



MASTER FILE

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DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP -29

MEMORANDUM FOR Donna Kostanich
Chair, A.C.E. Revision II Planning Group

From: Dawn Haines *del*
Chair, A.C.E. Revision II Estimation Subgroup

Prepared by: Dawn Haines
Decennial Statistical Studies Division

Subject: A.C.E. Revision II – Computer Specifications for Person Dual
System Estimation Output Files

This memorandum documents the layout of the Person Dual System Estimation (DSE) Output and Summary Files for the A.C.E. Revision II production process. These files synthesize information from the Full E- and P- Sample Files, the Revision E- and P- Sample Files, the Hundred-percent Census Unedited File (HCUF), the Hundred-percent Census Edited File (HCEF), and from variables created during the post-stratification production process. This memorandum specifies several summary files being requested.

In addition, this document specifies the creation of the A.C.E. Revision II Dual System Estimates (DSEs). The DSEs are formed from information on the Census Summary File, the Full E Sample Post-stratum-Level Summary File, and the Full P Sample Post-stratum-Level Summary File.

I. Post-Stratum-Level Summary Files

A. Census Post-Stratum Summary File

The post-stratification plan for the A.C.E. Revision II Full E Sample is not constrained to be the same as that for the Full P Sample. As a result, the census is post-stratified by both the E Sample and P Sample characteristics. The Census Summary File is formed using the cross of the expanded (8) Age and Sex categories. As a result, this file uses the E Sample post-stratum code EEXPAND and the P Sample post-stratum code PEXPAND, defined in Haines (2002a). Each row of this ASCII summary file represents census cases in the expanded E Sample post-stratum (denoted EEXPAND) and the expanded P Sample post-stratum (denoted PEXPAND).

For each nonempty combination of EEXPAND × PEXPAND in the census, define the following ASCII file where all fields are right-justified and blank-filled. For zero counts, display the value zero rather than blanks.

Input Files: MINICENSUS\$DISK:[000000]CENSUSxx.DAT (where xx is State FIPS code)

Output File: ESTIMATION\$DISK:[REVACE.ESTIMATION]REACECENSUM.DAT

<u>Variable Description</u>	<u>Name</u>	<u>Length</u>	<u>Position</u>
Expanded E Sample post-stratum code	EEXPAND	\$4	001-004
Expanded P Sample post-stratum code	PEXPAND	\$4	006-009
HCEF* Census Count (Excludes Late Adds)	CSTAR	10	011-020
HCEF* Insufficient Information Persons (Excludes Late Adds)	IISTAR	10	022-031
HCEF* Data-Defined Persons (Excludes Late Adds)	DDSTAR	10	033-042
Data-Defined Late Adds	DDLA	10	044-053
Non-Data-Defined Late Adds	NDDLA	10	055-064
HCEF Census Count (Includes Late Adds)	C	10	066-075
Coverage Correction Factor	CCF	17.15	077-093
Dual System Estimate	DSE	25.15	095-119

DSSD will append the variables:

Blank	PAD	25.15	121-145
Correlation Bias Adjusted CCF	CCFCB	17.15	147-163
Correlation Bias Adjusted DSE	DSECB	25.15	165-189
Blank	PAD	25.15	191-215
Correlation Bias Adjustment Factor	CKAPPA	17.15	217-233

Late Add (Reinstated Duplicate Delete) cases are identified by the HCEF variable FINST. If FINST = 3, this record is a Late Add. The mini-census file includes people who are out of scope for the Accuracy and Coverage Evaluation. This set includes GQ people (RT=5) as well as people in Remote Alaska (TEA=4). These records have EEXPAND and PEXPAND values of '0000.'

Calculation Rules for Terms in the Census Summary File

Variable Name	Description	Calculation Rules
CSTAR	Census Count, or Total Persons, excluding Late Adds	DDSTAR + IISTAR
IISTAR	Insufficient Information Person excluding Late Adds	$\sum_{\substack{QDDP = 1, 2 \\ \text{and } FINST \neq 3}} 1$
DDSTAR	Data-Defined Person excluding Late Adds	$\sum_{\substack{QDDP = 0 \\ \text{and } FINST \neq 3}} 1$
DDLA	Data-Defined Late Adds	$\sum_{\substack{QDDP = 0 \\ \text{and } FINST = 3}} 1$
NDDLA	Non-Data-Defined Late Adds	$\sum_{\substack{QDDP = 1, 2 \\ \text{and } FINST = 3}} 1$
C	Census Count, including Late Adds	CSTAR + DDLA + NDDLA

The first two digits of the expanded E Sample post-stratum code (EEXPAND) are the post-stratum group number, which ranges from 01-93. The first two digits of the expanded P Sample post-stratum code PEXPAND range from 01-64. Both EEXPAND and PEXPAND have eight potential Age and Sex values, denoted by 10, 20, 31, 32, 41, 42, 51, and 52. **Rows in the following table are defined only for each nonempty (EEXPAND × PEXPAND) combination in the census.**

Census Post-Stratum Summary File Format

EEXPAND	PEXPAND	CSTAR	IISTAR	DDSTAR	DDLA	NDDLA	C	CCF	DSE	PAD	CCFCB	DSECB	PAD
0000	0000												
0110	0110												
0110	0120												
0110	...												
...	6410												
0110	...												
0110	6452												
0120	0110												
0120	0120												
0120	...												
...	6410												
0120	...												
0120	6452												
...													
...													
9352	0110												
9352	0120												
9352	...												
...	6410												
9352	...												
9352	6452												

B. Full E Sample Post-stratum-Level Summary File

Input File: ESTIMATION\$DISK:[REVACE.ESTIMATION]EFULLSAM.DAT

Output File: ESTIMATION\$DISK:[REVACE.ESTIMATION]REACEESUM.DAT

<u>Variable Description</u>	<u>Name</u>	<u>Length</u>	<u>Position</u>
Short E Sample post-stratum code	EFULLSHORT	\$4	001-004
E-Sample Size	ESSIZE	10	006-015
Correct Enumeration Sample Size	CESSIZE	10	017-026
Weighted Number of Correct Enumerations without Duplicate Links	WTCENDI	25.15	028-052
Corrected Number of Correct Enumerations with Duplicate Links	ZTCEDI	25.15	054-078
Weighted Number of E-Sample Persons	WTENUMI	25.15	080-104
Full E Sample Group	EFULLGROUP	2	106-107
Double Sampling Ratio Adjustment for Non-Duplicate Correct Enumerations	F1	25.10	109-133
Weighted Estimate of Total Correct Enumerations	WTCETOTAL	25.15	135-159

Calculation Rules for Terms in the Full E Sample Post-Stratum-Level Summary File

Term	Variable Name	Description	Summation Over	Calculation Rules
$n_{E, i}$	ESSIZE	E-Sample Size	i, TESFINWT>0	$\sum 1$
$n_{CE, i}$	CESSIZE	Correct Enumeration Sample Size	i, CEPROBF>0 and TESFINWT>0	$\sum 1$
CE_i^{ND}	WTCENDI	Weighted number of correct enumerations without duplicate links	i	$\sum \text{TESFINWT} \times (1 - \text{PT}) \times \text{CEPROBF}$
$C\tilde{E}_i^D$	ZTCEDI	Weighted number of correct enumerations with duplicate links	i	$\sum \text{TESFINWT} \times \text{PT} \times \text{ZT} \times \text{CEPROBF}$
E_i	WTENUMI	Weighted number of E-Sample persons	i	$\sum \text{TESFINWT}$
	WTCETOTAL	Weighted number of estimated correct enumerations	i	$(\text{WTCENDI} \times F1) + \text{ZTCEDI}$

Note: The production values of PT and ZT for these formulas are PT1 and ZT1, respectively.

C. Full P Sample Post-stratum-Level Summary File

Input File: ESTIMATION\$DISK:[REVACE.ESTIMATION]PFULLSAM.DAT

Output File: ESTIMATION\$DISK:[REVACE.ESTIMATION]REACEPSUM.DAT

<u>Variable Description</u>	<u>Name</u>	<u>Length</u>	<u>Position</u>
Short P Sample post-stratum code	PFULLSHORT	\$4	001-004
Nonmover Sample Size without Duplicate Links	NONNDSSIZE	10.4	006-015
Nonmover Sample Size with Duplicate Links	NONDSSIZE	10.4	017-026
Inmover Sample Size	INSSIZE	10	028-037
Outmover Sample Size	OUTSSIZE	10	039-048
Weighted Number of Nonmover Residents without Duplicate Links	NONNDNUM	25.15	050-074
Weighted Number of Nonmover Residents with Duplicate Links	NONDNUM	25.15	076-100
Weighted Number of Inmovers	WTINNUM	25.15	102-126
Weighted Number of Outmovers	WTOUTNUM	25.15	128-152
Corrected Number of Nonmover Residents with Duplicate Links	HTNONDNUM	25.15	154-178
Weighted Number of Matched Nonmovers without Duplicate Links	NONNDMAT	25.15	180-204
Weighted Number of Matched Nonmovers with Duplicate Links	NONDMAT	25.15	206-230
Corrected Number of Matched Nonmovers with Duplicate Links	HTNONDMAT	25.15	232-256
Weighted Number of Matched Outmovers	WTOUTMAT	25.15	258-282
Full P Sample Group	PFULLGROUP	2	284-285
Double Sampling Ratio Adjustment for Non-Duplicate Nonmover Matches	F2	10.8	287-296
Double Sampling Ratio Adjustment for Outmover Matches	F3	10.8	298-307
Double Sampling Ratio Adjustment for Outmovers	F4	10.8	309-318
Double Sampling Ratio Adjustment for Inmovers	F5	10.8	320-329
Double Sampling Ratio Adjustment for Non-Duplicate Nonmovers	F6	10.8	331-340
Weighted P Sample Totals	WTPTOTAL	25.15	342-366
Weighted P Sample Matches	WTPMATCH	25.15	368-392

Calculation Rules for Terms in the Full P Sample Post-Stratum-Level Summary File

Term	Variable Name	Description	Summation Over	Calculation Rules
$n_{nm,j}^{ND}$	NONNDSSIZE	Nonmover Sample Size without Duplicate Links	j, MOVERPER = 1 and RPROB > 0 and TESFINWT > 0	$\sum (1 - PT)$
$n_{nm,j}^D$	NONDSSIZE	Nonmover Sample Size with Duplicate Links	j, MOVERPER = 1 and RPROB > 0 and TESFINWT > 0	$\sum PT$
$n_{im,j}$	INSSIZE	Inmover Sample Size	j, MOVERPER=2 and RSC ≠ R	$\sum 1$
$n_{om,j}$	OUTSSIZE	Outmover Sample Size	j, MOVERPER = 3 and RPROB > 0 and TESFINWT > 0	$\sum 1$
$P_{nm,j}^{ND}$	NONNDNUM	Weighted Number of Nonmover Residents without Duplicate Links	j, MOVERPER=1	$\sum TESFINWT \times (1 - PT) \times RPROB$
$P_{nm,j}^D$	NONDNUM	Weighted Number of Nonmover Residents with Duplicate Links	j, MOVERPER=1	$\sum TESFINWT \times PT \times RPROB$
$P_{im,j}$	WTINNUM	Weighted Number of Inmovers	j, MOVERPER=2 and RSC ≠ R	$\sum NIWGTI$
$P_{om,j}$	WTOUTNUM	Weighted Number of Outmovers	j, MOVERPER=3	$\sum TESFINWT \times RPROB$
$\tilde{P}_{nm,j}^D$	HTNONDNUM	Corrected Number of Nonmover Residents with Duplicate Links	j, MOVERPER=1	$\sum TESFINWT \times PT \times HT \times RPROB$

Term	Variable Name	Description	Summation Over	Calculation Rules
$M_{nm,j}^{ND}$	NONNDMAT	Weighted Number of Matched Nonmovers without Duplicate Links	j, MOVERPER=1	$\sum \text{TESFINWT} \times (1 - \text{PT}) \times \text{RPROB} \times \text{MPROB}$
$M_{nm,j}^D$	NONDMAT	Weighted Number of Matched Nonmovers with Duplicate Links	j, MOVERPER=1	$\sum \text{TESFINWT} \times \text{PT} \times \text{RPROB} \times \text{MPROB}$
$\tilde{M}_{nm,j}^D$	HTNONDMAT	Corrected Number of Matched Nonmovers with Duplicate Links	j, MOVERPER=1	$\sum \text{TESFINWT} \times \text{PT} \times \text{HT} \times \text{RPROB} \times \text{MPROB}$
$M_{om,j}$	WTOUTMAT	Weighted Number of Matched Outmovers	j, MOVERPER=3	$\sum \text{TESFINWT} \times \text{RPROB} \times \text{MPROB}$

Note: The production values of PT and HT for these formulas are PT1 and HT1, respectively.

Following are some rules to define the variables WTPTOTAL and WTPMATCH, and hence the A.C.E. Revision II DSE. Note that the definition of the variables WTPTOTAL and WTPMATCH depend on the outmover sample size (OUTSSIZE).

Define the A.C.E. Revision II Dual System Estimate (ReDSE) as:

$$\text{Re DSE} = (\text{CSTAR} - \text{IISTAR}) \times \frac{\text{WCETOTAL}}{\text{WTENUMI}} \times \frac{\text{WPTOTAL}}{\text{WTPMATCH}}$$

The A.C.E. Revision II Coverage Correction Factor (CCF) is defined as the ratio of the A.C.E. Revision II DSE by its HCEF Census Count (including Late Adds) for that particular post-stratum. In terms of the variable names, $\text{CCF} = \text{DSE}/\text{C}$.

If OUTSSIZE ≥ 10, use Mover Methodology PES-C and define WTPTOTAL and WTPMATCH as follows:

WTPTOTAL =

$$(NONNDNUM \times F6) + HTNONDNUM + (WTINNUM \times F5) + G(NONDNUM - HTNONDNUM)$$

WTPMATCH =

$$(NONNDMAT \times F2) + HTNONDMAT + \left[\frac{WTOUTMAT \times F3}{WTOUTNUM \times F4} \right] [(WTINNUM \times F5) + G(NONDNUM - HTNONDNUM)]$$

If OUTSSIZE < 10, use Mover Methodology PES-A and define WTPTOTAL and WTPMATCH as follows:

WTPTOTAL =

$$(NONNDNUM \times F6) + HTNONDNUM + (WTOUTNUM \times F4) + G(NONDNUM - HTNONDNUM)$$

WTPMATCH =

$$(NONNDMAT \times F2) + HTNONDMAT + (WTOUTMAT \times F3) + G(NONDMAT - HTNONDMAT)$$

D. Defining the Dual System Estimates

Given that the variables EEXPAND and PEXPAND represent the full eight Age and Sex categories on the census file, these values must be associated with the appropriate (collapsed) Full E Sample post-stratum i and (collapsed) Full P Sample post-stratum j to form Dual System Estimates (DSEs).

The 8 Age and Sex Groups:		are coded as:	
0-9 M&F		Age=1 Sex=0	
10-17 M&F		Age=2 Sex=0	
18-29 M	18-29 F	Age=3 Sex=1	Age=3 Sex=2
30-49 M	30-49 F	Age=4 Sex=1	Age=4 Sex=2
50+ M	50+ F	Age=5 Sex=1	Age=5 Sex=2

E Sample

The first column of the table below lists the full eight Age and Sex categories on the Census file, as defined by EEXPAND. The second, third, and fourth columns identify Full E Sample post-stratum groups that were collapsed to one, two, or four Age and Sex categories, respectively, and map their Age and Sex values to the full eight categories of EEXPAND.

For example, post-stratum group 11 in the Full E Sample is collapsed to one Age and Sex category (Age=0 and Sex=0). As a result, DSEs with EEXPAND values of 1110, 1120, 1131, 1132, 1141, 1142, 1151, and 1152 all use EFULLSHORT 1100 to denote their Full E Sample post-stratum code. For post-stratum group 76, EEXPAND values of 7610, 7620, 7631, 7632, 7641, 7642, 7651, and 7652 are associated with EFULLSHORT values of 7660, 7660, 7630, 7630, 7640, 7640, 7650, and 7650, respectively.

Mapping EEXPAND Census Values to their Collapsed EFULLSHORT Values

The 8 Age and Sex categories on the Census file (EEXPAND) are:	Post-stratum groups reduced to 1 Age and Sex category: 11, 67, 85, 90, 93	Post-stratum groups reduced to 2 Age and Sex categories: 09-10, 12, 15, 31, 61-68, 75, 79-84, 86	Post-stratum groups reduced to 4 Age and Sex categories: 07, 16, 19, 29-30, 32, 35, 47, 51, 71-74, 76, 91-92	Post-stratum groups with full 8 Age and Sex categories: 01-06, 08, 13-14, 17-18, 20-28, 33-34, 36-46, 48-50, 52-60, 69-70, 77-78, 87-89
Age=1 Sex=0	Age=0 Sex=0	Age=8 Sex=0	Age=6 Sex=0	Age=1 Sex=0
Age=2 Sex=0	Age=0 Sex=0	Age=8 Sex=0	Age=6 Sex=0	Age=2 Sex=0
Age=3 Sex=1	Age=0 Sex=0	Age=8 Sex=0	Age=3 Sex=0	Age=3 Sex=1
Age=3 Sex=2	Age=0 Sex=0	Age=8 Sex=0	Age=3 Sex=0	Age=3 Sex=2
Age=4 Sex=1	Age=0 Sex=0	Age=9 Sex=0	Age=4 Sex=0	Age=4 Sex=1
Age=4 Sex=2	Age=0 Sex=0	Age=9 Sex=0	Age=4 Sex=0	Age=4 Sex=2
Age=5 Sex=1	Age=0 Sex=0	Age=9 Sex=0	Age=5 Sex=0	Age=5 Sex=1
Age=5 Sex=2	Age=0 Sex=0	Age=9 Sex=0	Age=5 Sex=0	Age=5 Sex=2

P Sample

The first column of the table below lists the full eight Age and Sex categories on the Census file, as defined by PEXPAND. The second column identifies Full P Sample post-stratum groups that were collapsed to four Age and Sex categories and maps their Age and Sex values to the full eight categories of PEXPAND.

For example, post-stratum group 21 in the Full P Sample is collapsed to four Age and Sex categories. As a result, DSEs with PEXPAND values of 2110, 2120, 2131, 2132, 2141, 2142, 2151, and 2152 use PFULLSHORT codes of 2110, 2120, 2171, 2172, 2171, 2172, 2171, and 2172, respectively, to denote their Full P Sample post-stratum codes.

Mapping PEXPAND Census Values to their Collapsed PFULLSHORT Values

The 8 Age and Sex categories on the Census file (PEXPAND) are:	Post-stratum groups reduced to 4 Age and Sex categories: 06, 08, 13, 21, 48, 56-58	Post-stratum groups with full 8 Age and Sex categories: 01-05, 07, 09-12, 14-20, 22-47, 49-55, 59-64
Age=1 Sex=0	Age=1 Sex=0	Age=1 Sex=0
Age=2 Sex=0	Age=2 Sex=0	Age=2 Sex=0
Age=3 Sex=1	Age=7 Sex=1	Age=3 Sex=1
Age=3 Sex=2	Age=7 Sex=2	Age=3 Sex=2
Age=4 Sex=1	Age=7 Sex=1	Age=4 Sex=1
Age=4 Sex=2	Age=7 Sex=2	Age=4 Sex=2
Age=5 Sex=1	Age=7 Sex=1	Age=5 Sex=1
Age=5 Sex=2	Age=7 Sex=2	Age=5 Sex=2

Dual System Estimates are found on the Post-Stratum-Level Census Summary File, located at ESTIMATION\$DISK:[REVACE.ESTIMATION]REACECENSUM.DAT.

II. A.C.E. Revision II Full E Sample Person-Level Output File Layout

This file is located at ESTIMATION\$DISK:[REVACE.ESTIMATION]EFULLSAM.DAT

A.C.E. Revision II Full E-Sample File

Name	Variable Description	Position	Length
E-SAMPLE PERSON DUAL SYSTEM ESTIMATION			
CST	Current FIPS State Code	001-002	2\$
REGION	Census Region 1=Northeast 2=Midwest 3=South 4=West 0=Puerto Rico	003	1\$
DIV	Census Division 1=New England 2=Middle Atlantic 3=East North Central 4=West North Central 5=South Atlantic 6=East South Central 7=West South Central 8=Mountain 9=Pacific 0=Puerto Rico	004	1\$
AICIND	American Indian Country Indicator 0=Not American Indian Country 1=American Indian Reservation/Trust Land 2=Oklahoma Tribal Statistical Area (OTSA) 3=Alaska Native Village Statistical Area (ANVSA) 4=Tribal Designated Statistical Area (TDSA)	005	1
SAMPSTR	Sampling Stratum 1=Small (0-2 housing units) 2=Medium (3-79 housing units) 3=Large (80+ housing units) 4=Medium/Large on American Indian Reservation	006	1
TEA	Type of Enumeration Area 1=Mailout/Mailback 2=Update/Leave 3=List/Enumerate 4=Remote Alaska (out of scope) 5=Rural Update/Enumerate 6=Military in Update/Leave 7=Urban Update/Leave 8=Urban Update/Enumerate 9=Mailout/Mailback to Update/Leave Conversion	007	1
CCOU	Current FIPS County Code	008-010	3\$
TRACT	Pseudo-Tract Number	011-016	6\$
CLUSTER	Cluster Number and Check Digit	017-022	6\$

Name	Variable Description	Position	Length
BLOCK	Block Number and Suffix	023-028	6\$
LCO	Local Census Office	029-032	4\$
ECLUSURB	Estimated Cluster Urbanicity 1=Urban with Population \geq 250,000 2=Other Urban 3=Non-Urban	033	1
TESIND	Targeted Extended Search Indicator 0=TES not conducted for Cluster 1=TES conducted for Cluster	034	1
PUID	Census Unit ID	035-046	12\$
PSEQ	Census Return Sequence Number	047-048	2\$
PNC	Computed Census Person Number	049-053	5\$
MPSIND	Indicator for Matching Person in P Sample Blank=Not matched N=Matched to non P Sample P=Matched to P Sample	054	1\$
MMSPOT	Matching Enhanced IL Map Spot Number	055-059	5\$
MUNIT_ID	Matching Within Map Spot Unit ID	060-063	4\$
MPERID	Matching A.C.E. Person ID	064-067	4\$
DTCODE	Demographic/Tenure Group Code for Cluster	068-069	2
NESAMP	Total E-Sample Persons in Household	070-071	2
INP	Number of Persons at this Housing Unit	072-075	4
RTENURE	Tenure 1=Owned with mortgage or loan 2=Owned free and clear, without mortgage 3=Rented for cash rent 4=Occupied without payment of cash rent 9=Missing	076	1
PAGE	Age 999=Missing	077-079	3
CPAGE	Computed Age 999=Missing	080-082	3
RACE	Race Code 1=Other Race 2=Pacific Islander (PI)(includes Native Hawaiians) 3=PI and Other Race 4=Asian 5=Asian and Other Race 6=Asian and PI 7=Asian, PI and Other Race 8=American Indian or Alaska Native (AI) 9=AI and Other Race 10=AI and PI 11=AI, PI, and Other Race 12=AI and Asian 13=AI, Asian, and Other Race 14=AI, Asian, and PI	083-084	2

Name	Variable Description	Position	Length
	15=AI, Asian, PI, and Other Race		
	16=Black		
	17=Black and Other Race		
	18=Black and PI		
	19=Black, PI, and Other Race		
	20=Black and Asian		
	21=Black, Asian, and Other Race		
	22=Black, Asian, and PI		
	23=Black, Asian, PI, and Other Race		
	24=Black and AI		
	25=Black, AI, and Other Race		
	26=Black, AI, and PI		
	27=Black, AI, PI, and Other Race		
	28=Black, AI, and Asian		
	29=Black, AI, Asian, and Other Race		
	30=Black, AI, Asian, and PI		
	31=Black, AI, Asian, PI, and Other Race		
	32=White		
	33=White and Other Race		
	34=White and PI		
	35=White, PI, and Other Race		
	36=White and Asian		
	37=White, Asian, and Other Race		
	38=White, Asian, and PI		
	39=White, Asian, PI, and Other Race		
	40=White and AI		
	41=White, AI, and Other Race		
	42=White, AI, and PI		
	43=White, AI, PI, and Other Race		
	44=White, AI, and Asian		
	45=White, AI, Asian, and Other Race		
	46=White, AI, Asian, and PI		
	47=White, AI, Asian, PI, and Other Race		
	48=White and Black		
	49=White, Black, and Other Race		
	50=White, Black, and PI		
	51=White, Black, PI, and Other Race		
	52=White, Black and Asian		
	53=White, Black, Asian, and Other Race		
	54=White, Black, Asian, and PI		
	55=White, Black, Asian, PI, and Other Race		
	56=White, Black, and AI		
	57=White, Black, AI, and Other Race		
	58=White, Black, AI, and PI		
	59=White, Black, AI, PI, and Other Race		
	60=White, Black, AI, and Asian		
	61=White, Black, AI, Asian, and Other Race		
	62=White, Black, AI, Asian, and PI		
	63=White, Black, AI, Asian, PI, and Other Race		
PSEX	Sex Code	085	1
	1=Male		
	2=Female		

Name	Variable Description	Position	Length
PSPAN	Hispanic Code 1-Non Hispanic 2-Hispanic	086	1
PRELSUP	Relationship to Reference Person 1=Census Reference Person 2=Husband/wife 3=Natural born son/daughter 4=Adopted son/daughter 5=Stepson/stepdaughter 6=Brother/sister 7=Father/mother 8=Grandchild 9=Parent-in-law 10=Son-in-law/Daughter-in-law 11=Other relative 12=Roomer, boarder 13=Housemate/roommate 14=Unmarried partner 15=Foster child 16=Other nonrelative 17=Person from another form during linking 18=Person from another return during PSA 19=Missing	087-088	2
NUMEDUP	Number of Duplicates with E-Sample Persons (for which person is primary)	089	1
NUMDUP	Number of Duplicates with Persons Subsampled Out of the E-Sample.	090-091	2
NRU	Nonresponse Follow-up Universe 0=Universe not set 1=Not in NRFU, data received 2=Not in NRFU, but NRD, NRS, NRC, and NRPOP were set on DMAF by Update/Enumerate or List/Enumerate 3=in NRFU, Nonresponse 4=in NRFU, too late for mailout	092	1
CMPMAT	Computer Match Code	093-094	2\$
CLEMAT	Before Follow-up Clerical Match Code	095-096	2\$
BFUMAT	Before Follow-up Match Code	097-098	2\$
AFUMAT	After Follow-up Match Code	099-100	2\$
FINMAT	Final Match Code	101-102	2\$
FUFLAG	DSE Follow-up Flag Blank=No one in household needs follow-up 0=Someone in household needs follow-up but person doesn't 1=Person needs follow-up 2=Person needs follow-up (special question)	103	1\$
TESPER	TES Person Indicator 0=Not TES Person 1=TES Person	104	1

Name	Variable Description	Position	Length
MATEIND	E-Sample Indicator of Primary Person 0=No Primary Person 1=Primary Person in E-Sample 3=Primary Person in Surrounding Block	105	1
WPINIT	Initial Whole/Partial Match Code 1=Partial household match 2=Whole household nonmatch 3=Whole household match 4=All Other1	106	1
WPFIN	Final Whole/Partial Match Code 1=Partial household match 2=Whole household nonmatch 3=Whole household match 4=All Other	107	1
ADDCDE	Address Code 1=HU matched during HU Phase 2=HU not matched during HU Phase 3=HU added to DMAF after HU Phase of A.C.E. 4=Conflicting households (Based on before-follow-up person match codes)	108	1
STRCDE	Structure Code 1=Single Unit 2=Multi-unit	109	1
EWGHT	E-Sample Weight (Trimmed Weight)	110-123	14.6
FAGE	HCEF Age Edit/Allocation Flag 0=Consistent as reported 1=Age only 2=Date of birth only 3=Inconsistent age and date of birth 4=Allocated from hot deck 9=E-Sample person did not match to the HCEF	124	1
FRACE	HCEF Race Edit/Allocation Flag 0=As reported 1=Code changed through consistency edit 3=Classified from race response to Hispanic Origin question 4=Allocated from within household 5=Allocated from hot deck 9=E-Sample person did not match to the HCEF	125	1
FTENURE	HCEF Tenure Edit/Allocation Flag 0=As reported 1=Assigned by consistency check 4=Allocated from hot deck 9=E-Sample person did not match to the HCEF	126	1

Name	Variable Description	Position	Length
FSPAN	HCEF Hispanic Origin Edit/Allocation Flag 0=1 reported origin 2=Multiple response given a unique Hispanic or Non-Hispanic code 3=Assign Hispanic from race code 4=Allocated from within household 5=Allocated from hot deck (surname used) 6=Allocated from hot deck (surname not used) 9=E-Sample person did not match to the HCEF	127	1
FSEX	HCEF Sex Edit/Allocation Flag 0=As reported 1=From first name 2=Edited 4=Allocated from hot deck 5=Allocated from consistency check 9=E-Sample person did not match to the HCEF	128	1
FREL	HCEF Relationship to Reference Person Edit/Allocation Flag 0=As reported from code box 1=As reported from write-in 2=Value changed for household consistency 4=Allocated from hot deck 5=Allocated from consistency check 9=E-Sample person did not match to the HCEF	129	1
TESWGT	Target Extended Search Sampling Weight (TES Take-Every)	130-136	7.4
AFNMAT_HU	Final Match Code from Housing Unit Phase	137-138	2\$
PRCODE	E-Sample Probability Code	139	1
MHUMSPOT	Map Spot Number of Matching A.C.E. HU	140-144	5\$
MHUWMSID	Within Map Spot Unit ID of Matching A.C.E. HU (from Housing Unit Phase)	145-148	4\$
ST	Collection FIPS State Code	149-150	2\$
COU	Collection FIPS County Code	151-153	3\$
FU_CODE1	After Follow-up Code	154	1\$
FU_CODE2	Recoded After Follow-Up Code 1=Potentially fictitious (FU_CODE1 = "b") 2=Potentially lived elsewhere on census day (FU_CODE1 = "e", "f", or "g") 3=Person went to follow-up (FU_CODE2 ≠ 1 or 2) 8=Person went to follow-up (no information used) (FU_CODE1 is blank and FUFLAG = 1 or 2) 9=Person did not go to follow-up (FU_CODE1 is blank and FUFLAG = 0, 3, or blank)	155	1
	Blank	156-158	3
TENURE2	Recoded Tenure 1=Owner 2=Renter	159	1
AGE2	Age Category 1=0-17 2=18-29 3=30-49 4=50+	160	1

Name	Variable Description	Position	Length
RACE2	Recoded race for Hispanic origin imputation 0=Missing 1=White 2=Other race or white and other race 3=Remaining race categories	161	1
	Blank	162	1
RELATE2	Recoded Relationship to Reference Person 0=Missing or from another return 1=Spouse 2=Child 3=Sibling 4=Parent (includes parent-in-law) 5=Other relative (includes son/daughter-in-law) 6=Nonrelative 9=Census Reference Person	163	1
TENIFL	Imputation Flag for Recoded Tenure 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	164	1
AGEIFL	Imputation Flag for Age Category 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	165	1
SEXIFL	Imputation Flag for Sex 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	166	1
HISPIF	Imputation Flag for Recoded Hispanic Origin 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	167	1
RACEIF	Imputation Flag for Race 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	168	1
AMTIMP	Flag for any variables imputed 0=No Imputation 1=At least one variable imputed in E-sample 2=At least one variable imputed on HCEF	169	1

Name	Variable Description	Position	Length
BFUGP	E-Sample Before Follow-up Match Code Group 1=Matches needing follow-up 2=Possible matches 3=Nonmatches from partial household nonmatches 4=Nonmatches from whole-household nonmatches where HU matched in HU matching 5=Nonmatches from conflicting households where E-Sample HU was not in regular NRFU 6=Nonmatches from conflicting households where E-Sample HU was in regular NRFU (NRU=3) 7=Nonmatches from whole-household nonmatches where HU did not match during HU matching 8=Persons resolved before follow-up 9=Persons with insufficient information for matching 10=TES Persons	170-171	2
FES	Numeric Initial Enumeration Status 0=Erroneous Enumeration 1=Correct Enumeration 2=Unresolved	172-176	5.3
CEPROBI	Probability of Correct Enumeration-Initial	177-186	10.8
CEPROBF	Probability of Correct Enumeration-Final	187-197	11.8
TESFINWT	E-Sample Final TES-Adjusted Weight	198-211	14.6
FIPS_MSA	MSA/CMSA FIPS Code 9999 = Non-MSA	212-215	4\$
MSAGROUP	MSA Group L=Large (U.S.) M=Medium (U.S.) S=Small (U.S.) X=Non-MSA (U.S.) 1=San Juan CMSA (PR) 2=Other MSA (PR) 3=Non-MSA (PR)	216	1\$
MSANAME	MSA Name	217-276	60\$
RETRATE	Tract-level Return Rate - See DSSD memos Q-38 and Q-48 for details.	277-281	5.1
RRNUM	Numerator of Return Rate - See DSSD memos Q-38 and Q-48 for details.	282-291	10
RRDEN	Denominator of Return Rate - See DSSD memos Q-38 and Q-48 for details.	292-301	10
DOMAIN	A.C.E. Race/Hispanic Origin Domain 1=American Indian on Reservation 2=American Indian off Reservation 3=Hispanic 4=Non-Hispanic Black 5=Native Hawaiian or Pacific Islander 6=Non-Hispanic Asian 7=Non-Hispanic White or "Some other race"	302	1
CUTOFF	Cut-Off Return Rate - See DSSD memos Q-38 and Q-48 for details.	303-307	5.1

Name	Variable Description	Position	Length
RRATEIND	Return Rate Indicator - See DSSD memos Q-38 and Q-48 for details. 1=High 0=Low 9=Not Applicable	308	1
MSATEA	MSA/TEA Post-Stratification Variable 0=Puerto Rico 1=Large MSA MO/MB (U.S.) 2=Medium MSA MO/MB (U.S.) 3=Small MSA and Non-MSA MO/MB (U.S.) 4=All Other TEAs (U.S.)	309	1
AGESEX	Age/Sex Post-Stratification Variable 1=0-17 Male and Female 2=18-29 Male 3=18-29 Female 4=30-49 Male 5=30-49 Female 6=50+ Male 7=50+ Female	310	1
POSTSTR	A.C.E. Pre-Collapsed Post-Stratum Code - See DSSD memos Q-38 and Q-48 for details.	311-313	3\$
CPOSTSTR	A.C.E. Post-Collapsed Post-Stratum Code - See DSSD memos Q-38 and Q-48 for details.	314-316	3\$

HCEF BLOCK RECORD CHARACTERISTICS

Formed by "S" concatenated with the HCEF variable name

SBKN	Collection Block Number - (HCEF Block Record)	317-321	5\$
SBKP	Block Part - (HCEF Block Record)	322-322	1\$
SAIR	AIR/ANVSA/TDSA/TJSA - (HCEF Block Record)	323-326	4\$
SAA	Assignment Area - (HCEF Block Record)	327-332	6\$
SACER	A.C.E. Ring Indicator - (HCEF Block Record)	333-333	1\$

HCEF HOUSING UNIT RECORD CHARACTERISTICS

Formed by "S" concatenated with the HCEF variable name

SMSOUR	MAF Source Flag - (HCEF Housing Unit Record)	334- 335	\$2
SMALD	Mail Return Check-in Month and Day - (HCEF Housing Unit Record)	336-339	\$4
SUAA	Undeliverable as Addressed (UAA) - (HCEF Housing Unit Record)	340-340	\$1
SCEU	Coverage Edit Follow-up (CEFU) Universe - (HCEF Housing Unit Record)	341-341	\$1
SNRU	Nonresponse Follow-up Universe - (HCEF Housing Unit Record)	342-342	\$1
SCIU	Coverage Improvement Follow-up Universe - (HCEF Housing Unit Record)	343-343	\$1
SUBSA	Units at Basic Street Address (BSA) - (HCEF Housing Unit Record)	344-347	\$4
SSTENURE	"Is this house, apartment or mobile home - ?" - (HCEF Housing Unit Record)	348-348	\$1
SFTENURE	STENURE edit/allocation Flag - (HCEF Housing Unit Record)	349-349	\$1
SFINST	Final Status of Unit - (HCEF Housing Unit Record)	350-350	\$1
SSFINST	Source of FINST and NP - (HCEF Housing Unit Record)	351-351	\$1
SRFT	Form Type - (HCEF Housing Unit Record)	352-353	\$2
SRHHMEM	Respondent Household Member? [EQ only] - (HCEF Housing Unit Record)	354-354	\$1

Name	Variable Description	Position	Length
SNP	Number of Persons at this Housing Unit - (HCEF Housing Unit Record)	355-356	\$2
HCEF PERSON RECORD CHARACTERISTICS			
Formed by "S" concatenated with the HCEF variable name			
SPFT	Form Type - (HCEF Person Record)	357-358	\$2
SPRT	Person Record (form) Type - (HCEF Person Record)	359-359	\$1
SQREL	Relationship - (HCEF Person Record)	360-361	\$2
SFREL	QREL edit/allocation Flag - (HCEF Person Record)	362-362	\$1
HCUF HOUSING UNIT RECORD CHARACTERISTICS			
Formed by "S" concatenated with the HCUF variable name with one exception, variable SHHMEM			
SMAILS	Mail Check-in Source - (HCUF Housing Unit Record)	363-363	\$1
SFVU	Field Verification Universe - (HCUF Housing Unit Record)	364-364	\$1
SRSOURCE	Source of Return (recode) (from DRF2 processing) - (HCUF Housing Unit Record)	365-366	\$2
SUSTAT	Unit Status (from MAF) - (HCUF Housing Unit Record)	367-368	\$2
SNRD	NRFU Check-in Month and Day (from OCS2000) - (HCUF Housing Unit Record)	369-372	\$4
SNRS	NRFU Status (from OCS2000) - (HCUF Housing Unit Record)	373-373	\$1
SNRC	NRFU Vacancy Status (from OCS2000) - (HCUF Housing Unit Record)	374-374	\$1
SFVS	Field Verification Status - (HCUF Housing Unit Record)	375-375	\$1
SCID	CIFU Check-in Month and Day (from OCS2000) - (HCUF Housing Unit Record)	376-379	\$4
SCIS	CIFU Status (from OCS2000) - (HCUF Housing Unit Record)	380-380	\$1
SCIC	CIFU Vacancy Status (from OCS2000) - (HCUF Housing Unit Record)	381-381	\$1
SREPDATE	Earliest Form Processing Date - (HCUF Housing Unit Record)	382-385	\$4
SRCMODE	Response Collection Mode - (HCUF Housing Unit Record)	386-386	\$1
SHHMEM	Respondent Household Member? [EQ only] - (HCUF Housing Unit Record)	387-387	\$1
HCUF PERSON RECORD CHARACTERISTICS			
Formed by "S" concatenated with the HCUF variable name			
SPCMODE	Response Collection Mode - (HCUF Person Record)	388-388	\$1
SPCLANG	Language of Captured Form - (HCUF Person Record)	389-389	\$1
A.C.E. REVISION II POST-STRATIFICATION			
EFULLLONG	A.C.E. Revision II Production E Sample Long Post-stratification Code	390-396	\$7
EFULLSHORT	A.C.E. Revision II Production E Sample Short Post-stratification Code	397-400	\$4
	blank	401-409	\$9
INTEGRATION OF DUPLICATE LINKS AND A.C.E. REVISION II ESTIMATION			
SID	Source (E-sample) Person ID Concatenation of PUID(12)/PSEQ(2)/PNC(5) Blank When No Duplicate Link Outside Search Area	410-428	\$19
TID	Target (Census) Person ID Concatenation of PUID(12)/PSEQ(2)/PNC(5) Blank When No Duplicate Link Outside Search Area	429-447	\$19

Name	Variable Description	Position	Length
DTCELL	Domain/Tenure Cell for Probability of Correct Enumeration Given a Duplicate Link (Recode of A.C.E. Race/Hispanic Origin Domain with Tenure) 1=Hispanic Owner 2=Hispanic Renter 3=Non-Hispanic Black Owner 4=Non-Hispanic Black Renter 5=Everyone else Owner 6=Everyone else Renter Blank When No Duplicate Link Outside Search Area	448-448	\$1
CEPROBIND	Recoded E-sample A.C.E. Probability of Correct Enumeration 1=Probability of Correction Enumeration greater than zero 0=Probability of Correction Enumeration equal to zero Blank When No Duplicate Link Outside Search Area	449-449	\$1
SITUATION	Situation Describing the Type of Duplicate Link for ACE E Sample Blank When No Duplicate Link Outside Search Area	450-450	\$1
ETARGET	Target Record Indicator 1=E-sample Eligible 2=Group Quarters 3=Reinstated 4=Deleted Blank When No Duplicate Link Outside Search Area	451-451	\$1
ZT1	Probability of Correct Enumeration Given a Duplicate Link Based on ACE Coding, Includes Links to Reinstated and Deleted Census Records - Used in A.C.E. Revision II estimates (Set to zero for E-Sample Without Duplicate Links) – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details.	452-461	10.8
ZT2	Probability of Correct Enumeration Given a Duplicate Link Based on ACE Coding, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for E-Sample Without Duplicate Links) – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details.	462-471	10.8
PT1	Duplication Probability of E-Sample Link Outside A.C.E. Search Area, Includes Links to Reinstated and Deleted Census Records - Used in A.C.E. Revision II estimates (Set to zero for E-Sample Without Duplicate Links)	472-481	10.8
PT2	Duplication Probability of E-Sample Link Outside A.C.E. Search Area, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for E-Sample Without Duplicate Links)	482-491	10.8
STATISTICAL MODELING VARIABLES			
GEOCAT	Geographic Category 1=Within Cluster 2=Surrounding Block 3=Outside Surrounding Block, Within Cluster 4=Different County, same State 5=Different State Blank When No Duplicate Link Outside Search Area	492-499	\$8

Name	Variable Description	Position	Length
GEOCAT2	Geographic Category 2 1=Block 2=Outside Block, Within Tract 3=Outside Tract, Within County 4=Different County, same State 5=Different State Blank When No Duplicate Link Outside Search Area	500-507	\$8
A.C.E. REVISION II E-SAMPLE PERSON DUAL SYSTEM ESTIMATION - See Haines (2002b) for details.			
EFULLGROUP	Full E Sample Group	508-509	2
F1	Double Sampling Ratio Adjustment for Non-Duplicate Correct Enumerations	510-534	25.10

III. A.C.E. Revision II Full P Sample Person-Level Output File Layout

This file is located at ESTIMATION\$DISK:[REVACE.ESTIMATION]PFULLSAM.DAT

A.C.E. Revision II Full P-Sample File

Name	Variable Description	Position	Length
P-SAMPLE PERSON DUAL SYSTEM ESTIMATION			
FIPS_STATE	FIPS State Code	001-002	2\$
REGION	Census Region 1=Northeast 2=Midwest 3=South 4=West 0 = Puerto Rico	003-003	1\$
DIV	Census Division 1=New England 2=Middle Atlantic 3=East North Central 4=West North Central 5=South Atlantic 6=East South Central 7=West South Central 8=Mountain 9=Pacific 0=Puerto Rico	004-004	1\$
AICIND	American Indian Country Indicator 0=Not American Indian Country 1=American Indian Reservation/Trust Land 2=Oklahoma Tribal Statistical Area (OTSA) 3=Alaska Native Village Statistical Area (ANVSA) 4=Tribal Designated Statistical Area (TDSA)	005-005	1
SAMPSTR	Sampling Stratum 1=Small (0-2 housing units) 2=Medium (3-79 housing units) 3=Large (80+ housing units) 4=Medium/Large on American Indian Reservation	006-006	1
TEA	Type of Enumeration Area 1=Mailout/Mailback 2=Update/Leave 3=List/Enumerate 4=Remote Alaska (out of scope) 5=Rural Update/Enumerate 6=Military in Update/Leave 7=Urban Update/Leave 8=Urban Update/Enumerate 9=Mailout/Mailback to Update/Leave Conversion	007-007	1
CCOU	Current FIPS County Code	008-010	3\$
TRACT	Pseudo-Tract Number	011-016	6\$
CLUSTER	Cluster Number and Check Digit	017-022	6\$

Name	Variable Description	Position	Length
BLOCK	Block Number and Suffix	023-028	6\$
LCO	Local Census Office	029-032	4\$
ECLUSURB	Estimated Cluster Urbanicity 1=Urban with Population ≥ 250,000 2=Other Urban 3=Non-Urban	033-033	1
TESIND0	Targeted Extended Search Indicator 0=TES not conducted for Cluster 1=TES conducted for Cluster	034-034	1
IL_MAP_SPOT	Enhanced IL Map Spot Number	035-039	5\$
UNIT_ID	Within Map Spot Unit ID	040-043	4\$
FINOUTC	Final A.C.E. Outcome Code for Census Day	044-045	2
FINOUTI	Final A.C.E. Outcome Code for Interview Day	046-047	2
CST	Current FIPS State Code	048-049	2\$
COU	Collection FIPS County Code	050-052	3\$
	Blank	053-053	1
PERID	Unique Person ID	054-057	4\$
ST	Collection FIPS State Code	058-059	2\$
MID	Census Unit ID of Matching Census Person	060-071	12\$
MSEQ	Census Return Sequence Number of Matching Census Person	072-073	2\$
MPNC	Computed Census Person Number of Matching Census Person	074-078	5\$
DTCODE	Demographic/Tenure Group Code for Cluster	079-080	2
PREPOSPC	Total Possible P-Sample Persons in Household for Census Day (Preliminary)	081-082	2
PRENDDC	Number of Data-Defined Possible P-Sample Persons in Household for Census Day (Preliminary)	083-084	2
POSSPSC	Total Possible P-Sample Persons in Household for Census Day (Final, after follow-up)	085-086	2
NDATDFC	Number of Data-Defined Possible P-Sample Persons in Household for Census Day (Final, after follow-up)	087-088	2
POSSPSI	Total P-Sample Persons in Household for Interview Day	089-090	2
NDATDFI	Number of Data-Defined P-Sample Persons in Household for Interview Day	091-092	2
POPCT	Total Population Count of nonmovers and outmovers for Household without regard to residence status	093-094	2
TENURE	Tenure (from the CAPI path in which the person was collected) 1=Own (with mortgage or own free and clear) 2=Rent 3=Occupy without payment 9=Missing	095-095	1

Name	Variable Description	Position	Length
TOBA	Type of Basic Address 1=One-family house-detached or attached 2=Basic address with 2 or more housing units 3=Mobile home/trailer not in a park 4=Mobile home/trailer park 5=One-family unit in special place 6=Multi-unit in special place 7=Other	096-096	1
AGE	Age 999=Missing	097-099	3
RACE	Race Code 1=Other Race 2=Pacific Islander (PI)(includes Native Hawaiians) 3=PI and Other Race 4=Asian 5=Asian and Other Race 6=Asian and PI 7=Asian, PI and Other Race 8=American Indian or Alaska Native (AI) 9=AI and Other Race 10=AI and PI 11=AI, PI, and Other Race 12=AI and Asian 13=AI, Asian, and Other Race 14=AI, Asian, and PI 15=AI, Asian, PI, and Other Race 16=Black 17=Black and Other Race 18=Black and PI 19=Black, PI, and Other Race 20=Black and Asian 21=Black, Asian, and Other Race 22=Black, Asian, and PI 23=Black, Asian, PI, and Other Race 24=Black and AI 25=Black, AI, and Other Race 26=Black, AI, and PI 27=Black, AI, PI, and Other Race 28=Black, AI, and Asian 29=Black, AI, Asian, and Other Race 30=Black, AI, Asian, and PI 31=Black, AI, Asian, PI, and Other Race 32=White 33=White and Other Race 34=White and PI 35=White, PI, and Other Race 36=White and Asian 37=White, Asian, and Other Race 38=White, Asian, and PI 39=White, Asian, PI, and Other Race 40=White and AI 41=White, AI, and Other Race 42=White, AI, and PI	100-101	2

Name	Variable Description	Position	Length
	43=White, AI, PI, and Other Race 44=White, AI, and Asian 45=White, AI, Asian, and Other Race 46=White, AI, Asian, and PI 47=White, AI, Asian, PI, and Other Race 48=White and Black 49=White, Black, and Other Race 50=White, Black, and PI 51=White, Black, PI, and Other Race 52=White, Black and Asian 53=White, Black, Asian, and Other Race 54=White, Black, Asian, and PI 55=White, Black, Asian, PI, and Other Race 56=White, Black, and AI 57=White, Black, AI, and Other Race 58=White, Black, AI, and PI 59=White, Black, AI, PI, and Other Race 60=White, Black, AI, and Asian 61=White, Black, AI, Asian, and Other Race 62=White, Black, AI, Asian, and PI 63=White, Black, AI, Asian, PI, and Other Race		
SEX	Sex Code 1=Male 2=Female	102	1
HISP	Hispanic Code 1=Not Spanish/Hispanic/Latino 2=Mexican, Mexican-American, Chicano 3=Puerto Rican 4=Cuban 5=Other Spanish/Hispanic/Latino 9=Missing	103	1
RELATE	Relationship to Reference Person 1=A.C.E. Reference Person 2=Husband/wife 3=Natural born or adopted son/daughter 4=Stepson/stepdaughter 5=Brother/sister 6=Father/mother 7=Grandchild 8=Other relative 9=Roomer, boarder, or foster child 10=Housemate/roommate 11=Unmarried partner 12=Other nonrelative 13 (Not Used in P-Sample file) 14=Missing	104-105	2
PRXYIN	Proxy/Nonproxy Respondent 1=Proxy 2=Nonproxy	106	1

Name	Variable Description	Position	Length
MOVERPER	Person Mover Flag 1=Nonmover 2=Inmover 3=Outmover	107	1
MOVERHH	Household Mover Flag 1=Person from outmover household 2=Other	108	1
RSC	Computer Residence Status Code (A.C.E. Status Code) N=Nonmover I=Inmover O=Outmover U=Unresolved R=Remove	109	1\$
	Blank	110-112	3
CMPMAT	Computer Match Code	113-114	2\$
CLEMAT	Before Follow-up Clerical Match Code	115-116	2\$
BFUMAT	Before Follow-up Match Code	117-118	2\$
AFUMAT	After Follow-up Match Code	119-120	2\$
FINMAT	Final Match Code	121-122	2\$
FUFLAG	DSE Follow-up Flag Blank=No one in household needs follow-up 0=Someone in household needs follow-up but person doesn't 1=Person needs follow-up 2=Person needs follow-up (special question) 3=RSC equals I or R	123	1\$
MATEIND	E-Sample Indicator of Matching Census Person blank=No Matching Census Person 1=E-Sample Person 2=Non E-Sample Person in Same Cluster 3=Census Person in Surrounding Block	124	1
TESPER	TES Person Indicator 0=Not TES Person 1=TES Person	125	1
WPINIT	Initial Whole/Partial Match Code 0=Housing unit did not go to person matching 1=Partial household match 2=Whole household nonmatch 3=Whole household match 4=Other	126	1
WPFIN	Final Whole/Partial Match Code 0=Housing unit did not go to person matching 1=Partial household match 2=Whole household nonmatch 3=Whole household match 4=Other	127	1

Name	Variable Description	Position	Length
ADDCDE	Address Code 0=HU did not go to person matching 1=HU matched during HU Phase 2=HU not matched during HU Phase 4=Conflicting households	128	1
TESWGT	Targeted Extended Search Sampling Weight (TES Take-Every)	129-135	7.4
FU_CODE1	After Follow-up Code	136	1\$
FU_CODE2	Recoded After Follow-Up Code 1=Potentially fictitious (FU_CODE1 = "b") 2=Potentially lived elsewhere on census day (FU_CODE1 = "e", "f", or "g") 3=Person went to follow-up (FU_CODE2 ≠ 1 or 2) 8=Person went to follow-up (no information used) (FU_CODE1 is blank and FUFLAG = 1 or 2) 9=Person did not go to follow-up (FU_CODE1 is blank and FUFLAG = 0, 3, or blank)	137	1
	Blank	138-145	8
TENURE2	Recoded Tenure 1=Owner 2=Renter	146	1
AGE2	Age Category 1=0-17 2=18-29 3=30-49 4=50+	147	1
RACE2	Recoded race for Hispanic origin imputation 0=Missing 1=White 2=Other race or white and other race 3=Remaining race categories	148	1
	Blank	149	1
HISP2	Recoded Hispanic Origin 1=Non-Hispanic 2=Hispanic	150	1
RTYPE	Recoded Type of Basic Address 1=One-family 2=Apartments (2 or more) 3=Other (TOBA=3-7)	151	1
RELAT2	Recoded Relationship to Reference Person 0=Missing 1=Spouse 2=Child 3=Sibling 4=Parent 5=Other relative 6=Nonrelative 9=A.C.E. Reference Person	152	1

Name	Variable Description	Position	Length
TENIFL	Imputation Flag for Recoded Tenure 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	153	1
AGEIFL	Imputation Flag for Age Category 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	154	1
SEXIFL	Imputation Flag for Sex 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	155	1
HISPIF	Imputation Flag for Recoded Hispanic Origin 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	156	1
RACEIF	Imputation Flag for Race 1=No Imputation 2=Imputation because of edit failure 3=Imputation because of missing value	157	1
AMTIMP	Flag for any variables imputed 0=No Imputation 1=At least one variable imputed	158	1
BFUGP	P-Sample Before Follow-up Match Code Group 0=RSC of I or R 1=Matches needing follow-up 2=Possible matches 3=Nonmatches needing follow-up from partial household nonmatches 4=Nonmatches needing followup from whole-household nonmatches 5=Nonmatches from conflicting households 6=Persons resolved before follow-up 7=Persons with insufficient information for matching	159-160	2
FRS	Numeric Final Residence Status 0=Nonresident 1=Resident 2=Unresolved 9=Inmover with RSC=I	161-165	5.3
RPROB	Probability of Residence (Set to 0 for inmovers)	166-175	10.8
MPROB	Match Probability (Set to 0 for inmovers and nonresidents)	176-186	11.8
PWGHT	Initial P-Sample Weight (Trimmed Weight)	187-200	14.6
NIWGTO	P-Sample Noninterview Adjusted Weight based on Census Day Interview Status	201-215	15.6
NIWGTI	P-Sample Noninterview Adjusted Weight based on A.C.E. Interview Day Interview Status	216-230	15.6
TESFINWT	P-Sample Final TES-Adjusted Weight for Census Day	231-245	15.6
FIPS_MSA	MSA/CMSA FIPS Code 9999 = Non-MSA	246-249	4\$

Name	Variable Description	Position	Length
MSAGROUP	MSA Group L=Large (U.S.) M=Medium (U.S.) S=Small (U.S.) X=Non-MSA (U.S.) 1=San Juan CMSA (PR) 2=Other MSA (PR) 3=Non-MSA (PR)	250	1\$
MSANAME	MSA Name	251-310	60\$
RETRATE	Tract-level Return Rate - See DSSD memos Q-38 and Q-48 for details.	311-315	5.1
RRNUM	Numerator of Return Rate - See DSSD memos Q-38 and Q-48 for details.	316-325	10
RRDEN	Denominator of Return Rate - See DSSD memos Q-38 and Q-48 for details.	326-335	10
DOMAIN	A.C.E. Race/Hispanic Origin Domain 1=American Indian on Reservation 2=American Indian off Reservation 3=Hispanic 4=Non-Hispanic Black 5=Native Hawaiian or Pacific Islander 6=Non-Hispanic Asian 7=Non-Hispanic White or "Some other race"	336	1
CUTOFF	Cut-Off Return Rate - See DSSD memos Q-38 and Q-48 for details.	337-341	5.1
RRATEIND	Return Rate Indicator - See DSSD memos Q-38 and Q-48 for details. 1=High 0=Low 9=Not Applicable	342	1
MSATEA	MSA/TEA Post-Stratification Variable 0=Puerto Rico 1=Large MSA MO/MB (U.S.) 2=Medium MSA MO/MB (U.S.) 3=Small MSA and Non-MSA MO/MB (U.S.) 4=All Other TEAs (U.S.)	343	1
AGESEX	Age/Sex Post-Stratification Variable 1=0-17 Male and Female 2=18-29 Male 3=18-29 Female 4=30-49 Male 5=30-49 Female 6=50+ Male 7=50+ Female	344	1
POSTSTR	A.C.E. Pre-Collapsed Post-Stratum Code - See DSSD memos Q-38 and Q-48 for details.	345-347	3\$
CPOSTSTR	A.C.E. Post-Collapsed Post-Stratum Code - See DSSD memos Q-38 and Q-48 for details. Blank	348-350 351-351	3\$ 1\$
IMPUTED AGE (from Missing Data)			
NEWAGE	Imputed single year of age (Takes on value of AGE but includes an imputed value when AGE has value of 999=Missing and when AGE has a value that exceeds 115). See Jones (2002) for details.	352-354	3\$

Name	Variable Description	Position	Length
A.C.E. REVISION II POST-STRATIFICATION			
PFULLLONG	A.C.E. Revision II Production P Sample Long Post-stratification Code	355-361	\$7
PFULLSHORT	A.C.E. Revision II Production P Sample Short Post-stratification Code	362-365	\$4
	blank	366-374	\$9
INTEGRATION OF DUPLICATE LINKS AND A.C.E. REVISION II ESTIMATION			
SID	Source (P-sample) Person ID Concatenation of CLUST(6)/MSN(5)/WMSN(4)/MOVER(1)/PER(2) MOVER was a character variable set by Mule by recoding MOVERPER, RSC, and RPROB. The remaining variables are the unique identifier for a P-sample record. Blank When No Duplicate Link Outside Search Area	375-393	\$19
TID	Target Person ID Concatenation of PUID(12)/PSEQ(2)/PNC(5) Blank When No Duplicate Link Outside Search Area	394-412	\$19
DTCELL	Domain/Tenure Cell for Probability of Residence Given a Duplicate Link (Recode of A.C.E. Race/Hispanic Origin Domain with Tenure) 1=Hispanic Owner 2=Hispanic Renter 3=Non-Hispanic Black Owner 4=Non-Hispanic Black Renter 5=Everyone else Owner 6=Everyone else Renter Blank When No Duplicate Link Outside Search Area	413-413	\$1
RPROBIND	Recoded P-sample ACE Probability of Residence 1=Probability of Residence greater than zero 0=Probability of Residence equal to zero Blank When No Duplicate Link Outside Search Area	414-414	\$1
SITUATION	Situation Describing the Type of Duplicate Link for ACE P Sample Blank When No Duplicate Link Outside Search Area	415-415	\$1
ETARGET	Target Record Indicator 1=E-sample Eligible 2=Group Quarters 3=Reinstated 4=Deleted Blank When No Duplicate Link Outside Search Area	416-416	\$1
HT1	Probability of Residence Given a Duplicate Link Based on ACE Coding, Includes Links to Reinstated and Deleted Census Records - Used in A.C.E. Revision II estimates (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT1 \leq 1$ - See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	417-427	11.8
HT2	Probability of Residence Given a Duplicate Link Based on ACE Coding, Includes Links to Reinstated and Deleted Census Records (Set to zero for P- Sample Without Duplicate Links) = $0 \leq HT2 \leq 1$ - See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	428-438	11.8

Name	Variable Description	Position	Length
HT3	Probability of Residence Given a Duplicate Link Based on ACE Coding, Includes Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT3 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	439-449	11.8
HT4	Probability of Residence Given a Duplicate Link Based on ACE Coding, Includes Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT4 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	450-460	11.8
HT5	Probability of Residence Given a Duplicate Link Based on ACE Coding, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT5 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	461-471	11.8
HT6	Probability of Residence Given a Duplicate Link Based on ACE Coding, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT6 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	472-482	11.8
HT7	Probability of Residence Given a Duplicate Link Based on ACE Coding, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT7 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	483-493	11.8
HT8	Probability of Residence Given a Duplicate Link Based on ACE Coding, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for P-Sample Without Duplicate Links) = $0 \leq HT8 \leq 1$ – See DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-25 for more details. = -1 Probability not applicable for ACE Outmovers, Inmovers, and Removed (RSC=R)	494-504	11.8
PT1	Duplication Probability of P-Sample Link Outside ACE Search Area, Includes Links to Reinstated and Deleted Census Records - Used in A.C.E. Revision II estimates (Set to zero for P Sample Without Duplicate Links)	505-514	10.8
PT2	Duplication Probability of P-Sample Link Outside ACE Search Area, Does Not Include Links to Reinstated and Deleted Census Records (Set to zero for P Sample Without Duplicate Links)	515-524	10.8

Name	Variable Description	Position	Length
STATISTICAL MODELING VARIABLES			
GEOCAT	Geographic Category 1=Within Cluster 2=Surrounding Block 3=Outside Surrounding Block, Within Cluster 4=Different County, same State 5=Different State Blank When No Duplicate Link Outside Search Area	525-532	\$8
GEOCAT2	Geographic Category 2 1=Block 2=Outside Block, Within Tract 3=Outside Tract, Within County 4=Different County, same State 5=Different State Blank When No Duplicate Link Outside Search Area	533-540	\$8
A.C.E. REVISION II P-SAMPLE PERSON DUAL SYSTEM ESTIMATION - See Haines (2002b) for details.			
PFULLGROUP	Full P Sample Group	541-542	2
F2	Double Sampling Ratio Adjustment for Non-Duplicate Non-Mover Matches	543-567	25.10
F3	Double Sampling Ratio Adjustment for Outmover Matches	568-592	25.10
F4	Double Sampling Ratio Adjustment for Outmovers	593-617	25.10
F5	Double Sampling Ratio Adjustment for Inmovers	618-642	25.10
F6	Double Sampling Ratio Adjustment for Non-Duplicate Non-Movers	643-667	25.10

IV. A.C.E. Revision II Revision E Sample Person-Level Output File Layout

This file is located at ESTIMATION\$DISK:[REVACE.ESTIMATION]EREVSAM.DAT

The A.C.E. Revision II Revision E Sample File is documented in Sands (2002).

V. A.C.E. Revision II Revision P Sample Person-Level Output File Layout

This file is located at ESTIMATION\$DISK:[REVACE.ESTIMATION]PREVSAM.DAT

The A.C.E. Revision II Revision P Sample File is documented in Sands (2002).

VI. References

- Davis, P. (2002), "A.C.E. Revision II – Integration of Duplicate Links into the Full Sample Estimation Files," DSSD A.C.E. REVISION II MEMORANDUM SERIES # PP-25.
- Haines, D. (2001a), "Accuracy and Coverage Evaluation Survey: Computer Specifications for Person Dual System Estimation Output Files," DSSD Census 2000 Procedures and Operations Memorandum Series # Q-38.
- Haines, D. (2001b), "Accuracy and Coverage Evaluation Survey: Computer Specifications for Person Dual System Estimation (U.S.) - Re-issue of #Q-37," DSSD Census 2000 Procedures and Operations Memorandum Series # Q-48.
- Haines, D. (2002a), "A.C.E. Revision II – Requirements for Mini-Census Person-Level File," DSSD A.C.E. REVISION II MEMORANDUM SERIES # PP-28.
- Haines, D. (2002b), "A.C.E. Revision II – Computer Specifications for Defining Revision E- and P- Sample Measurement Error Correction Post-Strata," DSSD A.C.E. REVISION II MEMORANDUM SERIES # PP-27.
- Jones, J. (2002), "A.C.E. Revision II – Specification for the Age Imputation of P-Sample Persons with Missing or Invalid Age," DSSD A.C.E. REVISION II MEMORANDUM SERIES # PP-17.
- Sands, R. (2002), "A.C.E. Revision II – Specifications for Data Requirements for Estimation Input Files," DSSD A.C.E. REVISION II MEMORANDUM SERIES # PP-22.