

Chapter 2

INTRODUCTION

Data Preparation introduces a strategy for organizing the pressurization system data so that it can be entered easily into the PressureMAP database. The procedures outlined in this section pertain only to companies who will be doing their own PressureMAP data entry. However, if desired, System Studies Incorporated will perform all or part of the data entry process, including preparing the office, assimilating the data, and entering the information into the PressureMAP database.

The Data Preparation process is comprised of three phases:

- I. Verifying the Source Records and Preparing the Office
- II. Calculating Sheath Miles or Tube Miles (required for all flow devices) and Assigning Location Codes
- III. Completing Data Entry Forms

Phase I consists of several steps. First, the office source records must be obtained and verified for accuracy. This means that the information on each document must be cross-checked against other pressure related records to confirm that all corresponding data is in agreement. These source records include Stickmaps, Master Transducer Logs, and CPAMS Printouts.

The second step in Phase I requires that you locate and identify all the components that make up the office cable pressurization system. Included in this step is an evaluation of the engineering design to determine what, if anything, is needed to meet the minimum PressureMAP engineering requirements. If you determine that the office does not meet PressureMAP's requirements, then the necessary field and office hardware will need to be installed and connected.

In Phase II, stickmaps are examined to determine if accurate distances between air sources or tube counts are available. This information needs to be obtained and added to the stickmaps, if necessary. It is used to determine the Optimum Air Usage (OAU) for air source, such as a distribution panel or air pipe manifold, and the corresponding flow transducer in the PressureMAP database. By using the distance between device locations and counting the number of pressurized cables fed by each flow device, it is possible to figure out the *Sheath Miles* between each flow monitoring device. To calculate the *Tube Miles* for a flow device, the number of individual tubes feeding cables from the device need to be counted. Once the total sheath mileage or tube counts have been determined and entered into the PressureMAP database, Optimum Air Usage (OAU) values are automatically calculated by the PressureMAP software.

To complete Phase II of the data preparation process, Location Codes must be assigned to all devices in the office, and distances from the central office to each device location must be calculated. This information then needs to be recorded on the appropriate stickmaps.

In Phase III, the system information is compiled and entered onto the two primary data forms. These two forms are the Office Data Form and the Device Data Form. The first step in this phase is to gather all the pertinent office data and transfer it to the Office Data Form. It is here that the CPAMS Communication Data (telephone numbers, passwords, baudrates, etc.) are determined. The second step in this phase involves compiling data that pertains to each monitoring device in the system. To complete this phase, all monitoring device information must be entered onto the appropriate Device Data Forms.

VERIFYING SOURCE RECORDS AND PREPARING THE OFFICE

There are several steps involved in the first phase of the PressureMAP data preparation process, as described below. Taking the time to complete these procedures are carefully and accurately as possible will save considerable time and confusion during the actual data entry process.

Verifying the Office Source Records

A key process when preparing an office for PressureMAP is to obtain and verify the source records for the office in question. The three primary office source records are:

- The stickmap
- The Master Transducer Log
- The CPAMS Printout

All three source records are used to compile data for the PressureMAP office database. Of the three, the stickmap serves as the chief data record. It is augmented by the Master Transducer Log and the CPAMS printout. Underground cable records, aerial and buried cable records, and conduit records are also useful reference tools when the primary source records are incomplete. If possible, obtain all the available pressurization system records before you begin to assimilate the system data.

Once the source records have been acquired, these records need to be carefully checked to confirm that all the data is current, complete, and accurate. When checking the records, look for gaps and inconsistencies in the data and make corrections as the situation warrants. Cross-check the records to verify that a device's pipe name, sheath assignment, module type, location, etc. are the same on each of the source records. As well, any data that is lacking on these records must be gained through further research.

Identifying System Components

In the second step of Phase I, all the components that constitute the office cable pressurization system must be located and identified. To do this, follow your company guidelines regarding the office inventory procedures.

While identifying the system components, the accuracy of the pressure system records must be verified for all device and/or cable associations. If the accuracy of the pressure system records is in question, then device locations must be verified by sending technicians out into the field. In this case, you will need to follow your company guidelines for performing the field verification.

Engineering Design Evaluation

The next step in Phase I is to evaluate the pressurization engineering design to determine what may be needed to meet the minimum PressureMAP system requirements. PressureMAP requires an

office to be engineered in accordance with the pressurization standards discussed in the System Studies document titled "Engineer's Review" (11062.*ES). In this step, an office is compared against the standards outlined in the "Engineer's Review" to identify design deficiencies and system discrepancies.

The following procedures should be conducted to make sure that an office is engineered properly:

- Determine Office Model Type
- Locate all unmonitored pneumatic sections
- Locate all unmonitored pipe endpoints (pipe endpoints with no pressure transducers)
- Locate all air pipe manifolds
- Identify the number of transducers at multiple transducer locations
- Locate existing flow transducers at manifold locations and in the central office
- Calculate sheath miles or tube counts fed per air pipe
- Analyze the central office "plumbing":
 - a) One pipe panel per air pipe
 - b) Ten cables (maximum) per distribution panel
- Locate all remote dryers and note the associated monitoring equipment

Offices engineered without air pipes must be monitored for air flow at the distribution panel in the CO. For these systems, pressure transducers must be installed at the endpoints of all single feed cables. Offices engineered with air pipe systems require flow monitoring devices to be placed in the central office and pressure monitoring devices to be placed at the endpoints of all air pipes.

PressureMAP requirements and recommendations for device placement in an air pipe system are specified in TABLE 2-1. In this figure, upper-case lettering indicates system requirements while lower-case lettering shows the recommended system components.

FLOW MONITORING DEVICE PLACEMENT	
1. SOURCES	<ul style="list-style-type: none"> • PIPE ALARM PANELS • DISTRIBUTION PANELS NOT FED BY PIPES • REMOTE COMPRESSORS
2. Air Pipe Manifolds	
3. Distribution Panels fed from Pipes	
PRESSURE MONITORING DEVICE PLACEMENT	
1. AIR PIPE ENDPOINTS	
2. Single Feed Pneumatic Section Endpoints (including Pressurized Laterals)	
3. Midpoints of Dual Feed Sections (unless the office has MF spacing of 3000 feet)	
4. Remote Compressors	

TABLE 2-1: DEVICE PLACEMENT

Note: It is important to know that in order for PressureMAP to calculate a System Quality Index for a route, each pipe and sector on the route must contain at least one pressure monitoring device and one flow monitoring device.

System Studies Incorporated recommends the installation of flow transducers in the CO (instead of volume counters) if flow monitoring devices have not been installed there.

Bringing the System Up to Standard

In order to meet the minimum system requirements, the standard system components must be installed and connected as needed. When any components are added or disconnected from the system, the office source records must be updated to reflect the new situation.

To sustain data accuracy, it is very important for maintenance personnel to notify the PressureMAP Setup personnel of any conditions that may cause discrepancies of data. Possible problem conditions include:

- A device not yet installed
- A device removed from CPAMS Printout
- A device removed from field
- A device installed in the field, but not programmed into the CPAMS

SHEATH MILES, TUBE MILES, AND LOCATION CODES

The second phase of the data preparation procedures involves two steps. In the first step, either the total sheath miles between each flow device (air source) or the number of tubes feeding cables from each air source must be calculated. However, it is possible that the office stickmaps already contain this information. If this is the case, then skip to the second step of this phase, "Assigning Location Codes."

Calculating Sheath Miles

Once the office records are validated, you must determine the sheath mileage for each pneumatic section of a pipe route. The distances between measurement points and the number of cables being monitored is then recorded on the appropriate stickmaps. In most cases, the number of cables can simply be multiplied by the footage between manifold midpoints to get the total sheath feet. Convert this footage total to miles by dividing by the number of feet in a mile: 5,280. For example, suppose a manifold feeds 6,000 sheath feet of cable. This manifold would have a S-M (sheath mile) value of 1.14, as shown in the calculation below:

$$\frac{6,000 \text{ sheath feet}}{5,280 \text{ feet per mile}} = 1.14 \text{ sheath miles}$$

If you wish to calculate the corresponding OAU value, multiply this number by 1.25 (the standard multiplier for Optimum Air Usage).

OAU TO SHEATH MILE CONVERSION

If the device records list only an OAU value, it is a simple procedure to convert this number to the S-M number needed for PressureMAP device data entry. Simply divide the OAU number by 1.25 to

determine the correct S-M number. This calculation is performed automatically by PressureMAP, however, during data entry.

Calculating Tube Miles

The process for determining the Tube Miles (TUBE-M) for a flow device is relatively simple. Using the office records, first identify the number of cables being fed by a manifold (number of tubes connected) or other flow device, and record this number on the appropriate stickmap or device data form.

If PressureMAP is enabled by a System Studies Technical Support specialist for International Capability, you can use a TUBE-M count instead of the default S-M calculation (refer to *International Measurement Fields* subsection on page 2-16 for more information). The MAP software will automatically calculate an OAU for the flow device based on the flow per tube entry in the **Flow Std:** field. The default flow standard for offices with 3,000 foot manifold spacing is 2.0 SCFH. If the air flow standard used in the office differs from the default value, you will need to modify the **Flow Std:** field of the Office Information Screen using an entry between 0.5 and 9.99. For example, large offices with closer manifold spacing (1,000 to 1,500 feet) use 5.0 SCFH per tube.

Calculation Points

The required S-M, Tube-M, and OAU calculation points are:

- Air Pipe Manifold—total number of tubes or sheath miles in the Sphere of Influence
- Remote Compressor—total sheath miles or tubes of all remote-fed cables
- Distribution Panel—total number of tubes or sheath miles of all panel-fed cables in CO Sector
- Pipe Alarm Panel—total of all sheath miles or tubes for the air pipe (sum of S-M or TUBE-M of all the manifolds fed by the pipe)

The following information provides helpful information when calculating sheath mileage for these air sources:

Air Pipe Manifold S-M

When calculating manifold S-M values, the number of sheath feet within the manifold's Sphere of Influence are counted. Sphere of Influence is a term used to describe the cables within a cable pressurization system that are directly fed by an air source. Ideally, an air pipe manifold pressurizes cables halfway to the next air pipe manifold. In a dual feed system this Sphere of Influence extends halfway toward the manifolds in either direction. To determine the number of sheath miles of cable fed by an air pipe manifold, count the number of sheath feet to the midpoints between adjacent manifolds. Also included in the manifold's Sphere of Influence are the first 3,000 feet of all underground, aerial, and buried laterals that are being fed exclusively by the manifold.

When there are several manifolds feeding a group of cables, sheath footage is calculated to the nearest cable junction. While this may not be the exact cable midpoint, as long as this rule is

applied consistently the calculation errors will offset one another in the long run and result in reasonably accurate sheath mileage computations.

When calculating extended cable lengths in single feed exchange cable, generally only the first 3,000 feet fed by the manifold are included in the sheath footage count. This footage limit is used because, normally, air flow is negligible at an air source when a leak(s) occurs at a considerable distance from that source.

This rule also applies when calculating the sheath footage for sections of trunk and toll cable. As with exchange cable, it is not necessary to include more than 3,000 feet of the cable in a sheath mileage count.

Remote Compressor S-M

When computing S-M values, remote dryers or compressors are treated similarly to pipe panels and CO Sector distribution panels. Remote compressor and dryer S-M values are determined by adding the first 3,000 feet of each cable fed directly by the remote equipment.

Distribution Panel S-M

If a distribution panel receives its air independently of an air pipe that feeds cables in the field, it is considered a separate air source in the CO Sector. The CO Sector is a circular area surrounding the central office which includes all cables pressurized directly by a distribution panel. The circle's radius is defined by the manifold spacing requirements for the type of office; it spans the distance halfway to the first manifold location in the field.

The S-M value for the distribution panel is determined by adding the sheath mileage of all panel-fed cables within the CO Sector. If a distribution panel receives air from an air pipe, it is treated like a field manifold.

Pipe Alarm Panel S-M

The pipe alarm panel S-M value is easily determined by adding all of manifold S-M values on the pipe route. If the distribution panel is fed by the pipe panel, its S-M value is also included the pipe alarm panel S-M value.

Assigning Location Codes

Once all the office source records are verified and the Sheath Miles are calculated, the next step in Phase II of the office preparation process is to assign Location Codes to all monitoring device locations and record them on the corresponding stickmaps.

FIGURE 2-1 on the following page shows a sample stickmap tailored to PressureMAP standards. This Geo-based stickmap is termed a Location Code Map.

These codes provide an abbreviated label for the position of a device within the pressurization system. When assigning location codes, make sure that every monitoring device within an office is assigned a Location Code. A Location Code is:

- Up to any four alphanumeric characters
- Unique (never duplicated) within an office

All devices at a specific location will be assigned the same Location Code. For example, identical Location Codes would be assigned to all pressure transducers located in the same manhole.

A recommended process for assigning Location Codes is as follows:

- 1) Start at the CO (central office) and assign Location Code "0" to this location.
- 2) Working outward from the CO, assign Location Codes route by route for each device location.
- 3) Assign the Location Codes in a predetermined sequence.
- 4) Assign Location Codes directly on the stickmap.
- 5) Assign Location Codes for all manifold locations -- even if the manifolds are not monitored by flow transducers (FTDs). If FTDs are installed at a later date, updating the database will be minimized and the sequence of the Location Codes will be uninterrupted.

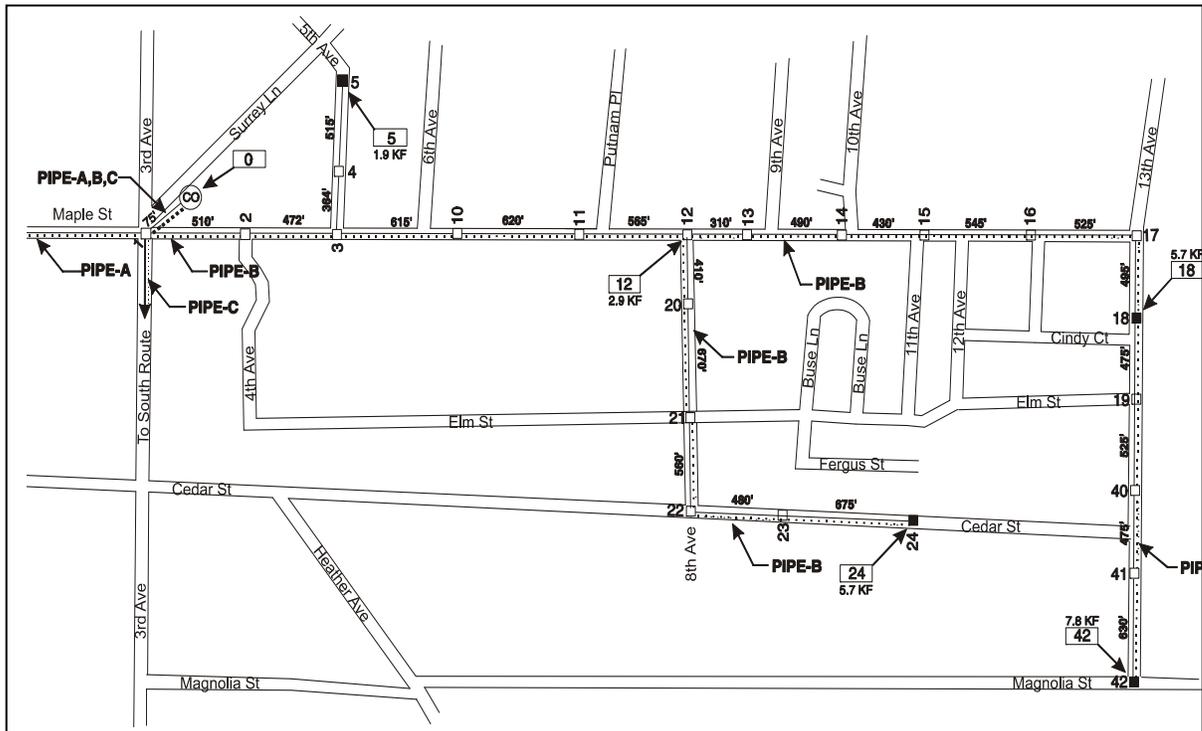


FIGURE 2-1: GEO-BASED LOCATION CODE MAP

It is important to note that assigning Location Codes is a critical part of the office preparation procedures. If an incorrect Location Code is recorded and entered into the PressureMAP database, it will hinder the program's leak locating capabilities.

Apart from the CO and the duplicate number stipulations, Location Code number assignment is completely arbitrary. In this way a company can further personalize its PressureMAP office database by making alphanumeric assignments meaningful within the company. For example, point number

variations and manhole numbers are sometimes used for location coding. However, it is recommended that the Location Code assignments conform to some sort of numbering sequence.

COMPLETING THE DATA FORMS

To finish the data preparation procedures, the two primary data forms must be fully completed. Phase III involves compiling the system data and entering it onto the appropriate data forms. Once this phase has been completed, the actual data entry part of the PressureMAP setup procedures may begin.

The two data entry forms described in the following pages are designed to aid in the data entry process. Once the data entry forms are completed, information can be taken directly from the forms and entered into the PressureMAP data entry editor. When compiling data for the data entry forms, keep in mind that any extra information recorded on the forms (and therefore entered into PressureMAP) will produce a more thorough PressureMAP database.

The Office Data Form

The data collected on the Office Data Form (FIGURE 2-2) is used to create the office/CPAMS communications database for PressureMAP. The information you supply must be current, complete, and accurate, since it will be entered directly into the PressureMAP database during the data entry process. (Data entry is covered in detail in the PressureMAP section of this manual.)

Office Data Form Fields

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

Office Name

The name of the central office or wire center 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. These reserved names and punctuation forms include:

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

Note that if your system uses Chatlos or Hercules equipment, you will have to match the office name with the corresponding Chatlos or Hercules wire center name for AlarmMAP to function properly. This name can be found in the header information on the Chatlos or Hercules report printout.

With Sparton equipment, the unit name of EACH individual unit must match the PressureMAP office name which the unit represents. When programming Sparton units, it is important that all units within the Sparton be given the name of the PressureMAP office that they represent, even if more than one unit monitors the same PressureMAP office.

Office Data Form		
Date of Form:	Date of Entry:	
Office Name:		
Monitor Type:	(L1, L2, L3, 600, MPUZ, 740, 940, Teleducer 50, 5300B, V5, 5301A, 5318 E2A, TMACS, 101, 1005, NICOTRA MINI, TELSEC, 289H, 289H-M)	
Phone Number/IP Address:	Access # Type:	
Office Mode:		
Baudrate:	User Defined Devices: (ON/OFF)	
Password 1:	Password 2:	
Trunk/Toll Tolerances:		
Units: (SPARTON ONLY)		
MAP Alert #: (289H/H-M and uM260 ONLY)	Map Alert Baudrate:	Alert Sensitivity:
Modem Site: (DIGI PORTSERVER II ONLY)		
Remarks:		
Wire Center:		
Pressure:		
Flow:		
Distance:		
Aerial Std:	Buried Std:	Undgrnd Std:
Delivery Std:	Flow Std:	

Version 28 and above

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Figure 2-2: Office Data Form

Monitor Type

This field specifies the actual type of CPAMS monitoring equipment being used in the office. The default value for this PressureMAP data field is the SSI 289H LSS. (If you plan to install a now discontinued Dial-a-Ducer monitoring device, please refer to Section 15 of this manual for information on the correct monitor type to use in this field.) Acceptable abbreviations for PressureMAP-compatible CPAMS monitors are:

- L1 = Chatlos L1
- L2 = Chatlos L2
- 600 = Chatlos 600
- MPUZ = Chatlos MPUZ

- L3 = Chatlos L3
- 740 = Hercules 740
- 940 = Hercules 940
- Teleducer50L3 = Teleducer 50 (Note that the office data entry fields and the device information data fields for a Teleducer 50 are identical to a Chatlos L3.)
- 5300B = Sparton 5301B and Sparton V5 (also 5303B, 5304B, 5330B, 5335B, 5345B). Note that the Sparton 5300A is no longer supported in PressureMAP.
- V = Sparton V5
- 5301A = Sparton 5301A (Also 5335A, 5345A.)
- 5318 = Sparton 5318 MMU (Mini Monitoring Unit)
- E2A = Western Electric E2A Remote Monitor
- 289 = SSI 289 LSS
- 289H = SSI 289H LSS, SSI 289H-M LSS
- UM = SSI uM260 Micro Monitor (refer to Section 14 for uM260 data entry requirements)
- TMACS = Harris TMACS 1000
- 101 = Lancier 101
- 1005 = Lancier 1005
- NICOTRA MINI = Nicotra MINIDAS I, Nicotra MINIDAS II (MINIDAS-2400)
- TELSEC = Quest TELSEC 2000, TELSEC 1500
- Puregas C-Board (PVD 800)

Phone Number/IP Address

Record the CPAMS phone number here. However, before entering the phone number on the Office Data Form, be sure to test the complete dialing sequence of the number.

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, time any pauses that need to be made 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 289H/H-M monitors using a network connection to PressureMAP, this field contains the IP address for the 289H. To use the network capability, the 289H monitor must be equipped with: 1) a LAN Controller card; or 2) be used in conjunction with the Universal Stand-Alone Module (USAM). 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 LAN Controller is 3001.) Here is an example of the format:

Phone number: IP=xxx.xx.xxx.xxx:3001

The TX Industry Teleducer 50 can be accessed from PressureMAP using either a dial-up modem or a LAN connection. When set up for network communications, the Teleducer's port designation must be 5555 as shown below:

Phone number: IP=xxx.xx.xxx.xxx:5555

Access # Type

This field allows you to turn "on" or "off" the 289 and 289H feature of Access Number Translation for a particular office. This feature, when enabled, allows the 289 family of monitors to use the same type of numbering scheme as E2A monitors with minimal user input. The **Access # type** field only appears on the Office Information Screen when Access Number Translation is enabled by a System Studies Customer Support Representative.

Office Mode

This field allows you to "Enable" or "Disable" an entire PressureMAP office. If you are in the process of entering data for a new office, and the monitor and devices are not yet wired, the entire database may be disabled from normal MAP functions, and enabled whenever you wish. The default is set to Enable.

Baudrate

Enter the highest usable data transmission speed into this data field. Valid baudrate values include 110, 300, 1200, 2400, and 9600. The default value that PressureMAP gives this data field is determined by the Monitor Type that has been entered.

To optimize the 289H or 289H-M monitor's modem performance, **Baudrate** should only be set to 2400 or 9600 baud. For 289H/H-M monitors using a network connection to PressureMAP Version 24, this field will not appear; in earlier versions the required value for this field is 9600.

User Defined Devices

This field allows you to turn "on" or "off" the user-defined device number feature for a particular 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 CPAMS type designation and numbering system. 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 any ten 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, then you will need to enter ON into this data field.

Once you have set up an office with user-defined device numbers 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.

Password 1

Password 1 is the CPAMS lower level access code (for viewing CPAMS data and commanding reports). PressureMAP will not accept a Key Code or Password entry longer than ten characters in either of the password data fields.

- For Chatlos, Hercules and Teleducer 50 monitors, enter the A level password.
- For Sparton 5301A monitors, enter the keycode. (See note below.)
- For Sparton 5300B and V5 monitors, enter the Reports level keycode.
- No provision for passwords are provided in either E2A or Trius monitors.\
- For 289-type monitors, any password is accepted.
- For uM260 monitors, the default Password 1 (User Password) is accepted. It can be changed by individuals with Setup Password (Password 2) authorization.
- For TMACS 1000 monitors, the Craft password is generally used. The password MUST NOT be cp and has to be in UPPER case letters in both the TMACS monitor and PressureMAP.
- For Lancier 101 and 1005 monitors, the lowest level password (Level 5), should be entered.
- For Nicotra MINIDAS monitors, the password must be a four-digit number and may not contain any non-numeric characters. The default password is 1234.
- For TELSEC monitors, enter the Read level password.

Password 2

Password 2 is the CPAMS higher level access code (used for editing CPAMS data).

- For Chatlos, Hercules and Teleducer 50 monitors, enter the C level password.
- For Sparton 5301A monitors, enter the password.
- For Sparton 5300B monitors, enter the System Changes level keycode.
- For TMACS 1000 monitors, the Supervisor password that allows backups and restorals must be used. The password in both the TMACS and PressureMAP has to be in UPPER case letters only.
- For Lancier 101 and 1005 monitors, the Level 1 password, with full data entry permissions, should be entered.
- For TELSEC monitors, enter the Master level password.
- For uM260 monitors, the Setup Password should be entered.

If you wish to disable PressureMAP's automatic CPAMS backup and restore function for office monitors that allow this capability (Sparton, Chatlos and TMACS), prefix the password with an asterisk (*) in the **Password 2** field. This character instructs PressureMAP to NOT back up the CPAMS at its weekly scheduled backup time. Beginning with PressureMAP Version 27 if you enter a pound designation (#) as the first character in the **Password 2** data field (instead of an asterisk), PressureMAP will perform the automatic weekly backup function, but will NOT automatically restore the data. These special characters are used to disable backup and restore for operating companies that have other backup/restore capabilities in place.

Note: Sparton 5301A, 5300B and 5318 MMU monitors are automatically detected at connection, even if a different Sparton monitor type was specified in PressureMAP's Office Information. If "5301A" is designated in PressureMAP for 5300B equipment but the password is Native Mode (5500 interface), the monitor type will automatically be converted to 5300B, the default office baudrate will be reset to 2400, and all "K" device numbers modified to "B" device numbers. (More detailed information on Sparton monitor types and passwords is provided in "Backing Up and Restoring Sparton Monitoring Systems" in the *PressureMAP Operations Manual, Section 2.*)

Likewise, a valid **Password2** value is required for Chatlos L3 and Hercules 940 monitors to automatically reset the monitor to "native" mode and discontinue using the Chatlos L2 and Hercules 740 emulation modes. If a valid **Password2** is not supplied, then the ALARMS settings in the L3 or 940 monitor must be **manually** reprogrammed to issue L3/940 reports in order for PressureMAP to work.

Trunk/Toll Tolerance

This field specifies a give-or-take value (in ohms) for contactor readings. In the field, several contactors are normally wired to a single pair. Because of this, when a contactor goes into alarm, PressureMAP must have some way to determine which contactor on the pair is in an alarm state. To facilitate the searching procedure, PressureMAP keeps a table of values, listing the loop resistance value of each contactor if it should go into alarm. If a contactor does go into alarm, PressureMAP is able to compare the current reading of the pair with the table of contactor resistance values. When PressureMAP finds a value in the table that equals the pair reading, then the contactor that is in alarm has been found.

However, the exact resistance value of an operated contactor cannot normally be predicted. Because of this, when PressureMAP reads a loop resistance value, it must allow for some give-or-take of the value read in order to match a value in the contactor table. The Trunk/Toll Tolerance data field specifies the give-or-take value that is allowed when attempting to match a loop resistance reading against the table of operated contactor values.

PressureMAP gives this data field a default value of 80 ohms. This means that a contactor is considered to be in an alarm state if the reading received by PressureMAP falls within 80 ohms, give-or-take, of the listed loop resistance value of the contactor.

Units

This field is ONLY for offices that use Sparton monitoring equipment. The Units field lists the numbers of the Sparton units (or categories of programmable data) that are associated with the office. PressureMAP will accommodate up to 48 units per Sparton system; this field allows a numeric value from 1 to 255. However, the Sparton 5318 MMU, which only supports 25 devices, has no "unit" structure.

Note that if your office monitor type is something other than a Sparton, this data field will not appear on the screen during data entry.

MAP Alert #

This field is used for 289H, 289H-M and uM260 monitors ONLY. (Please refer to section 14 of this manual if you are performing data entry for a uM260 Micro Monitor. A slightly different

office data form is used with the uM260.) The *MAP Alert #* entry represents the phone number that the 289H will use to send out alerts to PressureMAP.

For monitors using a network connection to PressureMAP, this field contains the IP address for the PressureMAP computer. To use the network capability, the 289H/289H-M monitor must be equipped with a LAN Controller Card; the network version of the uM260 would also provide this capability. To specify the TCP/IP connection in this data field, the IP address is prefaced with **T** (tone) and followed by colon (:), the port number used by the LAN connection, colon, and another **T**—for example:

```
MAP alert #: Txxx.xx.xxx.xxx:3002:T
```

Map Alert Baudrate

This field is used for 289H, 289H-M and uM260 monitors ONLY. In this data field you can designate the baud rate of the PressureMAP modem that receives 289H LSS/uM260 alert information. The default setting for 289H LSS monitors is 2400 baud, although 300, 4800, and 9600 are also supported depending on which EPROM version is installed in the 289H. It is important to note, however, that if other CPAMS equipment (such as a Sparton or Chatlos) is also being monitored by the PressureMAP system, the baudrate entered in this field must be appropriate for all monitor types.

For 289H/H-M monitors using a network connection to PressureMAP, the required value for this field is 9600.

Alert Sensitivity

This field also pertains only to 289H, 289H-M and uM260 Micro monitors. The data field holds the monitor's 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 289H/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

This field is only for offices 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.

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 a 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.

Effective with Version 23.00.12, entering the keyword "TIMEWARP" in the Remarks field is required to apply PressureMAP's backdating function to non-Y2K-compliant Chatlos, Hercules and TMACS monitors. The administrator must determine whether backdating is required for each monitor.

Wire Center

This data field was added to PressureMAP in Version 28 to allow the user to identify the associated wire center for an office. When this information is programmed into the Office Information editor, and the *Office/Wire Center* field in the ReportMAP Dispatch Format Editor is set to *ON*, both the Wire Center identification and the Office name will appear in separate lines on any Full Report alarms generated by the PressureMAP. This capability pertains to both Device Alarms and System Alarms. (Refer to Section 11 of this manual for instructions on how to set the *Office/Wire Center* field.)

INTERNATIONAL MEASUREMENT FIELDS

The next three fields will only appear on the Office Information Screen if the International capability has been enabled. For more information on the International capability, please refer to the subsection on the next page.

Pressure

This field controls the type of pressure device that can be entered into an office. The two units of measure that can be entered are KPA (Kilo-Pascals) or PSI (Pounds per Square Inch).

Flow

The units of measure for this field can be LPH (Liters per Hour) or SCFH (Standard Cubic Feet per Hour).

Distance

This field will accept either S-M (Sheath Mile), TUBE-M (Tube Mile) or, if the International capability is enabled, S-K (Sheath Kilometer) or TUBE-K (Tube Kilometers) as the unit of measure.

Aerial std, Buried std, Undgnd std

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

- Aerial cable—2.0 PSI or 10.0 KPA
- Buried cable—3.0 PSI or 30.0 KPA
- Underground cable—5.0 PSI or 30.0 KPA

If your minimum cable pressure standards differ from the ones listed above, then you will need to enter the pressure standards appropriate to your area into these data fields.

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 (or 35.0 LPH). 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 an Office Information Form has been completed for each office on your system, the forms should be double-checked for accuracy and retained for the data entry process. At this point, you are ready to compile the cable pressurization monitoring device information.

Note: For Teleducer 50 monitoring systems, follow the device data preparation and data entry procedures described for a Chatlos L3 in Section 4 of this manual.

International Measurement Fields

If the International capability is enabled, a PressureMAP office can be created with distance and measurement values specified as metric units, standard decimal units, or a combination of the two. It also provides the ability to use tube miles (TUBE-M) instead of the default sheath miles (S-M) as the required flow value for SF, DF, RF, MF device types.

The data fields that contain these values are the *Pressure*, *Flow*, and *Distance* fields of the Office Information Screen. The values in these fields take effect in a device's Specific Device Information at the time the device is created or edited in PressureMAP. If the value in one of these fields is changed after a device has been entered, the existing device will not be changed until it is edited again in the Specific Device Information Screen.

The **Pressure** field, the first International Field of the *Office Information Screen*, will accept KPA (Kilo-Pascals), which is the metric equivalent of PSI (Pounds per Square Inch). If KPA is selected, the following *Specific Device Information* data fields will be modified for pressure and temperature devices:

STD and **Change (Chng)**—The units of measure for these two device data fields are set to KPA for all pressure devices. For temperature devices, the units are set to degrees centigrade.

THR and **Chg**—The units of measure are set to KPA for these two device data fields, which only appear for certain single feed pressure devices.

Manifold/KPA—The unit of measure and the label for this field are controlled by the Pressure field.

PSI and **Reference (Ref)**—The units of measure for these two fields are set to KPA. (**Ref** indicates the calibrated pressure of a flow transducer in a Positive Air Flow system.)

The unit of measure for the AT and \$T (Temperature) device type is C (centigrade).
The unit of measure for the AB (Barometric) pressure device type is set to mb (millibar).

The **Flow** field will accept LPH (Liters per Hour), which is the metric equivalent of SCFH (Standard Cubic Feet per Hour). If LPH is selected, the following data fields on the *Specific Device Information Screens* will be modified:

Range—This device data field reflects the value (flow range) and units for a flow transducer. The metric ranges are: 270, 540, 1350, 2700, 13500 and 27000 LPH, which correspond to the SCFH ranges of 9.5, 19.0, 47.5, 95.0, 475 and 950. (Please refer to the Program Criteria section of the Preface if you need information on entering “kilo” and “mega” data values.) With System Studies' High Resolution Transducers, it is possible to read flows up to twice the specified range (up to 54000 LPH or 1900 SCFH).

OAU and SAU—These two device data fields contain the measured "volume per distance" of a device. The unit of measure for the "volume" portion can be set to LPH in the **Flow** Field of the *Office Information Screen*, while the "distance" portion is set in the **Distance** field.

Change (Chng)—The units of measure for this device data field are set to LPH.

The third International Field in the *Office Information Screen* is **Distance**. This field accepts S-K (Sheath Kilometers), which is the metric equivalent of S-M (Sheath Miles), or TUBE-K (Tube Kilometers), which is the equivalent of TUBE-M (Tube Miles). If either S-K or TUBE-K is selected, the following data fields on the *Specific Device Information Screens* will be modified:

S/K or Tubes—This device data field contains either the sheath distance associated with a flow device (total number of kilometers within the device's Sphere of Influence or the number of tubes feeding sheaths from the flow device. It corresponds to the **S/M** field of device data entry.

OAU and SAU—These two device data fields contain the measured "volume per distance" of a device. The unit of measure for the "distance" portion is set in the **Distance** field of the *Office Information Screen*, while the "volume" portion can be set as a LPH value in the **Flow** field.

Distance 1, Distance 2—These two device data fields contain the distances between the device location and the office or field locations of related devices. The Leak Locating chart drawn by AlarmMAP will reflect the metric distance values of these fields.

The **Aerial std**, **Buried std**, and **Undgnd std** data fields in the *Office Information Screen* set the standards (minimum cable pressure requirements) for pressure devices monitoring aerial, buried, and underground cables in the office. The other pressure device types that can be entered in a metric office (FP, SP, and \$P), have the minimum cable pressure standard set during device data entry. The default metric values are: 10.0 KPA for Aerial, and 30.0 KPA for both Buried and Underground.

You can also enter a value in the *Office Information Screen's* **Flow std** field or accept the default. This data field sets the flow standard (per sheath kilometer of cable) for the office. The default metric value is 35.0 LPH, which corresponds to the decimal default of 1.25 SCFH.

The Device Data Forms

To help organize and enter accurate monitoring device information for PressureMAP, individual Device Data Forms have been created for the various types of office monitors (CPAMS equipment) that have been certified for use with PressureMAP. These forms, explained in Sections 3 through 8, 14 and 15 of this manual, not only identify the individual data fields required for a monitoring device in a specific office type, they also present each required data field in the same sequence that it will be entered into PressureMAP during data entry. Please note that multiple data forms will be required for each route in an office to organize the detailed monitoring device information on that route.

To complete Phase III of the PressureMAP data preparation procedures, fill out the appropriate Device Data Forms according to the instructions given in the manual section which pertains to your CPAMS equipment. Be sure, when filling out the forms, that you refer to the information which corresponds to the CPAMS equipment you are using.