

Production-Ready Formats and Data Specifications for Ink Jet Output

Technical Specifications – Using QuadTech Controllers

MAIL PIECE DESIGN

Design postal efficiencies into your direct mail format from the start, making sure your letterate mail is within aspect ratio and address blocks and mandatory clear zones are within postal specifications. Quad's design and postal experts are well versed in changing format regulations, and excel at incorporating consumer attention-grabbing format features without moving your campaign into a higher postage rate category.

Requirement

A mail.dat file set, conforming to IDEAlliance specifications is required. Please see www.idealliance.org/mail.dat for minimum requirements. If you cannot provide a mail.dat file set, additional charges and/or shipping limitations will apply. Please contact your Post-Press Service representative for more information.

SELECTED FIELD SUMMARIES

Sequence Number

The sequence number is an 8 byte sequential numbering system that specifically identifies each individual record of a mailing. The first record of each file must start with 00000001. For each of the following records on the file, the sequence number must increment by one. The maximum ending value for any particular file is 99999999.

Station Codes

Special Note: All print station codes are 3-byte numeric codes ranging from 001-999 (all three bytes must be used, zero filled). All 24 print stations must have data in them and each station must increase sequentially by one number.

- *Station 1:* This print station will always print the address label containing the Optional Endorsement Line (OEL) and any messages that may accompany it provided the messages are on the same plane as the address label.
- *Stations 2-24:* These stations are used when additional ink jet positions are required.

Sort Field

Sort sequence coding is a separate alphanumeric sort sequence field that must be generated with 15 bytes. The first byte identifies the container type, the next 6 bytes identify the container and the remaining 8 bytes identify the package. The field is monitored from record to record. When any change is detected, the record is considered the first record of a new sort sequence.

Line Of Travel (LOT)

The Line of Travel field identified as the ecr_seq in the Preferred Record Layout must equal the last three bytes of the sequence number field. LOT numbers should be present on all Carrier Routes only. If the record is not in Carrier Route sortation, the LOT field must be empty.

** All files must be sorted in accordance with USPS certified Line of Travel (LOT). Due to the functionality of the manufacturing process, maintaining true Carrier Route LOT necessitates all pieces in a package being OPPOSITE of the true Carrier Route Line of Travel (reverse order).*

*** Failure to provide accurate LOT information could result in the loss of Carrier Route discounts.*

DOMESTIC RECORD LAYOUT

Please see file definitions on pages 4-6 for specific field information.

Field Name	Starting Position	Ending Position	Field Length	Field Description
lot_sequence	1	4	4	Indicates order for codes within a carrier route
a_d_code	5	5	1	Delivery point order
carrier_id	6	9	4	Mail delivery or collection route within a ZIP code area
sequence_num	11	18	8	
station_1	20	22	3	
station_2	24	26	3	
station_3	28	30	3	
station_4	32	34	3	
station_5	36	38	3	
station_6	40	42	3	
station_7	44	46	3	
station_8	48	50	3	
station_9	52	54	3	
station_10	56	58	3	
station_11	60	62	3	
station_12	64	66	3	
station_13	68	70	3	
station_14	72	74	3	
station_15	76	78	3	
station_16	80	82	3	
station_17	84	86	3	
station_18	88	90	3	
station_19	92	94	3	
station_20	96	98	3	
station_21	100	102	3	
station_22	104	106	3	
station_23	108	110	3	
station_24	112	114	3	
intelligent_barcode	116	146	31	Intelligent mail barcode
book_id	151	154	4	Version identifier
blank	155	156	2	Blank
job_num	158	165	8	Quad internal
selective_strap_indicator	167	167	1	Strap indicator
container_type	168	168	1	Mail container type identifier



DOMESTIC RECORD LAYOUT

Please see file definitions on pages 4-6 for specific field information.

Field Name	Starting Position	Ending Position	Field Length	Field Description
container_id	169	174	6	Unique container number**
package_id	175	182	8	Unique package number***
barcode_num	184	194	11	11-digit DPBC
container_break	198	198	1	End of container
package_break	199	199	1	End of bundle
ecr_seq	201	203	3	See definition on page 6
display_cont_id	205	210	6	Display_cont_id
line_1_address*	211	240	30	OEL
line_2_address*	241	270	30	Keyline ⁽¹⁾
line_3_address*	271	300	30	Name
line_4_address*	301	330	30	Name or title
line_5_address*	331	360	30	Secondary address
line_6_address*	361	390	30	Primary address
line_7_address*	391	420	30	City, State, ZIP
line_8_address*	421	450	30	Additional address needs
variable_1	451	460	10	Additional needs ⁽²⁾
variable_2	461	470	10	Additional needs ⁽²⁾
IMPB	471	504		34 (maximum) character field for GS1-128 barcode****
IMPB_HR	505	536		32 (maximum) character human readable representation of barcode data including blank spaces****

¹ Please identify each individual code, the length of each code and the start and stop position of each code.

² Variable fields may be created to any desired field length as long as the fields remain in a fixed position.

³ Any blank spaces between field positions should be considered as filler.

* If any of the address fields are blank, all remaining fields must bump up.

** NO repeating container numbers within the same mail stream.

*** NO repeating bundle numbers within the same mail stream.

**** Reference www.usps.com for proper constructs of barcode and human readable.



CANADIAN RECORD LAYOUT

Please see file definitions on pages 4-6 for specific field information.

Field Name	Starting Position	Ending Position	Field Length	Field Description
sequence_num	11	18	8	
station_1	20	22	3	
station_2	24	26	3	
station_3	28	30	3	
station_4	32	34	3	
station_5	36	38	3	
station_6	40	42	3	
station_7	44	46	3	
station_8	48	50	3	
station_9	52	54	3	
station_10	56	58	3	
station_11	60	62	3	
station_12	64	66	3	
station_13	68	70	3	
station_14	72	74	3	
station_15	76	78	3	
station_16	80	82	3	
station_17	84	86	3	
station_18	88	90	3	
station_19	92	94	3	
station_20	96	98	3	
station_21	100	102	3	
station_22	104	106	3	
station_23	108	110	3	
station_24	112	114	3	
intelligent barcode	116	146	31	
book_id	151	154	4	Version identifier
blank	155	156	2	Blank
job_num	158	165	8	Quad internal
selective_strap_indicator	167	167	1	Strap indicator
container_type	168	168	1	Mail container type identifier
container_id	169	174	6	Unique container number**
package_id	175	182	8	Unique package number***
blank	184	194	11	

DOMESTIC RECORD LAYOUT

Please see file definitions on pages 4-6 for specific field information.

Field Name	Starting Position	Ending Position	Field Length	Field Description
container_break	198	198	1	End of container
package_break	199	199	1	End of bundle
blank	201	203	3	
display_cont_id	205	210	6	Display_cont_id
line_1_address*	211	240	30	OEL
line_2_address*	241	270	30	PM# (left justified) and Delivery Mode Code (right justified)
line_3_address*	271	300	30	Name
line_4_address*	301	330	30	Name or title
line_5_address*	331	360	30	Secondary address
line_6_address*	361	390	30	Primary address
line_7_address*	391	420	30	City, Province, Postal Code
line_8_address*	421	450	30	Additional address needs
variable_1	451	460	10	Additional needs ⁽²⁾
variable_2	461	470	10	Additional needs ⁽²⁾

¹ Please identify each individual code, the length of each code and the start and stop position of each code.

² Variable fields may be created to any desired field length as long as the fields remain in a fixed position.

³ Any blank spaces between field positions should be considered as filler.

* If any of the address fields are blank, all remaining fields must bump up.

** NO repeating container numbers within the same mail stream.

*** NO repeating bundle numbers within the same mail stream.

FIELD NAMES AND DEFINITIONS FOR ELECTRONIC DATA TRANSMISSIONS

Field Name	Description
lot_sequence	The Line of Travel number is a sequential number that indicates that order in which add-on codes arranged within a given carrier route.
a_d_code	The ascending/descending code indicates the order in which delivery points are delivered within a ZIP+4.
carrier_id	The Carrier Route is a four-byte code assigned to a given mail delivery or collection route within a five-digit ZIP Code area. The first character of this identification is alpha, while the last three are numeric.
sequence_num	An 8 byte number that must increment by one for each record in the file. This field must be right justified and always must be zero filled. (11-18)
station_1	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. This station will always contain the "Optional Endorsement Line" regardless of the print location. (20-22)
station_2	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (24-26) numeric.
station_3	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (28-30)
station_4	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (32-34)
station_5	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (36-38)
station_6	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (40-42)
station_7	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (44-46)
station_8	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (48-50)
station_9	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (52-54)
station_10	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (56-58)
station_11	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (60-62)
station_12	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (64-66)
station_13	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (68-70)
station_14	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (72-74)
station_15	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (76-78)
station_16	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (80-82)
station_17	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (84-86)



FIELD NAMES AND DEFINITIONS FOR ELECTRONIC DATA TRANSMISSIONS

Field Name	Description
station_18	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (88-90)
station_19	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (92-94)
station_20	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (96-98)
station_21	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (100-102)
station_22	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (104-106)
station_23	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (108-110)
station_24	A 3 byte number that identifies a specific ink jet format to be printed in a designated print location on a binding machine. This field must be right justified and always must be zero filled. (112-114)
intelligent_barcode	The Intelligent Mail barcode consists of a 20-digit Tracking Code (Barcode ID, Service Type ID, Mailer ID and Serial Number) and up to an 11-digit Routing Code (Destination ZIP code).
book_id	A 4 byte number ranging from 0001-9999, that identifies the physical and/or demographic make-up of the product that is to be produced. This field must be right justified and always must be zero filled. (148-151)
blank	Blank (153-157)
job_num	An 8 byte alphanumeric field that identifies a specific job to be completed. (159-166)
selective_strap_indicator	If postal regulations require this bundle to be strapped, a '0' is required in this field. If the bundle does not need to be strapped, a '1' should appear in this field.
container_type	A 1 byte field that identifies one of three types of mail containers. The three possible containers should be identified as follows: (168-168) P = Pallet of mail S = Sack of mail T = Tray of mail *Note: This is field 1 of 3 that together constitute the mailing sortation field. **Note: It is recommended that this field match the exact data contained in the "Container ID" field of a mail.dat file.
container_id	A 6 byte field that identifies each individual container in a specific mailing with a unique number regardless of the container type. This field must be right justified and always be zero filled. (169-174) *Note: This is field 2 of 3 that together constitute the mailing sortation field.
package_id	An 8 byte field that identifies each individual package in a specific mailing with a unique number. This field must be right justified and always be zero filled. (175-182) *Note: This is field 3 of 3 that together constitute the mailing sortation field.
barcode_num	This field cannot contain a dash, underscore or space between any of the bytes present. Always print the 11-digit DPBC in the barcode field when a postnet barcode is required. (184-194)
container_break	A 1 byte field that marks the end of a specific container. (198-198)
package_break	A 1 byte field that marks the end of a specific postal sortation. (199-199)
ecr_seq	This field must equal the last three bytes of the sequence number field. (201-203)
display_cont_id	A postal container summary of the mailing that is used for output of the bagtags and flags (as related to the IDEAlliance mail.dat 001 container summary file specifications). (205-210)

Field Name	Description
line_1_address*	This field will contain the Optional Endorsement Line (OEL). (211-240)
line_2_address*	This field will contain client keycode information. (Please identify each individual code located within the keyline) (241-270)
line_3_address*	This field will contain a name. (271-300)
line_4_address*	This field will contain a company name or a title. (301-330)
line_5_address*	This field will contain a secondary address. (331-360)
line_6_address*	This field will contain a primary address. (361-390)
line_7_address*	This field will contain the city, state and zip code. (391-420)
line_8_address*	This field may be used for misc. needs such as postal endorsements or additional address lines. (421-450)
variable_1	This field may be utilized for any additional data needed. (451-460)
variable_2	This field may be utilized for any additional data needed. (461-470)

*NOTE – If any address fields are blank, all remaining fields must bump up.

ADDRESS FILE SPECIFICATIONS

- Files must be received in ASCII format
- No control characters may be present on the file.
- Blank bytes need to be designated as hex character 20 (space).
- A record delimiter (carriage return/line feed) should be used to mark the end of the record. We prefer both, however, one of the two is sufficient and should be used as the address/record file extension.
- File names can be no longer than 24 characters excluding the .add extension
- File names can only be made up of letters, numbers or the under score. No other characters may be used..
- The number of records per file must NOT exceed 99,999,999 or 4 gigabytes. Each file should end at the end of the container. DO NOT split the same container on two different files.
- Each file must start over at sequence number 00000001.
- All address files pertaining to the same job must be the same record size.
- Each address file must be zipped using PKZip, one file per zip file.
- The address file must have an .add extension.
- Address file names cannot be duplicated from issue-to-issue/month-to-month.

The file needs to include:

1. Indication of .zip file names received
2. Indication of .add file names received
3. Quantity of the address file
4. Version description per address file
5. Record layout per version with customer number/key code positions identified separately
6. BMC (Bulk Mailing Center) breaks define the beginning and the ending record number of a specific BMC within an address “.add” file
7. Job name
8. Pallet, sack or tray information of that file
9. Issue
10. List house contact person
11. List house contact phone number
12. Post-Press Service Representative

SUBMITTING ELECTRONIC DATA

If you are interested in transmitting your data electronically, please contact 414.566.4270 for options and recommendations to provide you with the most efficient manner of electronically transmitting your data.

ELECTRONIC FILE TRANSMISSION OPTIONS

Quad/Graphics offers three options to transmit production-ready ink jet data electronically.

TEXT FILE SPECIFICATIONS

Listed below are specific items Quad/Graphics requires to define your electronic data transmission. These file definitions MUST be sent with your address files and received at Quad/Graphics in a text format such as Microsoft Word (e.g., .doc, .txt).

FTP (File Transfer Protocol)

FTP is a method of transmitting data via the Internet. A connection to the Internet is required. Transmission speed depends on the speed of your connection to the Internet.

- Upon consulting with our staff, a username and password are assigned.
- You will connect to our server to transmit data via FTP.
- Data is placed onto the server and retrieved every 10 minutes.
- Once we receive your data, your Quad/Graphics contact will be notified electronically that your data has arrived.

Wam!Net

Wam!Net is a method of transmitting data via an electronic data link. A file transfer utility offered by Sawvis Communications is required.

- Upon consulting with our Quad/Net staff, two directories are set up: To_[client name] and From_[client name].
- Cost is based on the number of megabytes being sent by the sender.
- Upon receipt of your data, the file appears in the directory of the appropriate plant and your Quad/Graphics contact is notified electronically that your data has arrived.

T1 (Tie Line)

T1 is a method of transmitting data via a dedicated phone you provide. The software you use determines how that line is set up.

- Upon consulting with our staff, we assist you in setting up a line.
- Speed of transmission depends on the speed of the T1 line acquired.
- Your Quad/Graphics contact will be notified electronically that your data was received.

See how we can help.