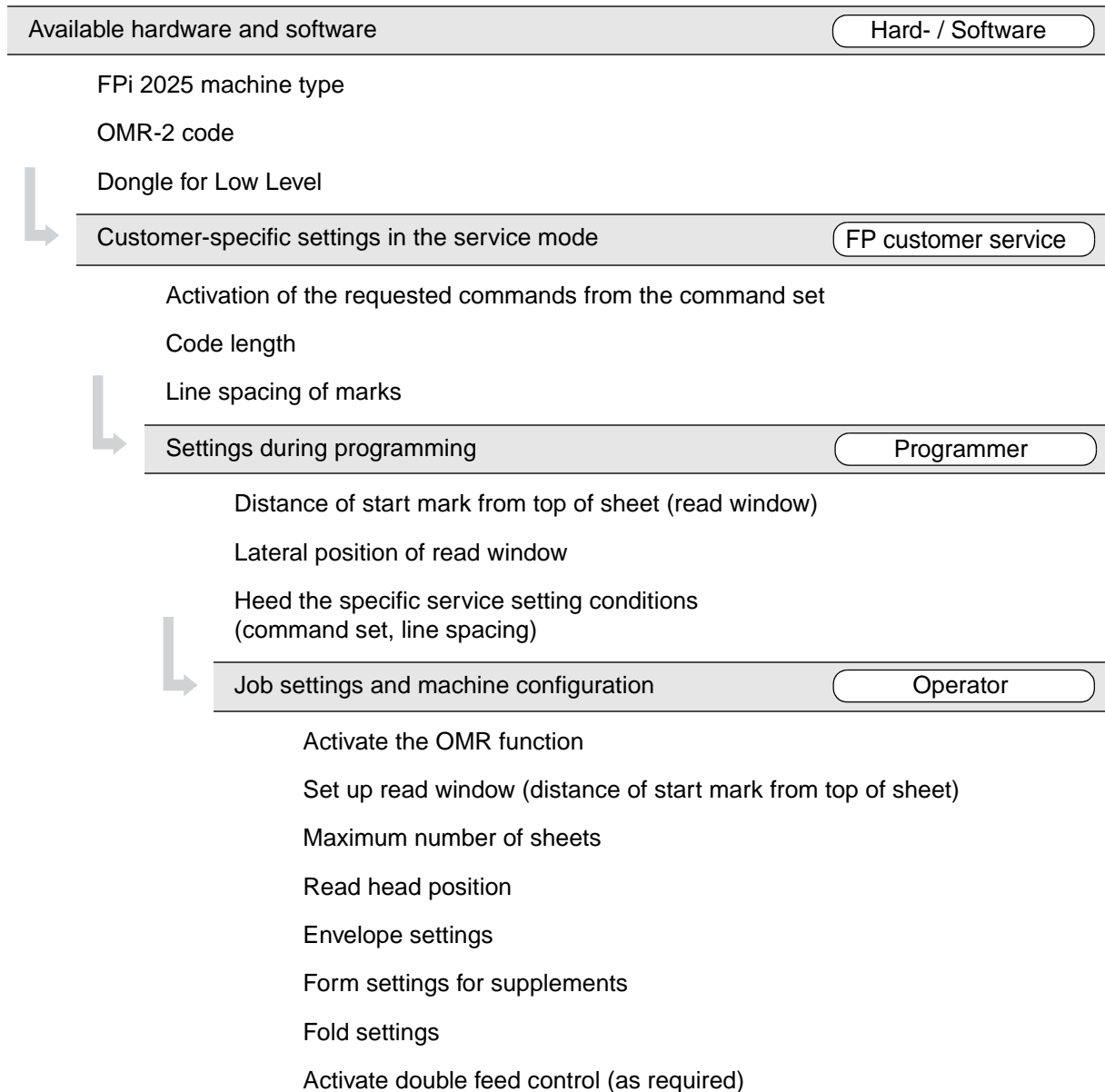
## 2 Useful information for processing with the machine

### Rules for processing with OMR-2

Read code on documents	<p>The read code must be printed in the same position on all documents that are to be processed together in a job.</p> <p>The code must be always of the same length, i.e. the same number of marks including spacers for marks which are not present. The code length is set for the machine by the FP customer service.</p> <p>The first sheet of a set is always the address carrier. It bears the address that is to appear in the address window of the envelope.</p> <p>If the code includes marks for parity checking, these checks will be performed on every sheet of the set.</p> <p>The last sheet will carry marks for further processing (folding and/or inserting). If the set comprises only a single sheet, this is taken to be the "last" sheet.</p>
Supplements	<p>Supplements <u>do not</u> carry read codes.</p> <p>Supplements can be fed into every set by means of appropriate job settings.</p>
Collating and further processing	<p>The machine first passes the set (document and any supplements) as a complete entity into the collating area.</p> <p>The mark for further processing identifies the set as being complete; the set is transferred to the folding/inserting unit.</p>

## Configuration levels

Configuration of an FPi 2000 for processing documents with the OMR function occurs at four levels:



**i** You can note your special configuration settings on the second jacket page.

## Job settings

Documents	<p>Documents with OMR marks can be only fed via feeder 3 (top feeder). Heed the correct sequence when loading the machine. The feeder should always hold complete sets.</p> <p>The following read parameters are stored in the job:</p> <ul style="list-style-type: none"><li>– Activation of the read codes for documents (OMR on/off)</li><li>– Start mark position (margin from top edge of sheet)</li><li>– Maximum number of sheets per set.</li></ul>
Supplements	<p>During job programming it is determined from which of the available feeders any supplements will be appended. The selected supplements are appended to each set.</p>

## Machine configuration

	<p>Before starting to program the OMR code marks, you should have available the following information regarding the machine configuration (see also the second jacket page of this guide).</p>
OMR code	<p>Francotyp-Postalia FPi 2000 Inserting machines are supplied with OMR-2 code (FE8 one track code) as standard.</p>
Level dongle	<p>Releasing the OMR-2 code occurs with a level dongle. The low level is available for the FPi 2000.</p>
Command set	<p>The required commands require activation by a Service technician in service mode. The number of commands actually used can be less than the number of commands available.</p> <p>For further information please refer to chapter 5 "Description of the FPi 2000 OMR code".</p>

### 3 Specification: Documents, number and processing of sheets

This section describes typical further processing options recommended by Francotyp-Postalia for the FPi 2000 Inserting machines with OMR functionality.

The following specifications are proven:

Letter fold/  
double parallel fold



For insertion of DIN A4 formats into C6 long envelopes, use double folding as letter fold.

Single fold



For insertion of DIN A4 formats into C5 envelopes, use the single fold type.

Inserting only  
(envelope sized)



Unfolded envelope sized material: All sheets of the set can be inserted into the intended envelopes without folding.



The minimum length of documents with OMR marks is 115 mm. Supplements to be fed from feeders 1 and 2 must have a minimum length of 90 mm.

Further variants (e.g. Z folding) are technically practicable. Please contact us if you have special requirements.

#### Maximum number of sheets per set

The maximum number of sheets that can be processed in a set is determined by various aspects (fold capacity, collating area capacity, postal tariff bands, reliability aspects).

Maximum number of sheets

5 (subject to technical restrictions)

The specification relates to 80 g/m<sup>2</sup> paper.

The number refers to the entire set, including supplements.

Job settings

This "Max. sheets" parameter is held in the "OMR 2" menu. If the values are exceeded, the machine will interrupt processing. The operator must remove the defective set and re-start the machine.

Caution! The "Max. sheets" value only comprises the document sheets without supplements. To add supplements, you must reduce this value in order to avoid exceeding the maximum number of 5 sheets.

## 4 Basic read code structure



This section describes the basic structure of the read code in the sequence the commands are read by the read head.

### OMR-2 code command set (low level)








The following table gives a summary of the overall set of commands / functions.

Command	Function
Start	Read code start
Inserting	Quit collating    Folding/inserting
Parity check	Completeness check of marks
Safety check	Read direction check

The scope of available commands/functions depends on which commands were activated in the service mode.

### Explanation of graphical symbols

This guide uses the following symbols:

-  – Paper running direction
-  – Print code marks
-  – No code mark  
(Spacer where no mark is printed)
-  – Code marking in example not relevant
-  – Command not activated in service mode
-  – Line grid for printing code marks  
with track of the read head
-  – Inserting

## Description of the minimum code (basic commands)

The minimum code comprises two commands: START and INSERT.

The FP service technician can set the minimum code by deactivating additional commands on any machine, using service mode.

### Start

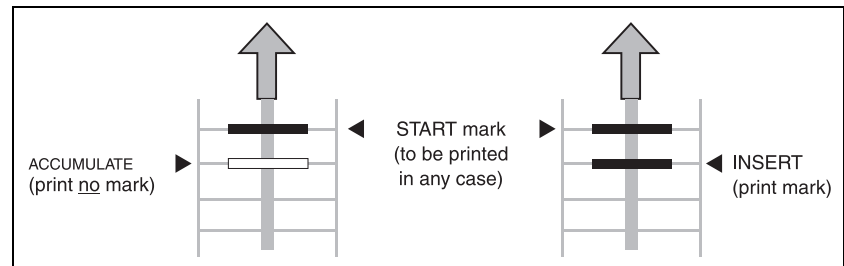
The "Start" command begins the read activity. This mark must be printed on every sheet. The distance of this mark from the top edge of the sheet must be set in the job settings of the machine.

### Inserting

If there is no mark printed in this line of code, the sheet in question will be collated. If the mark is set, the sheets collated so far will be folded / inserted, including any supplements.

Note: The INSERT command also marks the end of the document in the paper stack.

- START (always print mark in the first code line)
- ACCUMULATE (do not print mark in the second code line)
- INSERT (print mark in the second code line)



The minimum code

Additional OMR-2 code marks



All code marks that are printed in addition to the minimum code are here referred to as "Additional marks". They are part of the read code.

Additional marks control the read code completeness and monitor reading as such. They are available as activated by the FP customer service in the service mode.



**Caution!**

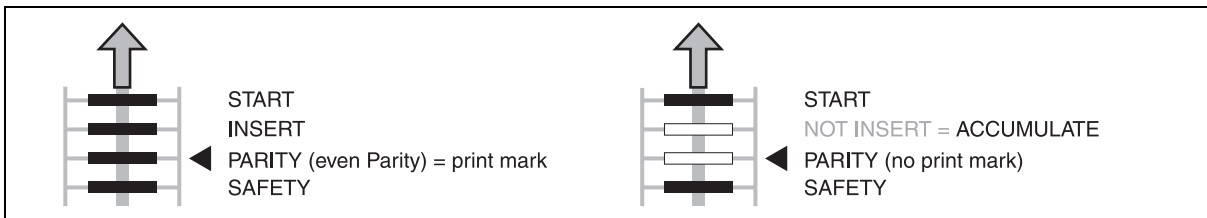
If the customer requests the Service technician not to activate additional commands on the machine, then the respective additional marks are deactivated. The other marks in the read code are displaced upwards, i.e. the code length is reduced.

Parity check

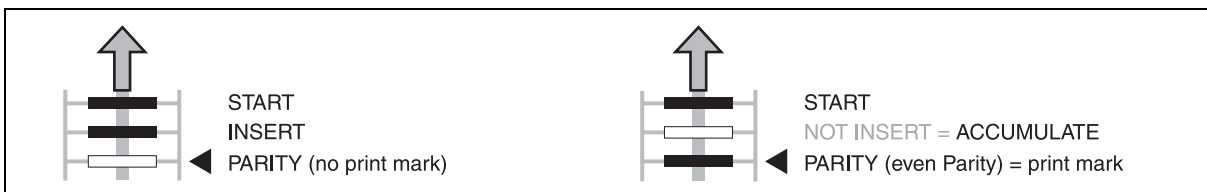
The parity check allows the read code to be checked:

Under the OMR-2 code used here, the number of marks on each sheet must be even.

The parity mark must therefore always be printed when the number of other marks is odd, in which case the parity mark will round up the number of marks to "even".



Additional mark for checking that the PARITY is "even"  
 Complete command set



Additional mark for checking that the PARITY is "even"  
 Safety check not activated







































