AKB210

GENERAL DESCRIPTION

The 1401/1460 Code and Delete/Extract program is a file manipulation program that performs any combination of the following functions:

1. REFORMATING
   The fields within the input records may be re-arranged to form output records of a different format and length. Fields of constants may also be added to each output record.

2. CODING
   Data may be inserted into only those records which have fields lying within certain ranges established by the user. The data to be inserted may be contained within the record itself or may be supplied by the user.

3. DELETING/EXTRACTING
   Records with fields lying within specified ranges may be selected and written on tape and/or listed on the 1403 printer (DELEXOUT output file). A second output file is available which will contain either all records that were on the input file (extracting) or only those records which were not selected (deleting).

4. LIST B MATCHING
   A second input file may be used to match on a given control field against the Master input file. On an equal condition, data from the List B record will be moved to the output area; or List B may be used as a finder file to delete or extract records on the Master input file. If List B is used, both input files must be in ascending sequence on the control field used for matching.

SPECIFICATIONS

1. MACHINE
   The Code and Delete/Extract program requires a 16K 1401 with Advanced Programming and High-Low-Equal compare, 1402 reader-punch, 1403 printer with 132 print positions, and from 2 to 4 tape units.

2. FILES
   All files must consist of fixed length records, blocked or unblocked. Data record length may not exceed 1000 characters for any file. There is no restriction on tape record length for any individual file; however,

the sum of tape record lengths for all files may not exceed 8200 characters. The program will accept, for the two input files, any type of header label with or without tape marks, or no labels at all. Standard 7080 labels, or no labels, may be generated for either or both of the two output files.

3. RECORD COUNTS
At end of job, the program will print data record counts for all input and output files, the number of records coded, and the number of equal comparisons to List B.

PREPARATION OF CONTROL CARDS

The following describes the preparation of the AKB210 control card layout forms for keypunching. Unless otherwise specified, unused control card columns should be left blank. The program will print out each of the user's control cards after the housekeeping associated with it has been performed. Note that in the hierarchy of operations performed by the program, the input record is reformated before any matching to List B, coding, or deleting/extracting is performed. Therefore any reference to Master Input File fields in the control cards (other than those used for reformating) must refer to these fields as they will appear after reformating is executed.

INPUT/OUTPUT CONTROL CARDS:

Column	
1	"Ø" card identification
2 - 9	required file identification
10	type of file F = fixed length records N = this file not being used this run
11 - 14	data record length (0011 - 1000)
16 - 19	tape record length 0000 - unblocked records with no terminal ≠ 0001 - unblocked records with terminal ≠ xxxx - length of each block Note: there is no maximum length for any individual file, but the sum of tape record lengths of all files must not exceed 8200 characters.

21 - 26 file identification - required only for output files that are to have 7080 standard header labels.

31 input label code:
x = header followed by tape mark
+ = header not followed by tape mark
- = no header

output label code:
x = standard 7080 header and trailer
O = no header, standard 7080 trailer
- = no header, no trailer

32 - 33 number of input reels 01 - 99
If actual number of records is punched, this will determine EOF. If unknown, punch 99 and EOF will be designated by sense switch setting at execution time.

34 List B option
F = data from List B will be added to the output record
C = matching control fields on a Master record and a List B record will cause the extraction of the Master record.
D = matching control fields on a Master record and a List B record will cause the deletion of the Master record.

35 - 80 not used by the program; user may punch descriptive information relative to the file (e.g., CMR - STAT PORTION ONLY)

END CONTROL CARD

Col. 1 - 4 "9END" card identification

5 - 7 high order position of List B field used to match against the Master file.

8 - 10 high order position of the Master file field used to match against List B (NOTE: use high order of the reformated Master record - not the input record).

11 - 12 length of the field used for matching. (NOTE: punch zeros in cols. 5 - 12 if the List B option is not used - DO NOT LEAVE THESE COLUMNS BLANK).

13 - 80 user's run description

LIST B FIELD SPECIFICATION CARD

On an equal comparison between theMaster file and the List B file, data from the List B record may be put in the output area; data from the Master file will already have been put in the output area by the reformat routine. If this card is used, column 34 of the List B Input control card must contain "F."

Col.	1	"1" card identification
	2 - 4	high order of List B field to be put in O/P area
	5 - 7	high order of O/P field to receive List B data
	8 - 9	number of characters to be moved
	10 - 73	fields 2 - 9, as required

REFORMAT CONTROL CARD

Col.	1 - 2	"5M" card identification
	8 - 9	number of characters to be moved
	10 - 13	high order of Master file input field to be moved to O/P area
	14 - 17	high order of O/P area to receive Master data
	18 - 77	fields 2 - 7 as required
	CARD 2	fields 8 - 14 as required
	CARD 3	fields 15 - 20 as required

NOTE: Data not contained in the Master input record may be inserted into every output record by using the Additional Information option: where the Master input high order position would normally be specified, enter AI xx - where xx is the high order column of the "6M" card containing the data to be entered. A maximum of 10 fields of additional information may be added into every output record.

CODING CONTROL CARD

Each control card can contain information to perform two coding range tests - the maximum number of range tests is 40. Any range test may have equal upper and lower limits.

Col.	1	"7" or "P" card identification
	2 - 3	number of characters in the field to be tested
	4 - 7	high order position of the field in the output area to be tested.
	8 - 15	inclusive lower limit of the range test
	16 - 23	inclusive upper limt of the range test
	24 - 25	number of characters to be placed in the output record if range test is successful
	26 - 29	high order position of the field in the output area to receive the data
	30 - 39	the data to be entered

NOTE: if the data to be inserted in the output area is supplied by the user in columns 30 - 39, put "7" in column 1. If the data to be inserted in the output area is located elsewhere in the record, put "P" in column 1 and the 4 position high order location of the field containing the data in columns 36 - 39; leave columns 30 - 35 blank.

	41 - 78	field 2 if required
CARDS	2 - 20	fields 3 - 40, as required.

DELETE-EXTRACT CONTROL CARD

Col.	1	"8" card identification
	2	delete-extract code 3 = records with field(s) in specified range(s) will be extracted (i.e., written on both output files) 4 = records with field(s) in specified range(s) will be deleted (i.e., written on DELEXOUT file only -

records not within the range will be written on the Masterout file only.
NOTE: records within specified ranges may be made to appear on neither output file (i.e., dropped internally) by putting a "B" in the high order column of the lower limit controlling this option (cols. 11 or 33 or 55).

	4	range tests relationship code 1 = OR range tests - record will be selected if any range test is satisfied (test 1 or test 2 or test 3, etc.) 2 = AND range tests - record will be selected only if two successive range tests on the same control card are satisfied (test 1 and test 2)
	5 - 6	number of characters in field to be tested.
	7 - 10	high order location in output area of field to be tested.
	11 - 18	inclusive lower limit of the range test
	19 - 26	inclusive upper limit of the range test
	27 - 48	field 2, if required
	49 - 70	field 3, if required (OR tests only)
CARDS	2 - 8	fields 4 - 25 as required

NOTE: If more than two conditions must be associated by the "AND" relationship, a control word may be set up in the coding phase with one position on or off for each condition; the whole word may then be tested in the delete-extract phase.

The following examples show how the various options available in AKB210 can be exercised. For further information on the program, contact:

Phil Bonello

Ext. 5220

EXAMPLE 1

REFORMATING, CODING, "OR" EXTRACT, "AND" EXTRACT

Input

75 character records, blocked 10, one reel

No header, no trailer

Month code in position 59 (A - L for JAN - DEC)

County code in positions 2 - 4

Machine type in positions 31 - 34

Requirements

A
1. Expand record size to 80 characters and make output blocked 5, with 7080 standard labels
2. Code a 3 character alpha month abbreviation into positions 76 - 78
3. Only records in counties 706, 781, 649, or 618 are to appear in the output file.

B Same requirements as in A, except the output file should contain only records that have 1401 in machine type and are in counties 706, 649, or 781.

INPUT/OUTPUT CONTROL CARDS

EXAMPLE 1

Activity Code	File Table Code	File Type	Data Record Length	Tape Record Length	Header File ID	Label Code	No. of Reels / List B Option
0	MASTRIN	F	ØØ75	Ø75Ø		-	Ø1
0	LISTBIN	N					
0	MASTROUT	N					
0	DELEXOUT	F	ØØ8Ø	Ø4ØØ	ØXXXX3	X	

NOTE: THE SUM OF ALL TAPE RECORD LENGTHS MUST NOT EXCEED 8200 CHARACTERS.

END CONTROL CARD

Activity Code	Control Field: "END" Code	Control Field: LIST B HI ORDER OUTPUT	Control Field: HI ORDER # of Char.	RUN DESCRIPTION
2	END	ØØ	ØØ	ØØ

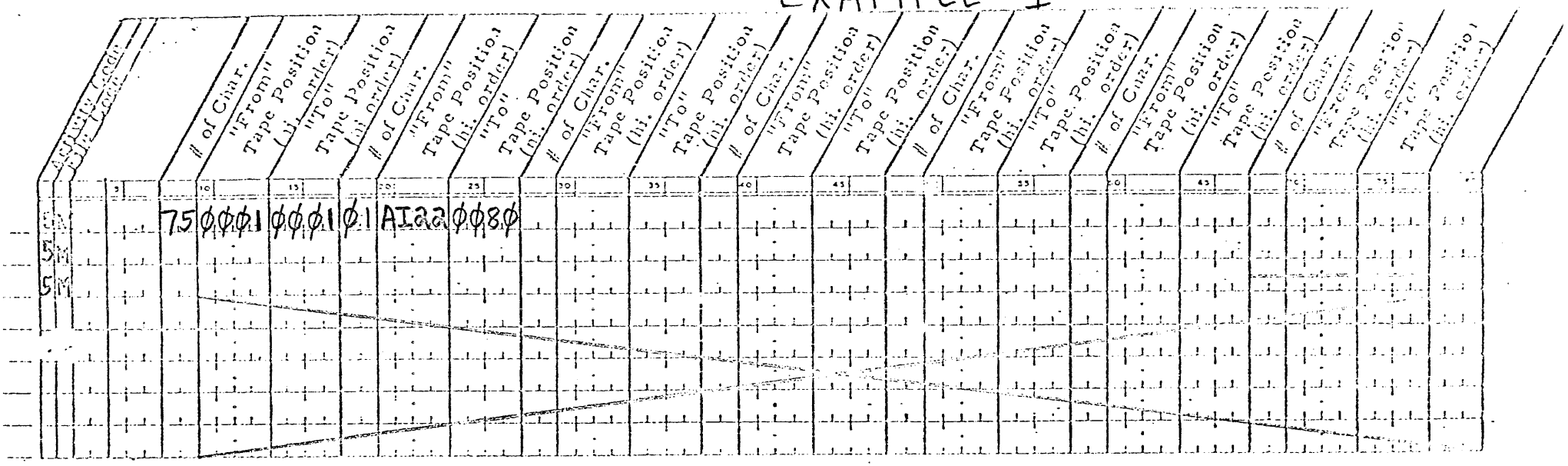
LIST B FIELD SPECIFICATION CONTROL CARD

	1	2	3	4	5	6	7	8	9
	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER # OF CHARS

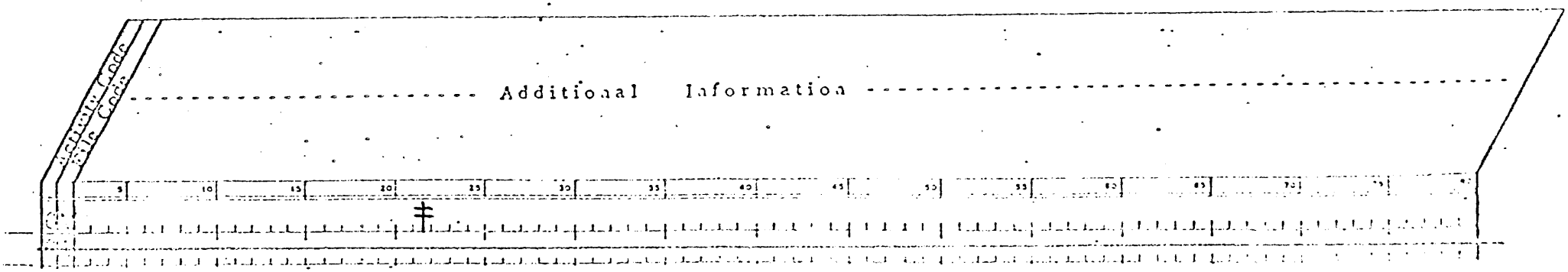
AKE 10

REFORMATTING

EXAMPLE 1



DDITIONAL INFORMATION



- coding Range Test -

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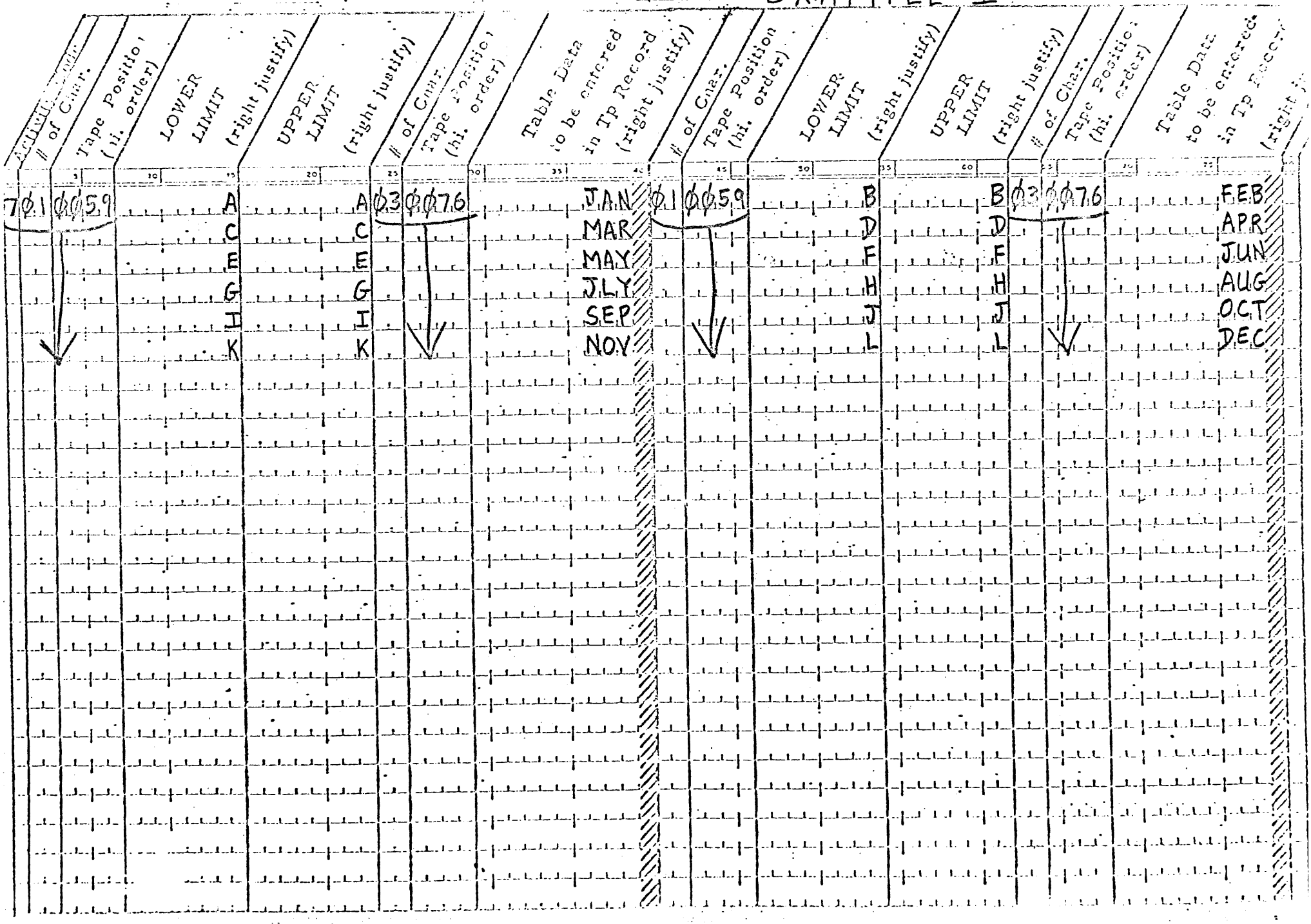
EXAMPLE 1



Delete - Extract

EXAMPLE 1

Record Code	Delete (1) Extract (2)	# of Char.	Tape Position (hi. order)	Lower Limit	(right justify)	Upper Limit	(right justify)	# of Char.	Tape Position (hi. order)	Lower Limit	(right justify)	Upper Limit	(right justify)	# of Char.	Tape Position (hi. order)	Lower Limit	(right justify)	Upper Limit	(right justify)	
83	1	ϕ3	ϕϕϕ2		7ϕ6		7ϕ6	ϕ3	ϕϕϕ2		781		781	ϕ3	ϕϕϕ2		649		649	"OR" 1A
83	1	ϕ3	ϕϕϕ2		618		618													
83	2	ϕ4	ϕϕ31		14ϕ1		14ϕ1	ϕ3	ϕϕϕ2		7ϕ6		7ϕ6							"AND" 1B
											649		649							
											781		781							

NOTE:

COLS. 49-8ϕ MUST BE BLANK IN "AND" TYPE RANGE TEST CARD.

EXAMPLE 2

REFORMATING, LIST B FIELD SPECIFICATION, CODING

Input

Master

80 character records, unblocked, not ending in a record mark , 3 reels
Header not followed by tape mark, no trailer
County code in positions 2 - 4
File is in sequence by county code

List B

125 character records, blocked 3, 1 reel
Standard 7080 headers and trailers
County code in positions 111 - 113
County name in positions 14 - 28
One record per county
File is in sequence by county code

Requirements

1. Expand record size to 100 characters and make output blocked 7, with no labels.

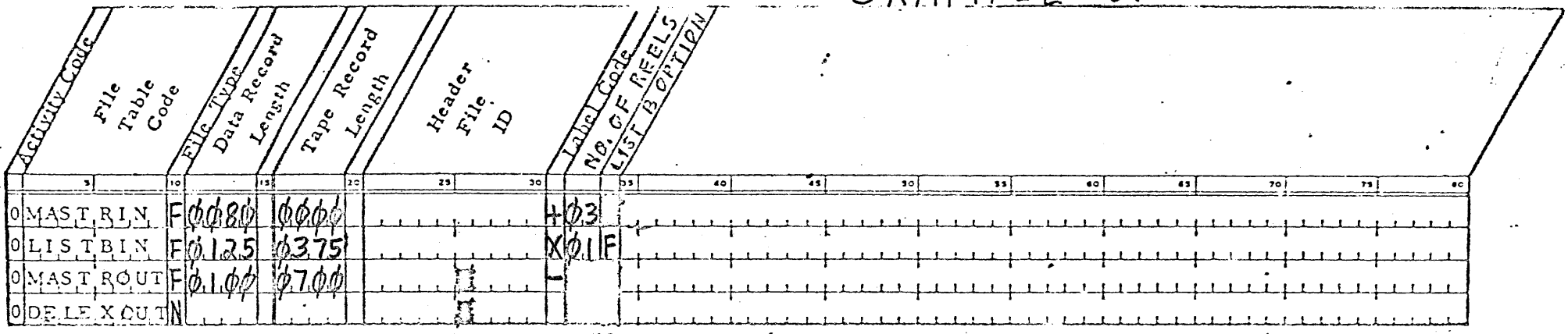
2. Move county code to 81 - 83; blank out 2 - 4

3. Put county name corresponding to county code (from List B) into positions 84 - 98.

4. If county code is blank, put an "8" in 99.

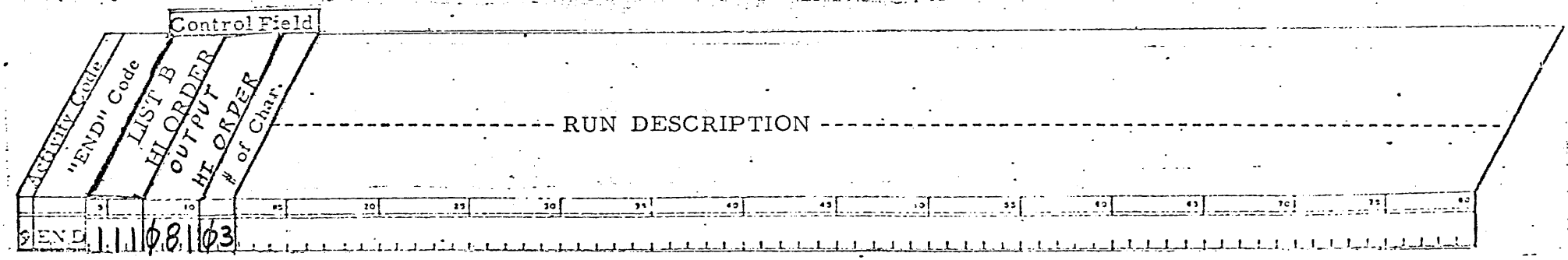
INPUT/OUTPUT CONTROL CARDS

EXAMPLE 2

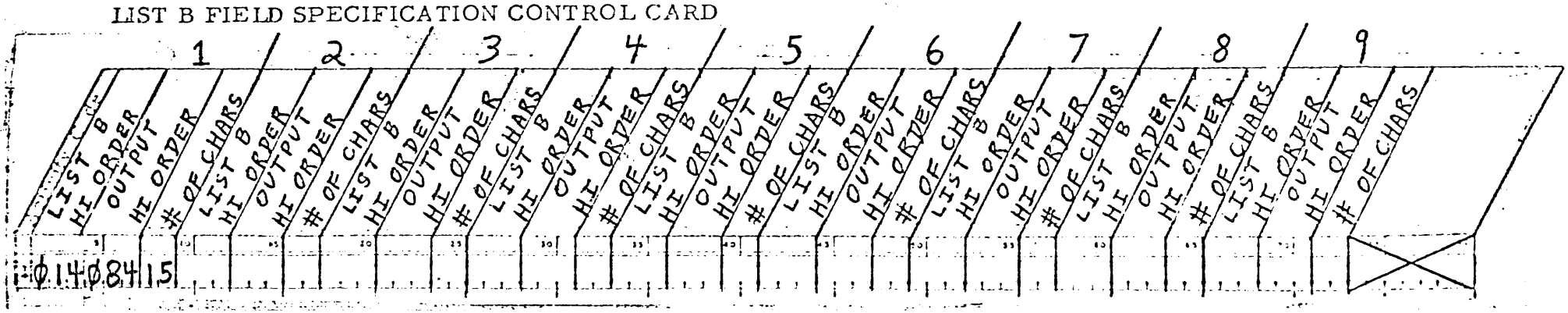


NOTE: THE SUM OF ALL TAPE RECORD LENGTHS MUST NOT EXCEED 8200 CHARACTERS.

END CONTROL CARD



LIST B FIELD SPECIFICATION CONTROL CARD



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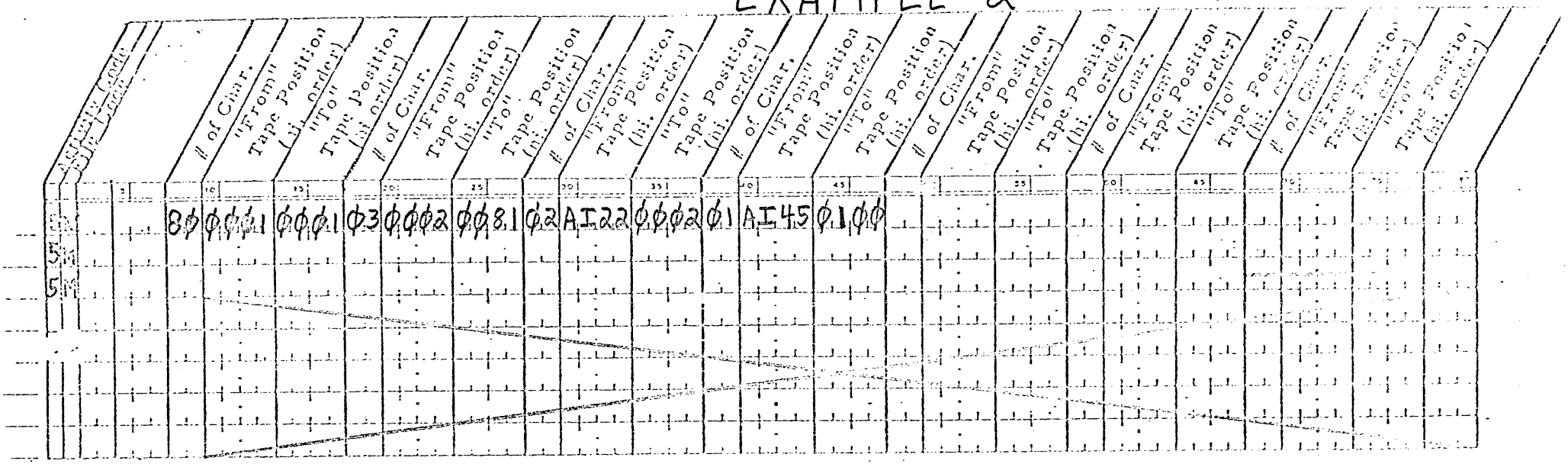
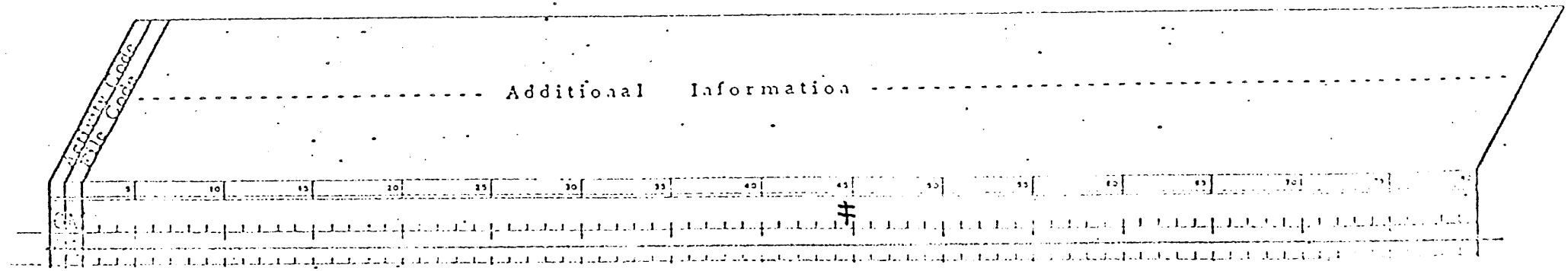
REFORMATING

EXAMPLE 2



ADDITIONAL INFORMATION



Coding Range Tests

AKB210 EXAMPLE 2

Activity Code	# of Char.	Tape Position (lo. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	Table Data to be entered in Tp Record (right justify)	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	Table Data to be entered in Tp Record (right justify)
P	03	0081			01	0199	8							

EXAMPLE 3

LIST B DELETE

Input

Master

400 character records, blocked 15, unknown number of reels
No headers or trailers
Account number in positions 301 - 307
File is in sequence by account number

List B

80 character records, ending in a record mark, unblocked, 3 reels
Standard 7080 headers and trailers
Account numbers in positions 16 - 22
File is in sequence by account number

Requirements

Output is to consist of only those Master input file records in their original format which matched records in the List B file on account number. The output file should be blocked. 3, with no header and a 7080 standard trailer.

INPUT/OUTPUT CONTROL CARDS

EXAMPLE 3

Activity Code	File Table Code	File Type	Data Record Length	Tape Record Length	Header File ID	Label Code	No. of Reels / List B Option
0	MASTRIN	F	0400	6000		-	99
0	LISTBIN	F	0080	0001		X	03
0	MASTROUT	N					
0	DELEXOUT	F	0400	1200		0	

NOTE: THE SUM OF ALL TAPE RECORD LENGTHS MUST NOT EXCEED 8200 CHARACTERS.

END CONTROL CARD

Activity Code	Control Field: "END" Code	Control Field: LIST B HI ORDER OUTPUT HI ORDER # of Char.	RUN DESCRIPTION
2	END	01 63 01 07	

LIST B FIELD SPECIFICATION CONTROL CARD

	1	2	3	4	5	6	7	8	9
	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS	LIST B HI ORDER OUTPUT HI ORDER # OF CHARS

EXAMPLE 4

CHAINED "AND" SELECTIONS, BLIND DELETION

Input

150 character records, blocked 3, 11 reels
No header, standard 7080 trailer
District code in positions 13 - 14
Points on order in positions 51 - 57
Points installed in positions 61 - 67
One record per account

Requirements

Two output files: one containing only those accounts which are in District 21 and have zero points on order and zero points installed; the other file containing only those accounts which are in District 21 and have zero points installed and other than zero points on order.

Note:

In the reformat phase, a three position control word of zeros will be established in the output record. In the coding phase, the first zero is replaced by a one if District is 21; the second zero is replaced by a one if points installed is zero; the third zero is replaced by a one if points on order is zero. Thus, at the completion of coding, the control word will have one of these eight possible configurations:

ØØØ, ØØ1, Ø1Ø, Ø11, 1ØØ, 1Ø1, 11Ø, 111

The first six record types will be blind deleted; type 11Ø is a record in District 21 with zero points installed and other than zero points on order - these records will be deleted. The balance - Type 111 - is a record in District 21 with zero points installed and zero points on order; these records will automatically be written on the Master Out file.

INPUT/OUTPUT CONTROL CARDS

EXAMPLE 4

Activity Code	File Table Code	File Type	Data Record Length	Tape Record Length	Header File ID	Label Code	No. of Reels	List B Option
0	MASTRIN	F	0150	0450			11	
0	LISTBIN	N						
0	MASTROUT	F	0150	1500	XXXXX4	X		
0	DELEXCUT	F	0150	3000	B			

NOTE: THE SUM OF ALL TAPE RECORD LENGTHS MUST NOT EXCEED 8200 CHARACTERS.

END CONTROL CARD

	Control Field			
Activity Code	"END" Code	LIST B HI ORDER OUTPUT	HI ORDER # of Char.	RUN DESCRIPTION
9	END	00	00	00

LIST B FIELD SPECIFICATION CONTROL CARD

	1			2			3			4			5			6			7			8			9		
	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS	LIST B HI ORDER OUTPUT	HI ORDER	# OF CHARS

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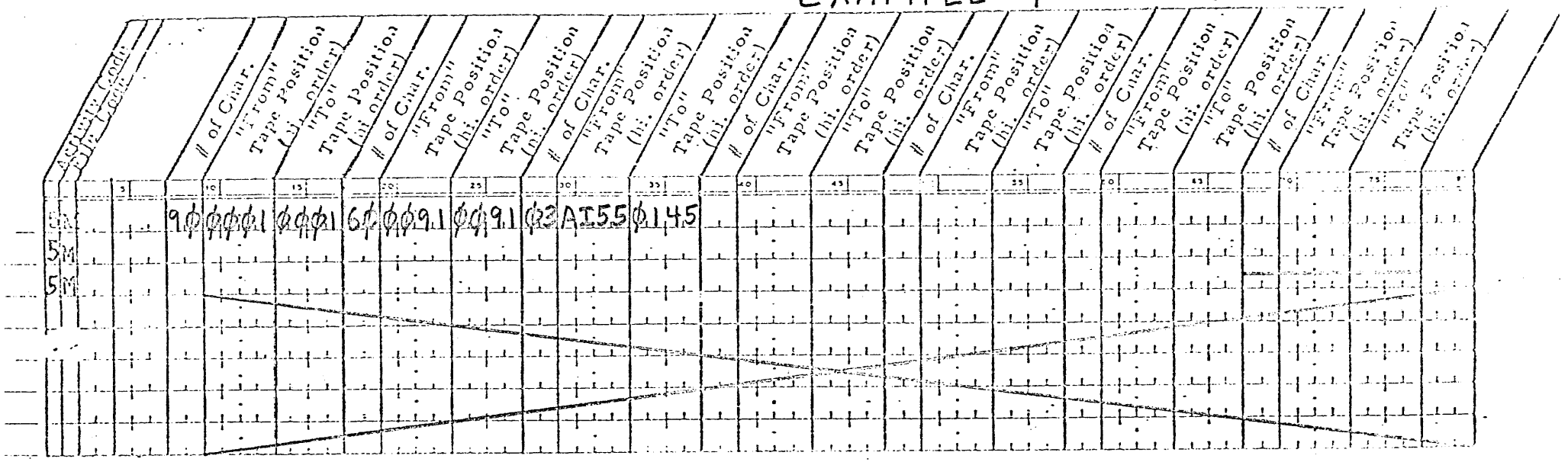
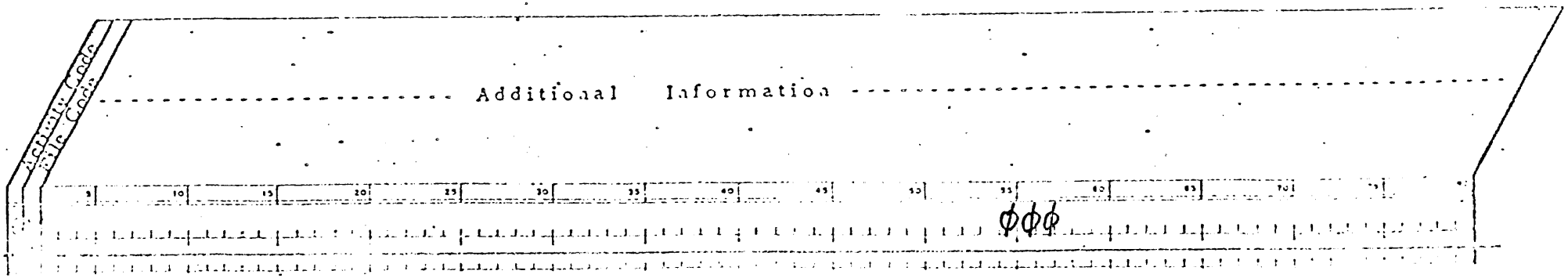
REFORMATING

EXAMPLE 4



ADDITIONAL INFORMATION



AKB210 EXAMPLE 4

Activity Code	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	Table Data to be entered in Tp Record (right justify)	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	Table Data to be entered in Tp Record (right justify)
7	02	00	13	21	21	01	0145		07	00	61	00000000	00000000	01	0146	
7	07	00	51	00000000	00000000	01	0147									

Delete - Extract

[illegible] Code	[illegible] Code	[illegible]-Or Code	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	# of Char.	Tape Position (hi. order)	LOWER LIMIT (right justify)	UPPER LIMIT (right justify)	
8	4	1	Ø3	Ø145	B ØØØ	1Ø1	Ø3	Ø145	11Ø	11Ø					

AKB21Ø ADDENDUM

In addition to the normal data record counts printed at end of job, the program has been expanded to accumulate one field from within every data record. Accumulated totals of the field (limited to 9 digits) for input records, coded records, delexed records, blind deleted records, and master output records are printed at end of job.

To specify the field for which such totals will be taken, punch the "9END" control card as follows:

Cols. 13 - 14 Number of characters in the field

Cols. 15 - 17 High order location of the field

NOTE: High order location of the field refers to the position of the field after any reformating is executed.

The absence of punching in these columns will cause the program to assume that the field located at positions 1 - 5 is to be accumulated.

For further information, contact:

Phil Bonello

Ext. 5220