

SUBTITLE ;8030A I/O

; Date | Programmer | Details

;
 ;Rotor selects
 HC1 EQU 0x1c1 ;Motor 1 high current used in CLRLOK
 SMR1 EQU 0x1c1 ;Motor 1 SMR used in CLRLOK
 MOT1STOP EQU 0x200 ;Motor 1 Stop Command in CLRLOK

;
 HCRT EQU 0x1C1 ;output
 SMRRT EQU 0x1C1 ;input
 RTSTOP EQU 0x200 ;rotor stop
 RTRA_BACK EQU 0x202
 RTRA_FORWARD EQU 0x203
 RTF1_BACK EQU 0x20a
 RTF1_FORWARD EQU 0x20b
 RTF2_BACK EQU 0x20e ;rotor freq.2 cw
 RTF2_FORWARD EQU 0x20f ;rotor freq.2 ccw

;
 ;Collet Theta motor
 HC2 EQU 0x1c2 ;Motor 2 high current used in CLRLOK
 SMR2 EQU 0x1c2 ;Motor 2 SMR used in CLRLOK
 MOT2STOP EQU 0x210 ;Motor 2 Stop Command in CLRLOK

;
 HCTH EQU 0x1C2 ;output
 SMRTH EQU 0x1C2 ;input
 THSTOP EQU 0x210 ;pick up stop
 THRACW EQU 0x213 ;pick up ramp cw
 THRACC EQU 0x212 ;pick up ramp ccw
 THF1CW EQU 0x21B ;pick up freq.1 cw
 THF1CC EQU 0x21A ;pick up freq.1 ccw
 THF2CW EQU 0x21F ;pick up freq.2 cw
 THF2CC EQU 0x21E ;pick up freq.2 ccw

;
 ;Head X
 HC3 EQU 0x1c3 ;Motor 3 high current used in CLRLOK
 SMR3 EQU 0x1c3 ;Motor 3 SMR used in CLRLOK
 MOT3STOP EQU 0x220 ;Motor 3 Stop Command in CLRLOK

;
 HCHX EQU 0x1C3 ;output
 SMRHX EQU 0x1C3 ;input
 HXSTOP EQU 0x220 ;head x stop
 HXRARH EQU 0x223 ;head x ramp cw
 HXRALH EQU 0x222 ;head x ramp ccw
 HXF1RH EQU 0x22B ;head x freq.1 cw
 HXF1LH EQU 0x22A ;head x freq.1 ccw
 HXF2RH EQU 0x22F ;head x freq.2 cw
 HXF2LH EQU 0x22E ;head x freq.2 ccw

;
 ;Head Y
 HC4 EQU 0x1c4 ;Motor 4 high current used in CLRLOK
 SMR4 EQU 0x1c4 ;Motor 4 SMR used in CLRLOK
 MOT4STOP EQU 0x230 ;Motor 4 Stop Command in CLRLOK

;
 HCHY EQU 0x1C4 ;output
 SMRHY EQU 0x1C4 ;input
 HYSTOP EQU 0x230 ;head y stop

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HYRAFW      EQU      0x233      ;head y ramp cw
HYRABW      EQU      0x232      ;head y ramp ccw
HYF1FW      EQU      0x23b      ;head y freq.1 cw
HYF1BW      EQU      0x23a      ;head y freq.1 ccw
HYF2FW      EQU      0x23f      ;head y freq.2 cw
HYF2BW      EQU      0x23e      ;head y freq.2 ccw
;
;Expander Z
HC5          EQU      0x1c5      ;Motor 5 high current used in CLRLOK
SMR5         EQU      0x1c5      ;Motor 5 SMR used in CLRLOK
MOT5STOP    EQU      0x240      ;Motor 5 Stop Command in CLRLOK
;
;Expander Rotate
HC6          EQU      0x1c6      ;Motor 6 high current used in CLRLOK
SMR6         EQU      0x1c6      ;Motor 6 SMR used in CLRLOK
MOT6STOP    EQU      0x250      ;Motor 6 Stop Command in CLRLOK
;
HC7          EQU      0x1c7      ;Motor 7 high current used in CLRLOK
SMR7         EQU      0x1c7      ;Motor 7 SMR used in CLRLOK
MOT7STOP    EQU      0x260      ;Motor 7 Stop Command in CLRLOK
;
HC8          EQU      0x1c8      ;Motor 8 high current used in CLRLOK
SMR8         EQU      0x1c8      ;Motor 8 SMR used in CLRLOK
MOT8STOP    EQU      0x270      ;Motor 8 Stop Command in CLRLOK
;
;Wafer Table X
HC9          EQU      0x1c9      ;Motor 9 high current used in CLRLOK
SMR9         EQU      0x1c9      ;Motor 9 SMR used in CLRLOK
MOT9STOP    EQU      0x280      ;Motor 9 Stop Command in CLRLOK
HCTX        EQU      0x1c9      ;output
SMRTX       EQU      0x1c9      ;input
TXSTOP      EQU      0x280      ;table x stop
TXF1LH      EQU      0x28B      ;table x forward freq 1
TXF2LH      EQU      0x28F      ;table x forward freq 2
TXRALH      EQU      0x283      ;table x forward ramp
TXF1RH      EQU      0x28A      ;table x backward freq 1
TXF2RH      EQU      0x28E      ;table x backward freq 2
TXRARH      EQU      0x282      ;table x backdard ramp
;
;Wafer Table Y
HC10        EQU      0x1ca      ;Motor 10 high current used in
CLRLOK
SMR10       EQU      0x1ca      ;Motor 10 SMR used in CLRLOK
MOT10STOP   EQU      0x290      ;Motor 10 Stop Command in CLRLOK
HCTY        EQU      0x1ca      ;output
SMRTY       EQU      0x1ca      ;input
TYSTOP      EQU      0x290      ;table y stop
TYF1BW      EQU      0x29B      ;table x right hand freq 1
TYF2BW      EQU      0x29F      ;table x right hand freq 2
TYRABW      EQU      0x293      ;table x right hand ramp
TYF1FW      EQU      0x29A      ;table x left hand freq 1
TYF2FW      EQU      0x29E      ;table x left hand freq 2
TYRAFW      EQU      0x292      ;table x left hand ramp
;
;Input Mag
HC11        EQU      0x1cb      ;Motor 11 high current used in
CLRLOK
SMR11       EQU      0x1cb      ;Motor 11 SMR used in CLRLOK
MOT11STOP   EQU      0x2a0      ;Motor 11 Stop Command in CLRLOK

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;
;Output Mag.
HC12          EQU      0x1cB      ;Motor 12 high current used in
CLRLOK
SMR12         EQU      0x1cB      ;Motor 12 SMR used in CLRLOK
;
HC13          EQU      0x1cd      ;Motor 13 high current used in
CLRLOK
SMR13         EQU      0x1cd      ;Motor 13 SMR used in CLRLOK
MOT13STOP     EQU      0x2c0      ;Motor 13 Stop Command in CLRLOK
;
HC14          EQU      0x1ce      ;Motor 14 high current used in
CLRLOK
SMR14         EQU      0x1ce      ;Motor 14 SMR used in CLRLOK
MOT14STOP     EQU      0x2d0      ;Motor 14 Stop Command in CLRLOK
;
HC15          EQU      0x1cf      ;Motor 15 high current used in
CLRLOK
SMR15         EQU      0x1cf      ;Motor 15 SMR used in CLRLOK
MOT15STOP     EQU      0x2e0      ;Motor 15 Stop Command in CLRLOK
;
HC16          EQU      0x1d0      ;Motor 16 high current used in
CLRLOK
SMR16         EQU      0x1d0      ;Motor 16 SMR used in CLRLOK
MOT16STOP     EQU      0x2f0      ;Motor 16 Stop Command in CLRLOK
;
HC17          EQU      0x1d1      ;Motor 17 high current used in
CLRLOK
SMR17         EQU      0x1d1      ;Motor 17 SMR used in CLRLOK
MOT17STOP     EQU      0x300      ;Motor 17 Stop Command in CLRLOK
;
HC18          EQU      0x1d2      ;Motor 18 high current used in
CLRLOK
SMR18         EQU      0x1d2      ;Motor 18 SMR used in CLRLOK
MOT18STOP     EQU      0x310      ;Motor 18 Stop Command in CLRLOK
MOT12STOP     EQU      0x310      ;Motor 12 Stop Command in CLRLOK
;Head Z
HCHZ          EQU      0x1d2      ;High Current
SMRHZ         EQU      0x1d2      ;SMR line.
HZSTOP        EQU      0x310      ;Head Z Stop.
HZF1UP        EQU      0x31B      ;Head Z Freq 1 UP.
HZF2UP        EQU      0x31F      ;Head Z Freq 2 UP.
HZRAUP        EQU      0x313      ;Head Z Ramp UP.
HZF1DN        EQU      0x31A      ;Head Z Freq 1 DOWN.
HZF2DN        EQU      0x31E      ;Head Z Freq 2 DOWN.
HZRADN        EQU      0x312      ;Head Z Ramp DOWN.
;
HC19          EQU      0x1d3      ;Motor 19 high current used in
CLRLOK
SMR19         EQU      0x1d3      ;Motor 19 SMR used in CLRLOK
MOT19STOP     EQU      0x320      ;Motor 19 Stop Command in CLRLOK
;
HC20          EQU      0x1d4      ;Motor 20 high current used in
CLRLOK
SMR20         EQU      0x1d4      ;Motor 20 SMR used in CLRLOK
MOT20STOP     EQU      0x330      ;Motor 20 Stop Command in CLRLOK
;
HCDE          EQU      0x1d4      ;High Current
SMRDE         EQU      0x1d4      ;SMR line.
DESTOP        EQU      0x330      ;Head Z Stop.

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DEF1UP      EQU      0x33B      ;Head Z Freq 1 UP.
DEF2UP      EQU      0x33F      ;Head Z Freq 2 UP.
DERAUP      EQU      0x333      ;Head Z Ramp UP.
DEF1DN      EQU      0x33A      ;Head Z Freq 1 DOWN.
DEF2DN      EQU      0x33E      ;Head Z Freq 2 DOWN.
DERADN      EQU      0x332      ;Head Z Ramp DOWN.
;
;
HC21        EQU      0x1d5      ;Motor 21 high current used in
CLRLOK
SMR21        EQU      0x1d5      ;Motor 21 SMR used in CLRLOK
MOT21STOP   EQU      0x340      ;Motor 21 Stop Command in CLRLOK
;
HC22        EQU      0x1d6      ;Motor 22 high current used in
CLRLOK
SMR22        EQU      0x1d6      ;Motor 22 SMR used in CLRLOK
MOT22STOP   EQU      0x350      ;Motor 22 Stop Command in CLRLOK
;
HC23        EQU      0x1d7      ;Motor 23 high current used in
CLRLOK
SMR23        EQU      0x1d7      ;Motor 23 SMR used in CLRLOK
MOT23STOP   EQU      0x360      ;Motor 23 Stop Command in CLRLOK
;
HC24        EQU      0x1d8      ;Motor 24 high current used in
CLRLOK
SMR24        EQU      0x1d8      ;Motor 24 SMR used in CLRLOK
MOT24STOP   EQU      0x370      ;Motor 24 Stop Command in CLRLOK
;
;
LOCK        EQU      0x1C0
BCK         EQU      0x4E
BCKER       EQU      0x17F
;
;
TLS270      EQU      0x197
TLS090      EQU      0x198
TLS000      EQU      0x199
TLS180      EQU      0x19A
TLS315      EQU      0x19B
TLS045      EQU      0x19C
TLS225      EQU      0x19D
TLS135      EQU      0x19E
;
;
TLSX        EQU      0x0F1      ;TABLE X center sensor
TLSY        EQU      0x0F2      ;TABLE Y center sensor
;
;
DEsensor    EQU      0x0AC      ;die ejector position (input)
epoxy_x_cpos EQU      0x0B6      ;epx table x coarse pos;EPXCOR
epoxy_x_fpos EQU      0x0B7      ;epx table x fine pos ;EPXFIN
epoxy_y_cpos EQU      0x0B8      ;epx table y coarse pos;EPYCOR
epoxy_y_fpos EQU      0x0B9      ;epx table y fine pos ;EPYFIN
;
;
PRBUSY      EQU      0x6e      ;input pattern rec busy
;
;
COVO        EQU      0x5f      ;converter overflow

;Buttons on Panel
;
RUNRLY      EQU      0x00      ;run relay output
;

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DBT          EQU      0x01      ;Delay Before touchdown
CNT          EQU      0x02      ;Count
EPC          EQU      0x03      ;Epoxy Cycle
EJT          EQU      0x04      ;Ejector Cycle
PUI          EQU      0x05      ;pick up inhibit
ECC          EQU      0x06      ;eliminate cap. check
SEL          EQU      0x07      ;select
PID          EQU      0x08      ;pick inked die
HDC          EQU      0x09      ;hold down clamp
IMD          EQU      0x0a      ;int. mode
DIO          EQU      0x0b      ;data in out
E_WKH       EQU      0x0b      ;enable workholder
ENAS        EQU      0x0c      ;enable service
STOP        EQU      0x0d      ;used for stop input
STOP1       EQU      0x0d      ;stop led
STOP2       EQU      0x0d      ;stop led
CLR          EQU      0x0d      ;clear count
;
RUN          EQU      0x0f      ;run led input
RLW         EQU      0x10      ;real wind
WEND        EQU      0x11      ;wafer end
SBM         EQU      0x12      ;Scrub bond mode
SBC         EQU      0x13      ;Wafer Changer routines.
SBA         EQU      0x14      ;Wafer expander routines.
PSET        EQU      0x15      ;
WMP         EQU      0x16      ;wafer map
LNU         EQU      0x17      ;wafer lineup
WCC         EQU      0x18      ;wafer change cycle
WCP         EQU      0x18      ;wafer clamp program
WCL         EQU      0x19      ;wafer clamp
WEX         EQU      0x1A      ;wafer expand
WXP         EQU      0x1A      ;wafer exchange
AWA         EQU      0x1b      ;adjust wafer angle
MLU         EQU      0x1c      ;matrix lineup
SSP         EQU      0x1c      ;select special program
IDX         EQU      0x1d      ;index
ILP         EQU      0x1e      ;inhibit leadframe postion
;
;
IXD          EQU      0x1f      ;Index delay
DID          EQU      0x20      ;die distance
DIN          EQU      0x21      ;die number
SPC          EQU      0x22      ;select matrix
MPC          EQU      0x23      ;matrix
DVT          EQU      0x24      ;digital video test
DVT_O       EQU      0x24      ;digital video out
ADJ          EQU      0x25      ;adjust
;
PRWK        EQU      0x28      ;rework
PSJP        EQU      0x26      ;teach jumps
A-B         EQU      0x10      ;Array A or B.
PNOC        EQU      0x27      ;number of carriers
PTLU        EQU      0x16      ;table line up
PCOR        EQU      0x29      ;position correction
;
DIS          EQU      0x26      ;distance
CAR          EQU      0x27      ;carrier
RWK         EQU      0x28      ;rework
POS         EQU      0x29      ;postion
Have_Die    EQU      0x2a      ;have die

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AAA	EQU	0x2a	;auto angular adjust
BEG	EQU	0x2b	;wafer begin
ZPA	EQU	0x2c	;z program adjust
HPP	EQU	0x2d	;head pick postion
HBP	EQU	0x2e	;head bond position
ABP	EQU	0x2f	;adjust bond position
EPI	EQU	0x30	;epoxy inhibit
;			
PFL	EQU	0x31	;preform length
SLM	EQU	0x32	;select monitor
ALI	EQU	0x32	;
VBW	EQU	0x33	;varance backward
PUT	EQU	0x34	;pickup time
TDT	EQU	0x35	;touch down delay
ASD	EQU	0x36	;after scrub delay
PFD	EQU	0x37	;preform delay
VID	EQU	0x38	;standard video
VID_O	EQU	0x38	;standard video
DVB	EQU	0x2b	;use aaa as dvb
DVB_O	EQU	0x2b	;use aaa as dvb
VFW	EQU	0x39	;variance forward
MDP	EQU	0x3a	;multi die program
FPP	EQU	0x3b	;free programable position
SMD	EQU	0x3c	;select mode
SLP	EQU	0x3d	;select lf position
DVA	EQU	0x3e	;digital video adjust
DVA_O	EQU	0x3e	;Digital video adj out led
WJMP	EQU	0x3f	;wafer jump
ALN	EQU	0x40	;align
JUMP	EQU	0x41	;jump
CAP	EQU	0x42	;cal. angular position
PUR	EQU	0x43	;pickup reticul
ENAP	EQU	0x44	;enable program
VLH	EQU	0x45	;varance left hand
EOW	EQU	0x46	;end of wafer
ELO	EQU	0x47	;elim. overange
NOR	EQU	0x48	;number of retests
SRI	EQU	0x49	;surface ref. indicate
TST	EQU	0x4a	;test
VRH	EQU	0x4b	;variance right hand
WCI	EQU	0x4c	;wafer change inhibit
EMT	EQU	0x4d	;empty
;			
ARUA	EQU	0x3f0	;upper half of add sub card
ARUB	EQU	0x3f1	;lower half
ARUADD	EQU	0x3f2	;command to add
ARUSUB	EQU	0x3f3	;command to sub
ARUC	EQU	0x5e	;aru carry
;			
CommRst	EQU	0x244	
CommCTS	EQU	0x242	
CommTbe	EQU	0x240	
CommDav	EQU	0x241	
CommUP	EQU	0x247	
CommSDN	EQU	0x240	
CommSUP	EQU	0x241	
CommREC	EQU	0x242	
LDCTRA	EQU	0x382	
RDCTRA	EQU	0x383	

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LDCTRB      EQU      0x386
RDCTRB      EQU      0x387

;SLOT P317 Quad Timer/Counter/Encoder.
RT_Encoder  EQU      0x3E3  ;rotor encoder
HZ_Encoder  EQU      0x3eb
;timer c second card
MasterTimer EQU      0x62   ;timer d
HardwareTimer EQU      0x389 ;hardware timer d

MOD0        EQU      0x130   ;modulation 0
MOD1        EQU      0x131   ;"          1
MOD2        EQU      0x132   ;"          2
MOD3        EQU      0x133   ;"          3
DIGT        EQU      0x134   ;digital video test
DIGA        EQU      0x135   ;digital video align
TST0        EQU      0x136   ;test start
VID0        EQU      0x137   ;normal video

LYSY0       EQU      0x110   ;
LY0Y1       EQU      0x111   ;
LY1Y2       EQU      0x112   ;
LY2Y3       EQU      0x113   ;
LY3Y4       EQU      0x114   ;
LY4Y5       EQU      0x115   ;
LY5Y6       EQU      0x116   ;
LY6Y7       EQU      0x117   ;
LHSX0       EQU      0x118   ;
LX0X1       EQU      0x119   ;
LX1X2       EQU      0x11A   ;
LX2X3       EQU      0x11B   ;
LX3X4       EQU      0x11C   ;
LX4X5       EQU      0x11D   ;
LX5X6       EQU      0x11E   ;
LX6X7       EQU      0x11F   ;

ATMU8       EQU      0x100   ;
ATMU1       EQU      0x101   ;
ATMU2       EQU      0x102   ;
ATMU3       EQU      0x103   ;
ATMU4       EQU      0x104   ;
ATMU5       EQU      0x105   ;
ATMU6       EQU      0x106   ;
ATMU7       EQU      0x107   ;
ATMD1       EQU      0x108   ;
ATMD8       EQU      0x109   ;
ATMD7       EQU      0x10A   ;
ATMD6       EQU      0x10B   ;
ATMD5       EQU      0x10C   ;
ATMD4       EQU      0x10D   ;
ATMD3       EQU      0x10E   ;
ATMD2       EQU      0x10F   ;
ATML8       EQU      0x110   ;
ATML1       EQU      0x111   ;
ATML2       EQU      0x112   ;
ATML3       EQU      0x113   ;
ATML4       EQU      0x114   ;
ATML5       EQU      0x115   ;
ATML6       EQU      0x116   ;
ATML7       EQU      0x117   ;

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ATMR1      EQU      0x118      ;
ATMR8      EQU      0x119      ;
ATMR7      EQU      0x11A      ;
ATMR6      EQU      0x11B      ;
ATMR5      EQU      0x11C      ;
ATMR4      EQU      0x11D      ;
ATMR3      EQU      0x11E      ;
ATMR2      EQU      0x11F      ;

LDEOS      EQU      0x120      ;load end of slice
LDSR1      EQU      0x121      ;load sf1
LDSR2      EQU      0x122      ;load sf2
LDSR3      EQU      0x123      ;load sf3
RDEOS      EQU      0x124      ;read eos
RDSR1      EQU      0x125      ;read srl
RDSR2      EQU      0x126      ;read sr2
RDSR3      EQU      0x127      ;read sr3

LDBR2      EQU      0x1e0      ; (DVB) Area 2
LDBR3      EQU      0x1e1      ; (DVB) Area 3
RDBR2      EQU      0x1e4
RDBR3      EQU      0x1e5

PWR_ENA    EQU      0x1D9
PWR_1      EQU      0x1Da
PWR_2      EQU      0x1Db
PWR_3      EQU      0x1Dc

TRIGGER    EQU      0x68      ;set trigger signal for scope
PUVAC      EQU      0x188      ;output pickup vacume
PUPRG      EQU      0x189      ;output pickup purge
STOPLITE   EQU      0x17A      ;stop light red
RUNLITE    EQU      0x17B      ;run light green
WARNLITE   EQU      0x17C      ;warning light yellow
BEEPER     EQU      0x17A      ;noise
DE_VACUME  EQU      0x18a     ;die ejector vacume
DE_MOTOR   EQU      0x17F     ;die ejector motor

DISPLAY    EQU      0x5f
DISP       EQU      0x2e0     ;parallel load of display

;FLAGS Equated here
TFX1      EQU      0x071      ;TEMPORARY FLAG X1
TFX2      EQU      0x072      ;TEMPORARY FLAG X2
TFY1      EQU      0x073      ;TEMPORARY FLAG Y1
TFY2      EQU      0x074      ;TEMPORARY FLAG Y2
TFX3      EQU      0x075      ;TEMPORARY FLAG X3
TFY3      EQU      0x076      ;TEMPORARY FLAG Y3
TFX4      EQU      0x079      ;TEMPORARY FLAG X4
TFX5      EQU      0x07A      ;TEMPORARY FLAG X5
TFY4      EQU      0x07B      ;TEMPORARY FLAG Y4
TFY5      EQU      0x07C      ;TEMPORARY FLAG Y5
TFX6      EQU      0x0A0      ;TEMPORARY FLAG X6
TFX7      EQU      0x0A1      ;TEMPORARY FLAG X7
TFY6      EQU      0x0A2      ;TEMPORARY FLAG Y6
TFY7      EQU      0x0A3      ;TEMPORARY FLAG Y7
TFX8      EQU      0x0A4      ;TEMPORARY FLAG X8
TFY8      EQU      0x0A5      ;TEMPORARY FLAG Y8

FTRY      EQU      0x07D      ;FIRST TRY INDEXER FLAG

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EXINTF          EQU      0x07E          ;EXPANDER INITIALIZE FLAG

;error flags
CAPERR         EQU      0x080          ;CAPILLARY
BMERR          EQU      0x081          ;BAR MOUNT ERROR
FOERR          EQU      0x083          ;FEED OUT ERROR
PFERR          EQU      0x084          ;PERFORM ERROR
EPERR          EQU      0x091          ;INDEX ERROR EPOXY / PREFORM
BPERR          EQU      0x092          ;INDEX ERROR BOND POSITION

CY1            EQU      0x086          ;CARRY 1
CY2            EQU      0x087          ;CARRY 2
;YJPINH        EQU      0x08A          ;Y-JUMP INHIBIT
;DIRY          EQU      0x08B          ;Y TABLE CONTROL
DIRX           EQU      0x08C          ;X TABLE CONTROL
;RACP          EQU      0x08D          ;USED BY PR

;BMINH         EQU      0x093          ;BAR MOUNT INHIBIT
EPINH          EQU      0x094          ;EPOXY / PREFORM INHIBIT
MNG            EQU      0x095          ;NO ERR6 IF NO DIE FROM PU TO
BOND
;TF1           EQU      0x077          ;TEMPORARY FLAG 1
;TF2           EQU      0x078          ;TEMPORARY FLAG 2
;TF3           EQU      0x09A          ;TEMPORARY FLAG 3
;TF4           EQU      0x09B          ;TEMPORARY FLAG 4
;TF5           EQU      0x09C          ;TEMPORARY FLAG 5
;TF6           EQU      0x09D          ;TEMPORARY FLAG 6
TF7            EQU      0x0AB          ;TEMPORARY FLAG 7
TF8            EQU      0x0AC          ;TEMPORARY FLAG 8

UNITPF         EQU      0x099          ;unit preform
PFDONE         EQU      0x09F          ;preform done flag

DRY_CYCLE      EQU      0x0AF          ;BONHEAD CYCLE
SCRUB          EQU      0x0B2          ;SCRUB

;EJTFLG        EQU      0x0B6          ;EJECT FLAG
;DEJCUP        EQU      0x0B7          ;DIE EJECTOR UP

WBEG           EQU      0x0BA          ;wafer begin flag
WENDF          EQU      0x07F          ;WAFER END FLAG /END in old
software

;CFLENA        EQU      0x0DF
;TFLAG0        EQU      0x0F0          ;USED BY SCRUB
TFLAG1         EQU      0x0F1          ;USED BY SCRUB
TFLAG2         EQU      0x0F2          ;USED BY SCRUB
TFLAG3         EQU      0x0F3          ;USED BY SCRUB
TFLAG4         EQU      0x0F4
;TFLAG5        EQU      0x0F5          ;TEMPORARY FLAGS
;FlagFound1    EQU      0x0FE          ;
;FlagFound2    EQU      0x0FF
ANGFX          EQU      0x1F5
ANGFY          EQU      0x1F6

;bondhead input sensors and switches
RTPOS          EQU      0x17E          ;rotor position
PUPOS          EQU      0x17F          ;pick up position
THPOS          EQU      0x17F          ;pick up position

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headx_cpos      EQU      0x0A0      ;head x coarse position;HXCP
headx_fpos      EQU      0x0A1      ;head x fine position ;HXFP
headx_rt_lim    EQU      0x0A2      ;head x right limit ;HXRL
headx_lft_lim   EQU      0x0A3      ;head x left limit ;HXLL
heady_cpos      EQU      0x0A4      ;head y coarse position;HYCP
heady_fpos      EQU      0x0A5      ;head y fine position ;HYFP
heady_fwd_lim   EQU      0x0A6      ;head y forward limit ;HYFL
heady_bw_lim    EQU      0x0A7      ;head y backward limit ;HYBL

; **
headz_cpos      EQU      0xB3        ;Head Z Coarse Position.
headz_fpos      EQU      0xB0
headz_dn_lim    EQU      0xB2        ;Head Z Down limit.
headz_up_lim    EQU      0xB1        ;Head Z Up Limit.

; **
;table x y flags
FTLS270        EQU      0x0E0
FTLS090        EQU      0x0E1
FTLS000        EQU      0x0E2
FTLS180        EQU      0x0E3
FTLS045        EQU      0x0E4
FTLS135        EQU      0x0E5
FTLS225        EQU      0x0E6
FTLS315        EQU      0x0E7

ALjpuP         EQU      0x0F6
ALjpuDN        EQU      0x0F7
ALjpuLH        EQU      0x0F8
ALjpuRH        EQU      0x0F9
TJDfRH         EQU      0x0FA        ;TEMPORARY JUMP DIRECTION FLAG
RIGHTHAND
TJDfLH         EQU      0x0FB        ;TEMPORARY JUMP DIRECTION FLAG
LEFTHAND
TJDfFW         EQU      0x0FC        ;TEMPORARY JUMP DIRECTION FLAG
FORWARD
TJDfBW         EQU      0x0FD        ;TEMPORARY JUMP DIRECTION FLAG
BACKWARD
ALblkFW        EQU      0x1f7        ;alignment block forward
ALblkBW        EQU      0x1f8        ;alignment block backward
ALblkLH        EQU      0x1f9        ;alignment block left
ALblkRH        EQU      0x1fa        ;alignment block right
FDIRX          EQU      0x1f0
FDIRY          EQU      0x1f1
JP_COR         EQU      0x0DD
;YJPENA        EQU      0x0DE
ACP            EQU      0x088        ;CORRECTION COMPLETE (PRS)
ATC            EQU      0x0B1        ;alignment test good (complete)
AJPINH         EQU      0x089        ;AUTO JUMP INHIBIT
DEM_COR        EQU      0x089        ;DEMAND CORRECTION
EOS            EQU      0x0A6        ;END OF SLICE
OVR            EQU      0x0A7        ;OVERRANGE
SF1            EQU      0x0A8        ;SURFACE 1
SF2            EQU      0x0A9        ;SURFACE 2
SF3            EQU      0x0AA        ;SURFACE 3
SFC            EQU      0x0AE        ;

MISSED_DIE     EQU      0x0BC        ;BOND INHIBIT
;BMS           EQU      0x0BE        ;BAR MOUNT START
IXC            EQU      0x0BD        ;INDEX COMPLETE

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IDX_ENA          EQU      0x0B9          ;INDEX ENABLE
;IDXCYC          EQU      0x0BF          ;INDEX CYCLE
IXCCMP           EQU      0x0B3          ;INDEX CYCLE COMPLETE (CDIP
TO220)
IERENA           EQU      0x0B4          ;INDEX ERROR ENABLE (CDIP TO220)
IXCBND           EQU      0x0B5          ;
TA_LockIt        EQU      0x082          ;
Flag_Sb&Ma       EQU      0x085          ;SEARCH MODE 1 INDEXER
Flag_Sc&Ma       EQU      0x08F          ;SEARCH MODE 2 INDEXER

;epoxy inputs
;EPPOS           EQU      0x190          ;
;ETBLID          EQU      0x191          ;epoxy table id
;
;
;
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