
uM260 DATA ENTRY

INTRODUCTION

As the name implies, the uM260 Micro Monitor is a small capacity cable pressurization monitoring unit that is ideal for central offices or controlled environmental vault (CEV) installations that have monitoring requirements for 20 devices or less. The monitor is a true stand-alone unit that may be used either independently or as part of a larger, multi-office PressureMAP system.

This chapter identifies the requirements for building a uM260 office database in PressureMAP. Unlike the preceding sections of this manual, most of which address only the requirements for gathering and organizing data prior to the data entry process, this section covers both aspects of the procedure. It identifies the type of data and structure required to build a uM260 database, including office information, and it provides an abbreviated instruction set for entering the information into PressureMAP.

Note: It is important to understand that, unlike the 289H LSS monitor which DOES NOT have its own database, the uM260 monitor requires programming. In applications where the uM260 will be monitored by PressureMAP, however, you do not need to manually program the uM260 itself. You can enter the office and device information first in PressureMAP, and the software will upload the data into the uM260 once it calls the monitor.

If you would like to receive threshold alarms directly from the uM260 or intend to have the monitor send alerts to PressureMAP, however, you will need to manually program alarm threshold information into the uM260's database as described in the *Installation and Operations Manual* that is supplied with the product.

MONITORING SYSTEM STRUCTURE

The uM260 monitor is a compact chassis (9.25 x 5.14 x 1.25 inches) that contains a controller/relay board equipped with dedicated relays to provide scanning and alarming capabilities for up to 16 resistive or current loop transducers, four binary devices and one control relay output. There are two separate versions of the monitor: one with an on-board 33,600 bps modem and one with a 10Mbps Ethernet port.

Like most cable pressurization system monitors, the uM260 provides alarm notification when a pressure or flow reading crosses pre-defined alarm thresholds or when binary devices change from their normal, non-alarm state. When the uM260 operates independently from PressureMAP in the stand-alone mode, this is the only alarm information generated. However, when monitored by PressureMAP the MAP software's alarming criteria is used to identify alarms for dispatching.

OFFICE AND DEVICE DATA ORGANIZATION

Due to the relatively simple and minimal requirements for building a uM260 office in PressureMAP, the organizational and data entry requirements presented below should provide all of the information necessary to create the office database and activate the system for PressureMAP monitoring. Assuming that the uM260 is properly installed and that the monitoring devices have been correctly wired to the connector blocks and cabled over to the uM260, the remaining setup procedure is to manually build the office in PressureMAP.

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DEVICE NUMBERING

Device or Access Numbering for the uM260 is similar in format to the 289H LSS. The first four devices in the system are reserved for the binary contactors, and they are assigned Access Numbers 001-01 through 001-04. These devices are followed by the 16 resistive or current loop devices (Access Numbers 002-01 through 002-16). The control relay is always assigned Access Number 003-01.

All of the binary devices (001 devices) are given one TD Type designation, which is CPAMS_TD. The uM260 does not support multiple binary device types. The binary Device Type will be a contact alarm, normally OPEN.

All devices with Access Numbers beginning in 002 are analog devices. Applicable Device Types are pressure transducers, flow transducers, or contact alarms. TABLE 14-1 below provides a summary of this information.

Access Number	Device Type	TD Type (PMAP designation)
001-01 through 001-04	Binary Contact Alarm	CPAMS_TD
002-01 through 002-16	Resistive or 4-20mA Transducer, Resistive Contactor	CF/9.5, CF/19.0, CF/47.5, CF/95.0, CF/190, CF/475, CF/950 RF/9.5, RF/19.0, RF/47.5, RF/95.0, RF/190, RF/20.0, RF/50.0, RF/100.0, RF/200 CPA/30, RP(9.5), RP/HP-PSI, CPAMS_TD, AC/115, DRYER, RR/540K
003-01	Control Relay	N/A (no data entry in PressureMAP)

TABLE 14-1: uM260 MONITOR DEVICE INFORMATION

COMPLETING THE OFFICE DATA FORM

Due to the small number of transducers and sensors that can be monitored by the uM260, the process of organizing office and device data for PressureMAP is a relatively simple one. To assist with this process, System Studies provides two forms, the uM260 Office Data Form and the uM260 Device Data Form. With experience, it may not be necessary to use these forms when building the database for the uM260; however, completing the forms beforehand simplifies the data entry process and helps to get you back on track if data entry is interrupted for any reason.

The first form that you should update is the Office Data Form (FIGURE 14-1). It contains data fields for recording the important office information needed to build the office communications database in PressureMAP.

uM260 Office Data Form		
Date of Form:	Date of Entry:	
Office Name:	Monitor Type:	
Phone Number/IP Address:		
Office Mode: (Enabled/Disabled)		
Baudrate:	User Defined Devices: (On/Off):	
Password 1:	Elevation:	
Password 2:	MAP Alert Baudrate:	
MAP Alert #:	Alert Sensitivity:	
Modem Site:		
Remarks:		
Aerial Std:	Buried Std:	Undgrnd Std:
Delivery Std:	Flow Std:	
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FIGURE 14-1: UM260 OFFICE DATA FORM

Office Data Form Fields

The following fields are located on the Office Data Form. Each field discussed in this section should be filled out completely, supplying the information as defined below:

Office Name

The name of the central office, wire center or controlled environmental vault (CEV) where the uM260 is installed is entered in this field. PressureMAP office names may be composed of up to 20 alphanumeric characters, with the first 8 characters being unique to each office. Offices, dispatch centers and alarm centers should never share the same name. Some words and types of punctuation are reserved by the program and cannot be used in an office name. Specifically, these reserved names and punctuation forms include:

Names: ALL, SYSTEM, SHORT, LONG, ACCEPT, DIAGNOSE

Punctuation: \ / | , . < > ? ; : " { } [] ! @ # \$ % & * () _ + = '

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Monitor Type

This field specifies the type of CPAMS monitoring equipment being used in the office. During the data entry process, you can toggle through the various office types to select the uM260 Monitor Type designation, which is *SSI UM260*.

Phone Number/IP Address

Enter the phone number or IP address and port used by PressureMAP to access the uM260 monitor. Please note that two versions of the uM260 monitor are available: one is equipped with a 33,600 bps modem; the other has an Ethernet port for LAN communications. Make sure you have obtained the equipment and/or information necessary to set up the communications.

If you are using a modem, first test the dialing sequence of the number before entering any phone number on the Office Data Form. The complete phone number must be used, including any and all supplemental prefixes in the numeric sequence. Some examples of a prefix may be the "9" used in Centrex telephone systems (used to initiate calls outside the system) or the "1" that is needed to initiate a long distance call.

Also, you may need to time any pauses that are required in order to receive dial tone or make a circuit connection. Wherever a delay is noted, insert a **W** or one or more commas in the telephone number string to indicate that a pause is required. A **W** in the dialing sequence instructs PressureMAP to wait for a dial tone before continuing, while a comma in the number sequence will instruct the PressureMAP modem to pause for only two seconds before continuing with the dialing.

Inserting a capital **T** in the phone number sequence instructs the modem to use tone dialing. Notice that not every telephone exchange has this capability, and because of this, PressureMAP will default to pulse dialing if no **T** is encountered in the telephone number string. Inserting a capital **P** in the sequence will instruct the modem to dial using a pulse dialing method.

For uM260 monitors equipped with a network connection to PressureMAP, this field contains the IP address assigned to the micro monitor. To specify a TCP/IP connection in this data field, the IP address is prefaced with **IP=** and followed by colon (**:**) and the port number. (The port number value specified for the uM260 monitor is 10001.) Here is an example of the format:

Phone number: IP=xxx.xx.xxx.xxx:10001

Office Mode

This field allows you to "Enable" or "Disable" the entire uM260 office. If you are in the process of entering data for a new office and the uM260 is not yet connected, the entire database can be disabled from normal MAP functions (data acquisition, alarming, etc.), and enabled whenever you are ready. The default value is set to *Enable*.

User Defined Devices

This field designates whether you intend to turn "on" or "off" the user defined device number feature for the uM260 office.

Normally, PressureMAP will scrutinize each device number as it is entered into the data editor to make sure that the device code and number conform to the type designation and numbering system for the specific CPAMS. However, with user defined device numbering in effect, customized device codes can be used to help identify the device.

User defined device codes can be composed of up to 10 alphanumeric or other characters, with the exception of the following words and punctuation:

Words: REAL, LAST

Punctuation: () , / ^

Valid entries for the user defined device number field are ON or OFF. By default, PressureMAP will turn user defined device numbers to OFF. If you wish to take advantage of this feature, you will need to enter ON in this data field. Once you have set up an office with user defined devices ON, we strongly advise against turning the feature off. If you later decide to turn the feature back on, you will need to re-input all the access numbers by hand.

Elevation

The value in this field is used to record the approximate elevation in feet where the uM260 monitor is installed. The value provides an offset or altitude correction for all high resolution pressure devices being monitored. The offset is required because the 4-20 mA pressure devices are zero calibrated at sea level relative to a perfect vacuum. The result is a device with a highly accurate fixed reading scale and a true zero setting of 14.7 pounds per square inch absolute (PSIA), or one atmosphere. When these transducers are installed at higher altitudes, there is less pressure exerted on the internal sensor, which results in a correspondingly lower reading. The *Elevation* footage entered provides an offset for the lower barometric pressure.

Note: Password Information: Direct user access to uM260 Micro Monitor data is controlled via two passwords: the *User Password* and the *Setup Password*. These controls were established for the uM260 so that the monitor could be programmed for stand-alone operation, if desired. Neither of these passwords is required by PressureMAP when entering uM260 Office Information or when PressureMAP communicates with the uM260 monitor. However, for record keeping convenience, two password data field have been added to the uM260 Office Information Screen in PressureMAP to record the uM260 passwords. Entering information into these fields is optional.

Password 1

This data field can be used to record the *User Password*, which by default is *airtalk1*. The *User Password* enables users to log into the uM260's database and view the current readings. This password is for read-only access.

MAP Alert Baudrate

In this data field you can designate the baud rate of the PressureMAP modem that receives alert information from the uM260 monitor. The default setting is 9600 baud, which is the default value for a LAN version of the uM260 monitor.

Password 2

This data field is used for the *Setup Password*, which enables the System Administrator to perform the minimal direct data entry required by the uM260 when operating in stand-alone mode. The default *Setup Password* is *airtalk2*. Please note that it is not necessary to perform direct programming of the uM260 monitor when the unit is set up as an office in PressureMAP.

Map Alert #

This field contains the phone number or IP network connection that the Micro Monitor will use to send out alerts to PressureMAP. For uM260 monitors equipped with an on-board modem, enter the appropriate phone number used for the communications, including any prefixes or pauses that are

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required. For the LAN version of the uM260, an IP address is required. This address is prefaced with a T (tone) and followed by a colon (:), the port number used by the LAN connection, another colon, and a final T. A typical entry would look like the one below:

Map alert #: Txxx.xx.xxx.xxx:3002:T

If a MAP Alert # is provided, PressureMAP will be notified by the uM260 whenever a device reading crosses its programmed threshold value and meets the requirements for alerting specified in the Alert Sensitivity data field (see explanation below).

Alert Sensitivity

This field holds the uM260 alert sensitivity level, which is a number between 1 and 5. The number 1 is the least sensitive alert detection setting and 5 is the most sensitive. Since the higher sensitivity settings will cause the uM260 monitor to send out a greater number of alert calls, it is recommended that 3 be used until you have a feel for which level will work best with your pressure system.

Modem Site

An entry in this field is required for a uM260 office using the Digi PortServer II serial port concentrator. The field must be filled out to select which PortServer the office will use for outgoing and incoming calls. Check that the name given is eight characters or less.

Please note that this field only appears on the screen during data entry if your PressureMAP system has at least one Digi PortServer II configured in Network Administration. Toggling the data field, using the > or < keys, will display the valid Modem Site entries.

Remarks

PressureMAP provides **Remarks** field, allowing you to enter up to 70 characters of comments for operator messages or notes. An entry in this field will be saved with the office data until it is removed or edited.

Aerial std, Buried std, Undgnd std, Delivery std, Flow std

These five fields determine the cable pressurization standards used by the office. PressureMAP automatically defaults to these minimum pressure standards:

- Aerial cable—2.0 PSI
- Buried cable—3.0 PSI
- Underground cable—5.0 PSI

If your minimum cable pressure standards differ from the ones listed above, you will need to enter the pressure standards appropriate to your area into these data fields. Please note that if the Micro Monitor has not been manually programmed prior to building the database in PressureMAP, the standards above will be used to determine alerting for the Micro Monitor.

Delivery std

Enter the source delivery pressure standard for your office into this field. PressureMAP uses a default value of 7.5 Pounds per Square Inch (PSI). Note that you will not have to make an entry if this standard applies to your office. For an air pipe system, this value should be the desired delivery pressure at the end of the air pipe. However, this field is also used for the distribution panel delivery pressure standard for a single feed office (typically 10 PSI in this application). If you do change the default setting, the delivery pressure standard must be entered in tenths of a PSI, and the value must

be between 0.0 and 10.0. (Please note that this field is not enabled if the *Office Information Screen* is using metric units of measurement.)

Flow std

This field holds the office air flow standard, measured in Standard Cubic Feet per Hour (SCFH). The program default setting is 1.25 SCFH. This standard is based on the OAU figure per sheath mile of cable. If this standard applies to your office, then you will not need to change the field value. However, if the air flow standard that you use in your office differs from the default value, then you will need to set the Flow standard. Values entered are in units of hundredths of SCFH, and can be between 0.50 and 9.99 SCFH.

Once the Office Information Form has been completed, the forms should be double-checked for accuracy and retained for the data entry process. At this point, you are ready to compile the individual uM260 sensor information.

COMPLETING THE DEVICE DATA FORMS

When filling out the Device Data Forms, keep in mind that PressureMAP is designed like a pressurized cable system. It is based on air pipes rather than monitoring devices or cable routes. For this reason, the data entry forms should be organized by air pipe routes (rather than by specific cables or monitoring device types).

The uM260 Device Data Form (FIGURE 14-2) consists of a series of data fields pertaining to an individual monitoring device. One set of data fields (or a single Device Data Form) will complete a single *data record* in the PressureMAP database. To complete the PressureMAP database, a data record will need to be filled out for every monitoring device in the pressurized cable system.

When compiling device data, it is important to remember that each monitoring device is associated with either a single air pipe, remote dryer, or central office sector. It is very important to note that a single device cannot become associated with more than one air source, as this would misrepresent the pressurization system.

The minimum information that needs to be gathered for each monitoring device is:

- The Device Number
- The PressureMAP Device Type (refer to Appendix 1)
- The working range of the device (if the device monitors air flow)
- The total sheath miles associated with the device (if it monitors air flow)
- The physical address of the device
- The PressureMAP Location Code of the device
- The Pipe or Sector associated with the device
- The sheath name (or number) that the device monitors (multiple sheath numbers might be needed for transducers that monitor air pipe manifolds)
- The stickmap number on which the device appears

All of the above information must be entered correctly into the PressureMAP Editor for each device monitored by the uM260. These key elements of information are fundamental to the proper operation of the PressureMAP program.

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Although there are several additional fields on the data forms, it is not mandatory that they all be filled in. However, it is recommended that you complete them if the information is available. Completing as many fields as possible, and entering the data into the PressureMAP database, enables PressureMAP to issue more detailed reports—eliminating the need for you to look elsewhere when extra information is desired.

Device Data Form Fields

The first step in completing the uM260 Device Data Form (shown on the following page) is to fill in the header information. Once you have done so, you can begin to record the actual monitoring device data. The following pages contain definitions for the various data fields found on the uM260 Device Data Form. Each definition includes a description of the field, the maximum length of data that can be entered, the type of entry expected (numeric or alphanumeric), and any default values that PressureMAP may assign to the field. The first group of data fields described in this segment pertains to information found on the *Primary Specific Device Information* screen of the data entry editor. This is the first device data entry screen that is displayed for each device.

DEVICE #

This data field accommodates a maximum of 11 characters for recording the number of the monitoring device. If the User Defined Device option is set to OFF in the PressureMAP's office editor, the device number format must comply with the uM260's device numbering requirements. Valid numbers are 001-01 to 001-04 (for binary devices) and 002-01 to 002-16 (for resistive and current loop transducers and for resistive contactors). These device numbering requirements are shown in Table 14-1.

Page ____ of ____	uM260 Device Data Form	Add <input type="checkbox"/>	Delete <input type="checkbox"/>	Change <input type="checkbox"/>
Office:	Pipe:	Engineer:	Date:	

Primary Specific Device Information				
Device #: (11)	Access #: (11)	Type: (2)	Range: (4)	S-M/Loop: (7)
			PSI: (4)	SAU/STD: (4)
Address: (30)		Loc: (4)	Pipe: (4)	Norm: (7)
TD Type: (8)		OAU: (4)		Chng: (4)
Sheath(s): (7-15 times)				
Prim Cable: (7)	Prim Pair: (7)	Sec Pair: (7)	Sort Key: (5)	
Plat #: (8)	Stickmap: (4)			
Remarks: (2 lines of 70 characters)				

Monitor Specific Device Data		
Latitude: (10)	Longitude: (11)	
Office 1 Loc: (4)	Distance 1 (kft): (4)	Field 1 Loc: (4)
Office 2 Loc: (4)	Distance 2 (kft): (4)	Field 2 Loc: (4)
Phone #: (8)		

The screens that complete the device data entry procedure are the Primary Specific Device Information Screen, the Monitor Specific Device Screen, the Device Comments Screen, and the Cable Readings Screen. These screens are accessed from the Primary Specific Device Information Screen, by using the <PgUp> and <PgDn> keys (if you are at the MAP Computer main console) or by entering the keystrokes <Ctrl><F>, (forward one screen), and <Ctrl><R>, (back a screen).

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FIGURE 14-2: uM260 DEVICE DATA FORM

ACCESS #

The **Access #** field is only required and only displays on-screen in PressureMAP when the User Defined Device option is turned ON. The programmed Access # is what PressureMAP uses to obtain readings from the uM260 monitor. An access number identifies the device and, to some extent, the type of device that is wired to a specific position on the dedicated connector block used

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for the uM260 installation. When User Defined Devices are turned ON, the Access # must comply with the uM260's device numbering requirement (see Device # explanation above).

TYPE

This field holds the two-character PressureMAP Device Type designation, which indicates the general monitoring function performed by the device. PressureMAP uses a default Device Type of UP in this field, which represents an underground pressure transducer. For more information on assigning PressureMAP Device Types, please refer to Appendix 1, PressureMAP Device and Transducer Types.

RANGE

This field needs to be filled in only if the device is a flow transducer (Device Types: SF, DF, RF, MF, LF, CF and \$F). Enter the maximum range of the transducer in this field on the data form. Allowable entries are 9.5 SCFH, 20.0 SCFH, 50.0 SCFH, 100.0 SCFH, 190.0 SCFH, 475.0 SCFH or 950.0 SCFH.

During data entry PressureMAP's flow range entries are calibrated to the nearest tenth. For example, in order to enter a 0-95 SCFH flow range, you will need to type "95.0" or "950". The decimal point is automatically added by the PressureMAP editor. Because of this, the final digit of each entry will represent the number one place to the right of the decimal point.

PSI

This field needs to be filled in for all contactors (*C PressureMAP device types). The value which must be placed in this field is the value at which the contactor goes into alarm. By default, PressureMAP places the underground pressure standard in this field. If the activation value for a specific contactor is different than the underground pressure standard, then enter this value in the **PSI** data field.

The **PSI** field will also appear for source pressure, distribution panel, central office dryer, and remote air dryer pressure transducers (SP, DP, CP and RP PressureMAP device types). The field is automatically generated for these device type because, for some CPAMS types, an off-set value was required by PressureMAP to compensate for the inability of the monitor to read high range source pressure transducers (5-14.5 PSI, for example). This requirement does not pertain to the uM260 Micro Monitor; therefore, you should simply enter the number 0 into the PSI data field or simply leave it blank for these delivery pressure monitoring devices. Adding a positive value in this field will result in incorrect readings for these device types.

S-M

The **S-M** (sheath mile) field only needs to be completed for devices that monitor air flow. If the device in question is a flow monitoring device, then enter the calculated sheath miles into this field. If the records for the flow device only have an OAU value, then that number may be entered in the **OAU** data field, and PressureMAP will automatically calculate the corresponding S-M value.

The sheath miles for a source flow transducer (FTD) is equal to the sum of the manifold sheath miles. This includes the distribution panel sheath mileage if it is fed by the pipe panel.

Although sheath miles for each flow device should be recorded on the stickmaps, this information is sometimes not present. Be sure to enter all calculated sheath miles on stickmaps which lack this information.

OAU

This field only needs to be completed for devices that monitor air flow. If the device in question is a flow monitoring device, and you have not entered the device's sheath mile value in the **S-M** data field, then enter the OAU value into this field. Please note that the OAU value for a source FTD is equal to the sum of the manifold OAUs. This includes the distribution panel OAU if it is fed by the pipe panel.

The minimum OAU value that PressureMAP will accept during data entry is one tenth (or 0.1). As a result, the PressureMAP editor will accommodate only one space to the right of the decimal point. If you were to enter ".17" for an OAU value, PressureMAP would record this entry as 1.7, automatically placing the last numeric digit one space to the right of the decimal point.

SAU

This field stands for the Standard Air Usage of high priority flow devices (\$F and \$V devices). The value placed in this field should be the normal, stable flow rate of the device. This air usage value should be obtained from researching past device history reports.

STD

This field will be displayed only for high priority pressure transducers (\$P devices) and temperature devices (\$T). The STD value is the standard, normal PSI value of the transducer. For \$T devices, the default is 75.0 degrees F. The value that is placed in these fields should be obtained from past history reports for the transducer.

LOOP

This field must be filled in for all contactors. It specifies the loop resistance value for an alarm reading. The value entered into this field, which can be up to seven characters in length, is the total loop resistance in kilohms from the central office to the operated contactor (the contactor in an alarm state) and back to the office. Note that this field needs to be completed only for contactor devices (see PressureMAP Device Types table in Appendix 1).

ADDRESS

This field holds the device address location. If the device's address exceeds 30 characters, you will need to abbreviate it. Some examples are shown below:

- For pipe panels: (PIPE PANEL-A, NORTH)
- For distribution panels: (DIST. PANEL-C, SOUTH)
- For underground device locations: (MH-54, WILLIS & 5TH AVE.)

For all aerial and buried device locations, use the pole numbers and cross streets, terminal numbers, building names, footage, or whatever else is necessary to thoroughly identify a device location.

TD TYPE

The uM260 is capable of reading both resistive and loop current devices, as well as four binary devices. In order for PressureMAP to process data for these transducers, the appropriate TD Type must be entered in this data field. Information regarding TD Type designations, as well as a brief explanation of their usage, is provided in Appendix 1 of this manual.

LOCATION

Enter the device Location Code into this field. The Location Code is an alphanumeric abbreviation assigned to all devices stationed at one particular location. Each Location Code must be unique (not

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duplicated) within an office. While Location Codes may consist of up to four alphanumeric characters, they are normally numbers between 0 and 9,999.

Note: All devices in the CO, CEV or other Micro Monitor installation must be given a Location Code of 0. An rare found exception to this requirement is when a distribution panel is attached to the pipe (MF).

PIPE

This field contains the pipe designation with which the device is associated. Pipe names are arbitrary designations consisting of a maximum of four characters. Assigned or existing pipe names should be used in this field. (Refer to the stickmaps for this information.)

Devices in the central office that are not associated directly with an air pipe are part of the central office sector. These devices are designated as: CO. For additional information on the CO sector, please request System Studies document entitled *Cable Pressurization Engineer Review* (11062.*ES).

Remote dryers and pole mounted compressors are separate air sources that require their own pipe designations. It is recommended that remote dryer pipe designations include the letter "R" (for remote) and a single or multiple numeric identification (for example: R1, R12, RD-1, etc.). When recording the pipe designations of devices associated with a remote dryer, include only those devices on the FIELD side of the dryer. For more information on field locations, please refer to the *Field 1* data field described later in this subsection.

Devices on the office side of a remote dryer are associated with the pipe originating in the central office (see FIGURE 14-3). An exception to this rule applies when the remote dryer is located at the end of the cable run. In this situation the first pressure transducer on the office side of the remote dryer is associated with the remote dryer and not the air pipe (see FIGURE 14-4). This exception makes it possible for a remote dryer to fulfill the minimum requirements for establishing a System Quality Index (SQI).

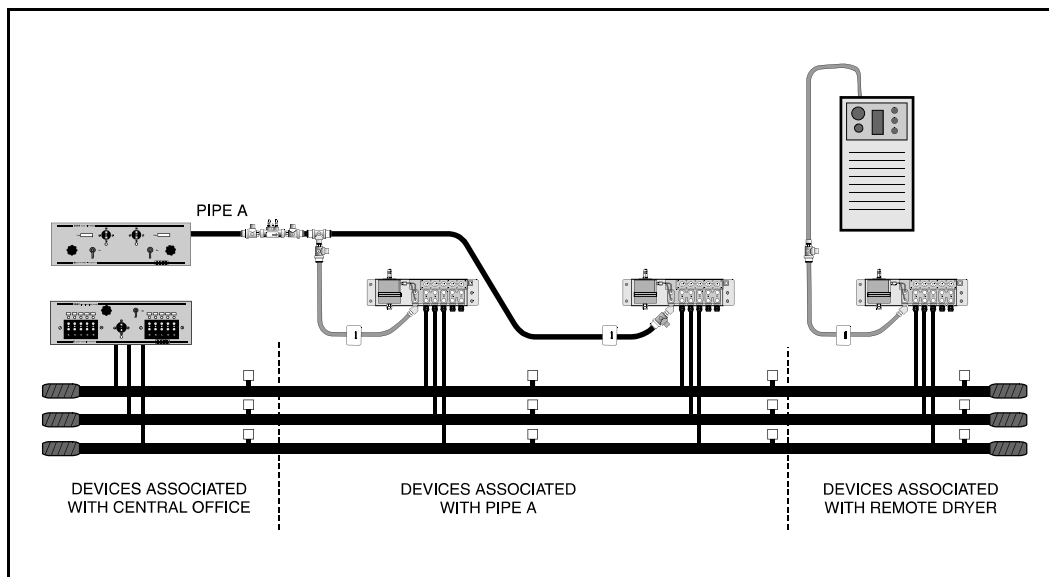


FIGURE 14-3: DEVICES ON OFFICE SIDE OF A REMOTE DRYER

Supplementary air pipes, such as maintenance pipes and splicer pipes are commonly designated as: SP, BP (Buffer Pipe), SP1, etc. Separate toll/trunk pipe panels often begin with: TP followed by a number or geographical designation relating to one of the points on a compass. Select the designation that works best in your system.

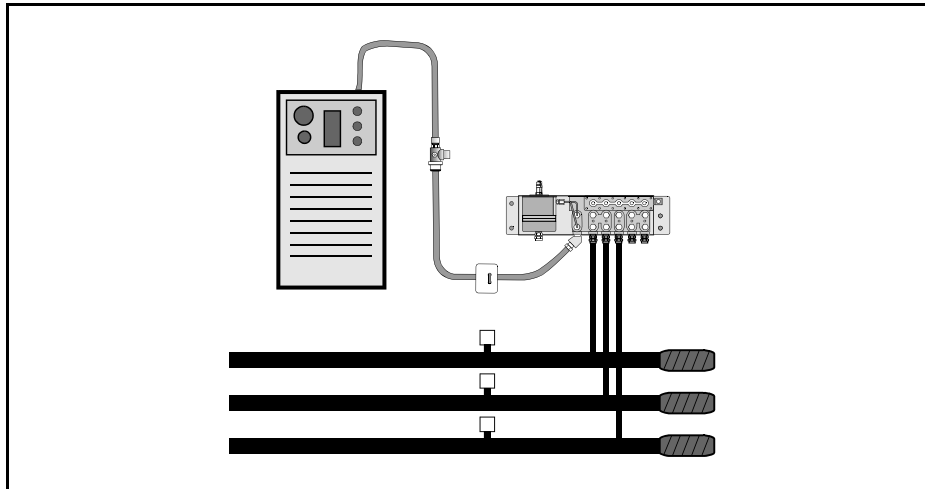


FIGURE 14-4: REMOTE DRYER AT THE END OF A CABLE RUN

NORM

This data field needs to be completed for all contactors and contact alarms. The input for this field can be up to seven characters in length and should reflect what the device reads in its normal, non-alarm state. Possible *Norm* entries are OPEN, CLSD, AOPN, ACLS, BOPN and BCLS.

For the Micro Monitor’s contact alarms (TD Types: CPAMS_TD, AC/115, AC/230, DRYER, and RR/540), this field is initialized to a setting of OPEN. Please note that the open state (high resistance) is always interpreted as an OK reading, and the closed state (low resistance, or short for a RR/540 TD Type) is always interpreted as an alarm. Since the uM260 monitor does not detect threshold direction, all threshold triggers for these devices occur when the resistance decreases through the threshold value.

When using an analog input for a contactor or contact alarm (device designations 2-1 through 2-16 in the uM260), a contact alarm set up as CLSD, ACLS or BCLS will never generate a uM260 alert if it goes into alarm. For analog inputs, therefore, only the OPEN, AOPN and BOPN values should be used. Please note that this requirement only pertains to the analog inputs; uM260 devices that are connected to the binary inputs (TD Type: CPAMS_TD) will work properly with closed designations.

CHNG

This field is used in conjunction with the **SAU/STD** fields for \$F, \$V and \$P and \$T devices. The **CHNG** field is the amount of change that can be tolerated before the device goes into alarm. For pressure devices, the **CHNG** value represents the amount of pressure drop (in PSI) from the value indicated in the **STD** field before an alarm condition is acknowledged. For flow devices, the **CHNG** value indicates how many SCFH the device increases before an alarm is given. For temperature

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devices, the **CHNG** value indicates how many degrees the temperature can increase or decrease from the **STD** value before the device goes into alarm.

For a pressure monitoring device, this field will default to a value of 1.5 PSI, while a flow monitoring device will give a default value of 2.0 SCFH. For a temperature monitoring device, the default value is one third of the standard (**STD**).

SHEATH(S)

This field holds the sheath number or identification of the cable being monitored. It may also be used to identify the cables being fed by an air pipe manifold or distribution panel.

The sheath assignment for a device should be listed on the Master Transducer Log and stickmap. Sheath entries are limited to seven alphanumeric characters in length. As many as 15 individual sheath entries may be input into this data field.

PRIM CABLE

This field holds the primary cable number. This will be the "read" cable that contains the transducer conductor pairs. Entries are limited to seven alphanumeric characters.

PRIM PAIR

This field contains information that designates the primary conductor pair to which the device is connected. Primary pair entries are limited to seven characters.

SEC PAIR

Record the secondary pair number in this field. This number refers to the backup conductors assigned to the device, if they exist. Like the primary pair entries, the secondary pair entry is limited to seven alphanumeric characters.

SORT KEY

This field is for user defined device sorting. Sort Key designations may hold a maximum of five alphanumeric characters. No spaces are allowed. Option 10 of the Device Histories Menu uses this field to generate reports for all devices with the same Sort Key designation.

PLAT #

Fill in the underground, buried, or aerial record number on which the monitoring device appears in this data field. Plat numbers may be up to eight alphanumeric characters in length.

STICKMAP

This field holds the sheet number of the office stickmap where the monitoring device appears. Stickmap entries may consist of a maximum of four alphanumeric characters.

REMARKS

This data field allows for two 70-character lines of information concerning the device to be entered into the database.

The following device information fields will appear on the *Monitor Specific Device Screen* of the data entry editor. This screen is accessed from the Primary Specific Device Information Screen, by using the <PgUp> and <PgDn> keys (if you are at the MAP Computer main console) or by entering the keystrokes <Ctrl><F> (forward one screen), and <Ctrl><R> (back a screen).

LATITUDE

This text field has the following format: ldd+mm.mmm, with l designating which hemisphere the latitude applies to (one of the single letters: N or S); dd is an integer between 00 and 90 that indicates the degrees of latitude; and mm.mmm is an integer between 0.0 and 59.999 that designates the minutes of latitude.

When adding new devices, the latitude field is carried over to the new device, so the default value for this field will be derived from the last device added.

LONGITUDE

This text field has the following format: hfff+mm.mmm, with h designating which hemisphere the longitude applies to (one of the following single letters: E or W); fff is an integer between 000 and 180 that indicates the degrees of longitude; and mm.mmm is an integer between 0.0 and 59.999 that designates the minutes of longitude.

When adding new devices, the longitude field is carried over to the new device, so the default value for this field will be derived from the last device added.

Office and Field Locations do not necessarily apply to each device. If not, these fields should be left blank. When a device's Office Location entry is blank, the corresponding Distance field is also left blank. A device in the central office is NEVER assigned an Office 1 or Office 2 location. Devices monitoring the air pipe (such as SF, SP, PP and EP device types) do not require Office and Field entries, as PressureMAP reviews the entire route when these devices come into alarm.

OFFICE 1 LOC

This field holds the Office 1 Location Code. The Office 1 location is the code of the first device location toward the central office from the designated device location where the cable in question is either fed or monitored. This data field does not apply to devices in the central office itself or to pressure devices on a pipe.

DISTANCE 1 (kft)

This column is used to record the distance, in kilofeet, from the specified device location to the OFFICE 1 location. A numeric entry must be made into this position. This data field does not apply to devices located in the central office or pipe pressure TDs.

FIELD 1 LOC

This column designates the Field 1 Location Code. This column lists the Location Code of the first device location on the field side of the specified device where the cable is either fed or monitored.

Notice that a Distribution panel flow device with an assigned Location Code of "0" will have an entry in this field. Only the following types of devices are not assigned any Field Location codes: pipe pressure transducers, pipe panel flow transducers, and contact alarms.

OFFICE 2 LOC

This field holds the Office 2 Location Code. If two monitored sheaths on the office side of a device location converge into one sheath at the device location, office Location Codes are assigned to the closest device locations on each of the two sheaths. Either device location may be designated as Office 1; the remaining one is Office 2. (Refer to Appendix 2 for examples of Office 2 and Field 2 assignments.) Reference the stickmap to determine if a sheath splits.

This data field does not apply to devices located in the central office or pipe pressure TDs.

DATA ENTRY

DISTANCE 2 (kft)

The distance from the specified device location to the Office 2 location. Enter the distance, in kilofeet, to the Office 2 location. Entries must be numeric.

FIELD 2 LOC

Enter the Field 2 Location Code into this field. If a sheath splits on the field side of the device location, the closest monitoring device on each of the two sheaths is assigned a field Location Code. Either device location may be designated as Field 1; the remaining one is Field 2. (See Appendix 2 for a detailed look at Office and Field situations.)

PHONE

If the device is wired to a subscriber line, enter the eight-digit subscriber phone number in this field. This information is critical in providing a useful and accurate device record database.

THINGS TO KEEP IN MIND

Keep in mind the special nature of devices in the CO when filling in the uM260 Device Data Form.

- Devices in the CO differ from field devices in that they rarely have cable and pair assignments.
- Contactors in the CO do not have sheath numbers.
- A CO device always has "0" for its location code.
- Flow devices on Pipe Alarm Panels get no field locations.
- Do not assume that a pipe located in the CO Sector is a CO route.
- Pipe pressure TDs get no Office or Field Locations.

Also, keep in mind the special nature of remote compressors. The remote compressor is an air source, which must be monitored by a flow device. In order to produce a non-zero System Quality Index for a remote compressor, both a pressure monitoring device and a flow monitoring device must be associated with the air source.

uM260 DATA ENTRY

The information in this subsection describes the procedures for entering the office and device information compiled on the two data entry forms into the PressureMAP editor. This process begins at the System Options Menu (SCREEN 14-1). The following instructions explain how to access the PressureMAP Data Entry Screen.

```
System Options                                MAP Series XX.XX.XX
12/02/2010  13:05                            System Studies Incorporated
-----
System Options
-----
 1. Select MAP Program
 2. Select MAP Data Entry
 3. System Administration
 4. Language Selection
 Q. Quit

Choice?
```

SCREEN 14-1: MAP SYSTEM OPTIONS MENU


```

MAP Data Entry
12/02/2010 13:05
-----
MAP Series XX.XX.XX
System Studies Incorporated
-----

MAP Data Entry
-----
 1. PressureMAP Data Entry
 2. ReportMAP Data Entry
 3. CableMAP Data Entry
 4. AlarmMAP Data Entry
 5. DryerMAP Data Entry
 6. Special Data Entry
 7. USAM Data Entry
  Q. Quit

Choice?
    
```

SCREEN 14-2: MAP DATA ENTRY MENU

Procedure:

- 1) From the System Options Menu **Choice?** prompt, select Item **2** (MAP Data Entry), followed by **<Return>**.

After the data entry option has been selected, the screen will display the MAP Data Entry Menu, as shown in SCREEN 14-2.

Normally, the MAP Data Entry Menu contains six data entry options, each one providing an entrance into the data editor for a particular MAP database. Beginning with PressureMAP Version 24.02, a seventh option, USAM Data Entry, was also made available. This option appears only if the Universal Stand-alone Module™ capability has been enabled by System Studies' Technical Support personnel for your PressureMAP system.

- 2) Select option **1**, PressureMAP Data Entry, from the MAP Data Entry Menu **Choice?** prompt followed by **<Return>**. If you do not wish to create or edit a MAP database, then you may return to the System Options Menu from the MAP Data Entry Menu by entering **Q <Return>**.

Once PressureMAP Data Entry has been selected, the program will display the PressureMAP Data Entry Screen, and you are ready to begin data entry. All of PressureMAP's editor functions begin and end at the PressureMAP Data Entry Screen (SCREEN 14-3). The first and second lines of this screen list the editing options followed by a status line which displays a message prompt.

```

Data Entry: A[dd a new office], I[nfo about an office], S[pecific device info],
            D[elete an office], R[ecover from hardware failure], M[ore], Q[uit]

Choose an option:
-----
-----
    
```

SCREEN 14-3: DATA ENTRY SCREEN

DATA ENTRY

OFFICE INFORMATION DATA ENTRY

Procedures 1 through 4 below describe how to define and create the uM260 office in PressureMAP. Once this information has been entered, the Specific Device Information editor will automatically open so you can begin entering data for your monitoring devices.

Procedure:

- 1) From the PressureMAP Data Entry (SCREEN 14-3) **Choose an option** prompt, enter the letter **A** to create a new office. Follow the selection with **<Return>**. When the Add a New Office command is selected, the program will respond with:

Name of office to add:

- 2) Type the name of the office being created and press **<Return>**.

Once you have entered an office name for the uM260 monitor, the *Office Information Screen* will appear as shown in SCREEN 14-4. The office name that you typed will be entered automatically into the appropriate data field, and the cursor will be positioned in the field labeled **Monitor type**.

```
Info about <OFFICE NAME>: Keypad Field Control, <Esc> finish screen,
                          <Return> next field, <Backsp> delete char, <Ctrl B> previous field

Enter Office Information
-----

File date:      11/13/10  (317)                Last edited:      11/29/10

Office name: <YOUR OFFICE>                    Monitor type:

Phone number:

Office mode:   ENABLED

Baudrate:     1200

Password 1:

MAP alert #:

Modem Site:

User Defined Devices: OFF
Trunk/Toll Tolerance: 80 ohms
MAP alert baudrate: 2400
Alert sensitivity: 3

Remarks:

Aerial std:    2.0          Buried std:    3.0          Undgnd std: 5.0
Delivery std:  7.5          Flow std:     1.25

-----
```

SCREEN 14-4: OFFICE INFORMATION SCREEN

- 3) With the cursor positioned in the **Monitor type** field, press and hold the *Shift* key and press either **>** or **<** repeatedly until *SSI UM260* displays. Release the keys, press **<Return>**, and the data fields on the Office Information Screen will change, as shown in SCREEN 14-5, to reflect data entry options for the uM260 monitor type. Please note that you can also type the monitor designation information into the field directly, if desired.

```

Info about <OFFICE NAME>: Keypad Field Control, <Esc> finish screen,
                        <Return> next field, <Backsp> delete char, <Ctrl B> previous field

Enter Office Information
-----

File date:      11/13/10  (317)           Last edited:      11/29/10
Office name:    <YOUR OFFICE>           Monitor type:     SSI UM260
Phone number:
Office Mode:    ENABLED
Baudrate:       9600
Password 1:
Password 2:
MAP alert #:
Modem Site:
User Defined Devices: OFF
Elevation:      0 feet
MAP alert baudrate: 9600
Alert Sensitivity: 3

Remarks:

Aerial std:     2.0           Buried std:        3.0           Undgnd std: 5.0
Delivery std:   7.5           Flow std:          1.25
-----

```

SCREEN 14-5: UM260 OFFICE INFORMATION SCREEN

The uM260 Office Data Entry Screen is similar to the 289H LSS screen with the following exceptions:

- The uM260 screen has an *Elevation* field. The programmable value in this field is used by the uM260 to correct or offset readings from all of the current loop (4-20mA) pressure transducers being monitored. Please refer to the explanation of this field in the “Office Data Form Fields” subsection above.
 - The uM260 does not have a *Trunk/Toll Tolerance* field. The determination of whether or not a contactor is in ALARM is determined by the uM260.
- 4) Enter the information that was recorded on the Office Data Form into the appropriate data fields of the Office Information Screen. After each entry, press **<Return>** to move to the next data field on the screen.

To edit data fields and move about the data entry screen, use the Editor Function Keys that are listed at the top of the screen. For a full explanation of the Editor Function Keys, please refer to the segment titled "Editor Functions Keys," found in the Preface of this manual.

DEVICE DATA FOR A NEW OFFICE

After the Office Information Screen has been completed for the new uM260 office, PressureMAP will automatically display the individual device information editor. The cursor will be placed at the **Device#** field, waiting for input of the first device data associated with the office. Please note that is essential that the Device Data Forms be checked for accuracy before beginning the device data entry process. Incomplete or inaccurate data could disrupt PressureMAP monitoring capabilities for this office.

Primary Specific Information Device Screen

The *Primary Specific Device Information Screen* (shown in SCREEN 14-6) consists of three sections. The top two rows display the Editor Function Keys. Located below this display is the status line, where the program will issue messages and prompts. Underneath the status line and function key display is the main

DATA ENTRY

part of the Primary Specific Device Information screen. This screen contains only fields that are device specific, so it is identical for all monitors.

Please note that the **Remarks** field consists of two lines of data. If there is information in the second line, but the first line has been blanked, then the second line will not be displayed. The information in the second line will once again be displayed if data is entered into the first line. An asterisk in the **Remarks** field indicates that the Device Comments Screen has additional information entered.

```
Add device to <OFFICE NAME>: <PgUp>, <PgDn> more, <Esc> finish screen
                             <Return> next field, <Backsp> delete char, <Ctrl B> previous field

-----
Enter device number or <Return> to quit.
-----
Device #: 002-12                               Type: MF Range: 19.0 S-M: 6.8
Address: MH102-NORTHWEST AND SOUTH STS       Loc: 20 Pipe: A OAU: 8.5
TD Type: RF

Sheath(s): 01      03      748

Cable:      32   Prim Pair: 1681   Sec Pair: TD13   Sort Key: RASE
Plat #: RT UG 73   Stickmap: 3

Remarks:*MF ON ROUTE A IS ALSO USED IN NORTHWEST OFFICE
          IT IS DEVICE 025-15 IN THAT OFFICE

Readings      Curr Last Tdy -1 -2 -3 -4 -5 -6 Wk-1 Wk-2 Wk-3 Wk-4
-----
              7.5 7.5 7.5 8.0 8.0 7.5 7.5 7.5 8.0 8.0 15.5 7.5 7.5
-----
```

SCREEN 14-6: PRIMARY SPECIFIC DEVICE INFORMATION SCREEN

The other three screens that complete the device data entry procedure are the Monitor Specific Device Screen (SCREEN 14-7), Device Comments Screen (SCREEN 14-8), and the Cable Readings Screen (SCREEN 14-8). These screens are accessed from the Primary Specific Device Information Screen by using the **<PgUp>** and **<PgDn>** keys (if you are at the MAP Computer main console), or by entering the keystrokes **<Ctrl><F>** (forward one screen) and **<Ctrl><R>** (back a screen).

```
Add device to <OFFICE NAME>: <PgUp>, <PgDn> more, <Esc> finish screen
                             <Return> next field, <Backsp> delete char, <Ctrl B> previous field

-----
Device #: 002-12                               Type: MF Range: 19.0 S-M: 6.8

Latitude: N36+25.999   Longitude: E122+15.000

Office 1 Loc: 0         Distance 1 (kft): 2.5   Field 1 Loc: 21
Office 2 Loc:          Distance 2 (kft):          Field 2 Loc: 23

Phone:

-----
```

SCREEN 14-7: MONITOR SPECIFIC DEVICE SCREEN

Monitor Specific Device Screen

This screen includes data fields for recording the Office 1 and 2 Locations, Distance, Field 1 and 2 Locations, Latitude, and Longitude. Depending upon the type of monitor installed in the office, it may also contain one or more of the following: Unit #, Line #, Trigger, Module, Input #, Threshold, Scan Option, Alt, Alarm Priority, Phone #, Addr #, Binary Source, TP, Ckt #, Priority, Level, Escalation, Delay, Program Flag, and other monitor-dependent fields.

Field Accessible Device Comments Screen

This screen gives field craft personnel the ability to input device-related remarks. These remarks, which can be entered from the PressureMAP Specific Device Information Menu selection as well as from data entry, are date/time stamped when entered and can contain up to two lines of text, which equals 124 characters.

```
Add device to <OFFICE NAME>: <PgUp>, <PgDn> more, <Esc> finish screen
                          <Return> next field, <Backsp> delete char, <Ctrl B> previous field

Enter date and time in "MM/DD/YY HH:MM" format
-----
Device #: 002-12                               Type: MF Range: 19.0 S-M: 6.8

06/24/10 15:11  DEVICE WILL BE WIRED BY JIM ON TUESDAY, CALL JULIE TO ENABLE
                IT PHONE NUMBER 555-5555

-----
```

SCREEN 14-8: DEVICE COMMENTS SCREEN

Cable Readings Screen

The cable readings screen is only accessible if there is least one sheath designation in the **Sheath** field of the Primary Device Screen. When full, it can contain six sets of manually input cable readings, with each set of readings containing a date stamp and a manual flow reading for each sheath. The sheaths match the sheaths entered on the primary device screen, and the single, manually-input manifold PSI reading indicates delivery pressure to all of the cables fed by the manifold. Please note that cable information can also be entered into the program at the Specific Device Information Menu by individuals who do not have full data entry privileges.

DATA ENTRY

```
Add device to <OFFICE NAME>: <PgUp>, <PgDn> more, <Esc> finish screen
      <Return> next field, <Backsp> delete char, <Ctrl B> previous field

Press <Ctrl A> to add a new set of readings.
-----
Device #: 002-12                               Type: MF Range: 19.0 S-M: 6.8

Manifold/PSI: 8.0
              06/24/10
              01 4.3
              03 5.2
              748 4.0

-----
```

SCREEN 14-9: CABLE READINGS SCREEN

The data fields shown on the all of the device information screens contain many of the same data categories found on the Device Data Forms. However, not all the fields located on the Device Data Form will be shown on a screen when it is first brought up. Depending on the values entered into the data screen, different data fields will appear as they are needed.

For example, the data field **Range** will be needed only if the device being entered is a flow monitoring device. When you specify a PressureMAP flow monitoring device in the **Type** data field, **Range** will automatically appear on the data entry screen.

The type of data fields which appear on the Monitor Specific Device Screen depend upon the CPAMS equipment used in the office and the information entered into the program. Sometimes, a data field will "pop up" on the data screen, requiring the input of information to complete the device data record.

When entering device data, note that not all the data fields located on the four screens will require values for each device. For example, some devices may not have Office 2 Location or Secondary Pair data values. However, any pop-up fields that appear during the data entry process will require that you input data into the field.

When completing a data record for a specific device, it is critical that all the data contained on the Device Data Form be entered into the four screens. If the Device Data Forms have been completed correctly, each screen will produce a data field for each value that is entered on the form. If the data form contains information that does not correspond to a data field presented on the screen, or if the PressureMAP screen presents a data field not listed on the Device Data Form, you should double check the Device Data Form to confirm that it has been completed correctly.

The importance of entering accurate device information cannot be stressed enough. Without a complete and correct database, PressureMAP will not be able to function to its potential. Take the time required to check all questionable data. Extra time spent creating a reliable database will allow you to rest easy once PressureMAP is up and running.

When first entering a new device, the process starts with entering the device number into the **Device#** data field. Then, if the office being completed has User Defined Device Numbers turned on, you will need

to enter the device's access number (this becomes the actual number that PressureMAP uses to obtain readings from the CPAMS). If User Defined Devices is not turned ON, then there will be no **Access#** data field displayed on the screen.

Procedure:

- 1) Complete the device data record by entering all the information on the Device Data Form into the corresponding data fields on the Primary Specific Device Information Screen. Start by typing the device number into the **Device#** data field.
- 2) When all of the data for a device has been entered into the primary information screen, move to the next data screen by using the **<PgDn>** key, if you are at the MAP Computer main console, or by entering the keystrokes **<Ctrl F>** (forward one screen). Continue to enter data into the remaining screens, moving to the next one as the data for each screen is completed.
- 3) When all of the data has been entered into the four data screens, hit the **<Esc>** key to return to the status line of the primary information screen, or enter the keystrokes **<PgUp>** or **<Ctrl><R>** (back one screen) until you see the primary information screen. After you enter the **<Esc>** key in the primary information screen, PressureMAP will display the following prompt:

Correct? (Y(es, N(o, T(hrow away entry)

This prompt is, in effect, asking you to verify the information entered into the Specific Device Information Screens. Before responding, be sure to double check all data on the Specific Device Information Screens with the Device Data Form to ensure that the data has been entered correctly.

Answering the prompt with a **Y** and **<Return>** saves all of the device data on the screen into the office data file. From this point, the cursor will be placed in the **Device#** data field on the Specific Device Information Screen so that you may continue to enter new device data into the office.

- 4) When all of the data fields for the device are correct, return to the status line and enter a **Y** followed by **<Return>** to complete the device data record.

If you escape from the information screen, and all of the data on the screen is not correct, answer the **Correct?** prompt with an **N** followed with **<Return>**. With this response, the cursor will return to the **Type** data field, where corrections to the device information can be made. Use the Editor Function Keys to move the cursor to the data fields that needs correction, and type in the correct information. Again, when the screen is completed, press **<Esc>** to move the cursor to the status line.

If, after completing a device information screen, you wish to discard the data you have entered, answer the **Correct?** prompt with a **T** and **<Return>**. This entry will erase all data from the screen without saving it to the office data file. The cursor will then be positioned at the **Device#** field, where you may enter new office device data.

- 5) Repeat Procedure Steps 1 through 4, until all the devices have been entered into the PressureMAP office database.

When all entries have been made, hit **<Return>** from the **Device#** field without entering a new device number. From here, you will be returned to the PressureMAP Data Entry Menu.

DATA ENTRY

The data entry process for an office is not completed until all information from the Device Data Form has been entered for each device in the office. Once device information has been entered into the office database, the database for that office will be completed.