# SECTION 7

# HUMAN INTERFACE

## 7.1 INTRODUCTION

This chapter describes how to interface with the SWIFT series computer via a portable terminal or a modem. The first section lists all the messages that can be received during power-up or reset. The second section shows how to log-on the computer, while the third section describes how to use the special editing and control characters, and how to monitor or change the job parameters such as 'Long Door Time' or the 'Acceleration Rate'.

## 7.2 POWER-UP OR RESET MESSAGE SEQUENCE

When power is applied to the controller, an internal power-up reset signal causes the processor to start-up in an orderly way. The processor acknowledges the start-up and invokes the System Confidence Test (SCT) which displays its results to the console output port. If a terminal is connected to the diagnostic serial port (Connector J2 on SBC-88/25 board), this sequence can be monitored by the service technician or the installer.

Always refer to the job data provided with the control equipment for any change in the system operation. The normal power-up or reset message sequence is shown in the Table below. A GO or NOGO status indicates whether or not the test was successful. If any of these tests fail the processor will not enter in the control mode.

The Memory and EEPROM tests are associated with devices on the processor board. If the EEPROM test fails, it probably indicates a checksum error or invalid(s) job parameters. The SIO diagnostic and monitor (see next sections) can be used to alter the EEPROM content and reenter the System Confidence Test

If the DAR-2 or one of the PMI-16 cards fail the test, make sure the cards are inserted properly and that the Board Address is according to the job data.

```
 ------------------------------------
| SWIFT-5000    ( 1020-1 Car#  5 )   |
-                ^    ^       ^    -
                 |    |       |----------------- Building Car Designation
                 |    |------------------------ CEC Car Number
                 |-------------------------------- CEC Job Number

-                                     -
| System Confidence Test,             |
| TEST                  STATUS        |
| Memory                GO            |
| EEPROM (Job parameters) GO          |
| DAR-Board in Slot #2  GO            |
| PMI-#1                GO            |   **  Note: One message per board.
| PMI-#n                GO **         |
|                                     |   *** Note: Ready to accept Log-on
| Enter Password ... >      ***       |           password.
```

INStall
SNow-Flake
Light, Bar<space>

## 7.3 SWIFT-5000 COMMUNICATION PARAMETERS

Refer to the manufacturer's manual to operate the Radio Shack model '100', NEC model 8201A portable terminals or other general purpose terminals. These instructions explain only how to use a terminal and not the operations required to communicate with the SWIFT computer.

The on board serial communication port (Port J2) is preset as follows:

| | |
|---|---|
| Baud Rate | 1200 |
| Word Length | 8 |
| Parity | No Parity |
| Stop Bit | 1 |

Your computer or terminal must be preset accordingly. (58N1 ENN) tandy 200

## 7.4 LOG-ON AND PASSWORD

The following steps must be done in the sequence shown, to successfully communicate:

NOTE: For the purpose of identifying the key sequence that must be entered, and the response from the computer, the following nomenclature will be used. The computer response will be shown within double quote characters used. The computer response will be shown within double quote characters ("response") while the entry sequence from the keyboard will be shown within single quote characters. These characters MUST NOT not be typed and will NOT be displayed on the screen.

- Plug in the RS-232C cable from the terminal to connector J2 of the computer board. WARNING: Observe connector orientation (pin 1) red wire marker towards the top of the board.

- Hit the <ENTER> OR <RETURN> key. A prompt (">") should appear in the left-most column.

- At this point you must log-on to the computer by typing your password. As you hit each key of your password, an asterisk will be displayed to acknowledge each key hit. After entering your password, hit <ENTER>. If the password is valid, the computer will respond with: "OK>". If it is invalid you will have to start this sequence again after a waiting period of about 15 seconds.

## 7.5 LINE EDITING AND CONTROL CHARACTERS

The examples shown in this chapter imply that no typing errors occur. This is unrealistic, and the SWIFT Operating System provides line editing controls to permit you to correct typing mistakes.

You can cause several characters to control and edit terminal input. Some of these characters correspond to single keys on your terminal (such as ENTER or carriage RETURN) or (RUBOUT or DELETE). For others, called control characters, you must press the CTRL key, while holding it down, also press an alphabetical key. The SWIFT Operating System recognizes control characters as follows:

| | |
|---|---|
| **RUBOUT or DEL** | Deletes the previous character in the input line. Each RUBOUT removes a character from the screen and moves cursor back to that character position. |
| **CTRL/R** | If the current line is not empty, it reprints the line with editing performed. If it is empty, it reprints the previous line and executes it. |
| **CTRL/X** | Discards the current line. It echoes "#" followed by a carriage return/line feed. |
| **CTRL/S** | Places the terminal in stopped mode (stops output). You can resume output without loss of data by entering the CTRL/Q character. |
| **CTRL/Q** | Resumes output mode. (See CTRL/S) |
| **RETURN or LINEFEED** | Terminates the current line and execute the command. |
| **CTRL/Z** | Abort output to the terminal. Can be used to halt data output to your terminal display. |

## 7.6 HUMAN INTERFACE COMMANDS - INDIVIDUAL CAR CONTROLLER

The commands described in this section, are supplied with the SWIFT Operating System to enable you to interact with the computer to List, Alter, Monitor, Change system functions, and to invoke the SWIFT Diagnostic.

All commands are a three (3) character sequence followed by:

a. <ENTER> (list)
b. A decimal number and/or characters followed by <ENTER>.
c. '=', to Alter its value.

**NOTE:** To terminate a command sequence you must hit the <ENTER> key.

When you request to change a value, or the command requires a decimal number to operates, the SWIFT Operating System always checks the number or new value against limits (range) in order to trap any entry errors. For example,the Operating System will not permit entering a short-door-time longer than a long-door-time or a short-door-time longer than five (5) seconds.

Any changes entered from the human interface will take effect immediately, but are not permanently stored in the computer nonvolatile memory (EEPROM). Another parameters quickly and with a single command.

The following sections list the available commands to interact with the SWIFT Operating System. The command have the following format:

| | |
|---|---|
| n | is an integer number between 0 and 65,529. It must not contain spaces, commas or other punctuation. |
| A | is the Alter character. Some commands permit to review or Alter the related data. |
| p | is a Position integer in the range of 1000 to the top floor position reference. |
| v | is a velocity integer. |
| = | indicates to change the value of the related parameter with the integer number following. |
| [] | indicates an optional instruction. |
| c | Car number (value of 1 thru 8) |
| nf | Total number of floors for this car |
| f | Floor Number (value from 1 thru nf) |

### 7.6.1 Adjustment Parameters Stored in EEPROM

#### 7.6.1.1 Adjustment Parameters Available with the PAR Command

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| DTA[=] | DPP | 8-40 | Decel Target. This is the distance from floor level, the deceleration speed reference is calculated. |
| TLM[=] | DPP | 10-50 | Transfer to Leveling Mode. Distance from floor level that the computation changes from deceleration to Leveling mode. |

NOTE: The ratio between TLM and DTA determines the slope at which the car will level. Also note that the leveling mode does not refer to the leveling operation. In this mode the velocity is directly proportional to the distance remaining from floor level (like a shape target). TLM must be the larger value.

| | | | |
|---|---|---|---|
| TLV[=] | DPP | 1-10 | Transfer to Leveling Vane. Distance from floor level that the constant leveling velocity takes effect. Note that when the car enters the final leveling vane (FLZ) a constant leveling velocity is introduced. |
| DER[=] | FPM/S | 80-300 | Deceleration Rate in Feet/Min/Second. |
| ACR[=] | FPM/S | 75-300 | Acceleration Rate in Feet/Min/Second. |

NOTE: Divide the DER or ACR value by 60 to convert in Feet/Second/Second.

| | | | |
|---|---|---|---|
| LVE[=] | FPM | 1-20 | Leveling Velocity in Feet/Min. |
| RVE[=] | FPM | 1-24 | Releveling Velocity in Feet/Min. |
| SST[=] | 1/64s | 0-96 | Soft Start Time. Time period needed to attain rated acceleration (ACR). |
| VDT[=] | 1/64s | 4-31 | Velocity Damping Time period (in 1/64 sec.). The filtering or damping time period needed to remove any step value introduced during calculations. |
| MVD[=] | 1/64s | 0-24 | Minimum Velocity Damping time period. Minimum value of damping. |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| VDD[=] | 1/4096s | 0-24 | Velocity Damping Decrement. This is the value in which VDT can be reduced during deceleration so that minimum damping will occur during leveling. |
| TDT[=] | 1/64s | 0-7 | Digital Tach. (from Top of Car Transducer) Damping Time period. (Filtering) |
| PEK[=] | ---- | 0-31 | Performance Constant. Figure of merit of the drive system that is calculated during acceleration to optimize the flight time when the car does not reach top speed. Mainly used for jobs over 350 fpm. |
| FTK[=] | ---- | 0-31 | Flat Top travel Constant. Used in the calculation of the 'roundness' of the transition from acceleration to deceleration. Mainly used for jobs over 350 fpm. |
| TFD[=] | DPP | 1-40 | Top speed Flat top travel Distance. Similar than 'FTK' but used only when Top speed is reached. |
| RVT[=] | FPM | 8-60 | Roll Velocity for Top speed. Velocity from Top speed that the transition from acceleration to flat top will start, e.g. for RVT=25, the transition will start at 325FPM for a rated 350FPM car. |
| FHT[=] | --- | --- | Not Used. |
| LDT[=] | 1/16s | 32-200 | Long Door Open (Standing) Time (2 to 12.5 seconds) for a hall call. |
| CDT[=] | 1/16s | 16-200 | Door Open (Standing) Time (1 to 12.5 seconds) for a Car Call Stop (no hall calls). |
| SDT[=] | 1/16s | 8-80 | Short Door Time (0.5 to 5 seconds) after EE broken |
| XDT[=] | 1/16s | 0-48 | Extra Door Open (Standing) Time (0-3 seconds). This time is added to the Short Door Time (SDT) when the EE is broken during a car and hall stop to permit extra transfer time. |
| DOP[=] | sec | 5-20 | Door Open Protective time. |
| DCP[=] | sec | 5-20 | Door Close Protective time. |

DOP =

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| AST[=] | sec | 5-180 | Automatic Service Time-out. After this time the car is taken out of group service or Hall service. |
| GRT[=] | sec. | 20-360 | Generator Run Time. This is the time period that the MG will be ON after the last call. |
| VEE[=] | FPM | 50-350 | Velocity Error that will result in an Emergency timed slow-down. If the velocity difference between the digital demand and the digital velocity computed by DPP exceeds this value, the car will go in emergency slowdown. When the demand reach top speed, this value is replaced by a percentage of top speed. |
| LPE[=] | DPP | 1-65535 | Terminal Limit switch Position Error that will result in an emergency slow-down. When the car approaches a terminal landing, the instantaneous position when the limit opens is compared with the Limit Position Reference (see ULR and DLR). If this differential value is larger than LPE, the car will go in emergency slowdown. |
| CCD[=] | UNITS | 1-64 | Car Call Dumping Count. |
| DZU[=] | ---- | 2000-2000 | Digital Zero offset for the Up Direction. True zero speed is 2048. To compensate for low velocity error (leveling speed), the zero offset can be adjusted by +/- 40 bits. |
| DZD[=] | ---- | 2008-2088 | Digital Zero offset for the Down direction. (refer to 'DZU' for the definition) |
| DMU[=] | ---- | 256-5120 | Digital Multiplier for the Up direction. The top speed can also be individually fine tuned. The programmed value for 'DMU' is: (512,000 / Top-Speed) or 1024 for a 500FPM job. The adjustment range is +/- 24 bits from this calculated value. |
| DMD[=] | ---- | 256-5120 | Digital Multiplier for the Down direction. (refer to 'DMU' for the definition) |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| FW1[=] | FPM | 0-2000 | Motor Field Weakening velocity. The velocity at which the 'FW' relay is energized can be adjusted with this command. Refer to the PMI job sheets and the relay controller wiring sheets for further information. |
| IVE[=] | FPM | 0-100 | Inspection Velocity. The Inspection velocity is set at 50 FPM when the controller is shipped. |
| DPD[=] | DPP | 0-20 | DPP digital position adjustment at the 12inch and at the 6 inch leveling zone. If there is an error from the 'DPP' (Digital Position Pulse) at the 12" or at the 6" target, 'DPD' is the correction adjustment. If no correction is desired, such as during set-up, set 'DPD' to zero. |
| DPL[=] | DPP | 0-40 | 'DPP' digital position, calculated from floor position reference, that should be at the 12 inch target. It is normally set to 32 or 31. (12 / 0.375") = 32 |
| DPZ[=] | DPP | 0-20 | 'DPP' digital position, calculated from floor position reference, that should be at the 6 inch target. It is normally set to 16 or 15. (6 / 0.375") = 16 |
| NDT[=n] | sec | 5-120 | Nudging Time |
| DRV[=n] | 1/16s | 0-80 | (Optional) with the use of a Door Reversal Limit switch and which operates at 1/2 the Door Reversal time. Prevents the door from fully opening during EE reopening when DRV time expires. The doors will continue to operate until DOL. |
| GP1[=n] | --- | 0-max | General purpose which is used to adapt to a special feature. You must refer to the individual job. |
| LBY[=f] | f | 1-nf | Lobby Floor |
| FIR[=f] | f | 1-nf | Fire Recall Floor |
| FAL[=f] | f | 1-nf | Fire Recall Alternate Floor |
| EPF[=f] | f | 1-nf | Emergency Power Recall Floor |
| GP0[=n] | -- | 0-max | General purpose. |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| BED[=n] | c | 1-98 | Building Elevator Designation Number (Shown on Car Diagnostic screen) |
| GCT[=n] | 1/16s | 0-32 | Gong Cycle Time. Total Down Lantern cycling time. |
| GOT[=n] | 1/16s | 0-32 | Gong Off Time.<br>On time = GCT - GOT<br>Off time = GOT |
| HBT[=n] | 1/16s | 0-32 | Handicap Buzzer (HBZ) On Time (pulse function) |
| BLT[=n] | 1/16s | 0-64 | Required time to Lift the Brake. Adjust to allow enough time to pick-up the Brake. |
| BDT[=n] | 1/16s | 0-32 | Initial Delay before applying full power. The BCR relay is Off, full power is applied to the brake coil. The operation is as follows:<br>BCR picks-up for BDT time.<br>BCR drops-out for BLT time<br>BCR picks-up until leveling zone (opt)<br>BCR drops-out at lev (opt) or when car stops |
| DHT[=n] | 1/16s | 0-64 | OHS relay Time delay to pickup from start of door opening. |
| CDL[=n] | dpp | 1000- | Counter-weight low collision zone. |
| CDH[=n] | dpp | 1000- | Counter-weight High collision zone. The Counter-weight derailment collision zone must be established at the job site. When travelling up in inspection, the CDL point is when the Top of the Car meets the Bottom of the counter-weight. The CDH point is when the Bottom of the Car meets the Top of the counter-weight. These two points must be established and the Digital Position Count must be entered with the CDL and CDH commands. The CDH point can be approximated by measuring the total length of the Car and the Counter-weight. This can then be translated into position count (DPC). This Length Value can be added to CDL in order to give the CDH point. |
| DOT[=n] | sec | 0-60 | Door Open Button Time-out in seconds. (opt) |
| LFT[=n] | sec | 0-600 | Special Light/Fan Time out adjust in seconds. (opt. for special operation. The normal time is the same as GRT) |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| DCC[=n] | --- | 0-20 | Door Cycle Protection Counter. Normally adjusted for 6 cycles before removing power from the doors. |
| SPC[=n] | --- | 0-20 | Start Sequence Protection Counter. Normally adjusted for 6 cycles to try starting motion. Refer to Error code 18. |
| DOH[=n] | sec | 0-60 | Extra Door Open button Hold time. |
| HDT[=n] | sec | 0-60 | Car Homing Door open Time. |
| HM1[=f] | f | 1-nf | Car Homing floor designation 1. Note that a max. of four floors can be designated for Homing. The HM1 thru HM4 commands match the HM1 thru HM4 input name. The floor designation does not have to be sequential. |
| HM2[=f] | f | 1-nf | Car Homing floor designation 2. |
| HM3[=f] | f | 1-nf | Car Homing floor designation 3. |
| HM4[=f] | f | 1-nf | Car Homing floor designation 4. |
| HLD[=N] | 1/16S | 0-16 | Delay from slowdown initiation to send the lantern signal (ULT and DLT) |
| CSW[=] | ---- | --- | Control Status Word. See section 7.6.1.4 |
| CS1[=n](PSW) | bit | --- | Extra Control Status Word. See section 7.6.1.5 |
| CS2[=n](OSW) | bit | --- | Extra Control Status Word. See section 7.6.1.6 |
| CS3[=n] | bit | --- | Extra Control Status Word. See section 7.6.1.7 |
| CS4[=n] | bit | --- | Extra Control Status Word. |
| CS5[=n] | bit | --- | Extra Control Status Word. |
| AND[=n] | 1/16s | | Number of Car Calls which must be registered to enable dumping all the car calls when the Anti-Nuisance Load swich is not triggered. |
| CKT[=n] | 1/16s | 0-10 | (use with optional keypad security) Entry time to press the four push-button codes required during security. If this times elapsed without entering the code, the process is aborted and you must restart. See section 7.6.3 |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| NCF[=n] | n | 0-12 | (use with optional keypad security) Number of codes available per floor for keypad security. This number (*n) multiplied by the number of floors +1 must be less than the maximum of 300 code storage allocation. Note that if this value is changed, all new codes will have to be re-entered. |
| VDF[=n] | 1/16s | 0-20 | (use on CEC job number after 1310). Fault damping time to cause the car to shut-down when the velocity error is too large. The greater the number, the longer the fault must be detected to cause the car to shutdown (see CS 2 and 3). |
| TDF[=n] | 1/16s | 0-16 | (use on CEC job number after 1310). Fault damping time to cause the car to shut-down when an out of sequence Tach signal (Up Tach and Down Tach on PMI # 1) or an out of sequence direction signal (Up Relay and Down Relay on PMI # 1) occurs. The greater the number, the longer the fault must be detected to cause the car to shutdown (see CS 2 and 3). |

7.6.1.2 Specific Purpose Parameters

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| TSV[(n)[=v]] | FPM | | Terminal Slowdown limit Velocity. Maximum velocity reference (v) at the (n)th terminal slowdown switch.<br><br>If the car velocity exceeds the Limit velocity, the computer will initiate an emergency slow-down. (n) must be entered and has a range of 1 thru 5; (v) is the velocity associated with the terminal limit (n). The value of (v) must be increasing with (n=1) to (n=5). |
| ULR[(n)[=p]] | DPP | --- | Up Limit position count Reference. The position (p) associated with the limit (n). (n) must be entered and has a range of 1 thru 5; (p) absolute position in DPP of the limit (n). The value of (p) must increase at the bottom floor with (n=1) to (n=5), and for the top floor with (n=5) to (n=1). Note that the Up limit (1) is further away from the bottom floor that the Up limit (5). |
| DLR[(n)[=p]] | DPP | --- | Down Limit position count Reference. (see ULR). |
| FCP[(n)[=p]] | DPP | --- | Floor position Count Preset reference. This is the DPP position that is associated with each floor. |
| NOTE: >>>>> 'ULR', 'DLR' & 'FCP' are normally set during auto-setup | | | |
| EDS | --- | --- | Emergency Dispatch floor Setting. If the communication is lost with the dispatcher, the car will stop at the floors that were Set with this command. Note that the direction in which the stops are made can also be set. When prompted, answer 'Y' or 'N' if a stop is desired for that floor, and 'U', 'D' or 'B' for Up, Down or Both up and down respectively, for the direction of stop. |

7.6.1.3 Bit Command for Control Status Word

Bit command for jobs prior to CEC 1266:

The following command (BIT) is used to set the individual control flags of the CSW and PSW parameters. The CSW and PSW bit designation follows.

BIT|R,S||C,P|n 0-15 Set or Reset Bit (n) of CSW or PSW.
|R,S| Choose one... Reset 'R' or 'S' the flag
|C,P| Choose one... CSW 'C' or PSW 'P' parameter
n = flag (bit) number to set or reset.

For example, to cancel all the car calls when the car makes a stop on Independent operation bit 10 of CSW must be set. The following command must be used:

BITSC10<return>

Note that the Control Status Words (CSW) have been increased to 6 (CSW, CS1, CS2, CS3, CS4 AND CS5).

Note that PSW and OSW are now refered to as CS1 and CS2 respectively.

Bit command for jobs after CEC 1266:

BIT|D|[|R,S|s,n]

D Display all the Control Status Words (0 thru 5) (CSW, CS1, CS2, CS3,CS4 & CS5)

R,S Reset or Set the Control Status Word (s) Bit (n)

For example to set bit 10 of CSW type the following command:

BITS0,10<return>

For example to reset bit 4 of CS1 (PSW) type the following command:

BITR1,5<return>

For example, to display all CSW words type:

BITD<return>

7.6.1.4 CSW Bit Designation (* = Default or normal value)

***** CSW ***** (Control Status 0)

| Bit | * | Function |
|---|---|---|
| 0 | R | Dispatch Loss. When Set it prevents Emergency Dispatching according to the Parameter EDS setting. |
| 1 | S | When Set it permits presetting the Digital Car position (DPP) at Start sequence. NOTE: Must always be set in normal operation. |
| 2 | S | Fault Reset. When Set it permits to reset a DAR or internal drive fault when the car stops. |
| 3 | S | When set the PMI inputs are debounce (filter) for one cycle. |
| 4 | S | Car Call Dumping. When Set the Car Call dumping operation is enabled. This occurs after CCD (see parameter) stops. |
| 5 | R | Processor speed (Reset for 8825 boards, Set for 8605 boards) |
| 6 | R | Set to allow the doors to reverse before reaching the Door Open Limit (DOL). This is presently used only with an extra Door Reversal Limit (DRL) switch. |
| 7 | R | Lobby Recall. When Set the car will return to the lobby floor after the last call. |
| 8 | R | Emergency Power. When Reset, a Recall to main floor will occur during Emergency Power in Manual Selection when there is loss of dispatch. This Recall will occur for one cycle only. |
| 9 | R | Independent. When Set, Calls are accepted only when the doors are closed. |
| 10 | R | Independent. When Set, all Car Calls are cancelled when a slowdown is initiated. |
| 11 | R | Mg Switch Control. When Set, the car will be returned to the main lobby floor when the MG switch is turned off. No calls will be accepted. |
| 12 | R | Door control when MG Switch is Off. When Reset, the doors will close when the MG switch is Off (the Door open button remains operational). When Set, the door will remain open. |
| 13 | R | When set, on independent service the doors will close when a car call is registered. |

***** CSW ***** (Continued)

| Bit | * | Function |
|---|---|---|
| 14 | R | Hall Lantern. When Set, no double gong occurs. |
| 15 | R | Brake Operation. When Set, full voltage is applied to the Brake during Leveling operation. This is to permit a longer drop-out time of the brake (longer setting). |

7.6.1.5 CS1 (PSW) Bit Designation (* = Default or normal value):

***** CS1 ***** Control Status 1
(Formerly PSW)

| Bit | * | Function |
|---|---|---|
| 0 & 1 | R | Human Interface Baud rate. |

| 1 | 0 | Baud Rate |
|---|---|---|
| R | R | 1200 (normal mode) |
| R | S | 300 |
| S | R | 600 |
| S | S | 2400 |

| | | |
|---|---|---|
| 4 | R | Pre-opening. When Set, pre-opening is disabled. |
| 5 | R | Pre-opening. When Set, Pre-opening will occur at the two-inch point. |
| 6 | R | Homing. When Reset the Calls are cancelled immediately if a homing recalls occurs. When Set all calls are answered. |
| 7 | R | Rear Door. When Set, Rear Door Operation is disabled. (similar to Door Disable switch on front panel) |
| 8 | R | Fire operation. When Set, the fire Buzzer is pulsed. |
| 9 | R | Fire Operation. When Set, the fire emergency light is pulsed. |
| 10 | R | Fire Stop sw bypass. When Set, the stop switch is not bypassed. When Reset it is bypassed according to Bit 11. |
| 11 | R | Fire Stop sw bypass. When Reset, the Stop sw is bypassed according to ANSI. When Set it is bypassed all the time. |
| 12 | R | Fire Service Phase II. When Set, the doors will open automatically once when the car returns to the designated floor. If Reset, the fireman must open the doors. |
| 13 | R | Fire Service Phase II. When Set, the in-car fire service light operates during Phase II. |
| 14 | R | Fire Service Phase II. When Set, the doors will close when a Car Call is registered. The normal method to Close the doors is with the door close button (DC8). |
| 15 | R | Fire Service Phase II (New York City Only) designated car Set = Non-designated. |

7.6.1.6 CS2 (OSW) Bit Designation (* = Default or normal value)

***** CS2 ***** Control Status 2
(Formerly OSW)

| Bit | * | Function |
|---|---|---|
| 0 | R | If Set then wait for the generator to be running before opening the doors (specially for SWIFT-1000). |
| 1 | R | If Set the Door Close Button (DCB) shortens the Door Open Time (transfer time). In normal mode, DCB has no effect on door open time. |
| 2 | R | Allows to reset a panic motion fault is Set. Note that if the fault keeps reoccuring, the processor will not continue to reset it. When reset, a service technician must reset the system on such faults. |
| 3 | R | Must be SET to activate the panic motion fault feature. (see VDF and TDF and bit 2 of this status word).<br><br>When a panic fault is detected, an error 9 is registered and the processor immediately proceed to shutdown the car by removing the SYSTEM MASTER (SM) and the direction signals. The brake will therefore apply immediately. |
| 6 | R | Allows short Rear door reversal if Set (reverse the doors before reaching DOL. |
| 8 | R | Does not allow reopening of the doors with the Safety-edge (SE) or the Electric-Eye (EE) during nudging. |
| 9 | R | If set the allows simultaneous front and rear door operation instead of selective. |
| 12 | R | If set then enables the buzzer to sound during VIP to alert passenger that the car is in VIP operation. |
| 13 | R | If set the enable the buzzer to sound at the VIP floor. |
| 14 | R | (on per contract basis) If set a special buzzer sounds during security with push-button keypad operation. A brief sound indicates acceptance of the security code and registeration of the call while a longer sound indicates rejection of the security code. |
| 15 | R | Must be Set for software version that utilizes a Lantern Master I/O module for controlling the lanterns power supply. |

7.6.1.7 CS3 Bit Designation

***** CS3 *****

| Bit | * | Function |
|---|---|---|
| 0 | R | If Set then the video controller is programmed for 50 Hertz, otherwise it is set for 60 hertz. |

7.6.2 Password

Password installation on job number greater than 1265.

A new command (CHP) is provided to permit changing the password on a job. There are now three levels of password and they are completely under your control. If the password is changed, CEC will not be able to help you in case you forget the new password. To provide extra security, the passwords cannot be read back from the terminal.

The highest priority level, is level one (1). This level is provided for management. This level has one extra function than level 2 or level 3, which is to permit changing all the password with the CHP command. Note that the CHP command is not available from levels 2 and 3.

To enter level one, you must enter the correct password at the prompt. To change any of the passwords, type the CHP command. You will be prompted with the password ID (level) and for the password twice.

The other two password ID (levels 2 and 3) login can access the same information.

### 7.6.3 Security

SFC[f=c0,n1,n2,n3,n4] Security Floor Code (optional for push-button keypad operation.
c0 = code number when multiple codes.
n1 thru n4 are the 4 push-button keypresses.

If SFC is followed by a carriage return, the codes for each floor are diplayed. Note that when more than one code per floor has been programmed, the floor number is repeated for the number of codes per floor (see parameter 'NCF').

To enter the security codes, type SFC followed by the floor number (consecutive floor numbering), then the optional code number 'c0' when multiple codes per floor is programmed, then the four (4) digit code number which will be required to register a car call during security. Note that the '=' sign and the commas are necessary.

For example, if 4 codes per floor is programmed (NCF = 4), and the code floor sequence (2,6,12,1), (5,2,15,2), (8,3,2,7) and (6,2,5,5) are given for the floor number 5, the following must be typed (programmed):

```
SFC5=1,2,6,12,1 <CR>
SFC5=2,5,2,15,2 <CR>
SFC5=3,8,3,2,7  <CR>
SFC5=4,6,2,5,5  <CR>
```

During security, any of these four digits (push-button) can be pressed in sequence to enable the floor. For example, for the passenger to go to the fifth floor which is secured, he (she) must pressed 5 (the destination floor), at this point the push-button station becomes a keypad and will accept floors 1 thru 15 (or top floor number if smaller) as code entry or for this example the succesive entry of 5, 2, 15, 2 car calls. The fifth floor is now registered. Note that any of the four codes for that floor would be accepted.

If a floor is not secured, the car call latches as soon the floor push-button is pressed.

Note that the parameter CKT must be set to allow enough time to press the required 4 push buttons. A value of 48 (3 seconds) should be sufficient.

### 7.6.4 Diagnostic/Monitoring Commands

| COMMAND | DEFINITION |
|---|---|
| PAR[A] | Parameters. This command offers a speedy way to Enter or Review all of the above adjustment parameters. Typing 'PAR' <ENTER> displays all parameters with a slight delay.<br><br>The 'A' (Alter) suffix permits changing or reviewing all the parameters. Each command will be displayed with the current value followed by a question mark. You can now change its value or hit <ENTER> to skip to the next one. |
| POS[=] | True Car Position, e.g. 1 thru 15 (including 13) |
| BFM | Building Floor Marking at POS, e.g. L, M, 3 thru 12, 14, 15 & 16 |
| FPR | Floor Position Reference at present floor (POS) |
| DPC[=] | Digital Position Count (DPP). |
| SCC(n) | Set Car Call at floor (n) |
| SUC(n) | Set up call at floor (n). |
| SDC(n) | Set down call at floor (n). |
| RCC | Reset all Car Calls |
| STU | Start Up (similar to the Attendant Buttons) |
| STD | Start Down |
| NOTE: | The STU and STD commands can be used while in automatic operation to provide a one (1) floor run up or down respectively |
| B8T | Break to Break last travel Time or RUN time |
| VEL | Actual Car Velocity in FPM |
| ZON | Zone floor with the zone type |
| BAS(N) | Output (displayed) base. (n) can be either 10 or 16. |
| TIM | Computer Up time since the last power-up ... day-hour:min:sec |

| COMMAND | DEFINITION |
|---|---|
| STM | Set Up Mode. This permits to run the car on inspection while setting up the car without having the DPP position pulse. This bypasses the normal safety check and prevents the car from shutting down. |
| GET | Get the parameters from EEPROM. This command permits you to restore the parameters which you have modified. (also permits to verify the checksum for any errors) |
| WRT | Write the parameters to EEPROM. This command permits you to store all the changes in the non-volatile memory.<br><br>**NOTE:** It is not necessary to Write the altered parameters immediately in the EEPROM. You can test the operation, continue to operate the elevator, and store to the EEPROM when you are satisfied. In case of removal of power to the CPU or that the terminal is disconnected, the parameters will be restored to the former value (no change occurs). |
| ASU | Automatic Set Up. Limit switch position and Floor Pos Reference<br><br>Set-up. The following sequence must be done in order to adjust the car:<br>a. Adjust the Leveling Vane for accurate floor level.<br>b. Adjust the terminal slow-down limit switches.<br>c. Adjust the inspection velocity 'IVE' to 20 FPM.<br>d. Put the car in Panel Test and position below the bottom terminal.<br>e. Bypass the Top normal limit switch.<br>f. Type 'ASU' and hit <ENTER> on Terminal.<br>g. Press the UP inspection panel button.<br>h. Make sure the car passes the top leveling zone to ensure a successful operation. The computer will automatically resume to the normal mode (out of ASU). Release the UP Insp button.<br>i. The data is not automatically stored in EEPROM so that you can try the car operation in automatic operation. If you wish to store the data immediately, you can use the 'WRT' command. Note that for the first time it is best to store it and review the data to check for its validity. For example, there is 384 'DPP' bits for a 12 foot floor.<br>(2.667 is the multiplier to convert from inches to DPP).<br>(32 is the multiplier to convert from feet to DPP).<br><br>**NOTE:** PAR, FCP, ULR, DLR & TSV MUST ALL BE VALID FOR A PROPER 'GET' OPERATION. |

| COMMAND | DEFINITION |
|---|---|
| FLT[(n)] | Displays the last four Faults (or warnings) starting at position . The SWIFT Operating System keeps a record of the previous 24 faults that have occurred along with the number of occurrences. Fault zero (0) is the most recent one. Refer to Appendix X for definitions.<br>Example:<br>'FLT 0<ENTER>'<br>"FLT 0 - 10, 1<br>"FLT 1 - 12, 14<br>From this example, we know that the most current fault, FLT 0, is a Tach Fault (Code = 10) that has occurred only once. The other fault, a preset error (code = 12) has occurred 14 times. |
| RFL | Reset the fault Hold memory. |
| ULB[(n)] | Car Velocity when the Up Limit(n) first break open. This command is very useful to adjust 'TSV'. It permits to "freeze" the car velocity at the instant each terminal limit switches open. |
| DLB[(n)] | Car Velocity when the Down Limit(n) first break open. |
| PAE | Last four (4) Floors which had a Parity error, e.g. 'PAE<ENTER>' "7, 5; ... " 7 is the DPP computed floor and 5 is the preset code which was read by the computer, with an Odd parity error. |
| PSE | Last four (4) Floors which had a preset error but Odd parity was OK. (See PAE for display explanation) |
| CCS | Car Call pilot Status. A three character sequence indicates: (Call at floor is '=') (Call below is 'B') (Call above is 'A') Example: 'CCS<ENTER>' "CCS is = A" indicating a call at the floor, no calls below and one or more car calls Above. |
| UCS | Up Call pilot Status. (See CCS for explanations) |
| DCS | Down Call pilot Status. (See CCS for explanations) |
| ZPS | Zone Pilot Status. (Refer to CCS for explanations) |

**NOTE:** You can review quickly all commands that are followed by '(n)' by typing the three character command followed by <enter>.
Example: 'TSV <ENTER>'
"TSV 1=350; TSV 2= 450; TSV 3= 550;
TSV 4=700; TSV 5= ---;
>" (note: ready for next command)

## 7.7 HUMAN INTERFACE COMMANDS - GROUP CONTROLLER

The commands described in this section, are supplied with the SWIFT Operating System to enable you to interact with the computer to List, Alter, Monitor, Change system functions, and to invoke the SWIFT Diagnostic. All commands are a three (3) character sequence followed by:

a. <ENTER> (list)
b. A decimal number and/or characters followed by <ENTER>.
c. '=', to Alter its value.

NOTE: To terminate a command sequence you must hit the <ENTER> key.

When you request to change a value, or the command requires a decimal number to operates, the SWIFT Operating System always checks the number or new value against limits (range) in order to trap any entry errors. For example,the Operating System will not permit entering a short-door-time longer than a long-door-time or a short-door-time longer than five (5) seconds.

Any changes entered from the human interface will take effect immediately, but are not permanently stored in the computer nonvolatile memory (EEPROM).

The following sections list the available commands to interact with the SWIFT Operating System. The commands have the following format:

n is an integer number between 0 and 65,529. It must not contain spaces, commas or other punctuation.

A is the Alter character. Some commands permit to review or Alter the related data.

p is a Position integer in the range of 1000 to the top floor position reference.

v is a velocity integer.

= indicates to change the value of the related parameter with the integer number following.

[] indicates an optional instruction.

tu Time Unit. Equivalent to 1/16 second. The ETA is calculated in Time Unit.

c Car number (value of 1 thru 8)

f Floor Number (value from 1 thru number of floors in group)

nf Total number of floors in group

nc Total number of cars in Group

### 7.7.1 Group System Parameters

These parameters are always referred to as System Parameters (when REE = 0) or Car Parameters (when REE = a car number). Refer to the REE command.

The System parameters are used for operations or functions which affect all the cars in the group while the Car parameters are for operations or functions which affect only that car. Note that the Car within the group is different than the car controller parameters. The Car parameters are mainly used for dispatching purposes during the ETA assignments.

**NOTE:** REE must be equal to zero to access these parameters.

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| LER [=n] | c | 0-nc | Lobby Elevator Request. The number of cars that must be at the lobby floor is equal 'n'. |
| LBY [=f] | f | 1-nf | Main Lobby floor. |
| ALY [=f] | f | 1-nf | Alternate Lobby floor (not implemented) |
| FIR [=f] | f | 1-nf | Fire Recall Floor |
| FAL [=f] | f | 1-nf | Fire Alternate floor |
| SFL [=f] | f | 1-nf | Security Floor (not implemented) See CS4, ) |
| EPF [=f] | f | 1-nf | Emergency Power return floor - CS3, 8a9 |
| MEP [=c] | c | 1-nc | Maximum number of cars which can operate simultaneously under Emergency Power |
| ZN1 [=f] | f | 1-nf | Zone (1) Floor pointer. (not implemented) The car stays at the last floor served for normal operation. |
| ZN2 [=f] | f | 1-nf | Zone (2) Floor pointer. (not implemented) |
| ZN3 [=f] | f | 1-nf | Zone (3) Floor pointer. (not implemented) |
| ZN4 [=f] | f | 1-nf | Zone (4) Floor pointer. (not implemented) |
| ZN5 [=f] | f | 1-nf | Zone (5) Floor pointer. (not implemented) |
| ZN6 [=f] | f | 1-nf | Zone (6) Floor pointer. (not implemented) |
| TZP [=n] | n | 0-6 | Top Zone Pointer. The maximum number of zone floors as set by ZN1 thru ZN..(TZPTR). |

NZN[=n]

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| ULC [=n] | n | 1-20 | Up-Peak Load sw Count trigger. Number of trips (in a time interval) from the lobby floor which will trigger Up Peak operation. |
| UCC [=n] | n | 1-20 | Up-Peak Car-call Count trigger. Number of trips (in a time interval) with more than 2 Car Calls registered from the lobby floor which will trigger Up Peak operation. |
| UDT [=n] | sec | 10-255 | Up-Peak Duration Time. The minimum duration of Up Peak after being triggered. |
| UDP [=n] | tu | 10-960 | Up-Peak Dispatch Penalty time. |
| DTT [=n] | tu | 10-960 | Down-Peak detection average forecast Trigger Time. If the average Down Call ETA exceeds this value, Down Peak operation will occur. |
| DDT [=n] | sec | 10-255 | Down-Peak Duration Time. The minimum duration of Down Peak after being triggered. |
| NDP [=n] | tu | 10-1440 | Next-car-up Dispatch Penalty time. When a car is Next-up, a call's ETA must be greater than NDP to be assigned to the Next-up car.<br><br>For better traffic handling, this value should be smaller in a Duplex operation. This permit the lobby car to be more responsive. |
| NDH [=n] | 1/16s | 5-480 | Next-Up Door Hold time at lobby terminal. Note that when calls are registered, this value becomes smaller in order to release the car faster. |
| BDP [=n] | tu | 0-720 | Blind-crossing Dispatch Penalty time. This is valid only when thre is an express hoistway. This prevents assigning calls across the express hoistway when cars are available. |
| GSI [=n] | 1/16s | 0-160 | Generator Sequencing time Interval. This is the required time interval between starting the MG sets. For SCR cars, this value is meaningless. |
| MTT [=n] | tu | 0-960 | Max allowed Travel Time (ETA) to lobby in order to consider a car in a good position to become next-up or to be dispatched to the Lobby floor. |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| MXD [=n] | tu | 0-60 | Max differential ETA during call SCAN to force a reassignment. For example, if MXD is set for 2 seconds (32), an other car must be in a better position by more than MXD to force a reassignment to that car. |
| MID [=n] | tu | 0-32 | Min differential ETA during call SCAN to prevent reassignment. For example, if MID is set at 3/4 sec (12), no calls will be reassign if the Minimum ETA is less than MID. |
| AST [=n] | 1/16s | 0-1600 | Automatic Service protection Time. This is similar than the car controller AST. It must always be set higher than the Car AST by a min. of 15 seconds (n=240). |
| CSW [=n] | n | 0-max | Control Status Word for the Group. See sections 7.7.1.2 and 7.7.1.3 |
| CS1[=n](PSW) | bit | 0-max | Extra Control Status Word for the Group. See sections 7.7.1.2 and 7.7.1.4 |
| CS2[=n](OSW) | bit | --- | Extra Control Status Word. See sections 7.7.1.2 and 7.7.1.5 |
| CS3[=n] | bit | --- | Extra Control Status Word. See sections 7.7.1.2 and 7.7.1.6 |
| BE1 [n=n] | n | 0-98 | Building elevator number designation for car number one. Similar to BED for the Car controller. |
| BE2 thru BE8 | | | Refer to BE1 but for cars 2 thru 8. |
| C01 thru C08 [=c] | | | Car order which is displayed on Video Screen. These parameters can change the left-to-right relationship of cars 1 thru 8 respectively. This is for the Dispatch screen. |
| CBH [=n] | sec | 0-120 | Code Blue door hold time. This is the time that the doors will remain opened at the code blue designated floor. If after this time, the Hospital service switch has not been activated the doors will close and the car will return to normal operation. |

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| CB1 [=c] | c | 1-c | Code Blue car pre-selection order priority one (1). It is possible to established the better cars to respond to a code-blue call and prioritized these cars in CB1 thru CB8. When there is a code-blue call, the car designated by CB1 will be evaluated first, then the CB2 car if the first one was not available.<br><br>Note that the car number must be the SWIFT group car numbering, that is number one thru number eight. |
| CB2 thru CB8 | | | Same as CB1 but for priorities 2 thru 8. Note that CB1 has the highest priority. Note that the car number must be the SWIFT group car numbering, that is number one thru number eight. |
| EP1 [=c] | c | 1-nc | Emergency power car selection order priority one (1). During an Emergency power automatic recall operation, all the cars must be returned to the designated floor. The car at EP1 will be the first car to be returned, followed by EP2 thru EP8.<br><br>For normal operation, set EP1 to 1, EP2 to 2, ... EP8 to 8. Note that the car number must be the SWIFT group car numbering, that is number one thru number eight. |
| ALR [=f] | | | Alternate lobby minimum car request. |
| DLB [=f] | | | Dual lobby floor |
| DLR [=n] | | | Dual lobby number of car request |
| RLB [=f] | | | REAR lobby floor |
| RLR [=n] | | | Rear lobby number of car request |
| PFT [=n] | | | Time the car must be free to park it |
| LRP [=tu] | | | Lobby request penalty time |

### 7.7.1.2 Bit Command For Control Status Word

Bit command for jobs prior to CEC 1266:

The following command (BIT) is used to set the individual control flags of the CSW and PSW parameters. The CSW and PSW bit designation follows.

| | | |
|---|---|---|
| BIT\|R,S\|\|C,P\|n | 0-15 | Set or Reset Bit (n) of CSW or PSW.<br>\|R,S\| Choose one... Reset 'R' or 'S' the flag<br>\|C,P\| Choose one... CSW 'C' or PSW 'P' parameter<br>n = flag (bit) number to set or reset.<br><br>For example, to cancel all the car calls when the car makes a stop on Independent operation bit 10 of CSW must be set. The following command must be used:<br>BITSC10<return> |

Note that the Control Status Words (CSW) have been increased to 6 (CSW, CS1, CS2, CS3, CS4 AND CS5).

Note that PSW and OSW are now refered to as CS1 and CS2 respectively.

Bit command for jobs after CEC 1266:

BIT|D|[|R,S|s,n]

D Display all the Control Status Words (0 thru 5) (CSW, CS1, CS2, CS3,CS4 & CS5)

R,S Reset or Set the Control Status Word (s) Bit (n)

For example to set bit 10 of CSW type the following command:

BITS0,10<return>

For example to reset bit 4 of CS1 (PSW) type the following command:

BITR1,5<return>

For example, to display all CSW words type:

BITD<return>

7.7.1.3 CSW Bit Designation (* = Default or normal value)

***** CSW ***** (Control Status 0)

| Bit | * | Function |
|---|---|---|
| 0 | R | Hall Call Latching (Reset) or Cancelling (Set) mode of operation. During installation it is sometimes useful to cross-cancel the hall calls with the existing dispatch controller. This bit would have to be Set to accomplish this |
| 1 | R | When Set, the doors will close on the Next-up car after the initial Next-up courtesy time as set by NDH. When Reset the doors remain opened until the MG set shuts-down. |
| 2 | R | (Optional) Same as bit 1 but for rear Next-up operation. |
| 4 | R | If Set then park the free cars at zone floors (ZN1 thru ZN5) |
| 5 | R | If Set then park the Free cars at specific floors by priority. |
| 6 | R | If Set then park the cars not required at lobby floor to the zone as per (ZN1 thru ZN5). |
| 8 | R | Controls the assignment of a Code Blue call. When reset a CB call is assigned to the closest car that can respond. When Set, a CB call is assigned in a pre-established order as defined by the commands CB1 thru CB8. |
| 9 | R | If set then use the Alternate lobby next-up floor (ALY) parameter instead of the normal lobby floor (LBY). |
| 10 | R | When set go into DUAL Lobby next-up mode. |
| 11 | R | When Set and there are rear cars, go into rear lobby next-up mode. |
| 15 | R | REAR Hall Call Latching (Reset) or Cancelling (Set) mode of operation. During installation it is sometimes useful to cross-cancel the REAR hall calls with the existing dispatch controller. This bit would have to be Set to accomplish this. |

7.7.1.4 CS1 (PSW) Bit Designation (* = Default or normal value)

***** PSW *****
(Formerly PSW)

Control Status 1

| Bit | * | Function |
|---|---|---|
| 0 & 1 | R | Human Interface Baud rate. |

| 1 | 0 | Baud Rate |
|---|---|---|
| R | R | 1200 (normal mode) |
| R | S | 300 |
| S | R | 600 |
| S | S | 2400 |

| | | |
|---|---|---|
| 7 | R | Fire Operation (only when configured on PMI). When set the fire Light for hallway will flash On and Off. |
| 8 | R | If Set then no hall call latching if the call cannot be assigned (on certain jobs only) |
| 9 | R | If Set then no Code Blue call latching if the call cannot be assign to an automatic operation car. |
| 10 | R | If Set then no Rear hall call latching if the call cannot be assigned (on certain jobs only) |
| 11 | R | If Set then the VIP call is self latching. (Configured on certain jobs only). The job must be purchase with VIP call option. |

7.7.1.5 CS2 (OSW) Bit Designation (* = Default or normal value)

***** OSW ***** Control Status 2
(Formerly OSW)

| Bit | * | Function |
|---|---|---|
| 0-7 | S | This bit must be set to allow a car to answer a VIP call. Bit 0 is for Car # 1, Bit 1 for car # 2, .... etc. |

7.6.1.7 CS3 Bit Designation

***** CS3 *****

| Bit | * | Function |
|---|---|---|
| 0 | R | If Set.then the video controller is programmed for 50 Hertz, else it is for 60 hertz. |

### 7.7.2 Group Car Parameters

NOTE: REE must be equal to the car number to access these parameters.

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| SPE [=n] | tu | 4-48 | Speed of elevator in Time Units. One typical floor travel time. If the average floor height (h) is 12 feet, and the speed (s) of the car is 500FPM then the one floor travel time in 'tu' (there is 16 'tu' in one second) is:<br>(h / (s / 60)) * 16<br>(12/ (500/60)) * 16 = 23 tu |
| ACC [=n] | tu | 16-255 | Average time it takes the car to ACCelerate to top speed. |
| DEC [=n] | tu | 16-255 | Average time it takes the car to DECelerate from top speed. |
| DOT [=n] | tu | 16-160 | Door Opening Time. |
| DCT [=n] | tu | 16-160 | Door Closing Time. |
| ATT [=n] | tu | 16-160 | Average (passengers) Transfer Time. The average time the doors are fully opened. A value of 64 (4 seconds) is about normal. |
| BTT [=n] | tu | 0-720 | Blind Travel Time. The time it takes to travel thru the blind shaft at top speed. See SPE for calculation. Multiply SPE by number of floors covered by the blind shaft. |
| GPT [=n] | tu | 0-720 | Generator Start Penalty time.<br>GPT is the penalty used in the ETA calculation to assign a call to a car with its MG set off. This is potentially an energy saving feature. |

### 7.7.3 Diagnostics/Monitoring Commands

| COMMAND | DEFINITION |
|---|---|
| REE [=e] | Set the reference Elevator. Many commands require that REE is set to either the System (REE = 0) or to a car (REE = 1 thru 8) for cars 1 thru 8. |
| PAR [\|A,I\|] | Review or Load the above System or Car Parameters as defined by REE. |
| | PAR — Review all the (REE) parameters. |
| | PARA — Alter/Load all the REE parameters with prompting. Each parameter is listed with its value. Pressing RETURN will leave it unchanged. Entering a value and then pressing RETURN will alter this parameter with the new value which is displayed. |
| | PARI — Initialize the REE parameters as per factory default (as shipped). |
| SCA [\|A,I\|] | Review or Load the Scan Assignment Table of all floors for a specific car as set by REE (1 thru 8). |
| | SCA — Review the floor scan assignment table for Car 'REE' |
| | SCAA — Alter/Load the floor scan assignment Table for Car 'REE'. |
| | SCAI — Initialize the floor Scan Assignment for Car 'REE as per factory default (as shipped). |
| | The following values with their designations can be entered with the SCA command. |

| Value | Definition |
|---|---|
| 0 | Do not accept Up or Down Hall Calls for that floor |
| 1 | Accept only Up Hall Calls for that floor |
| 2 | Accept only Down Hall Calls for that floor |
| 3 | Accept both Up and Down Hall Calls for that floor |

| COMMAND | DEFINITION |
|---|---|
| GET | Get/Load all the parameters from EEPROM. This command permits to restore the the parameters from EEPROM.<br><br>All Parameters (PAR) and the Scan Table (SCA) |
| WRT | Write/Store the parameters to EEPROM<br><br>All Parameters (PAR) and the Scan Table (SCA) |
| SCT (e) | Motor Room CRT Display monitor Screen Type<br>'e' determines the type of display.<br><br>e = 0 is for the Dispatch screen<br><br>e = 1 thru 8 is for the car diagnostic screen |
| RTC | Real Time Clock time day-hour:minute:second since last power-up or reset |
| SUC (f) | Set Up Call at floor (f) |
| SDC (f) | Set Down Call at floor (f) |
| RUC | Reset all Up Calls |
| RDC | Reset all Down Calls |
| SCB (f) | Set a Code Blue call at floor (f). |
| RCB | Reset all Code Blue calls |
| NCU | Display the car number of the Next-Up car. |
| TES | Type of elevator service in HEX. |

| Value | Definition |
|---|---|
| 1 | Out of service from Car Controller |
| 2 | Loss of Communication |
| 4 | Timed-out service protection (AST) from Group |
| 8 | Code Blue Service |
| 10H(16) | Emergency Power Recall Service |
| 20H(32) | Loss of Hall Call Power service |

| | |
|---|---|
| FLT [n] | Display last four Faults starting at position (n). 'n' equal to 0 is the most recent fault. Note that REE must be set accordingly. |

| COMMAND | DEFINITION |
|---|---|
| RFL (e) | Reset the System (REE = 0) or car related Faults REE = 1 thru 8. |
| PMI | Display the PMI Bit status in Hex. |

CAR CONTROLLER

ADDENDUM TO COMMANDS, CSW BIT DEFINITIONS AND ERROR CODES

7.6.1 Adjustment Parameters Stored in EEprom

7.6.1.1 Adjustment Parameters Available with the PAR Command

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| MLV | FPM | 1-160 | Maximum Level Velocity. Maximum velocity the car can run with the doors open when leveling. |
| MRV | FPM | 1-60 | Maximum Relevel Velocity. Maximum velocity the car car run with the doors open when releveling. |
| MRT | SEC | 0-1000 | Maximum Run Timer. Maximum time the car is allowed to run. |
| HTT | SEC | 0-1000 | High Speed Travel Timer. Maximum time the car is allowed to run at high speed. Ten seconds are added to this timer internally. |

7.6.1.5 CS1 (PSW) Bit Designation (* = Default or normal value):

***** CS1 ***** Control Status 1
(Formaly PSW)

| Bit | * | Function |
|---|---|---|
| 2 | R | Pre-opening. When set, pre-opening is disabled for the rear door operation. |
| 3 | R | Pre-opening. When set, pre-opening will occur at the 2 inch point. |

7.6.1.6 CS2 (OSW) Bit Designation (* = Default or normal value):

***** CS2 ***** Control Status 2
(Formaly OSW)

| Bit | * | Function |
|---|---|---|
| 5 | R | If set, then do an emergency stop when a run time-out error occurs. |
| 7 | R | If set, then sound the buzzer when the door is on nudging and a door open device is activated. |
| 10 | R | If set, then do not shut down the MG if doors are not closed. |
| 11 | R | Reserved. |

7.6.1.7 CS3 Bit Designation (* = Default or normal value):

***** CS3 ***** Control Status 3

| Bit | * | Function |
|---|---|---|

CSW3 Bit Designation(*default or normal value):

***** CS3 ***** Control status 3

| Bit | * | Function |
|---|---|---|
| 0 | R | If set then the video controller is programmed for 50 HZ Otherwise it is set for 60HZ. |
| 1 | R | If set, allow auto pilot when on door protection. |
| 4 | R | Independent service. If reset then independent service is overridden by fire service after the independent/Fire service override time (IFT) expires. |
| 5 | R | When set, the door open button is disabled during Phase 1 fire service. |
| 6 | R | If reset, If car is taken off phase II away from the fire floor, the car will close its doors automatically and recall on Phase I. Otherwise , the doors need to be closed using DCB and will then recall on phase I. |
| 7 | R | Enables preconditioning feature. |
| 8 | R | No slowdown for hall calls if set and the floor is secured by the SFL command from the Human Interface. |
| 9 | R | No slowdown for Zone for group if set and the floor is secured by the SFL command from the Human Interface. |
| 10 | R | If set, the car can be removed from lobby independent service at any floor when the key switch is turned off, otherwise, if reset, the car must be at the lobby floor. |
| 11 | R | If set, the short door timer (SDT) is disabled when the car is at the lobby floor. |
| 13 | R | If set, door nudging operation is disabled. |
| 14 | R | If set, door nudging operation is activated during phase 1 fire service operation while the door is closing. This bit will override Bit 13 (Disable nudging). |
| 15 | R | If set, the electric eye EE time-out feature is disabled. |

7.6.1.8 CS4 Bit Designation (* = Default or normal value):

***** CS4 ***** Control Status 4

| Bit | * | Function |
|---|---|---|
| 0 | R | Reserved. |
| 1 | R | Reserved. |
| 2 | R | If set, then car calls are latched internally. |
| 3 | R | If set, then hall calls are latched internally for a simplex car. |
| 4 | R | If set, then the cab lantern is triggered when the door reaches the door open limit DOL. |
| 5 | R | If set, then front door pre-opening will occur when the car levels into the mid level zone. |
| 6 | R | If set, then rear door pre-opening will occur when the car levels into the mid level zone. |
| 7 | R | If set, a car on independent service will answer car calls that have been secured from the secure floor (SFL) command with the human interface. |
| 8 | R | If set, then the position output is disabled when the car is out of service. |
| 9 | R | If set, then the position output will flash when the car is out of service. |
| 10 | R | If set, then car calls will not be cancelled when the car has a reversal slowdown. |
| 11 | R | If set, then cancel car calls for positions above the car when the car is moving down and cancel car calls below the car when the car is moving up. |

| Bit | * | Function |
|---|---|---|
| 0 | R | If set, then the electric eye (EE) is disabled when the door is closing. |
| 1 | R | If set, then full door reversal after the safety edge (SE) is activated when the door is on nudging operation. |
| 2 | R | Bit is set to enable mg suicide fault check. This check uses the (SUF) input. |
| 3 | R | If set, car will shutdown if the car goes out of the level zone and the doors are open. |
| 4 | R | Set to use lobby independent service as lobby recall service. |
| 5 | R | Set to open the rear door when car on lobby recall service. |
| 6 | R | Set to take car out of group service when car is returning on lobby recall service. |
| 7 | R | Set to allow the door to close and the mg to turn off when the car is on homing service. |

## ERROR CODE DEFINITION

| Code | Definition |
|---|---|
| 30 | The car is moving without a demand velocity from the CPU. |
| 35 | Look-ahead distance calculated too short. Decel roll time is set too long (DRT) or Distance look ahead multiplier (DLM), the performance constant (PEK) or the top speed travel distance (TFD) is set too small. |
| 36 | Variable having Wrong Value |
| 37 | ETS error. The car velocity was greater than the ETS velocity but the ETS board did not activate the ETS speed check output. |
| 38 | ETS error. The ETS velocity speed check output was activated indicating that the car was traveling faster than the ETS speed but the car's calculated velocity was less than the ETS speed. |
| 39 | ETS error. The ETS speed check output was activated but the car was not moving. This indicates that the ETS speed check output failed on. |
| 40 | Level velocity too high when the car reached the final leveling. The velocity of the car was greater then 70 fpm at the 2 inch point. |
| 41 | Trying to relevel in level mode. This is a software error and should not occur. |
| 42 | Doing a final stop in wrong digitizer mode. This is a software error and should not occur. |
| 43 | High velocity when doors are opened. The gate and lock opened when the car velocity was greater than the maximum level or relevel velocity. |
| 44 | The gate and lock (GLR) input did not make when the doors were fully closed. |
| 45 | The door closed limit (DCL) input did not make when the doors closed. |
| 46 | The door open limit (DOL) input did not make when then doors open. |
| 50 | The generator voltage increased when the CPU was not trying to run the car. The SUF input was activated while the car was not trying to move. The car CPU must be powered off and then on to allow the car to run. |

| | |
|---|---|
| 51 | The SUF input did not occur during a run. On cars with MG sets, the SUF relay must pick up each run to indicate that the relay is working. |
| 52 | Car out of Mid level zone with the gate and lock input not made (GLR). The car CPU must be powered off and then on to allow the car to run. |
| 53 | Car out of mid level zone and moving with the gate and lock input not made while the CPU is not trying to run the car. The car CPU must be powered off and then on to allow the car to run. |
| 54 | Up or Down tach motion detected 1.5 seconds after the brake dropped. |
| 55 | SCR temperature overload activated. |
| 56 | Max run timer timed-out during a run. Check the max run timer (MRT) adjustment. |

GROUP CONTROLLER

ADDENDUM TO CSW BIT DEFINITIONS, ERROR CODES AND COMMANDS

7.7.1 Group System Parameters

| COMMAND | UNIT | RANGE | DEFINITION |
|---|---|---|---|
| VP1 [=f] | f | 1-nf | Selects the floor at which the vip 1 input is used for. i.e. if set to 4 then floor 4 would be the vip floor when the vip 1 input is activated. (This operation is optional). |
| VP2 [=f] | f | 1-nf | Selects the floor at which the vip 2 input is used for. i.e. if set to 4 then floor 4 would be the vip floor when the vip 2 input is activated. (This operation is optional). |
| RTO [=n] | 1/4s | 5-max | Remote car time out during emergency power recall operation. The time delay for a remote car to give a drive running signal after the group has given a drive enable signal. (This operation is optional). |
| RST [=n] | 1/4s | 0-max | Remote car sequence time. Time delay to select the next remote car during emergency power recall operation. (This operation is optional). |
| RTT [=n] | 1/4s | 5-max | Remote car travel time. Time allowed for the remote car to travel to the emergency power floor during the recall operation. (This operation is optional). |

7.7.1.3 CSW Bit Designation (* = Default or normal value):

***** CSW ***** (Control Status 0)

| Bit | * | Function |
|---|---|---|
| 3 | R | Controls the door operation during Next-Up. When set the doors close after courtesy time. |

7.7.1.4 CS1 (PSW) Bit Designation (* = Default or normal value):

***** CS1 ***** Control Status 1
(Formaly PSW)

| Bit | * | Function |
|---|---|---|
| 12 | R | If set, then VIP calls are self latching. |
| 15 | R | If set then all cars are requested to Lobby during Up Peak. |

7.7.1.6 CS3 Bit Designation (* = Default or normal value):

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# APPENDIX A

## ERROR CODE DEFINITION

| Code | | Definition |
|---|---|---|
| 1 | * | Division by zero. |
| 2 | * | Program sequencing error. |
| 3 | * | Real time clock program processing error. This indicates that insufficient time was avaiable to process the control information. |
| 4 | * | Invalid internal car position (such as Zero) |
| 5 | * | Bus time-out. Indicates that there is an addressing failure on the CPU bus. THe probable cause PMI or DAR board which is not addresswd properly or a board malfunction. |
| 6 | * | Invalid Motion Control sequence or control parameter related to the digital drive system. |
| 7 | | The calculated target to the floor was negative during or the leveling mode. Verify the TLM and DTA parameters. |
| 8 | | The velocity is 25% in excess of the contract speed. Varify the tape and the DPP sensor/magnet alignment,& assiciated wiring. |
| 9 | | Panic motion fault error, this occurs when there is an opposite direction between demand and tach (UT/DR orDT/UR), a demand direction and no tach(UR/DR and no UT/DT), or a tach direction and no demand (UT/DT and no UR/DR). |
| 10 | | Digital Tach error. Too much differential between the "Demand" velocity (digital speed pattern) and the digital speed reference (from DPP).<br>Possible problems:<br>a) Improper setting of the Regulator Tach scaling ("T"pot.) or the 7PC Proportional and Intergral Gain pots (SCR Drive)<br>b) A too sensitive regulator tach fault, causing 'DF' to drop The car will not restart if 'DF'relay is out.<br>c) Verify the connections to 'DPP' and the perforated tape alignment.<br>d) The drive system' response (Insure motor feild is producing proper torque). |

NOTE: The error codes followed lby an asterisk (*) are program errors, and should be reported to GEC.

| Code | | Definition |
|---|---|---|
| 19 | * | Pilot direction sequence error. |
| | | Digital Tach loss time-out. No 'DPP' input signal. This will initiate an emergency slowdown. |
| 21 | | EEPROM Read/Write error. This will prevent the car to operate. Verify the content of 'PAR','FCP','ULR','DLR',&'TSV' with the terminal. |
| 22 | | Terminal limit switch emergency slowdown. The velocity of the car was greater than the 'TSV' adjustment at the terminal landing.Verify the car velocity when the terminal limit switches open with 'ULB' and 'DLB', adjust either the distance (increase) of the limit from the floor to increase the "freeze" velocity (this will also change the limit position 'ULR & 'DLR' or increase the value of 'TSV' (refer to adjustment manual). |
| 23 | | DAR tach fault. if the analog demand velocity is greater than the preset terminal slowdown velocity, a tach fault will occur and the velocity of the car will be clamped to the 'FAULT' pot setting. |
| 24 | | Drive fault. Indicates a tach fault from the regulator (REG) board. This error occurs when there is too much difference between the analog demand velocity and the analog tach reference velocity. |
| 25 | * | A Start Sequence Error. A start sequence was initiated, in auto or inspection, while a drive fault from wither the 'DF' relay or from the DAR board. Remove the fault trip condition on the regulator board (REG-1) by pressing the button located behind the test points. Also verify the associated wiring. |
| 26 | | Motion Fault error. Invalid Up or Down pilot. |
| 27 | | BK or MC control failure. If either BK or Mc controls are closed when no directional relays are energised, the processor prevents a start sequence from occuring. |
| 28 | | The brake switch did not function after time (this is valid only for jobs having a brake switch). |
| 29 | | Slowdown Terminal Limit switch error. This occurs when the digital car position is greater than the respectiv setting of the up terminal limits ('ULR'). The reverse for the down limit switch. |
| 30 | | The car is moving without a demand velocity from the CPU. |
| 31 | * | Invalid Next Car Up signal from the dispatcher. |

NOTE: The error codes followed by an asterisk (*) are program errors, and should be reported to CEC.

## APPENDIX B

## DAR DIAGNOSTIC SWITCH/LED FUNCTIONS

| SWITCH Tens | Units | FUNCTION |
|---|---|---|
| 0 | 1-9 | PMI Input/Output Status. LEDs 1 thru 16 indicates the I/O (Input/Output) modules status of the "dialed" PMI board (1 thru 9). If the module is ON (voltage at terminal of input module, or closed circuit for output module) the corresponding LED will illuminate. This is very useful during wiring and circuit verification. |
| 1 | 0-9 | PMI Input/Output Status. Same as above but for PMIs 10 thru 19. |
| 2 | 0 | All LEDs OFF. |
| 2 | 1 | All LEDs ON. Verify the LED operation. |
| 2 | 2 | Real Time Clock Operation. The binary representation of the real time clock time in second. |
| 2 | 3 | DPP deviation count from the floor position reference.<br><br>Note that +/-1 count off from floor level is normal. If the count is more than 3, adjustment of FCP is necessary.<br><br>For ex. LED 1 thru 3 would represents 3 bits off from floor level.<br><br>LEDs 21 thru 24 indicate an above or greater condition, while LEDs 17 thru 20 indicate a below or smaller condition. If the condition is the same (such as at floor level reference) LEDs 1 thru 16 will be OFF while LED 20 will be ON. |
| 2 | 8 | Velocity deviation from programmed inspection speed while on inspection (IVE) or deviation from top speed during automatic operation. The deviation count is in ten (10) FPM increments. Refer to above example. |
| 2 | 9 | Same as above except the deviation count is in one (1) FPM increment. Refer to above example. |