AJS PC Host Software

Supervisor's Manual

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SUPERVISOR'S MANUAL

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AJS PC HOST SOFTWARE INSTALLATION AND HARDWARE SETUP

SOFTWARE INSTALLATION:

The original software will come on several floppy disks or a single disk depending on your floppy drive. Each disk will have its own INSTALL program that is executed after the floppy is installed. Follow the installation instructions that comes with these disks. It is very important to make sure that the CONFIG.SYS file contains at least the following at a minimum:

FILES = 20
BUFFERS = 20

Not having the above will not allow the AJS PC Host Software to run properly.

MINIMUM SUGGESTED HARDWARE SETUP:

A PC with at least a 20 MB hard disk drive, 1 serial port, 1 parallel port, VGA color monitor.

The AJS SmartChannel is connected to the PC via the serial port. Follow the cabling and setup instructions that come with the AJS SmartChannel. See the Communication Port Assignment section in this manual for more information regarding sign-on strings, baud rate, and communication port assignment. If the distance from the PC to the SmartChannel exceeds 50 feet, it may be necessary to use a lower baud rate than 9600. The longer the distance, the lower the baud rate should be. Because the AJS PC Host Software does a "look ahead" when retrieving data from the Delta, you will notice little, if any, loss in performance at 2400 baud.

The printer should be connected to the PC via the first parallel printer port. If a second printer is installed, it should be connected to parallel printer port #2. See the Printer Setup section in this manual.

A mouse is not needed during normal operation. It will be used when constructing graphics using another software package such as ZSOFT's Paintbrush or Microsoft's Paintbrush. See the GRAPHICS section of this manual for more information.

PROGRAMMING LOGICAL MENUS AND GROUPS

BACKGROUND:

The AJS PC Host Software can be user programmed to provide point grouping (logical groups). This allows anyone not familiar with the system to simply pick an item from a list of choices and continue doing so until the desired logical group or point is found. Another name for this scheme is menu penetration.

The very top level is called the ROOT level which is very similar to the DOS directory concept.

You may add choices to this ROOT level menu by inserting extra menu items where desired. Then if you choose one of these items, the software will then ask if the choice you just made is going to be another menu or if it will contain actual points.

If you choose to add a menu, a whole new subset of menu items can be entered. Eventually as this process is repeated, you will tell the software that a particular menu choice will be a logical group where the actual points and their values are displayed.

If one of the points is then selected, single point information and command options will be displayed.

THE BEST WAY TO UNDERSTAND THIS CONCEPT IS TO EXPERIENCE IT WHILE ON-LINE.

MENU / LOGICAL GROUP PROGRAMMING:

It is assumed that the CRT is displaying the "real world" or POINT PENETRATION MENU side of the system. Keep hitting the [ESC] key until it is displayed (it will be the opposite screen of the MAIN MENU programming choices).

Entering a command letter (I, C or D) in front of a numerical choice results in the Inserting, Changing or Deleting of that menu item or logical point item.

INSERTING (applicable to menus and logical points):

Example: If only two items are displayed in the current menu level then the only valid choices are I1 or I2 or I3:
I1 will put an item at the beginning while "pushing" the other items down.
I2 will put an item at position 2 while pushing down the old item 2.
I3 will add to the end of the existing two items.
I4 is invalid if only two items were originally displayed.

CHANGING or DELETING (applicable to menus and logical points):
Only an item number that is actually displayed on the screen may be changed or deleted.
C2 will allow the changing of item number 2.
D2 will delete item number 2 and "pull up" those item numbers below it (item 4 becomes 3, 3 becomes 2, etc.).

You may not delete a menu level unless all menus/points under it are deleted.

MENU OR LOGICAL POINT?:

As you penetrate through the "real world" and choose a menu that is not assigned, the following question is displayed:

"Menu / Logical group (M or L) ?..."

If you are programming, decide if the next level under this menu item is to be another MENU or if it is to be a LOGICAL GROUP where logical points are displayed. Hit M or L then [ENTER] for menu or logical group. The associated programming template will automatically display and request information. If you just hit [ESC] after the template is displayed then the first item will be reserved but will be blank.

There are two penetration design templates: MENU TEMPLATE and LOGICAL POINT TEMPLATE. The following sections explain them in detail.

MENU TEMPLATE

The Menu Template is invoked when inserting, changing or deleting a MENU item from the Point Penetration Menu. An example would be the addition of a building within a list of buildings at the top level of penetration.

MENU MESSAGE # :

This is the number of the message that is retrieved from the MENU MESSAGE TABLE for use with this menu level. Hit [ENTER] by itself to confirm number. Hit the ? key to take a short-cut to the menu message table. You may then look-up, edit, or add a message then escape back to exactly where you were before you hit the ? key.

MENU MESSAGE:

The associated message is displayed for confirmation.

SECURITY LEVEL:

A level of 0 to 99 may be entered. The operator must be at least this level in order to be granted access to this menu item while penetrating.

GRAPHIC NAME:

Up to 8 characters may be used for naming the graphic file associated with this menu level. It is possible to have graphics even before the logical group level such as the layout of buildings. The very top menu level has a fixed graphic name called ROOT.PCX. Do not enter the .PCX suffix as it is assumed. It is possible to assign a graphic name even if the graphic does not actually exist. A graphic may be associated at all menu levels.

ALL ENTRIES OK?:

Hit Y then [ENTER] if your entries are OK else just hit [ENTER] to start over.

If you are in the INSERT MODE you will be asked "Continue Inserting?". If you hit Y then [ENTER] another menu item will be inserted after this menu item. Else if you just hit [ENTER] NO is assumed and you will be returned to the normal menu level.

The maximum number of menu levels is 10 deep. An error message will prevent you from trying to go beyond this very deep level.

There is no limit on the number of menu items that may be inserted at any one menu level.

LOGICAL POINT TEMPLATE

The Logical Points Template is invoked when inserting or changing a logical point. An example would be the addition of a return air temperature sensor under the final Point Menu Penetration level such as Building 1 / Air Handler 3.

POINT ADDRESS:

Enter the 5 digit address. You must first allocate memory by assigning the associated physical group if not already done so (hit ? while the cursor is in the address field to directly invoke Assign Physical Group).

DELTA:

If there is only 1 Delta then just hit [ENTER]. Else enter the letter of the Delta and [ENTER]. A physical group check is made (if it does not exist an error message is displayed and the cursor is put back at the address field).

Note: If a message "Relink point to this logical point? [N]" is displayed then this same address is already assigned to another logical point or mislinked. If an alarm on this point occurs, it will use the other logical point's messages. However if you answer yes, then this address will use this logical point's descriptors and action messages. You can always tell what descriptors will be displayed upon alarm by entering only the address of the point in the Function Code Template then hitting the [ENTER] key.

POINT DESCRIPTOR #:

This is the number of the message that is retrieved from the POINT / ALARM / TROUBLE TABLE describing this point. Remember that the backtrace messages of any previous menus are a part of the complete point message. Hit [ENTER] by itself to confirm.

Hit the ? key to take a short-cut to the point descriptor message table. You may then look-up, edit, or add a message then escape back to exactly where you were before you hit the ? key. This holds true for alarm and trouble messages below.

POINT DESCRIPTOR:

The associated message is displayed for confirmation.

ALARM MESSAGE #:

This is the number of the message that is retrieved from the POINT / ALARM / TROUBLE TABLE and displayed when this point goes into alarm. Hit [ENTER] by itself to confirm.

ALARM MESSAGE:

The associated message is displayed for confirmation.

TROUBLE MESSAGE #:

This is the number of the message that is retrieved from the POINT / ALARM / TROUBLE TABLE and displayed when this point goes into trouble. Hit [ENTER] by itself to confirm.

TROUBLE MESSAGE:

The associated message is displayed for confirmation.

Important Note:

The physical point address must be linked to this logical point in order for the previous messages to be applicable when an alarm occurs.

Alarm and trouble action messages may be chained by ending the message with a ~ (assumes chained to next message number in sequence) or with a ~1234 where 1234 is the next message number to be chained if not in sequence. It is possible to share common action messages while starting off with a unique action message for this logical point.

If you want to see what alarm or trouble messages are associated with a logical point, simply penetrate all the way to the logical point in question then hit A or T followed by the [ENTER] key. This will also show all of the chained messages that would print if this point went into alarm.

POINT TYPE:

Enter just the letter of the point type (F S A P D N C):
F = Fire
S = Security
A = Card Access
P = Patrol Tour
D = Automation-Digital
N = Automation-Analog
C = C.I.L. (Command Interpreter Language)

If there already is a point type assigned just hit [ENTER] by itself for no changes. If you are not sure, hit F and [ENTER]. Then after assigning this logical point, penetrate to it and the PC will automatically update itself as to the point type.

ALL ENTRIES OK?:

Hit Y then [ENTER] if all fields are OK else just hit [ENTER] to start over.

If you are in the logical point INSERT MODE you will be asked "Continue Inserting?". If you hit Y then [ENTER] another logical point will be inserted after this logical point. Else if you just hit [ENTER], NO is assumed and you will be returned to the normal logical group level.

There is no limit on the number of logical points that may be inserted in a logical group. Note that graphics are limited to the first 50 logical points in a logical group.

FUNCTION CODE PROGRAMMING

Path is Main Menu / Function Code Programming OR by hitting the [F5] key.

BACKGROUND:

The Function Coding template can be activated by two ways:

1. Choose Function Code Programming under the Main Menu or

2. By hitting the [F5] function key which will pop-up the template.

If there are more than one Delta you will be prompted to enter the letter of the Delta you wish to send the function code data to.

The Delta 1000 itself is still programmed using function codes. The AJS PC Host Software does have a feature called Send File to SmartChannel. This effectively lets you generate all programming off-line using a simple word processor in the exact same format that you would write down on a coding form. Then the AJS PC Host Software can perform a Send File function that will "shot gun" all the data contained in your file at one time. See the Send File feature in this manual.

12345 12345 123 FUNCTION CODE TEMPLATE:

When the template is displayed, you may enter or modify the address, data and function code fields. When [ENTER] is hit the entire line is sent. In other words "what you see is what you get". There is no need to re-enter the function code if it stays the same. The standard template format is 12345 123456 123.

After the data is sent to the Delta the background color changes to let you know that the PC is waiting for a response from the Delta. The original color is restored once the response from the Delta is received. The "realtime window" on the very bottom line of the CRT will also show the response from the Delta.

You may use the [TAB], [LEFT-ARROW], [RIGHT-ARROW], [BACKSPACE] and [ESC] keys for editing and cursor positioning. Advance and enter function codes are supported. You may also use the [+] and [-] keys for incrementing or decrementing the address field. When finished hit [ESC] either once or twice depending on the cursor position.

USEFUL HINT:

If you just enter the address of point in the first field with either a blank function code or a 013 function code, the software will automatically display the full backtrace including physical group descriptor. This would be the description actually displayed during an alarm.

Also note that you may alter the FUNCTION.HLP file and create a mini-function code reference manual. Be sure to make a backup of any altered HELP files so that any future updates from AJS will not result in the loss of this altered file (must copy your unique file back over the updated HELP file).

SEGREGATION

Path is Main Menu / Supervisory Functions / Segregation.

BACKGROUND:

It may be desirable, for example, to send fire and security alarms to one printer and automation alarms to the other printer. This can be achieved by segregating each printer and CRT for the appropriate types of alarms.

After choosing Segregation, your choices are CRT, Printer 1, and Printer 2. Choose the desired peripheral. A list of point types is then displayed. Hit either Y or N next to each of the point types to enable or disable segregation. When finished just hit the [ESC] key.

The following point types may be individually segregated:

Change of State (enables alarms, return to normals, etc.; must be enabled to receive any of the alarm types listed below)

Fire

Security

Card Access

Patrol Tour

Automation-Digital

Automation-Analog

C.I.L.

Command Trace (all command trace activity will come through regardless of point type if enabled)

Valid Card Access (normal valid access transactions may be disabled)

NOTE: All transactions coming from the Delta will be stored in the daily archive files regardless of the segregation as long as the archive status is enabled (see historical).

SYNCHRONIZE DELTA(S) TIME/DATE WITH PC'S

Path is Main Menu / Supervisory Functions / Synchronize Delta.

BACKGROUND:

Any user PC connected to the AJS system may synchronize the realtime contained in all the attached Deltas with that of the user PC. In other words, the PC will SET the Delta's clock.

Note that the Delta(s) still control the start-stop programs based on its internal clock and NOT the PC's.

For the most accurate results wait until the Seconds on the header's time reads "00" before hitting [SPACE] to set the time and date. You will see the result of the 161 and 171 function codes in the realtime window at the bottom of the screen.

If the PC's internal time clock starts to get behind (as has been observed on some PCs), the hourly TEST message that comes from the Delta will sync up the PC's internal clock. This is valid ONLY if the PC's time is 0 to 60 minutes BEHIND the Delta's time. In other words the Delta keeps good time unless halted or reloaded. The AJS PC Host Software therefore allows the Delta to set the PC's time if it appears to be a reasonable time contained in the hourly test message coming from the Delta.

OPERATOR TABLE ASSIGNMENTS

Path is Main Menu / Supervisory Functions / Operator Table.

ASSIGNING OPERATORS:

Up to 99 operators may be assigned in the PC.

The operator initials can be 3 letters / numbers (any combination). Note that no two operators may have the same initials.

Each operator can have an identification code of up to 10 characters (any combination of letters and numbers).

A security level of 0 to 99 can be assigned to each operator. The higher the number the more functions are available to the operator. While running the AJS PC Host Software, see ASSIGN SYSTEM SECURITY LEVELS for a list of what levels are assigned to what function.

VIEWING OR PRINTING OPERATORS:

The operator list may be viewed or printed by simply selecting the appropriate choice listed under the Operator Table menu.

DELETE OPERATORS:

Any operator may be deleted by selecting this item (listed under Operator Table) then entering the operator initials (3 characters).

ASSIGN SYSTEM SECURITY LEVELS:

The security structure of the AJS PC Host Software allows extremely flexible configurations regarding "WHO" can do "WHAT".

The Assign System Security Levels is located under the Operator Table.

You may restrict access to any PC function by assigning a system security level (0 to 99) next to the associated level. The operator that is currently signed on must be assigned a security level equal to or greater than the associated system security level in order to access that function. A security violation is displayed on the CRT if an attempt is made to choose a function that has been assigned a higher level than that of the current operator.

When choosing Assign System Security Levels, the first of two screens of system functions is displayed. You may then enter a number next to each system function followed by the [ENTER] key. You may leave the current setting unchanged by just hitting [ENTER] by itself. The cursor will move down until the end is reached. Then the second page of system security levels is displayed. When the end of this page is reached, the first page is redisplayed. Hit the [ESC] key when finished.

CHANGE PASSWORD

Path is Main Menu / Supervisory Functions / Password.

BACKGROUND:

The password is a common secret code that all operators are required to enter in order to gain access to the PC.

The password may be any combination of letters and/or numbers (up to 10 characters long) followed by the [ENTER] key. All entries are automatically converted to upper case when entering the password during sign-on and when changing the password.

Hit [ESC] if you display the existing password but do not want to change it.

PRINTER SETUP

Path is Main Menu / Supervisory Functions / Printer Setup.

PRINT CONTROL STRINGS:

Any type of printer may be used with the PC. Since there are special control codes sent to the printer for expanded normal and compressed print, the PC must know what codes are used for forcing the printer into the desired print mode. The same codes apply to both printers.

When choosing Print Control Strings under Printer Setup, the current settings are displayed. To skip over a setting, just hit the [ENTER] key by itself. Otherwise enter the new code followed by the [ENTER] key.

The strings listed in the example (on the CRT itself) next to each print mode are for EPSON printers. Use these if you are using EPSON or compatible printers.

If you have a different printer refer to your printer manual for the correct codes needed for each of the 3 print modes.

NUMBER OF PRINTERS TIED TO PC:

Up to two printers may be connected to the PC via the parallel printer ports LPT1 and LPT2. You must specify the number of printers that are tied to the PC (0, 1 or 2). If you specify 0 no output to a printer or a file will be generated.

It is possible to assign 2 printers even if you have only 1. This will force the PC to output printer #2's data to a back-up file. You can even segregate this printer (example: command trace). Then while off-line you can look at file PTR2.TXT and see everything as if it were printed.

Full independent segregation of each printer may be assigned (see Segregation).

PAGE LENGTH:

The number of lines that are printed on each page before a form feed is issued may be user specified. This allows the use of any length of paper. You may specify a number smaller than is needed if you need extra space at the bottom of the page for jotting down notes and comments such as a security guard's response to an alarm.

PRINTER WIDTH (NUMBER OF COMPRESSED CHARACTERS PER LINE):

The width of the printer (dependent on type of paper used) may be changed. The value is the maximum number of compressed characters per line. Refer to your printer manual for this value. Typically a value of 130 for narrow carriage printers or 255 for wide carriage printers is used.

Trend logs and card access reports that are directed to the printer, especially make use of this width to determine how much data can be printed on one line.

Note: See the Operator's Manual for information concerning restoring printers after a printer failure has occurred.

PHYSICAL GROUP ASSIGNMENT

Path is Main Menu / Supervisory Functions / Physical Group Assignment.

BACKGROUND:

The PC's database contains the relationships between physical and logical points. The PC must know which Delta physical groups are to be mapped into the PC. The physical groups must be entered BEFORE attempting to enter the logical points within the AJS PC Host Software.

There are basically 2 Delta physical group sizes (number of points in group):

SIZE = 4 ..... FS-20, C.I.L., Card Access

SIZE = 23 ..... Automation DGPs

DELTA (A-Z):

If there is just one Delta you may hit [ENTER] by itself. Otherwise enter the letter of the associated Delta.

GROUP (CGR):

Next enter the 3 digit channel/group address (first 3 digits of Delta point address).

POINT QTY (4,23):

Then enter its group size (4 or 23). Note that it will automatically preset this number to whatever the previous number was (saves you time if there are several groups which are the same size). However if a physical group is already assigned, it will show the actual size. You may change this number by typing over the old one. Note that you can "expand" a group from 4 to 23 if it was previously assigned as 4 but you cannot "shrink" a group from 23 to 4.

MENU MESSAGE #:

A menu table message may be associated with this group. Then if it goes into no response or is tampered with (such as a card access panel) a description of the actual panel is displayed as part of the alarm message rather than just an address. Hit [ENTER] by itself if the message number is OK.

MENU MESSAGE:

When the message number is entered above, the actual message is displayed here for verification. As stated above, hit the [ENTER] key by itself to confirm this message.

ALL ENTRIES OK?:

Enter Y followed by the [ENTER] key if all entries are OK when prompted else just hit [ENTER] by itself to start over. Otherwise hit [ESC] to abort.

Hit [ESC] once to change Deltas or twice to back out.

COMMUNICATION PORT ASSIGNMENT

Path is Main Menu / Supervisory Functions / Communication Port Assignment.

BACKGROUND:

The PC can directly handle up to 2 Deltas (via an AJS SmartChannel per Delta). The Communication Port Assignment template helps connect your PC to the "real world" via the serial port(s). After stepping through the template and reaching the bottom, the Sign-on string is re-executed. This is useful if a telephone modem is being used and it unwantingly hangs up. Just bring up this template and just keep hitting the [ENTER] key until the bottom is reached. It will then cause the modem to redial and attempt to reconnect automatically. The sign-on string is also executed when the AJS PC Host Software is first started. An added feature also automatically forces the sign-on string re-execute once per link failure.

PHYSICAL DELTA NUMBER:

The Deltas are physically numbered 1 and 2. Always use number 1 if there is just one Delta.

DELTA LETTER:

A letter (A through Z) may be assigned to each Delta for ease of recognition (a space will delete the physical delta). This will be the letter that precedes all addresses within the AJS PC Host Software.

COM PORT #:

The PC must know which serial communication port the Delta(s) are connected to. Valid port numbers are 1 or 2. Do not enter a particular port number unless there is actually serial port hardware inside the PC that is set for that port number otherwise errors will occur.

BAUD RATE:

Another parameter is the baud rate or speed at which the SmartChannel is talking to the PC (either 300, 1200, 2400, 4800, or 9600). This must match the baud rate setting on the SmartChannel. If a modem is being used, note that this baud rate cannot exceed the capability of the modem.

COM PORT INITIALIZATION SIGN-ON STRING:

When the PC is started up OR this assignment is modified the PC must "reach" and sign on to the AJS SmartChannel. This sign-on string is sent to the PC's communication port allowing a high degree of flexibility for automatic startup of the system. The same holds true for the sign-off string.

The following example shows how the PC will automatically sign on to the SmartChannel:

```
/#AJS SC}/CM}/
```

It will first clear out the SmartChannel with a /. Then it sends the sign-on code as if you were typing it in by hand. The } is used as an [ENTER] symbol. It then sends the CM command for computer mode.

The following example shows how the PC commands a modem to dial a remote SmartChannel. Note that each ~ indicates a 2 second delay. The long delay is needed for the remote modem to answer before sending out the rest of the sign-on string. It first resets the modem with an ATZ then pauses a couple of seconds and dials the phone number. It then will wait 16 seconds and attempt to sign on to the SmartChannel and put it in computer mode operation.

```
}~ATZ}~ATDT9368550}~~~~~~~~/#AJS SC}/CM}/
```

EXIT TO DOS COM PORT SIGN-OFF STRING:

Sign-off is very similar to sign-on. The following example simply signs off the SmartChannel with an exclamation mark and then forces the modem to hang up. Notice the "silent gaurdband" before and after the + + + modem command:

```
/!~+++~ATH}
```

If no modem is used then the following example is a minimal sign-off string (if directly connected to the SmartChannel):

```
/!
```

After entering the sign-off string line, the PC will re-execute all the parameters of the communication port(s) such as COM PORT # and BAUD RATE. It will also send the sign-on string after doing this. The new parameters will be saved at this point. Note that if you have several delay characters (~) it may be several seconds before the PC comes back to you and asks "HIT ANY KEY TO CONTINUE"...(be patient).

The following is a list of special characters that are used with the sign-on and sign-off strings:

~ indicates a 2 second delay within the PC;

^ preceding a character indicates the control key (i.e. ^N means control N;

} indicates an [ENTER].

Application hint:
If you use a telephone modem to call into the SmartChannel from a remote location, you will notice that the SmartChannel buffers all data since the last time you signed on. If you want to skip over this data as soon as you call in, simply put the following string at the end of the sign-on string:

/^C}

The slash control-C [ENTER] will cause the SmartChannel to skip to the end. This is a standard command documented in the SmartChannel manual.

SCREEN COLORS

Path is Main Menu / Supervisory Functions / Screen Colors.

BACKGROUND:

The foreground and background colors of various areas of the screen may be tailored to suit the visual tastes of the user.

LINE NUMBER:

Choose the line number of the color that you want to change. Hit [ESC] for no more changes. The foreground and background colors of the following items can be changed: header line, alarm line 1, alarm line 2, normal work area, point display window, backtrace, unacknowledged alarms, card access template, bottom line realtime window, and an auxiliary color.

FOREGROUND COLOR:

Enter a number 0 to 15. The associated colors are displayed just under line 10.

BACKGROUND COLOR:

Enter a number 0 to 7. The color line should update displaying the new color selection.

CONVERSATION MODE WITH AJS SMARTCHANNEL

Path is Main Menu / Supervisory Function / Conversation Mode.

BACKGROUND:

The SmartChannel itself is capable of many direct functions such as critical alarm dial-out and rewinding of its internal buffer. To access the SmartChannel directly from the PC requires that Conversation Mode be chosen.

When in conversation mode, its just like having a "dumb" terminal connected directly to the SmartChannel. All features of the SmartChannel can then be directly accessed if desired.

Note that when in Conversation Mode, no alarms or change of states will be processed by the AJS PC Host Software. However when in Conversation Mode, all alarms will be displayed in the strip printer format on the CRT without any descriptors attached.

To terminate Conversation Mode, simply hit the [ESC] key.

See the SmartChannel User Manual for more information.

HEADER POINTS

Path is Main Menu / Supervisory Function / Header Points.

BACKGROUND:

The screen header contains room for mapping 3 points from the Delta. These points will display on the top line when the Delta sends a print program containing these points. The printer's header contains room for up to 5 points.

A print program in the Delta must be created containing the desired header points. It is recommended that the print program be initiated on an interval basis (10 minutes recommended). The print program in the Delta must be directed to the 2nd strip printer address of the SmartChannel (typically 004, 904, etc.). Other points may be programmed in the print program even though they are not mapped as header points. The PC will just ignore them as far as header points go.

The AJS PC Host Software monitors all print program activity arriving via the 2nd strip printer address of the AJS SmartChannel. If it sees a match with those points entered in the Header Points table, the associated point value is stored and displayed on the header line at the top of the minute. It is possible to restart the AJS PC Host Software and not have any values for the header points until the next print program containing the points is sent to the SmartChannel.

If there are two Deltas, a print program in each Delta must be assigned to its respective SmartChannel. For example 2 points may come from Delta A and 3 points come from Delta B.

ENTER HEADER POINT ITEM NUMBER (1-5):

Enter a header number 1 to 5 whose address is to be programmed.

HEADER POINT ADDRESS (ex. H10101, ENTER only = delete):

The address of the associated header point must be entered. An example is H10101 (must have the Delta letter in front of the 5 digit address). A single space in the address field will delete that entry.

Hit [ESC] to abort and back out.

A typical print program to output points H10101 and H10102 to the SmartChannel would look similar to the following:

```
09905          334  Assign print program 99 allocating 5 items
09900 004      331  Assign print program 99 to SmartChannel
09901 10101    331  1st Point
09902 10102    331  2nd Point
09903 10103    331  3rd Point
09904 10104    331  4th Point
09905 10105    331  5th Point
09904 000010 339  Initiate every 10 minutes
099            336  Enable
```

TOGGLE AUDIBLE

Path is Main Menu / Supervisory Function / Toggle Audible.

BACKGROUND:

The audible sounds generated by the PC when an alarm occurs may be suppressed if desired. Simply hit [SPACE] bar to toggle the current status.

Critical alarms such as scan failure will cause the PC generate a beep regardless of the audible status.

It is possible to change the "musical string" that is played when the different types of change of states are received. These strings are contained in a file called AUDIBLE.TBL located under the \AJS\REC-TBL directory. Use a "plain vanilla" editor to modify the lines contained in this file to achieve th desired sounds. Since there are no point types 6, 12, 13 and 14 these messages are for the adjacent special conditions. You may use the PC's BASICA interpreter to test out your new string off-line. Simply execute BASICA (or GWBASIC) from DOS then type PLAY "ABCDE" followed by the [ENTER] key where ABCDE is the string to be tested. The first message is 0.

```
0 = 1 second beep
1 = point type 1 (FUT.ANALOG)
2 = point type 2 (FIRE)
3 = point type 3 (PATR. TOUR)
4 = point type 4 (SECURITY)
5 = point type 5 (CARD ACCESS)
6 = (VALID CARD ACCESS)
7 = point type 7 (1S3 FUNCTION)
8 = point type 8 (STATUS-NO ALARM)
9 = point type 9 (STATUS-W/ALARM)
10 = point type 10 (3 MODE STATUS)
11 = point type 11 (ANALOG)
12 = (COMMAND TRACE)
13 = (SEC/ACC MODE)
14 = (PATROL TOUR NORMAL ACTIVITY)
15 = point type 15 (CPA/DPA)
16 = C.I.L. alarm (divide by 0)
17 = Keyboard input error
18 = Return to normal
19 = Parity error
```

STRIP PRINTER # 2 ASSIGNMENT

Path is Main Menu / Supervisory / Assign Strip Printer #2

ADDRESS:

The PC needs to know the address of the 2nd strip printer of the SmartChannel for requesting card access logs. Enter the three digit address of the 2nd strip printer associated with the SmartChannel. If there is more than 1 Delta, this address should be the one associated with the card access Delta.

Example:
If the SmartChannel is plugged into channel 9, then this address would be 904.

SEND FILE TO SmartChannel

Path is Main Menu / Supervisory Functions / Send File to SmartChannel.

BACKGROUND:

A file may be built up using an ordinary text editor while off-line. This file can contain any function codes or commands for the SmartChannel such as presetting the SmartChannel critical point table if power is lost to the SmartChannel or a series of function codes to change C.I.L. programs from summer to winter mode of operation. See COMMUNICATION PORT ASSIGNMENT for special control characters (^ is control ~ is 2 second delay } is [ENTER] in the middle of a line). The } is not needed if it would be at the end of a line anyway.

When creating sendfiles, they should be located under the \AJS\SENDFILE directory since this is where the AJS PC Host Software will first look for them (default).

LITERAL METHOD:

The following file example would sign on to the SmartChannel using the default password, add operators 2 and 3, then turn on points 10101 and 10102.

```
!#AJS SB
^O24AAAAAA
^O34BBBBBB
/F008
10101
10102
```

Use the literal method when programming the SmartChannel directly such as critical point tables, telephone number tables, and operator tables.

FUNCTION CODE FORMAT METHOD:

You may send data to the SmartChannel in the exact same format as the coding sheets used for function code documentation. The data must adhere to standard column positioning: column 1 = address field, column 7 = data field, column 14 = function code field.

You must let the PC know that it is in the "function code format" by setting the first 5 characters in the first line of your file equal to *****. THE ASTERISKS ARE VERY IMPORTANT WHEN USING THIS MODE!!

Example:

```
*****************************************************
                    TITLE: Sample Data File
101   01     204    Assign Memory
10101 421000 200    Fan #1 S/S (no alarm, relay 1)
10102 422000 200    Fan #2 S/S (no alarm, relay 2)
10103 603000 200    Fan #3 S/S (w/ alarm, relay 3)
101          203    Enable

10101        008    Turn ON Fan #1 (10101)
10102        008    Turn ON Fan #2 (10102)
*****************************************************
```

Anything past the function code field will not be sent to the SmartChannel. The AJS PC Host Software will wait for a response for the current line of code before sending out the next line. This assures that the PC will not get ahead of the Delta.

Do NOT use TAB characters in your file. Instead use the spacebar to generate the actual number of spaces needed so that the columns will line up.

Use the function code format for all normal function code programming and documentation.

GRAPHICS

Path is Main Menu / Supervisory Functions / Graphics.

BACKGROUND:

Graphics must be generated off-line using a nationally standard "paint" software package called PC Paintbrush (a ZSoft product) or Microsoft Paintbrush.

After the graphic is generated (the paint software should be configured for EGA mode), it should be copied to the AJS graphic directory (\AJS\GRAPHICS). Its name must end with .PCX suffix. After restarting the AJS PC Host Software, choose the Graphics option under the main menu. It will ask for the graphic name and what type of graphic it is (see graphic type). You may possibly use the FRIEZE program supplied with PC or Microsoft Paintbrush to "capture" existing screen graphics from CAD programs (see ZSoft Paintbrush manual). Remember to copy the graphics to the AJS graphic directory: \AJS\GRAPHICS .

GRAPHIC TYPE:

There are 4 choices for graphic type (each supports 80 character widths):
0 - 80x25 character mode (character graphic saved in Microsoft BSAVE format)
2 - 640x200 high resolution b&w graphics mode; CGA or EGA (color graphics adapter) required (this type of graphic should be Microsoft BSAVE format)
8 - 640x200 high resolution color graphics mode; EGA (extended graphics adapter) required (graphic must be created by PC Paintbrush)
9 - 640x350 high resolution color graphics mode; EGA (extended graphics adapter) required (graphic must be created by PC Paintbrush)
11-640x480 high resolution 2 color mode; VGA graphic adapter is required
12-640x480 high resolution 16 color mode; VGA graphic adapter required with 256 K memory

Nore that mode 12 will be the most commonly used mode if you have a normal VGA system. Use mode 9 if you have an EGA system

LOGICAL POINT MAPPING OF GRAPHIC:

If the graphic is to be associated with a logical group such as an air handler then the logical points (max 100) may be "mapped" on to the graphic. When the graphic is then displayed after penetrating to this air handler, the realtime point values will then be displayed at the coordinates you specify. You must therefore "map" the location of the logical point windows on the graphic.

The software will ask you for a logical point number. You may enter any number between 1 and 100. If you want to back out just hit the [ESC] key. After entering a number you may position the block cursor by hitting the arrow keys (NUM LOCK should be off). When you have positioned the cursor where you want it, hit the [ENTER] key. Hit [ESC] when finished. You will then be asked if you want to save the new coordinates. If yes, hit Y then [ENTER] else hit [ESC]. To delete a logical point window precede the point number with a D when prompted for a logical point number. The graphic will then be redrawn to reflect this deletion.

You may associate the same graphic with more than one logical group if they are laid out the same such as several air handlers that are identical.

ASSOCIATING GRAPHICS WITH MENUS (no logical points):

A graphic may be associated with a menu level such as "Building 3" in which case you do not need to associate logical points with the graphic. An example would be a ROOT.PCX graphic showing a campus layout (several buildings). The next penetration would actually be one of these buildings. A graphic showing an outline of this building could then be associated with this menu choice. This idea can be repeated to the floor and area level.

ASSOCIATING GRAPHICS WITH INDIVIDUAL POINTS:

An example would be a group graphic name of HOTEL (try to keep 6 characters or less). Then if you wanted a graphic associated with the first logical point in this group just create that graphic with the name HOTEL01.pcx. The software automatically takes the group graphic and adds the 2 digit logical point number to the name and then assumes this to be the associated graphic for the logical point (no live data is displayed at this level).

This is very useful for single points that cover several pieces of equipment or several areas. The graphic can give a detailed representation of this one point.

ACTIVATING GRAPHICS:

The graphic name must be associated with the user penetration menu level (see Programming the Logical Menus and Groups). After reaching the desired menu level simply hit the [F6] key to "turn on" the graphics mode. You may now move around the system and stay in graphics mode simultaneously! You may even choose a logical point number and command a point then hit [ESC] again and the graphic will reappear.

If you penetrate to a level where a graphic is not associated, graphic mode will automatically terminate and the menu or logical group will be displayed in normal text mode.

DEACTIVATING GRAPHICS:

Hit the [F6] key a second time and the graphics mode will be disabled. Graphics will also be disabled if you hit the [ESC] enough times until the MAIN MENU is displayed or if you penetrate to a menu or group that does not have a graphic name associated with it (blank name).

NOTE TO USERS OF PC Paintbrush:

The "FRIEZE" program that comes with the PC Paintbrush package is memory resident. That is it stays in memory whether or not you are using it. It should be "unloaded" from memory when not in use in order to free up the maximum amount of RAM. This is only important for those with other memory resident programs or those that may sort huge card access data bases. You may possibly unload FRIEZE by typing FRIEZE followed by the [ENTER] key (only at DOS prompt). If this does not unload it, a reboot of the PC may be necessary.

The AJS PC Host Software package does not need FRIEZE to display *.PCX files.

CONVERT TREND FILE TO SPREADSHEET FORMAT

Path is Main Menu / Convert Trend File to Spreadsheet Format.

BACKGROUND:

It is desirable to let the PC accumulate data from the Delta and store it on hard disk for later retrieval and analysis. As discussed under the Print Program section of this manual, print programs can be set up in the Delta to output data on a regular basis (i.e. "trend"). The PC can save this data to an on-going individual print program file (1 file per print program number).

The following is how (for example) Print Program 252 would look in it's "raw" format as found under the \AJS\PRINTPRG directory. The filename is PP252.A (A is for Delta A).

```
 04/01/88     TST2100 10
 252.00       PP 2150 22
R307.11  065 DEG2150 20
R307.12  051 DPT2150 20
R424.14  063 DEG2150 20
R202.08  46.3DEG2150 20
 704.02  92.9TON2150 22
 04/02/88     TST2200 10
 252.00       PP 2200 22
R307.11  065 DEG2200 20
R307.12  051 DPT2200 20
R424.14  063 DEG2200 20
R202.08  46.0DEG2200 20
 704.02  96.4TON2200 22
 04/02/88     TST2200 10
 252.00       PP 2210 22
R307.11  065 DEG2210 20
R307.12  051 DPT2210 20
R424.14  063 DEG2210 20
R202.08  46.0DEG2210 20
 704.02  95.2TON2210 22
      (typical)
```

When Converting a Trend File to Spreadsheet, you may choose to output this data directly to a floppy instead of the default \AJS\LOTUSPRN\ directory on the hard disk. Just enter A:\ when you are prompted for the directory. You may even create the .PRN file directly under a LOTUS directory for convenience if desired.

After running the Convert Trend File to Spreadsheet Format, the above "raw" print program file is then converted to a standard ASCII file compatible with LOTUS 1-2-3 as shown below. The following file will typically be located under \AJS\LOTUSPRN (unless directed otherwise) with a filename of 252A.PRN:

```
0,0,0,0,0,30711 30712 42414 20208 70402
04/02/88 21:50    065     051     063     46.3    92.9
04/02/88 22:00    065     051     063     46.0    96.4
04/02/88 22:10    065     051     063     46.0    95.2
04/02/88 22:20    065     051     063     46.3    86.2
04/02/88 22:30    065     051     063     46.1    88.4
04/02/88 22:40    064     051     063     46.1    88.2
```

You must exit the AJS PC Host Software (Exit to DOS) so that LOTUS 1-2-3 can be executed. After importing (NOT retrieving) the ASCII data into LOTUS 1-2-3, the spreadsheet will look something like this:

0	0	0	0	0	30711	30712	42414	20208	70402
4	2	88	21	50	65	51	63	46.3	92.9
4	2	88	22	00	65	51	63	46.0	96.4
4	2	88	22	10	65	51	63	46.0	95.2
4	2	88	22	20	65	51	63	46.3	86.2
4	2	88	22	30	65	51	63	46.1	88.4
4	2	88	22	40	65	51	63	46.1	88.2
MO	DAY	YR	HR	MIN	PT1	PT2	PT3	PT4	PT5

The line above is a description of what each column is. The first row contains the actual addresses of points whose respective data is listed below it. The first 5 columns on the first row are padded with 0s so that the the addresses and data samples are aligned.

After the conversion process, you are prompted whether or not to erase the existing print program data. If you answer no, the original "raw" data is left alone (new data from Delta will append to end of old data). If you answer yes, then the old data is erased and the new data coming from the Delta will be stored at the start of the empty file.

It is convenient to have a standard blank LOTUS spreadsheet whose first 5 columns' widths are preset to 3. This makes it easier to import the data and see the entire spreadsheet at once. Also the use of LOTUS macro instructions can save many repetitive keystrokes when working with the same type of data over and over.

See the LOTUS 1-2-3 instructions for plotting and printing of spreadsheet data (relatively easy to perform).

Note that if you add items to a print program in the Delta after some data for this print program has already been saved in the PC, the data for the new items will not show up. The AJS PC Host Software scans the start of the print program file to see what points are in the print program before starting the conversion. It will LOCK on to these addresses at the beginning (first sample) ignoring any added addresses. You should erase any stored print program data if you are going to change the print program inside of the Delta so that the addresses and data that will be stored in the new file will be consistent.

MESSAGE TABLES

Path is Main Menu / Messages.

SYSTEM MESSAGE TABLE:

This table contains messages for use by the AJS PC Host Software operating system. In general this table should NOT BE MODIFIED except as specifically stated and approved by AJS Technology.

POINT / ALARM / TROUBLE MESSAGE TABLE:

This table contains 3 types of messages associated with logical points:

1. Point descriptors describing the logical point itself (i.e. Space Temp)

2. Alarm action messages that appear when the logical point goes into alarm (i.e. Call John at 555-5555)

3. Trouble action messages that appear when the logical point goes into trouble (i.e. Check for broken wire).

The point/alarm/trouble messages may be located anywhere in the table. However it is a good idea to section off parts of this table for the 3 types of messages. You may reserve table entries by entering one SPACE when adding blank messages. For example, you may elect to reserve messages 1 through 1000 for point messages, 1001 through 2000 for alarm action messages, and 2001 through 3000 for trouble messages.

MENU / GROUP MESSAGE TABLE:

This table contains messages associated with the user penetration menu scheme. It also contains messages associated with physical Delta groups so that (for example) if the DGP goes into no response, a description of the panel and its location is given.

CHANGE MESSAGES:

Enter the number of the message that you want to change or edit then [ENTER]. The cursor will now drop to the message field. You may use any of the edit keys while entering or changing your message. Hit [ENTER] when the message is OK or [ESC] to back out.

The next message number will automatically be retrieved. You may now hit [ENTER] again to move the cursor to the message field for any changes you might want to make. Hit [ENTER] again and the next message number is retrieved.

If you want to scan through a few consecutive messages just hit ENTER] twice for each message that you want to view. Hitting [ENTER] only with no changes will leave the old message unchanged. [ESC] will always back you out when you are finished.

DISPLAY OR PRINT MESSAGES:

Follow the prompts for the start and end message numbers. The end number is not needed when displaying to the screen. [ESC] will always back you out when you are finished or abort if the report is in progress.

ADD MESSAGES:

When the add message choice is selected the next available message number will automatically be retrieved and the selected message table will be expanded.

When the cursor drops to the message field, you may use any of the edit keys while entering your new message. Hit [ENTER] when the message is OK or [ESC] to back out. If you hit [ENTER] the next message number is displayed. If you do not want to add any more messages just hit the [ESC] key.

PRINT PROGRAMS

Path is Main Menu / Print Programs.

BACKGROUND:

Print programs from the Delta may be directed to any combination of the following:

1. Output to printer 1
2. Output to printer 2
3. Output to associated print program file

A title may be associated with each print program for easy recognition.

Print program files may be viewed or printed at a later time. Trend logs also use print program files for generating trends to the screen or printer.

Print program files may be converted to spreadsheet format so that plotting and analysis may be performed with programs like LOTUS 1-2-3. See Maim Menu / Convert Trend File to SpreadSheet Format for more information on this feature.

You may elect to erase a print program file after viewing or printing it, or you may just leave it alone allowing it "grow". Always be aware of the amount of disk storage available.

Any word processor may be used to "shave off" (for file maintenance purposes) the "top" of any print program file. These files are located under the \AJS\PRINTPRG directory. For example, file name PP145.A indicates a file containing print program 145 data for Delta A.

ASSIGN PRINT PROGRAM:

Follow the template for inputting the above information.

A single space in the title field will delete the print program assignment in the PC. However any old print program files will remain. Hit [ESC] to back out.

PRINT/DISPLAY PRINT PROGRAM ASSIGNMENTS:

A summary showing the print program assignments within the PC may be obtained. The report may be directed to the screen or to a printer. Hit [ESC] to abort or back out.

PRINT/DISPLAY PRINT PROGRAM FILES:

The contents of the print program files themselves may be sent to the screen or to a printer. The format will be the same as if it occurred during realtime.

You may elect to erase a print program file after viewing or printing it. Or you may just leave it alone allowing it "grow". Always be aware of the amount of disk storage available. Hit [ESC] to abort or to back out.

Note that this is the "long form" of outputting the print program data. See Main Menu / Supervisory / Log / Trend menu for a more concise report format.

At the end of the file you will be asked if you want to erase the print program file. If yes then this print program data file will be erased and new print program data from the Delta will start at the top of this purged out file. If you answer no, new print program data from the Delta will be appended to the end of the existing file that you just requested. Always consider the total amount of disk space available for storage when allowing large amounts of print program data to be saved.

ERASE PRINT PROGRAM FILE:

You may also elect to erase a print program file without having to view or print it. Always be aware of the amount of disk storage available.

Hit [ESC] to abort or to back out at any level.

Note that if you add items to a print program in the Delta after some data for this print program has already been saved in the PC, the data for the new items will not show up. The AJS PC Host Software scans the start of the print program

file to see what points are in the print program before starting the conversion. It will LOCK on to these addresses at the beginning (first sample) ignoring any added addresses. You should erase any stored print program data if you are going to change the print program inside of the Delta so that the addresses and data that will be stored in the new file will be consistent.

NOTES: