



Transfer of Production Details to the Host

Order Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	<i>Record Type: Job Data</i>	N	1	0	0 Shift End 1 End Run
2	<i>Machine</i>	A	6	1	
3	<i>Shift Date</i>	B/N	8	7	(DDMMYYYY)
4	<i>Shift Code</i>	A	1	15	
5	<i>Crew Code</i>	A	1	16	
6	<i>Order Number</i>	A	15	17	
7	<i>Sequence Number</i>	N	1	32	
8	<i>Time of Start</i>	N	4	33	(HHMM)
9	<i>Date of Start</i>	N	8	37	(DDMMYYYY)
10	<i>Time of Start Run</i>	B/N	4	45	(HHMM)
11	<i>Date of Start Run</i>	B/N	8	49	(DDMMYYYY)
12	<i>Time of End</i>	N	4	57	(HHMM)
13	<i>Date of End</i>	N	8	61	(DDMMYYYY)
14	<i>Number of End Products from one Pass on the Corrugator</i>	B/N	2	69	Die cut in conversion
15	<i>Number of End Products in one Pass on this Machine</i>	B/N	2	71	Die cut on this and after this machine
16	<i>Number out on this Machine</i>	B/N	2	73	
17	<i>Expected Sheets</i>	B/N	6	75	Unit finished goods
18	<i>Sheets Out (Good)</i>	B/N	6	81	Fin. goods this shift
19	<i>Number of Pallets</i>	B/N	5	87	No. pallets this shift
20	<i>Sheets per Pallet</i>	B/N	6	92	constant or not at all
21	<i>Piece last Pallet</i>	B/N	6	98	only if end run
22	<i>Waste (Cause 1) or total Waste</i>	B/N	6	104	Fin. Goods this shift
23-41	<i>Waste (Cause 2-20)</i>	B/N	19x6	110	Fin. Goods this shift
42	<i>Weight of One Sheet Gross (In)</i>	B/N	6	224	Gram, from quality definition, die cut not respected
43	<i>Weight of One Sheet Net (Out)</i>	B/N	6	230	Gram, from quality definition, die cut not respected
44	<i>Remarks</i>	A	4x25	236	
45	<i>Delivery Date</i>	N	8	336	
46	<i>Quality Code</i>	A	12	344	
47	<i>Flute</i>	A	3	356	
48	<i>Customer Name</i>	A	24	359	
49	<i>Width</i>	N	4	383	Theoretical format
50	<i>Length</i>	N	4	387	Theoretical format
51	<i>Box Style</i>	A	20	391	
52	<i>Glue Style</i>	A	20	411	
53	<i>Personalized Data</i>	A	200	431	300 char. in Personalized Layout
54	<i>Event ID</i>	N	12	631	Unique identifier



Transfer of Production Details to the Host: Order Data (2)

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
55	Net Area one Sheet (in)	N	8	643	In mm ² (if available)
56	Net Area one Sheet (out)	N	8	651	In mm ² (if available)
57	Total Waste (Counter minus Good Production)	N	6	659	

Additional Order Data (Extended Layout Only)

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
58	Expected Speed	B/N	6	665	from parameters
59	Expected Setup Time	B/N	3	671	from parameters
60	Is Die Cut on this Machine flag	A	1	674	blank or X
61	Is Printing on this machine flag	A	1	675	blank or X
62	Is first run flag	A	1	676	blank or X
63	Quality Weight	B/N	4	677	grammage
64	Split Order Information: "Mother" Job	A	1	681	blank or a,b,c,...
65	Split Order Information: Parent Sequence	B/N	1	682	blank = split on corrugator, 0 = split on first machine, ...
66	Waste before Machine	B/N	6	683	
67	Waste during Setup	B/N	6	689	
68	Number of Persons during Setup	B/N	2	695	
69	Number of Persons during Run	B/N	2	697	
70	Stereo Number	A	20	699	
71	Die Cut Tool Number	A	20	719	
72	Number of Ink Colours	B/N	2	739	
73	Article is Die Cut Flag	A	1	741	blank or X
74	Number of Scores	B/N	2	742	
75	Score Types	A	19	744	1 char. for each score, standard is blank
76	Number of Teartapes	B/N	2	763	
77	Article Number	A	20	765	
78	Next Operation	A	6	785	
79	Original Quality	A	12	791	
80	Total ordered Quality	B/N	6	803	
81	Technical Ordered Quality	B/N	6	809	
82	Original Quality Weight	B/N	4	815	
83	Quality Cost	B/N	5	819	
84	Original Quality Cost	B/N	5	824	
85	Customer Number	A	6	829	
86	Number of Identical Pieces	B/N	1	835	
87	Pallet Type	A	6	836	
88	Pallet Size	A	9	842	
89	Quantity from Stock	B/N	6	851	sheets taken from the stock
90	Quantity to Stock	B/N	6	857	shts put back to stock
91	Flute Type	A	4	863	

Transfer of Production Details to the Host: Shift Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Shift Data	N	1	0	2 for Shift Data
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time of Shift Begin	N	4	17	(HHMM)
7	Date of Shift Begin	N	8	21	(DDMMYYYY)
8	Time of Shift End	N	4	29	(HHMM)
9	Date of Shift End	N	8	33	(DDMMYYYY)
10	Shift Leader: ID Number	A	6	41	
11	Shift Leader: Name	A	30	47	
12	Record ID	N	12	77	Unique identifier

Transfer of Production Details to the Host: Personnel Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Personnel Data	N	1	0	3 for Personnel Data
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time of Personnel Come	N	4	17	(HHMM)
7	Date of Personnel Come	N	8	21	(DDMMYYYY)
8	Time of Personnel Leave	N	4	29	(HHMM)
9	Date of Personnel Leave	N	8	33	(DDMMYYYY)
10	ID Number	A	6	41	
11	Name	A	30	47	
12	Worker's function (Code)	A	6	77	
13	Worker's function (Description)	A	30	83	
14	Record ID	N	12	113	Unique identifier

Transfer of Production Details to the Host: Downtime Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Downtime Data	N	1	0	4 for Downtime
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time of Downtime Start	N	4	17	(HHMM)
7	Date of Downtime Start	N	8	21	(DDMMYYYY)
8	Time of Downtime End	N	4	29	(HHMM)
9	Date of Downtime End	N	8	33	(DDMMYYYY)
10	Order Number	A	15	41	Conversion only
11	Sequence Number	N	1	56	Conversion only
10	Program number	A	4	41	Corrugator only
11	Run number	A	2	45	Corrugator only
12	Downtime Cause: Code	A	6	57	
13	Downtime Cause: Group	A	6	63	
14	Downtime Cause: Description	A	40	69	
15	Downtime Cause: Comments	A	109	4x25	
16	Downtime: waste	N	6	209	Linear meters
17	Record ID	N	12	215	Unique identifier
18	Duration in seconds	N	4	227	If available
19	Scheduled Downtime flag	A	1	231	Blank or X
20	Machine Closed Downtime flag	A	1	232	Blank or X
21	Flag for order related downtime	A	1	233	Blank or X
22	Flag for machine related downtime	A	1	234	Blank or X
23	Flag for personnel related downtime	A	1	235	Blank or X

Transfer of Production Details to the Host: Break Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Break Data	N	1	0	5 for Break Data
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time of Start Break	N	4	17	(HHMM)
7	Date of Start Break	N	8	21	(DDMMYYYY)
8	Time of End Break	N	4	29	(HHMM)
9	Date of End Break	N	8	33	(DDMMYYYY)
10	Order Number	A	15	41	Conversion only
11	Sequence Number	N	1	56	Conversion only
10	Program number	A	4	41	Corrugator only
11	Run number	A	2	45	Corrugator only
12	Record ID	N	12	57	Unique identifier

Transfer of Production Details to the Host: Combination Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Combination Data	N	6	0	6 for comb.data
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time of Combination Start	N	4	17	(HHMM)
7	Date of Combination Start	N	8	21	(DDMMYYYY)
8	Time of Combination End	N	4	29	(HHMM)
9	Date of Combination End	N	8	33	(DDMMYYYY)
10	Program	A	4	41	
11	Combination	A	2	45	
12	Quality	A	12	47	
13	Flute	A	3	59	
14	Roll Size	A	4	62	
15	Scheduled g/m ²	N	4	66	
16	Scheduled Meters	N	9	70	
17	Scheduled Trim	N	6	79	(mm)
18	Scheduled Duration	N	6	85	
19	Cost for Quality	N	5	91	
20	Cost for Upgrade	N	5	96	
21	Cost for Corrugator Time	N	5	101	
22	Actual g/m ²	N	4	106	
23	Actual Meters	N	9	110	
24	Actual Trim	B/N	6	119	(mm)
25	Actual Duration	N	6	125	
26	Actual Waste	N	6	131	(m ²)
27	Paper 1	A	10	137	
28	Paper 2	A	10	147	
29	Paper 3	A	10	157	
30	Paper 4	A	10	167	
31	Paper 5	A	10	177	
32	Paper 6	A	10	187	
33	Paper 7	A	10	197	
34	Personalized Data	A	200	207	300 char. in Personalized Layout
35	Record ID	N	12	407	Unique identifier

Additional Combination Data (Extended Layout Only)

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
36	Used Papers: Codes	A	70	419	7*10
37	Used Papers: Percent (plastics) or Width (corrugated)	B/N	35	489	7*5, percent width one decimal
38	Board Thickness 1,2,3	B/N	15	524	3*5, two decimals
39	Flute Type	A	4	539	

Transfer of Production Details to the Host: Order in Combination Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Order in Combination Data	A	1	0	7 for order in comb. Data
2.1	Order Number	A	10	1	
2.2	Part Number	A	4	11	
2.3	Part Run ID	A	1	15	
3	Outs	N	2	16	
4	Width	N	4	18	
5	Length	N	4	22	
6	Waste	N	6	26	(sheets if avail.)
7	Program Number	A	4	32	
8	Run Number	A	2	36	
9	Start Time Run	N	4	38	(HHMM)
10	Start Date Run	N	8	42	(DDMMYYYY)

Additional Order in Combination Data (Extended Layout Only)

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
11	Next Operation	A	6	50	
12	Delivery Date	B/N	8	56	
13	Article Number	A	20	64	
14	Number of End Products from one pass on the Corrugator	B/N	2	84	
15	Number of Scores	B/N	2	86	
16	Score Types	A	19	88	
17	Number of Tear Tapes	B/N	2	107	
18	Customer Name	A	20	109	
19	Customer Number	A	6	129	
20	Total ordered Quantity	B/N	6	135	
21	Technical ordered Quantity	B/N	6	141	
22	Is first run flag	A	1	147	(Blank or x)



Transfer of Production Details to the Host: Quality Check Data

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Quality Check Data	N	1	0	9 for Quality Check
2	Machine	A	6	1	
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	
5	Crew Code	A	1	16	
6	Time Quality Check took Place	N	4	17	(HHMM)
7	Date Quality Check took Place	N	8	21	(DDMMYYYY)
8	Type of Quality Check	N	1	29	0: at end setup 1: at end run 2: at order end 3: regular by time 4: regular by quant. 5: palletizing info 6: cust. complaint 7: comment 8: intern. complaint 9: engineer log
9	Check ok?	N	1	30	0: ok 1: not ok 2: rejected
10	ID Number	A	6	31	
11	Name	A	30	37	
12	Supervisor ID Number	A	6	67	
13	Supervisor Name	A	30	73	
14	Board Caliper	N	6	103	
15	Sheet Weight in	N	6	109	10 sheets
16	Sheet Weight out	N	6	115	10 sheets
17	Sheet Weight Waste	N	6	121	10 sheets
18	Quantity per Pallet	N	5	127	
19	Quantity per Bundle	N	3	132	
20	Pallet Type	A	6	135	
21	Pallet Size	A	9	141	
22	Palletizing Pattern	A	6	150	
23	Complaint ID	A	12	156	
24	Complaint Group	A	6	168	
25	Complaint Code	A	6	174	
26	Complaint Text	A	40	180	
27.1	Order Number / Program Number	A	10	220	Conver. / Corrug.
27.2	Part Number	A	4	230	
27.3	Part Run ID	A	1	234	
28	Sequence Number	N	1	235	
29	Record ID	N	12	236	Unique identifier
30	End Time (Engineer log only)	N	4	248	(HHMM)
31	End Date (Engineer log only)	N	8	252	(DDMMYYYY)

Transfer of Production Details to the Host: Begin / End Records

Field No.	Description	A/N	Length (Bytes)	Offset	Remarks
1	Record Type: Begin/End	N	1	0	H = Begin, T = End
2	Machine	A	6	1	Blank
3	Shift Date	B/N	8	7	(DDMMYYYY)
4	Shift Code	A	1	15	

Comments

File Layouts: There are two file layouts, standard (default setting) and extended (complete data). The extended layout contains additional data in the Order, Combination, and Order in Combination records. The personalized layout is equal to the extended layout, but the space reserved for personalized data in records for Order and Combination has increased from 200 to 300 characters, that's why following offsets increase by 100.

Equalizing Erroneous Data: We use *theoretical shift ranges* which always cover the whole day without gaps or overlaps, with the intention to

- guarantee the transfer of all existing data exactly for one and only one shift. When transferring the three potentially available shifts for a day really *all* data will be found and transferred
- assign a person's presence correctly to one and only one shift.

This must hold even if the shift data is erroneous (missing shift data, overlapping shifts, gaps between two shifts etc.). These shift ranges are only used for searching data to be transferred and assigning a person's presence to a shift. They are not transferred. The following applies to the shift hour ranges:

- Between two consecutive shifts possible gaps or overlaps are eliminated.
- If real shift data is missing, theoretical shifts from the time table are inserted. The hours of real shifts remain unchanged and theoretical neighbor shifts are adapted.

Examples: A Gap between Shift E and M and Shift N not available:

Shift	E 08/05/89	M 09/05/89	N 09/05/89	E 09/05/89
Real	22:00 – 05:46	05:50 – 13:53	–	21:58 – 05:57
Time Table	–	–	14:00 – 22:00	–
Shift Range	22:00 – 05:48	05:48 – 13:53	13:53 – 21:58	21:58 – 05:57

There is a gap between 05:46 and 05:50 and no shift N record, but there might be data available for these periods (personnel or erroneous).

A shift record with times 05:50 – 13:53 would be transferred for shift M but data from 05:48 – 13:53 included. A shift record with times 14:00 – 22:00 from the machine timetable would be transferred for shift N containing data from 13:53 – 21:58.

Shift Code: The shift code specifies the morning, noon or evening shift. The exact codes being used (for example M, N and E) are defined in the Machine Timetable.

Shift Record always if other Data Available: If a shift record is available in data this will be transferred. Else if other data is available for this shift on the machine a shift record with theoretical times from the machine timetable is generated and sent.

Assignment of Personnel Data to Shifts: It is not always obvious to which shift a person has to be assigned. For these cases the following rule is used: The presence of a person is assigned to the shift according to the shift range defined above where the person *mostly* works (if these durations are identical, the first shift will be chosen).

Personnel Data: The times of presence of personnel at machine are *not split* per shift! They are used for work time calculation of each particular person but not for cost calculation. For the latter, the number of persons attending at machine during setup and during run (fields 68 and 69, order record, extended layout) should be used.

Quantity Units: All quantities are presented in 'finished goods'. The division of these quantities by the number of products made from a sheet *into* the machine (order record: field 15) equals the number of passes per machine.

Comments on the Contents of the Order Type Records

Fields 8 and 9 (start time): The time when the given shift to be transferred started working on the order. This is the *order* start time if this shift started the order, and the *shift* start time if a preceding shift started the order.

Fields 12 and 13 (end time): The time when the given shift to be transferred finished working on the order. This is the *order* end time if this shift finished the order, and the *shift* end time if a succeeding shift finished the order.

Fields 10 and 11 (start run): If the production of the order started during a shift *preceding* the given shift to be transferred, the content of the fields 8+9 (start time) will be sent in the fields 10+11. If the production of the order started during a shift *succeeding* the given shift to be transferred, the content of the fields 12+13 (end time) will be sent in the fields 10+11.

Duration of setup and production:

The duration of setup is the difference between the fields 10+11 and 8+9.

The duration of production is the difference between the fields 12+13 and 10+11.

According to the content of the fields 10+11 (start run), the duration of setup or production will be reduced to zero if start run did not take place within the shift in question.

Example:

Total order times: Start Setup: 10:00, Start Run: 11:00, End Run: 15:00

Shift Change: 13:00.

The following data will be sent for the two shifts working on this order:

For the first shift ending at 13:00: Start Time: 10:00, Start Run: 11:00, End Time: 13:00

For the next shift starting at 13:00: Start Time: 13:00, Start Run: 13:00, End Time: 15:00

Field 17: Contains the expected quantity. This is the quantity produced on the preceding operation.

Field 22 and 57: The field 22 (waste cause 1) contains the total waste (in machine, counter minus good) if the detailed waste by causes is not available (fields 23-38 blank). Field 57 contains always the total waste (in machine, counter minus good).

The total quantity (counter):

The total produced quantity is the sum of the fields 18 and 57. The sum of the fields 18 and

22 equals the total produced quantity as well if detailed waste by reasons is not available (fields 23-41 empty). However, the latter is disregarded and should not be used.

Field 89: Sheets added from stock to enlarge the quantity.

Field 90: Sheets put back to stock to reduce the quantity.

Data Integration

Record Lengths: The record lengths of the different types are not equal. Changing to a new PC-Topp.NET version may potentially create additional fields within a record of any type. The recipient should be prepared to accept longer records at any time and ignore these new fields.

Validation of data completeness: Begin and end records embrace the transfer of one shift. The transfer contains all data of all machines for a shift, preceded by a “begin” record (type H = header) and succeeded by a “end” record (type T = tail). Between the H and the T records, all elements of a shift will appear.

The absence of a corresponding T record to a H record indicates an incomplete transfer. Briefly, the recipient must check for each H record the existence of the corresponding T record before the next H record.

Integration of data elements: The transferred data for one shift must *replace* all data potentially received in a previous transfer for this shift. Previously generated data for this shift must be deleted on the receiving host first. After that, all data for the shift (if data available) may be inserted. The lack of elements between H and T records indicates that no data is available for the shift.

One MIDATA file may contain data for several shifts, not only one!

Sort Order of the Records:

- By Machine
- Within a Machine: Chronological
- Records with equal starting times are sorted by the record type:
 - Shift
 - Combination
 - Order
 - Downtime
 - Break
 - Personnel
 - Quality Check
- Records of type personnel belonging to a shift may have a starting time *before* shift begin, these records will precede the shift record.