

## PhoneSuite™ External Protocols

This document describes the protocols PhoneSuite uses to communicate with external devices like printers and systems such as call accounting and property management systems. There are four main sections:

- **SMDR (Station Message Detail Record)** describes the format of the raw call records generated by PhoneSuite
- **Call Accounting** covers both integrated call accounting that prints on an attached printer and also the record layouts and protocols when connecting to an external Property Management System (PMS)
- **PMS Control Interface** is how an external Property Management System (PMS) interacts with the PhoneSuite 112 (not the 64) to control functions such as check in and out, wake-up call, call restrictions, and other functions.
- **System Events** lists the messages for events output by PhoneSuite as they occur to selected ports

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## PhoneSuite 112 SMDR layout

On the PhoneSuite 112, SMDR data appear on the parallel port, serial port 1, serial port 2, or any combination according to the setting of B70, B71, and B77 respectively. If the full PMS serial port 1 interface is used by setting B71 to 64, then the SMDR records are available only on the parallel port and serial port 2.

The PhoneSuite 112 incoming SMDR record may also display the incoming DID/DNIS digits from an E&M wink start T1 line. From one to seven digits will display according to the setting of the B25 command. In most cases this value will equal the number of digits in the extension (three or four) as set by command B11.

The digits are left-adjusted in the field starting at column 48 and are represented by "D" in the record layouts below. These digits will be displayed in the incoming SMDR record only if a T1 digital trunk card is installed in the PhoneSuite 112 and the T1 signaling method is E&M wink start.

### Incoming SMDR, PhoneSuite 112, 4-digit extension

```
0          1          2          3          4          5
123456789012345678901234567890123456789012345678901234
-----
EEEE TT MM/DD/YY HH:MM:SS HH:MM:SS   HH:MM:SS DDDDDDD
```

### Incoming SMDR, PhoneSuite 112, 3-digit extension

```
0          1          2          3          4          5
123456789012345678901234567890123456789012345678901234
-----
EEE TT MM/DD/YY HH:MM:SS HH:MM:SS   HH:MM:SS DDDDDDD
```

### Outgoing SMDR, PhoneSuite 112, 4-digit extension

```
0          1          2          3          4          5          6          7....
1234567890123456789012345678901234567890123456789012345678901234
-----
EEEE TT MM/DD/YY HH:MM:SS HH:MM:SS NNNNNNNNNNNNNNNNNN   AAAAAAAAAAAAA
```

### Outgoing SMDR, PhoneSuite 112, 3-digit extension

```
0          1          2          3          4          5          6          7....
1234567890123456789012345678901234567890123456789012345678901234
-----
EEE TT MM/DD/YY HH:MM:SS HH:MM:SS NNNNNNNNNNNNNNNNNN   AAAAAAAAAAAAA
```

## Call Accounting

If a PhoneSuite Auto-Attendant/Call Accounting (AA/CA) card is installed, you can configure it to print “costed-calls” in a variety of formats either standalone or in conjunction with a Property Management System (PMS). You will usually want to print the calls as soon as they are completed, or “on-the-fly,” by using command B59, function 34. The format of the printing is controlled by B59, function 50 that selects whether or not a PMS is connected, and if so, which PMS handshaking protocol to use. The interface speed (baud rate) is controlled by command B59, item 52.

### ***Costed records, no PMS***

If no PMS is installed, PhoneSuite can generate and print a costed record to any parallel or serial port configured to print a “Call Accounting Event” report by the settings of commands B70, B71, and B77. The format is the same for the PhoneSuite 64 and PhoneSuite 112.

#### **On-the-Fly costed call record, no PMS**

```
0          1          2          3          4          5          6
123456789012345678901234567890123456789012345678901234567890123456789
EXT  TK DATE  TIME  NUMBER DIALED  DESCRIPTION  DURATN  $ COST
EEEE TT MM/DD HH:MM NNNNNNNNNNNN  DDDDDDDDDDDDDDD  MMMM.T  DDDDD.CC
```

Where

- EEEE is the extension number that received the call (if transferred from the console, the extension that it was sent to is displayed). The extension number is padded on the left with blanks
- TT is the trunk number. Trunks less than ten are left-padded with zero (e.g., “01”)
- MM/DD is the date the call was received
- HH:MM is the time the call was received
- NNNN... is the number dialed
- DDDD... is a description of the type of call made
- MMMM.T is the duration of the call in minutes and tenths-of-a-minute
- DDDDD.CC is the cost of the call in dollars and cents

Note:

- Two lines are printed for each on-the-fly record: the header line and the costed-record line.

### ***Costed records, with PMS***

When PhoneSuite is configured to connect with a PMS, you need to select which handshaking protocol to use: Blind Send, HOBIS A, HOBIS B, Micros A, or Micros B. Selecting the protocol also determines the default layout of the call records. The PhoneSuite AA/CA card provides commands to adjust the field layouts in case it is necessary to comply with a non-standard PMS interface.

The connection from the AA/CA card to the PMS is through the supplied RJ11-to-DB9 cable. The RJ11 end plugs into connector J2 on the edge of the AA/CA board, the port that will send the costed call data to the PMS

## Blind Send

This Interface Protocol is used to send costed phone call records with no handshaking. The records are sent as follows:

PhoneSuite sends: <record><CR><LF>

PMS responds: no response is expected or used

Where

- <record> is an ASCII text string with data about a single call
- <CR> is the carriage return character (0D hex, 13 decimal)
- <LF> is the line feed character (0A hex, 10 decimal).

The ASCII text string is sent in the following format:

```

0          1          2          3          4          5          6
12345678901234567890123456789012345678901234567890123456789
CCCC PPP EEEE MM/DD HH:MM NNNNNNNNNNNN DDDDDDDDDDDDDDD MMMM $DDD.CC
  
```

Where the fields are:

Field	Field Name	Width	Default Position	Empty Spaces Filled With
CCCC	Counter	04	01	0 (in front of the digits)
PPP	Property Code	03	06	As in call accounting option 41
EEEE	Extension	04	10	Space (in front of the digits)
MM/DD	Date	05	15	0 (in front of any single digit)
HH:MM	Time	05	21	0 (in front of any single digit)
NNNNNNNNNNNN	Number Dialed	12	27	Space (after the digits)
DDDDDDDDDDDD	Description (Type of Call)	16	40	Space (after the description)
MMMM	Duration	04	57	0 (in front of the digits)
\$DDD.CC	Cost	07	63	0 (in any empty space after \$)

Notes:

The Default Position shows the location of the first character in the field (the left edge of the field).

The Cost field includes the dollar sign as part of that field.

### Sample Data using the Blind Send Interface Protocol:

```

          1          2          3          4          5          6
12345678901234567890123456789012345678901234567890123456789
0001 CMP 101 09/21 10:25 3035552345 Local Call 0001 $000.50
0923 CMP 203 09/23 17:44 12125678900 Long Distance 0005 $001.45
0028 CMP 405 10/05 06:30 18002221234 Toll Free 0003 $000.50
  
```

Note: The column number ruler shown in this sample data does not print; it is included as an aid in determining where each field starts and ends.

## HOBIS A

This Interface Protocol is based on the original AT&T\* HOBIS-to-PMS Interface and is employed by more than 90% of Property Management Systems. Systems using Hobis A include: Amstar, CLS, Compass, Compu-solve, Dehan, Encore, Fabco, HIS, Holidex,

HRGAS, HIS, InnSolutions, Inn-Star, Lodgemate, Logistix, Omron, Otto Clerk, Reserve 5, Resort Computer, RDP, Springer-Miller Systems, Star, and Stuart .

With this protocol, records are sent in a typical Enquire-Acknowledge format (sometimes called ACK-NAK), with XOR checksum, as follows:

PhoneSuite sends: <ENQ>                    <STX><record><ETX><BLKCHK>  
PMS responds:                                <ACK>    <ACK>

Where

- <ENQ> is the enquire character (05 hex, 5 decimal)
- <ACK> is the acknowledge character (06 hex, 6 decimal)
- <STX> is the start-of-text character (02 hex, 2 decimal)
- <record> is an ASCII text string with data about a single call
- <ETX> is the end-of-text character (03 hex, 3 decimal)
- <BLKCHK> is the XOR checksum of all characters in <record> plus <ETX> (but not <STX>).

If the PMS does not reply with the <ACK> character when expected, or replies with some other character (such as <NAK>, 15 hex, 21 decimal), the send will be re-attempted after a short 1-3 second delay; the total number of attempts is set with call accounting option 54 and has a default value of three.

If the PMS does not reply to all attempts (the number of attempts is set with call accounting option 54), an event message (“NO RESPONSE FROM PMS”) will be sent to any PhoneSuite port that is set to print “Call Accounting Events” (B70 & B71). If the PMS “rejects” the record on all attempts by responding with a character other than <ACK>, the message, “PMS REJECTED RECORD” will be printed instead. If either of these failure messages is printed, it will be followed by a printout of the costed call record; this record should be hand-posted to the guest’s folio.

In the HOBIS A Interface Protocol, the ASCII text string (<record>) is sent in the following format:

```

      1         2         3         4         5
123456789012345678901234567890123456789012345678901234
CCCC PPP MM/DD  EEEE HH:MM MMM $DDD.CC NNNNNNNNNNNN D

```

Where the fields are:

Field	Field Name	Width	Default Position	Empty Spaces Filled With
CCCC	Counter	04	01	0 (in front of the digits)
PPP	Property Code	03	06	As in call accounting option 41
MM/DD	Date	05	10	0 (in front of any single digit)
EEEE	Extension	04	17	Space (in front of the digits)
HH:MM	Time	05	22	0 (in front of any single digit)
MMM	Duration	04	28	0 (in front of the digits)
\$DDD.CC	Cost	07	33	0 (in any empty space after \$)
NNNNNNNNNNNN	Number Dialed	12	41	Space (after the digits)
D	Description	1	54	Space (if no description)

\* These names are copyrighted or trademarked by their respective owners.

Notes:

1. The Default Position shows the location of the first character in the field (the left edge of the field).
2. The counter field, CCCC, is a numeric counter in the first 3 positions, followed immediately (no space) by the letter A. When the counter “rolls over” to 000, the letter is incremented to B, and so on.
3. The Duration field is minutes only, 0 padded on the left, rounded up to the nearest whole minute.
4. The Cost field includes the dollar sign as part of that field.
5. The Description field is one character only and is taken from the “PMS Interface” field in the Rate Line (call accounting option 21).

**Sample Data using the HOBIS A Interface Protocol:**

	1		2		3		4		5	
123456789012345678901234567890123456789012345678901234										
001A	CMP	09/21	101	10:25	0002	\$000.50	3035552345		L	
923A	CMP	09/23	203	17:44	0006	\$001.45	12125678900			
028B	CMP	10/05	405	06:30	0004	\$000.50	18002221234			

Note: The column number ruler shown above the sample data does not print; it is included as an aid in determining where each field starts and ends.

**HOBIS B**

Also based on the original AT&T HOBIS-to-PMS interface, this Interface Protocol uses the same record layout and field formats as HOBIS A but uses a different set of handshaking characters. This protocol is used for Property Management Systems such as EECO and New Systems\*, Inc.

With this protocol, records are sent as follows:

PhoneSuite sends: <LF><record><CR>  
PMS responds: <ACK>

Where

- <LF> is the line feed character (0A hex, 10 decimal)
- <record> is an ASCII text string with data about a single call
- <CR> is the carriage return character (0D hex, 13 decimal)
- <ACK> is the acknowledge character (06 hex, 6 decimal).

If the PMS does not reply with the <ACK> character when expected, or replies with some other character (such as <NAK>, 15 hex, 21 decimal), the send will be re-attempted after a short 1-3 second delay; the total number of attempts is set with call accounting option 54.

If the PMS does not reply to all attempts (the number of attempts is set with call accounting option 54), an event message (“NO RESPONSE FROM PMS”) will be sent to any PhoneSuite port that is set to print “Call Accounting Events” (B70 & B71). If the PMS “rejects” the record on all attempts by responding with a character other than <ACK>, the message, “PMS REJECTED RECORD” will be printed instead. If either of these failure messages is printed, it will be followed by a printout of the costed call record; this record should be hand-posted to the guest’s folio.

In the HOBIS B Interface Protocol, the ASCII text string (<record>) is sent in the format used for the HOBIS A Interface Protocol, as previously described.

## Micros A

This Interface Protocol is based on the specification for input to a MICROS cash register/POS system, circa 1980s. This protocol is used by Property Management Systems such as ARM, ESP, Image, Innkeepers, IPCS, Jonas and Erickson, Marlboro Computer, Micros, Pacific Coast, Property Manager, Quantel, Stendig, and Sunburst\*.

With this protocol, records are sent as follows:

PhoneSuite sends: <record><CR>

PMS responds: y

Where

- <CR> is the carriage return character (0D hex, 13 decimal)
- <record> is an ASCII text string with data about a single call,
- “y” (79 hex, 121 decimal) is sent as the acknowledgement.

If the PMS does not reply with “y” when expected, or replies with some other character (such as “n,” 6E hex, 110 decimal), the send will be re-attempted after a short 1-3 second delay; the total number of attempts is set with call accounting option 54.

If the PMS does not reply to all attempts (the number of attempts is set with call accounting option 54), an event message (“NO RESPONSE FROM PMS”) will be sent to any PhoneSuite port that is set to print “Call Accounting Events” (B70 & B71). If the PMS “rejects” the record on all attempts by responding with a character other than y, the message, “PMS REJECTED RECORD” will be printed instead. If either of these failure messages is printed, it will be followed by a printout of the costed call record; this record should be hand-posted to the guest’s folio.

In the Micros A Interface Protocol, the ASCII text string (<record>) is sent in the following format:

ac01 EEEE DDDDCC NNNNNNNNNN

Where the fields are:

Field	Field Name	Width	Default Position	Empty Spaces Filled With
ac01	Start	04	01	N/A
EEEE	Extension	04	06	0 (in front of the digits)
DDDDCC	Cost	06	11	0 (in front of the digits)
NNNNNNNNNN	Number Dialed	12	18	0 (in front of the digits)

Notes:

1. The Default Position shows the location of the first character in the field (the left edge of the field).
2. The Start field is a fixed field that literally contains “ac01” every time. This was defined and set by Micros in the design of their interface.

\* These names are copyrighted or trademarked by their respective owners.



## PMS Control Interface

The PhoneSuite 112 is capable of both accepting command functions—such as check in, check out, message waiting lamp control, and others from a Property Management System (PMS)—and sending status messages back. The connection is made using serial port 1 on the PhoneSuite main board. When you set the B71 command to the value 64, the serial port is disabled for all other reporting functions and dedicated to the PMS interface. PhoneSuite 64 does not include this PMS function.

### Message Format

PhoneSuite will interface with the PMS using the following Enquire-Acknowledge (sometimes called ACK-NAK) protocol:

```
Sender:    <ENQ>          <STX><Message Text><ETX>
Receiver:  <ACK>                                     <ACK>
```

#### Where

- Sender can be either PhoneSuite or the PMS, and Receiver is the other side.
- <ENQ> is the enquire character (005 ASCII)
- <ACK> is the acknowledge character (006 ASCII)
- <STX> is the start-of-text character (002 ASCII)
- <Message Text> is the ASCII text string that contains the command, room status code, or other information as described below, with an optional Checksum
- <ETX> is the end-of-text character (003 ASCII).

#### Notes:

1. If the PMS sends an initial <ENQ> and PhoneSuite responds with <ACK> but does not receive any additional information within 1/10 second, PhoneSuite times out this transaction without sending any further response. If additional data follows after this time-out (other than another <ENQ>), PhoneSuite will send a <NAK> in response.
2. PhoneSuite will send a <NAK> character (021 ASCII) in any of the following cases:
  - a. There is no <ETX> at the end of the message, within 1/10 second of the last character received.
  - b. The message contains an invalid command (PhoneSuite only looks at the first letter of the 3-character command to determine this).
  - c. The extension number the PMS includes in the command does not exist in PhoneSuite.
3. PhoneSuite will *only* send an <ACK> in response to a <Message Text> from the PMS if
  - a. PhoneSuite receives the <STX> within 1/10 second of sending its <ACK> in response to the PMS's <ENQ>
  - b. *and* if the <STX> is followed by a <Message Text> with a valid command
  - c. *and* the extension number in the command exists in PhoneSuite
  - d. *and* the <Message Text> is followed by <ETX> within 1/10 second
4. Any between-character delay of more than 1/10 second will cause the transaction to time out, and PhoneSuite will send a <NAK> (unless nothing followed the original <ENQ><ACK>).

## Check In/Out Commands

Check In/Out Commands are sent from the PMS to PhoneSuite and will cause PhoneSuite to check an extension in or out, the same as it does when the command is run from the PhoneSuite console. Check in and check out options such as call restrictions and setting or clearing voice mail and wake-up calls may be configured by the settings of PhoneSuite commands B66 and B67. For the PMS Check In/Out commands, PhoneSuite will accept any of the following formats:

Message Text	Action PhoneSuite takes in response
CHK1 EEEE	Check in extension EEEE; see note #1
CHK1EEEE	Check in extension EEEE; see note #1
CHK1 EEEE Name	Check in extension EEEE with name; see note #2
CHK1EEEE Name	Check in extension EEEE with name; see note #2
CHK0 EEEE	Check out extension EEEE; see note #1
CHK0EEEE	Check out extension EEEE; see note #1

### Notes:

1. For 3-digit extensions, the extension number the PMS sends can be either right-justified or left-justified within the 4-character EEEE space. PhoneSuite will send a <NAK> in response to a Check-In or Check-Out Command that does not contain a valid extension number.
2. If the PMS includes a name after the command, PhoneSuite will store this name and display it on the system console when a call from the extension is answered. The name can be any length between 10 and 120 characters, in upper, lower, or mixed case. It can be in the form LAST, FIRST (comma delimiter only), or LAST, FIRST (both comma and space delimiter), or FIRST LAST (space only delimiter signifies first name, then last name).
3. Note that a space is not necessary between the CHK1 or CHK0 command and the extension number but one or more spaces can be used.
4. The command can be used to clear voice mail, wake-up calls, and dialing permissions by the appropriate settings of PhoneSuite commands B66 and B77

## Set Room Name(s)

Up to 9 names that are associated with a particular extension can be sent from the PMS to PhoneSuite, with each name as a separate message. PhoneSuite will store one name for the extension, the *most recently received* name. For these commands, PhoneSuite will accept any of the following formats:

Message Text	Action PhoneSuite takes in response
NAMn Name EEEE	Store the name with the extension
NAMnName EEEE	Store the name with the extension

where *n* is a number between 1 and 9 and must immediately follow the NAM command (no spaces).

### Notes:

1. For 3-digit extensions, the extension number the PMS sends can be either right-justified or left-justified within the 4-character EEEE space. PhoneSuite will send a <NAK> in response to a command that does not contain a valid extension number.

- The name can be any length between 10 and 120 characters, in upper, lower, or mixed case; this name can be in the format LAST,FIRST (comma delimiter only), or LAST, FIRST (both comma and space delimiter), or FIRST LAST (space only delimiter signifies first name, then last name).
- A space is not necessary between the NAMn command and the name, but at least one space must be included between the name and the extension number.
- PhoneSuite will display the stored name on the system console and on Feature Phones when a call from the extension is answered.

### ***Do Not Disturb On/Off***

Do Not Disturb On and Off commands are sent from the PMS to PhoneSuite and cause PhoneSuite to turn an extension's Do Not Disturb status on or off, just as if this command were performed from the PhoneSuite console. For these commands, PhoneSuite will accept any of the following formats:

<b>Message Text</b>	<b>Action PhoneSuite takes in response</b>
DND1 EEEE	Turn on Do-Not-Disturb for extension EEEE
DND1EEEE	Turn on Do-Not-Disturb for extension EEEE
DND0 EEEE	Turn off Do-Not-Disturb for extension EEEE
DND0EEEE	Turn off Do-Not-Disturb for extension EEEE

Notes:

- For 3-digit extensions, the extension number the PMS sends can be either right-justified or left-justified within the 4-character EEEE space. PhoneSuite will send a <NAK> in response to a command that does not contain a valid extension number.
- A space is not necessary between the DND1 or DND0 command and the extension number; however, one or more spaces can be used.

### ***Message Waiting Lamp On/Off***

Message Waiting On and Off commands are sent from the PMS to PhoneSuite and cause PhoneSuite to turn an extension phone's Message-Waiting Lamp on or off, just as if this command were performed from the PhoneSuite console. For these commands, PhoneSuite will accept any of the following formats:

<b>Message Text</b>	<b>Action PhoneSuite takes in response</b>
MW 1 EEEE	Turn on Message-Waiting lamp for extension EEEE
MW 1EEEE	Turn on Message-Waiting lamp for extension EEEE
MW 0 EEEE	Turn off Message-Waiting lamp for extension EEEE
MW 0EEEE	Turn off Message-Waiting lamp for extension EEEE

Notes:

- For 3-digit extensions, the extension number the PMS sends can be either right-justified or left-justified within the 4-character EEEE space. PhoneSuite will send a <NAK> in response to a command that does not contain a valid extension number.
- A single space (not more or less) is required between the MW and the 0 or 1. A space is not necessary between the MW 1 or MW 0 command and the extension number; however, one or more spaces can be used.
- Changing the Message-Waiting status of an extension does not have any effect on messages in PhoneSuite's optional Voice Mail; it neither adds nor erases messages for the extension.

## Wakeup Call Set/Change/Clear

The PMS can send PhoneSuite a command to set, change, or clear a wakeup call for a given extension. This command has the same effect as setting, changing, or clearing a wakeup call from the PhoneSuite console, with only the time (no date) specified. The result is that the wakeup call will ring the extension whenever the specified time is next reached by PhoneSuite's system clock. For these commands, PhoneSuite will accept any of the following formats:

Message Text	Action PhoneSuite takes in response
WKP <h>hmm</h> EEEE	Set a Wakeup call for extension EEEE at hhmm (24-hour time format)
WKP <h>hmm</h> EEEE	Set a Wakeup call for extension EEEE at hhmm (24-hour time format)
WKP9999 EEEE	Clear any Wakeup call for extension EEEE
WKP EEEE	Clear any Wakeup call for extension EEEE
WKP EEEE	Clear any Wakeup call for extension EEEE

where hhmm is the wakeup time, in 24-hour format (hh = hours and mm = minutes) with no spaces or additional characters, and must immediately follow the WKP command (no spaces allowed). The HH or MM must be left-padded with a 0 if the value is less than 10 (e.g., 5 minutes past 7:00 would be specified as 0705, and 2:30 p.m. would be specified as 1430). If the wakeup time is 9999, all spaces, or is blank (with at least one space between the WKP command and the extension number), any wakeup call for that extension will be cleared. A space is not necessary between the time and the extension number; however, one or more spaces can be used.

## Phone Restrict On/Off

The PMS can send PhoneSuite a command to restrict or allow dialing from an extension. This command has the same effect as changing an extension's dialing permissions from the PhoneSuite console, as follows: If a Restrict On command is received, PhoneSuite will set the extension's local, long-distance, and room-to-room dialing permissions to the values indicated in PhoneSuite's command B66 (Check-Out Default Functions); if a Restrict Off command is received, PhoneSuite will set the extension's local, long-distance, and room-to-room dialing permissions to the values indicated in PhoneSuite's command B67 (Check-In Default Functions). Note that PhoneSuite does not actually check the extension in or out but simply changes the dialing permissions as noted. For these commands, PhoneSuite will accept any of the following formats:

Message Text	Action PhoneSuite takes in response
RST1 EEEE	Restrict extension EEEE to check-out calling permissions (B66)
RST1EEEE	Restrict extension EEEE to check-out calling permissions (B66)
RST0 EEEE	Set extension EEEE to check-in calling permissions (B67)
RST0EEEE	Set extension EEEE to check-in calling permissions (B67)

### Note:

A space is not necessary between the RST1 or RST0 command and the extension number; however, one or more spaces can be used.

## **PMS Database Dump**

Database Dump messages are used by the PMS to verify that PhoneSuite is active and ready to receive messages, as well as to synchronize the lists of checked-in and checked-out settings and names. For these commands, PhoneSuite will accept any of the following formats:

<b>Message Text</b>	<b>Meaning</b>
AREYUTHERE	PMS Connection Check
GRS	Indication that the PMS is going to send a full database dump
END	Indication that the PMS' database dump is complete

The AREYUTHERE message is simply a request for a response. PhoneSuite acknowledges this message with the <ACK> character, to let the PMS know it is connected and is receiving messages. The GRS and END messages are each followed by seven space characters (e.g., "GRS<SPACE><SPACE><SPACE><SPACE><SPACE><SPACE><SPACE>"); these messages mark the start and end of a total PMS database dump to PhoneSuite.

Immediately after the GRS message is sent and acknowledged by PhoneSuite, the PMS will send a check-in or check-out message for each room; name messages may also be sent. PhoneSuite will check its settings to ensure they match what the PMS sends, and it will perform any commands that do not match. That is, if PhoneSuite shows extension 132 as being checked in, but the PMS database dump shows it as checked out, PhoneSuite will perform the Check-Out command for this extension. When the PMS has completed the database dump, it will mark this fact by sending the END message, which PhoneSuite will acknowledge.

## **Room Status**

Room status messages are sent *from* PhoneSuite *to* the PMS whenever the room status code is set or changed by a maid in a room or from the console. For these messages, PhoneSuite will format the message text as follows:

<b>Message Text</b>	<b>Meaning</b>
STSs EEEE	Indication that the Room Status for extension EEEE was set to S

where *s* is an ASCII number between 0 and 9, inclusive. A single space will appear in the message text between the STSs command and the extension number. Note: PhoneSuite allows two digits to be entered as Room Status Codes, where both digits can be changed from the console but only the second digit can be changed from the rooms. In this command, PhoneSuite sends only the second digit to the PMS.

## **Request PMS Database**

If PhoneSuite is powered on after having been off for a considerable amount of time, it may become desirable to request a PMS Database Dump. To do this, use command A25 from the PhoneSuite console. This will cause PhoneSuite to send the PMS a request in the following format:

Message Text	Meaning
RQINZ.....	Request PMS Database Dump

Note that the RQINZ characters are followed immediately by 7 space characters (e.g., "RQINZ<SPACE> <SPACE><SPACE><SPACE><SPACE><SPACE><SPACE>"). After this message is sent, the PMS, if connected and ready, will follow the PMS Database Dump process described earlier.

## Specific Compatibility

Base on manufacturer data, the above protocol definition encompasses the following PBX interface compatibilities.

### Mitel SX200 Digital

The PhoneSuite PMS protocol is compatible with the Mitel SX200 Digital PMS interface protocol as outlined in manual 9109-097-602-NA.

<Msg Txt>	Action / Notes
-----	-----
CHK1 EEEEE	Check in Ext EEEEE. See notes below
CHK0 EEEEE	Check out Ext EEEEE. See notes below
NAM1 <Name> EEEEE	Add <Name> as Name 1 for Ext EEEEE. See notes
NAM2 <Name> EEEEE	Add <Name> as Name 2 for Ext EEEEE. See notes
NAM3 <Name> EEEEE	Add <Name> as Name 3 for Ext EEEEE. See notes
MW 1 EEEEE	Check in Ext EEEEE. See notes below
MW 0 EEEEE	Check out Ext EEEEE. See notes below
WKPTTTTEEEEEE	Set wakeup call for EEEEE at TTTT. See notes
WKP EEEEE	Clear any wakeup call for EEEEE. See notes
AREYUTHERE	PMS Connection Check
GRS _____	The PMS is going to send a full database dump
END _____	The database dump is complete
STSS EEEEE	From PhoneSuite to PMS, EEEEE room status = <s>
RQINZ _____	PhoneSuite to PMS, Request PMS Database Dump

#### Notes:

1. A single space follows the command for all commands except the WKP command.
2. If the extension number is less than 5 characters, left pad with spaces.
3. <Name> is a 20 character field in the format FIRST<space>LAST, right padded with spaces. The <Name> data is separated from the NAMx command by one space. An additional single space separates the <Name> data from the extension number.
4. Wakeup time TTTT is a four character field in the format HHMM using a 24 hour clock. If absent, the wakeup is cleared. Unlike other commands, there is no space between the command, time, and extension.
5. For the Room Status message from PhoneSuite to the PMS, <s> is a value between 0 and 9, inclusive.

### Hitachi HCX5000

The PhoneSuite PMS protocol is compatible with the Hitachi HCX5000 protocol. This is the same protocol used by the Mitel SX200 Digital described above.

## ***Cabling and Setup***

The PMS to PhoneSuite interface must utilize main board serial port 1 on the PhoneSuite 112. Do *not* use serial port 2 or the on-board serial port on the call accounting option card.

Since PhoneSuite utilizes only Transmit Data (TD), Receive Data (RD), and Signal Ground (SG) lines, you will need to create handshaking loopback in your cabling if the PMS requires RTS/CTS or DTR/DSR hardware handshaking. To accomplish this, simply short RTS to CTS and short DTR, DSR, and CD toward the PMS. There is no need to short these toward the PhoneSuite as they are ignored by PhoneSuite.

To enable the interface in software, all that must be done on the PhoneSuite side is to set the baud rate for serial port 1 to match the baud rate of the PMS (B78) and to correctly cable serial port 1 to the PMS. Note: The interface is reliable using 1200 baud. It is almost certain to fail, however, at speeds above 2400 baud.

So as not to confuse the PMS with unnecessary data, all serial port 1 output should be turned off and the port should be specified for use only as a PMS interface port by setting B71 to 64. This is required for Room Status messages from PhoneSuite to the PMS to occur. There is no other setting required on the PhoneSuite – it is always “ready” to receive and process PMS messages.



## System Events

System events are output as they occur to selected ports—parallel port, serial port 1 on both models, and serial port 2 on PhoneSuite 112—as determined by the setting of commands B70, B71, and B77 respectively. A PhoneSuite at factory default settings will print system events to all ports. System events include: changes to message-waiting lamp status for an extension; wakeup call settings; room status settings; switching between day and night mode (either manually or automatically); changes in an extension’s long-distance, local, or extension-to-extension dialing permissions; do-not-disturb settings; clearing an extension’s voice mail messages; and check-in or check-out of an extension.

The system event messages appear in the following format:

```
Ext EEE MM/DD/YY HH:MM <EVENT> <STATUS><CR><LF>
```

Where EEE (or EEEE) is the extension number, MM/DD/YY is the current PhoneSuite date, HH:MM is the current PhoneSuite time, and <EVENT> and <STATUS> will include one of the following combinations:

<EVENT>	<STATUS>	Description (for reference; will not print)
MNITE	SET	Manual Night Mode was invoked
MNITE	CLEAR	Manual Night Mode was exited
ANITE	SET	Automatic Night Mode was invoked
ANITE	CLEAR	Automatic Night Mode was exited
LDOFF	SET	Long-Distance Call Block was set (LD is now blocked)
LDOFF	CLEAR	Long-Distance Call Block was cleared (LD is now allowed)
NOLOC	SET	Local Call Block was set (local calls are now blocked)
NOLOC	CLEAR	Local Call Block was cleared (local calls are now allowed)
NOEXT	SET	Ext-to-Ext Call Block was set (these calls are now blocked)
NOEXT	CLEAR	Ext-to-Ext Call Block was cleared (these calls are now allowed)
RSTAT	SET to SS	Room status was set to code SS
RSTAT	CLEAR	Room status code was cleared (set to 00)
WAKE	SET for HH:MM on DD	A wakeup call was set for HH:MM on DD (day of month). (if DD=??, day is next time that HH:MM occurs)
WAKE	CLEAR	Any wakeup call for this extension was cleared
MWAIT	SET	The message-waiting lamp was lit
MWAIT	CLEAR	The message-waiting lamp was turned off

<b>&lt;EVENT&gt;</b>	<b>&lt;STATUS&gt;</b>	<b>Description</b> (for reference; will not print)
DND	SET	The extension was set to Do-Not-Disturb
DND	CLEAR	Do-Not-Disturb status was cleared (turned off)
VMAIL	SET	A voice mail message was taken and message lamp was lit
VMAIL	CLEAR	Voice mail was cleared and message lamp was turned off
CHKIN	SET	A "Check in" was performed
CKOUT	SET	A "Check out" was performed
EXALL	CLEAR	All "Features" were cleared for an extension

The system event message is terminated by a Carriage Return and Line Feed.