



# AS300RX RECEIVER SYSTEM MANUAL

ALARM  
MONITORING  
DATA LOGGING



**Asper Systems Ltd**  
Laboratory Alarm & Monitoring Systems

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### AS300RX RECEIVER DETAILS

MASTER PIN :

USER PIN :

SIM TEL NUMBER :

SIM NETWORK :

SERIAL No :

**NOTE :** This manual uses the master pin 2222 for demonstrational purposes.

## Section 1 ► THIS SECTION MUST BE READ BEFORE OPERATING THE ALARM SYSTEM

### IMPORTANT

To maintain a high level of confidence in the integrity of the complete alarm system it must be tested on a regular basis.

The responsibility rests with the user as to how often the alarm system is fully tested. This will probably depend on the value of the samples which are being stored in their equipment. The alarm system must be used only as one aid in the customers overall procedure for protecting their product

All alarm systems are there to assist in the overall protection of your product. Good maintenance of the monitored equipment is the first line of defence in maintaining the correct operating temperature or environment for your product. All alarm systems have to be checked on a regular basis. Regular checking will find any faults that have occurred thus improving the overall integrity.

Only O2 and Vodafone PAYG SIMS allow credit response ,which will enable the low credit warnings. All other networks do not have this facility, so the low credit warnings will not be activated. Please ensure there is sufficient credit on the SIM card at all times. This will ensure the alarm system will be able to call telephone contacts in the event of an alarm.

The alarm system must never be used as the primary alarm to protect humans.

## Section 2 ► AS300 System Overview

The AS300 system is a new generation of monitoring and alarm systems using the Global System for Mobile Communications (GSM) and wireless technology. The monitoring and data logging system allows laboratory and hospital equipment to be protected. The system ensures the safety and continued effectiveness of medicine produce, blood products and samples at specific refrigeration and freezer temperatures. Due to the high value of many of these goods, Quality Assurance programs increasingly require that storage temperatures are to be verified several times per day and that records be maintained. The AS300 System will meet the alarm, monitoring and logging requirements.

Make an informed decision on what action to take based on instant readings from the equipment monitored. This can be sent at any time to your mobile telephone. This is particularly useful if an alarm occurs when the person is on call or out of the work-place. With no need for a dedicated telephone line or line rental the AS300RX is exceptionally easy to install. The programming of relevant information can be done from any location by a mobile telephone using the relevant password.

Multiple units at different sites can be connected anywhere in the country or countries as the system uses the GSM network of your choice.

## Section 3 ► AS200TX Transmitter

### 3.0 Features

- Compact size. 110H x 65W x 27D (mm)
- Simple to use.
- Inputs available : Temperature, and Volt Free Contact.
- Temperature range -200°C to +100°C.
- Temperature transmitter resolution 0.1°C.
- Temperature transmitter accuracy better than 0.1°C across the full range.
- Front panel display of I/P1, temperature , time delay, unit number ID and alarm parameters.
- Temperature high and low alarms.
- Audible and visual indication of an alarm.
- Adjustable time delay for temperature alarm. (0 to 90 minutes)
- Mains power failure alarm.
- Alarm information sent to the receiver AS300RX, giving details of transmitter unit and fault.
- Status and alarm indication on transmitter.
- Temperature, high & low alarms and delay time data transmitted every 15 minutes. This increases to every 10 minutes when in alarm..
- System self test.
- Rechargeable battery backup.
- Easy calibration procedure / Auto calibration reminder customer set. Settings ; None, 6 months or 1 year.
- Designed bracket for easy installation and positioning.



### 3.1 Front Panel Descriptions.

#### Switches

**Display Switch** : Scrolls the display between Unit Number, Time Delay and Temperature. This switch is also used in the setup procedure.

**Mute/Test Switch** : When the audible alarm is sounding it can be muted by depressing the switch for one second.

A signal strength test to the receiver can be carried out by depressing this switch for 10 second. This switch is also used in the setup procedure.

**Up/Down Switches** : Scrolls the parameter selected to the required value. These switches are also used in the setup procedure.

#### LED Functions

**Alarm Active** : Red led flashes when the transmitter is in the alarm condition.

**Status** : White Led indicating the status of the transmitter.

**System ok** : Status Light "ON" for 4 seconds and "OFF" for 1 second.

**Setup Mode** : Status Light flashes rapidly.

**Calibration Mode** : Status Light and Alarm light flashes rapidly.

**Mains Power Fail** : Status Light "OFF" for 4 seconds and "ON" for 1 second. (Note in a power fail condition the display is switched off to conserve battery life).

**In Alarm Condition** : Status Light "ON" for 1 seconds and "OFF" for 1 second. (A full alarm will only be initiated after the delay time has elapsed.)

**Unit Number** : Red led which is illuminated when the display is indicating the transmitter unit number.

**Time Delay** : Red led which is illuminated when the display is indicating the transmitter time delay for input 1 and input 2.

**Temperature** : Red led which is illuminated when the display is indicating the transmitter temperature of input 1.

### 3.2 Transmitter Power Fail/Battery Low

If mains power has been removed from the transmitter unit the system will activate an alarm after a preset 10 minute delay. A signal will be sent to the AS300 RX receiver. The receiver will indicate the transmitter unit number and AC off. The display on the transmitter is extinguished and the buzzer will sound. This is to preserve the battery life especially useful if the transmitter is used to log data.

### 3.3 Battery ON Switch/Transmitter Disable

To locate the battery switch remove the rear compartment flap. The battery On / Off switch is located at the bottom LHS of the transmitter. To turn the battery 'ON' first connect the D.C. power, then place battery switch to the 'ON' position. If the battery switch is not switched on after the DC supply is connected the display will intermittently flash up Bat, reminding the user that the battery has not been switched on.

To disable the transmitter turn the battery switch to the 'OFF' position and remove the DC supply.

**Note** : If a transmitter is removed from the system, the receiver should be sent a text to re-register the transmitters. This will remove the transmitter that has been switched off. If this is not done the transmitter will appear as lost after 90 minutes at the receiver. See Section 9, Para 9.3 to register transmitters.

### 3.4 Inputs

The Transmitter unit has three inputs labelled **I/P1**, **I/P2** and **I/P3**. All the input connectors have screw terminals and are accessed by removing the back cover.

### 3.5 Temperature Input (I/P 1)

Temperature input 1 uses a PT1000 probe. The value of this input is displayed on the front panel when temperature is selected. The input range is +100°C to -200°C with an instrument accuracy of 0.1°C. This input is usually used as the main air temperature alarm input. This input has an adjustable time delay of between 0 and 90 minutes.

### 3.6 Temperature Input (I/P 2) (Option)

Temperature input 2 uses a PT1000 probe. The input range is +100°C to -200°C with an instrument accuracy of 0.1°C. This input is usually used as an auxiliary input and is mainly used to measure product temperature. The time delay for this input mirrors the time delay set for I/P1.

### 3.7 Volt Free Contact Input (I/P 3) (Option)

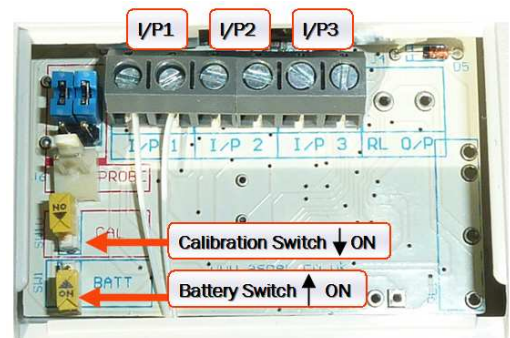
Volt free input 3 can be used to monitor any "normally closed" contact.

This input is normally used as a door switch monitor.

Normally "closed" position = No alarm

Normally "open" position = alarm

This input has a fixed time delay of 10 minutes.



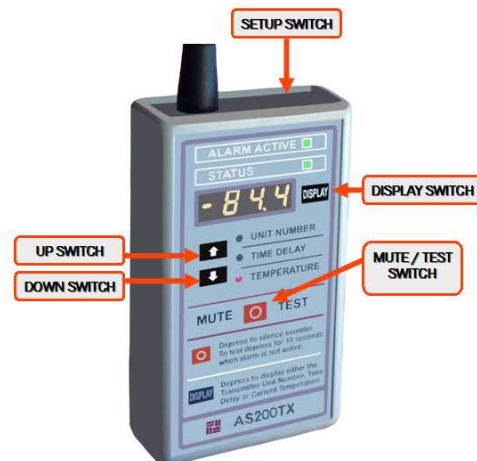


### 3.8 Setup Mode

To change the parameters on the AS200TX transmitter the unit must be placed in the setup mode. This is achieved by depressing the setup switch which is located at the top right hand side of the transmitter through a small hole. Depression of this switch is achieved using a pin or paper clip.

### 3.9 Transmitter Initial Setup

The setting of the base number, calibration reminder, unit number, time delay and high & low alarms are carried out in one complete sequence. The sequence must be completed to return the transmitter to its normal operating condition. The white status led will flash rapidly in setup mode, this will return to solid for 4 seconds on, 1 second off in the normal OK condition once setup mode is completed. If the transmitter is left in the setup mode it will return to normal mode after approximately 3 minutes. To place the transmitter into the setup mode the setup switch is depressed, this is accessed by a small pin or paper clip. Access to this switch is located at the top right hand side of the transmitter.



### 3.10 Base Number Setting

Depress the setup button once, located at the top of the transmitter (Small hole). This will require the end of a paper clip or pen pushed through the small hole.

When in setup mode the white status led will flash rapidly.

Depress the mute button three times and the display will show BASE. Use the up and down arrows to set the base on the transmitter to the same base as the receiver. (Up to 15 bases are available, factory default is Base 1). Once this has been done press the Mute switch to register this value.

### 3.11 Calibration Reminder Setting

Depress the display switch and the calibration reminder mode will be entered, CAL is displayed. This will now set up the frequency for CAL being shown on the display. By depressing the up and down arrows this can be set for No CAL, 6 monthly or 12 monthly. Once the required value is selected depress the mute switch to register this value. (Factory Default No Cal)

### 3.12 Unit Number Setting

Depress the display switch, the unit number led is illuminated. The unit number can be changed by depressing the up and down arrows. Select a number between 1 and 90 dependant on receiver range setting. Once the required value is selected, depress the mute switch to register the value.

### 3.13 Delay Time Setting

Depress the display switch, the time delay led is illuminated. The time delay can be changed by depressing the up and down arrows. Select a number between 0 and 90 minutes. Once the required value is selected, depress the mute switch to register the value.

### 3.14 High and Low Alarms

Depress the display switch, the temperature led is illuminated, HIAL is displayed momentarily. The temperature high alarm can be changed by depressing the up and down arrows. Select a number between 100 and -200, the display will scroll very fast. Once you are near the required value depress the mute switch. Depress the display switch and FINE will be momentarily displayed. Depress the up or down arrows to select your actual high alarm set-point and depress the mute switch to register the value.

The display switch is again depressed now entering the low alarm mode LOAL is displayed momentarily. The temperature low alarm can be changed by depressing the up and down arrows. Select a number between 100 and -200, the display will scroll very fast. Once you are near the required value depress the mute switch. Depress the display switch and FINE will be momentarily displayed. Depress the up or down arrows to select your actual low alarm set-point and depress the mute switch to register the value.

The status led will now stop flashing rapidly to indicate that the transmitter is back in normal mode.

### 3.15 Quick Setup to change Unit number, Time Delay or High and Low alarms.

The changing of the unit number, time delay and high & low alarms are carried out in one complete sequence. The sequence must be completed to return the transmitter to its normal operating condition. The white status led will flash rapidly in setup mode and will return to solid for 4 seconds on, 1 second off in the normal OK condition. If the transmitter is left in setup mode it will return to normal mode after approximately 3 minutes.

Depress the setup button once, located on the top of the transmitter. (Small hole) This will require the end of a paper clip or pen pushed through the small hole.

When in setup mode the white status led will flash rapidly, start from para 3.12 to para 3.14.

### 3.16 Automatic Self Test Wireless Link

The system will automatically test its communications between the transmitter's and the receiver every 15 minutes. If the receiver has not received a signal from a transmitter, a lost alarm will be generated after 90 minutes at the receiver.

### 3.17 Check Signal Strength.

The transmitter can be forced to send a test signal to the receiver. This is achieved by depressing the Mute/Test Switch for 10 seconds. No alarms will be activated at the AS300RX receiver upon receipt of a test signal. The display will show the unit number and strength of the signal.

This should be used when installing the system and when a transmitter is moved to a new location. The test display is removed from the receiver by depressing the Mute switch on the receiver. The display will then revert back to the scrolling menu, this can take up to 15 seconds.

### 3.18 Calibration for Temperature

To locate the calibration switch remove the rear compartment flap. The calibration switch is located to the left hand side above the battery switch. Remove the temperature probe from the input and attach the AS200-TC to simulate the temperature probe. The simulated probe resistance is set at  $1000\Omega$ , which accurately simulates  $0^{\circ}\text{C}$ . The calibration of the instrument displays a resistance measurement which now can be adjusted by the up and down switches. The value required is 999.9 or 0.0 this adjustment is made by the up and down switches.

Once adjusted the accuracy of the instrument can be checked by switching the calibration switch off. The temperature should now read  $0.0^{\circ}\text{C}$ . If a AS200TS simulator is used,  $+50^{\circ}\text{C}$  and  $-50^{\circ}\text{C}$  can easily be checked. Remove the AS200-TC and replace with the temperature probe.

The AS200TX is a very stable instrument and will rarely require calibration. It is recommended that the AS200TX is checked by simulating several temperatures to ensure it is within calibration parameters. This can easily be achieved by using the AS200TC temperature simulator.

### 3.19 AS200TX Simulator

Test temperatures at  $+50.0^{\circ}\text{C}$ ,  $0.0^{\circ}\text{C}$  and  $-50.0^{\circ}\text{C}$  can be simulated on transmitter input 1 to test the alarm. The temperature simulator unit is attached to input 1 once the temperature probe is removed. The simulated temperature is selected and will be shown on the display. If this temperature is out with the alarm limits it will activate the relevant alarm after the time delay.

The resistance to simulate  $0.0^{\circ}\text{C}$  can be supplied with a traceable calibration certificate. This can be used to calibrate the AS200TX transmitter



## Section 4 ► AS200TR Transceiver

### 4.0 AS200TR Transceiver

The transceiver unit is used to increase the distance between a transmitter and the receiver, if required. There is no limit to the number of transceivers that can be used in a system.

The transceiver is powered by an external DC supply and has a rechargeable battery fitted as standard. If power fail is detected on the transceiver an alarm will be sent to the receiver initiating an alarm condition.



## Section 5 ► AS300RX Receiver

### 5.0 Features

- Compact size. 170H x 85W x 35W (mm)
- Simple to use.
- 10 Transmitter channels, one transmitter per channel.
- Additional receivers can be added to expand system.
- Four menus available giving information on the system.
- Last 10 alarms stored.
- All alarms are time and date stamped.
- Acknowledged by mobile phone.
- Up to three telephone numbers per transmitter.
- Add and remove transmitters by a simple password protected text.
- Audible alarm.
- Power failure alarm.
- Rechargeable battery backup.
- Built in communications to mobiles, land lines and web.
- Logged data to web. (Option)

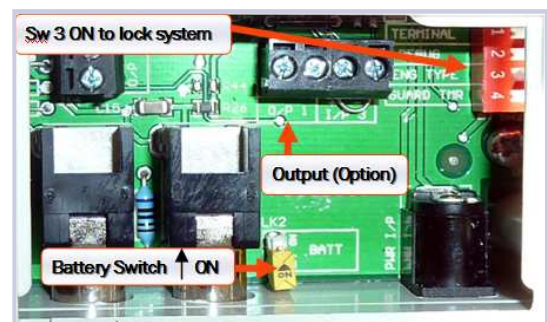
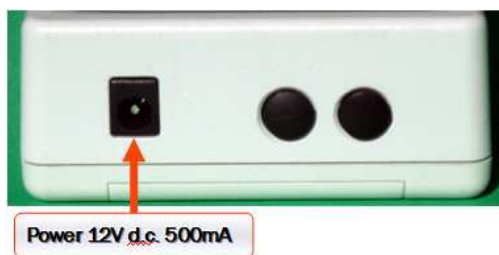


### 5.1 Front Panel Descriptions.

- **Unit Enabled** :- Green LED when the unit is enabled. Red LED when unit is disabled.
- **Status** :- LED indicating the status of the unit.
- **System OK** :- "ON" for 4 seconds and "OFF" for 1 second.  
**Mains Power Fail** :- Status Light "OFF" for 4 seconds and "ON" for 1 second.  
**In Alarm Condition** :- Status Light "ON" for 1 seconds and "OFF" for 1 second.
- **GSM Signal** :- Indicates signal strength. LED will be solid and flash every 1 minute. Four flashes indicate a excellent signal strength. This LED will be extinguished if a weak signal is detected.
- **Credit Required** :- "ON" when SIM value drops below £4.00.
- **Alarm Activated** :- "ON" when alarm is activate.
- **Power Failed** :- "ON" when power fail is activate after delay time.
- **Alerts In Progress** :- "ON" when alarm alerts and acknowledgments are being sent.
- **Display** :- The display scrolls through information on system e.g GSM Signal strength and credit on sim (See Section 6)
- **Scroll and Menu Switches** :- Allows access to Alarm, System, Probe and TX Info menus (See section 7)

### 5.2 Receiver Power – Battery Switch

Use only the supplied power supply for the receiver and connect the 12V d.c. 2.1mm socket to the power input located at the base of the AS300RX. To locate the battery switch remove the rear compartment flap. The battery On / Off switch is located at the bottom left hand side of the receiver. If mains power has been removed from the receiver the system will activate an alarm after the programmed delay time.



### 5.3 Lock Password Text Commands

For added protection, once the relevant procedures including telephone numbers, messages etc have been set up, internal switch 3 (ENG TYPE) can be switched into the ON position (Factory Shipped OFF position). This will not allow any setting to be changed with a master pin number until this switch is returned to the OFF position. The unit can be queried for information with the switch in the ON position. If the master pin is used for a text command whilst switch 3 is in the ON position, the message **Access Denied** will be sent from the receiver.

### 5.4 Positioning Receiver

The choice of receiver site affects the ultimate system performance; this can be important if transmitters are positioned at the limit of their range or in buildings where significant metal is used in their construction (such as reinforced concrete containing metal rods), or utilising metal internal partitioning.

For maximum range coverage and reliability the receiver should be located in a central position with respect to the transmitters. In general, the higher the receiver, the better the range achieved. To avoid screening effects, the receiver should be mounted well away from large metal masses such as metal filing cabinets. The receiver should be mounted at least 1.5 metres above ground level and positioned at least 1 metre away from mains electrical panels, electricity cables and sources of high speed switching, such as computers, otherwise radiated electrical noise may reduce the receiver sensitivity.

If these instructions are not carried out the Receiver will have reduced sensitivity and possible future problems can occur such as lost transmission of transmitter units.

#### Common mistakes when positioning a receiver

1. Receiver is positioned in receptions or gate houses where there is considerable communications equipment.
2. Receiver is positioned close to electricity cables beneath the wall surface. Check position of electricity sockets and light switches. Cables from these items will be run vertically or horizontally. Do not locate the receiver within 0.5 metre of these cables.
3. Receiver is positioned in a basement.

### 5.5 Fit the SIM Card

If a sim card had not been ordered with the receiver, please fit a sim card. A Pay As You Go or contract sim card can be used in the receiver. The receiver is set up for a "Pay As You Go" sim card by default. If a contract sim card is used the low credit warnings must be disabled in the GSM Unit as many contract sims display a £0.00 balance when interrogated by the unit. To change SIM settings please see Section 17.0. The sim number and credit will be displayed on the main scrolling display.



#### TOP UP PAYG SIM Card

There are several methods of topping up the credit on a PAYG sim card.

1. The simplest method is to use a cash point machine which displays the sign TOP UP MOBILE HERE, these machine also issues a receipt of the transaction.
2. The internet can be used, go to the network of the sim card web site.

### 5.6 Low Credit Warnings for Pay as you go Sim Card

If the credit on the SIM Card falls below £4.00 the Credit Required LED will be illuminated and the buzzer will bleep every 60 minutes. If the credit on the SIM Card falls below £2.00, Credit Required LED will flash and a text message will be sent to receiver telephone number 1. (RXtel1). The message is "GSM Alarm credit low", this will be repeated every 7 days until the SIM has been topped up.

**NOTE :- NOT ALL MOBILE NETWORKS PROVIDE INFORMATION ON THE CREDIT LEVEL OF THE SIM WHICH MAKES THIS FEATURE UNUSABLE . ONLY O2 & VODAFONE PAYG SIMS HAVE A CREDIT RESPONSE.**

### 5.7 GSM Signal

The AS300RX unit must have a GSM signal to operate. The signal strength is shown in two ways on the unit.

1. The scrolling display will show signal strength and credit on sim.
2. The GSM Signal LED will be lit solid and will flash every one minute. Four flashes indicates a good signal.
3. If no signal or a poor signal is present the unit will sound its audible alarm. This can be muted but will keep resounding every 10 minutes to remind the user that their alarm is not operational. Action should be taken to rectify this problem by moving the unit or changing the network provider.
4. If no Sim card is present in the unit the GSM Signal LED will turn red.



### 5.8 Antennas

The receiver GSM and radio antennas must be screwed into position for the AS300RX to operate. The GSM antenna is located at the top right hand side and the wireless antenna is located at the top towards the left hand side. The Antenna's both use SMA connections.

If reception is weak for either the wireless or GSM signal, larger antenna's are available.



### 5.9 Alarm Sequence at the AS300RX Receiver when a AS200TX transmitter alarm is activated.

When an alarm is activated the following sequence is started :-

1. Status led flashes.
2. Alarm Activated LED is illuminated and NEW ALARMS are displayed on the LCD display.
3. Audible alarm sounds.
4. Audible alarm can be muted by pressing the mute button or an acknowledgement text from a mobile telephone.
5. Telephone sequence starts.
6. Alerts sent, LED is illuminated.
7. Once acknowledged Alarm Activated and Alerts Sent LED are extinguished (once all alerts are sent).

### 5.10 Alarm Telephone Sequence for AS300RX when a AS200TX transmitter alarm is activated.

Three telephone numbers can be allocated to each AS200TX transmitter. When an alarm is activated from a transmitter, telephone number 1 will be sent then at 3 minute intervals telephone number 2 then finally telephone number 3. If these calls are not acknowledged the telephone numbers will be telephoned at 60 minute intervals until acknowledged by the ack text message.

### 5.11 Alarm Sequence for a AS300RX Receiver in Power Fail.

When a receiver power fail alarm is activated the following sequence is started :-

1. Power Failed LED is lit and NEW ALARMS are displayed on the LCD display.
2. Audible alarm sounds.
3. Audible alarm can be muted by pressing the mute button or an acknowledgement from a mobile telephone.
4. Telephone sequence starts.
5. Once power is restored power fail led flashes. To extinguish this LED press the Mute /Clear button until the buzzer bleeps.

### 5.12 Alarm Telephone Sequence for AS300RX Receiver in Power Fail Alarm.

Three telephone numbers Rxtel1, Rxtel2 and Rxtel3 can be allocated to the receiver for power fail alarm. When an alarm is activated from a power fail at the receiver, telephone number 1 (Rxtel1) will be sent then the remaining telephone numbers if entered will be sent at 3 minute intervals. If these calls are not acknowledged Tel 1 to Tel 3 will be phoned again 30 minutes later. After this no more phone calls will be issued until power is resumed.

### 5.13 Test Message

The AS300RX will send a test message to the receiver telephone number **RxTel1** every 28 days. This feature helps to ensure the communications of the unit are working and if a PAYG sim is fitted, keeps the network active for the sim. The time of the test message is derived from when the unit is powered up.

## Section 6 ► AS300RX Display

### 6.0 Display

1. The Version number of the firmware is displayed, followed by the **AS Config then Radio Receiver**

Ver 283U1  
V44

2. Please wait, is displayed.

Please  
Wait

3. Sim check is now done if a sim is fitted SIM OK will be displayed. If no sim is fitted "No Sim" will be displayed followed by best network available. The unit will stop at this point until a sim is fitted.

SIM OK

4. The network of the sim will be displayed.

SIM OK  
02

5. The strength of the GSM signal will be displayed.

Signal  
Full

6. The AS300RX is now started and ready to use.

Unit  
Started

7. The display will now start scrolling, starting with information as described 7 to 12. The sim card telephone number fitted. If 02 or Vodafone sims are not used the display will read **SIM No, UNAVAILABLE.**

07456  
856325

8. The GSM signal strength and credit available on the sim installed. **Only 02 and Vodafone will give credit information.**

SIG FULL  
CR=1000p

9. The total number of AS200TX transmitters registered on the system, after the registration period.

Total No  
Txs : 8

10. The base number and transmitter unit range of the AS300RX receiver.

Base 1  
TX 1-10

**11.** The time and date will be displayed. If this requires to be set up please see Section 20.1.

14:02  
30/05/11

**12.** Load Indent will be displayed if the sim used is not an O2 or Vodafone. An indent can be registered on the display see Section 19.0

LOAD  
IDENT

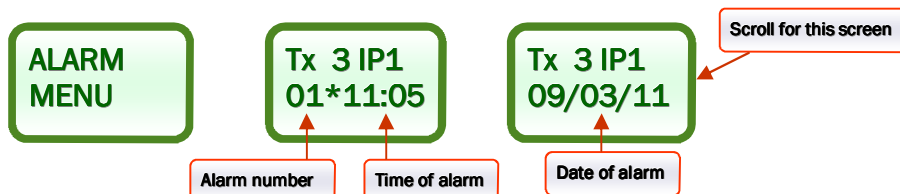
## Section 7 ► AS300RX Menus

### 7.0 Menu

The menu button will allow the user to access four menus, alarm menu, system menu, probe menu and tx info menu. Once the desired menu has been selected, use the scroll button to scroll through this menu.

### 7.1 Alarm Menu

The alarm menu will show the last 10 alarms showing the most recent alarm first. The alarms are time and date stamped and the first alarm will show the number 1 up to 10 for the tenth alarm. An asterisk will follow the alarm number if it has not been viewed before. Once viewed the asterisk will be removed, by scrolling to the next display it will show the date of the alarm.



### 7.2 System Menu

The system menu will show the serial number of the AS300RX and the current time and date set in the AS300RX receiver.



### 7.3 Transmitter Information Menu

The Tx Info menu will show the base number and the number of transmitters registered on to the AS300RX receiver.



### 7.4 Probe Menu

The probe menu will show the current temperature of I/P1 and I/P2 of the transmitters registered on to the AS300RX receiver.



## Section 8 ► Pin Numbers / Set Time and Date

### 8.0 Pin Numbers

The AS300RX uses two pin numbers, the master pin allows settings to be changed e.g. alarms, telephone numbers etc and the users pin allows alarms to be acknowledged and certain parameters to be queried for information. For convenience no pin number is required for certain text commands and queried information.

For added protection, once the relevant procedures including telephone numbers, messages etc have been set up, internal switch 3 (ENG TYPE) can be switched into the ON position. This will not allow any setting to be changed with a master pin number until this switch is returned to the OFF position (See Fig 4) Section 23.0. The unit can be queried for information with the switch in the ON position. If the master pin is used for a text command whilst switch 3 is in the ON position, the message

**Access Denied** will be sent from the receiver.

### 8.1 Set Time and Date in the Real Time Clock

The real time clock is required to be set up in the Receiver to give accurate readings of time and date.

Example for setting 19th January 2010, 1:45pm (13:45) and 30 seconds.

Send the following text message to the AS300RX

**2222spaceclockspace19/01/11,13:45:30**

## Section 9 ► RECEIVER SYSTEM INITIAL SETUP

### 9.0 Receiver System Initial Setup Summary

Before the AS300RX can be used the following requires to be setup by text message :-

- Range of the AS200TX transmitters to be monitored. (Ref Section 9.1)
- Base Number of Receiver to match the AS200TX transmitter base number. (Ref Section 9.2)
- Register the AS200TX transmitters on to the AS300RX receiver. (Ref Section 9.3)
- Contact Telephone Numbers. (Ref Section 10)
- Out Going Message, OGM. (Ref Section 11)

### 9.1 Set the Range for AS200TX transmitters used.

The AS300RX receiver can accept up to ten AS200TX transmitters with up to three inputs per transmitter. Ranges are set from 1 to 10 going up to 81 to 90, allowing up to 90 transmitters on one receiver base number. As there are 15 base numbers a maximum number of 1350 transmitters can be used on a system at one site. In practice the average system is between 5 to 30 transmitters. The receiver will be factory set for the range 1 to 10.

An example to set up a system with 18 AS200TX transmitters. Two AS300RX are required, both units are set to the same base number. The first AS300RX will be set for transmitter range 1 to 10. The second AS300RX will be set for transmitter range 11 to 20.

Setup information :-

- ◆ To setup any values the master pin has to be used.
- ◆ txset= transmitter range setting.
- ◆ 10 = range set for transmitter 1 to 10.

Send a text a message to the first AS300RX receiver,

**2222space txset space 10**

**2222 txset 10**

Master Pin Required

Setup information :-

- ◆ 20 = range set for transmitter 11 to 20.

Send a text a message to the second AS300RX receiver,

**2222space txset space 20**

**2222 txset 20**

Master Pin Required

The text messages for each range are as follows :-

**1 to 10 Tx, message = txset 10**

**11 to 20 Tx, message = txset 20**

**21 to 30 Tx, message = txset 30**

**31 to 40 Tx, message = txset 40**

**41 to 50 Tx, message = txset 50**

**51 to 60 Tx, message = txset 60**

**61 to 70 Tx, message = txset 70**

**71 to 80 Tx, message = txset 80**

**81 to 90 Tx, message = txset 90**

### 9.2 Set the Base Number on the Receiver

Up to 15 different bases can be set for the receiver numbered from 1 to 15. This allows AS300RX systems to be located near to each other without interfering with one another. The transmitters and receiver have to be configured to the same base number to allow the AS200TX transmitters to be registered on to the AS300RX receiver unit. The receiver will be factory set for Base No 01.

Setup information :-

- ◆ To setup any values the master pin has to be used.
- ◆ base 1= base number 1 to be set.

Send the following text message to the AS300RX,

**2222space base 1**

**2222 base 1**

Master Pin Required

### 9.3 Register the AS200TX transmitter on to the AS300RX receiver

To register the AS200TX transmitters on to the AS300RX receiver a text message regtx has to be sent to the AS300RX. This will allow the receiver to look for transmitters for 90 minutes. Once the 90 minutes has expired no new transmitters will be accepted on to the system. To add or remove transmitters from the system the same procedure should be carried out. Transmitters which require to be removed from the system must have their power removed and battery switched off before this procedure is carried out.

Setup information :-

- ◆ To setup any values the master pin has to be used.
- ◆ regstr= register AS200TX transmitters on to the AS300RX receiver.
- ◆ regend = ends registration period before 90 minutes has elapsed.

Send the following text message to the AS300RX receiver,

**2222space regstr**

**2222 regstr**

Master Pin Required

**2222 regend**

Master Pin Required

## Section 10 ► Set Telephone Numbers

### 10.0 Telephone Numbers Summary

The AS300RX receiver can allocate up to 3 telephone numbers per AS200TX transmitter and 3 special function telephone numbers labelled RxTel1, RxTel2 and RxTel3.

RxTel1 must have a telephone number entered. This number is a “Safety Telephone Number”, if no telephone number is entered here the AS300RX LCD display will intermittently show **\*INSERT\* RXTEL1\***. If no telephone numbers are entered into the transmitter telephone sequence, RxTel1 will be called in the event of an alarm from a transmitter. This number will also text lost transmitters, power fail on the receiver and the test function.

RxTel2 and RxTel3 if required can be used to text additional telephone numbers for power fail on the receiver and the test function.

The telephone numbers can be a mixture of mobile and land lines. Only mobile phones will be able to acknowledge an alarm message. If no telephone numbers are set for the individual transmitters, no alarm call will be made when this transmitter alarms apart from **RxTel1**. If any telephone numbers are entered into the relevant transmitter, only these number will be telephoned.

When an alarm is activated at the receiver from a transmitter it will telephone number 1 then number 2 and finally telephone number 3 of the alarming transmitter. A delay of 3 minutes is allowed between telephone 1, telephone 2 and telephone 3 for the recipient of the call to acknowledge the alarm. Example if only telephone number 2 was entered for Transmitter 6, when the alarm is activated on Transmitter No 6 telephone number 2 will be phoned 3 minutes after the alarm is activated at the AS300RX receiver.

When the text has been acknowledged no more calls are made and all recipients of the alarm text will receive a further text to alert them that the alarm has been acknowledged. This acknowledged text will contain the telephone number of the acknowledged.

If the alarm call is not acknowledged the transmitter telephone number sequence will be texted the with the alarm message. To minimise cost and annoyance of these calls if the alarm text is not acknowledged, the time interval between each repeat call sequence is 60 minutes.

### AS300RX RECEIVER TELEPHONE NUMBERS

**RxTel1**  
**RxTel2**  
**RxTel3**

#### **RxTel1 SAFETY TELEPHONE NUMBER, THIS TELEPHONE NUMBER MUST BE ENTERED.**

**RxTel1** must have a telephone number entered. This number is a “Safety Telephone Number”, if no telephone number is entered here the AS300RX display will intermittently show **\*INSERT\* RXTEL1\***. If no telephone numbers are entered into the transmitter telephone sequence, RxTel1 will be called in the event of an alarm from a transmitter. This number will also text lost transmitters, power fail at the receiver and test function.

**RxTel2** If a telephone number is entered here, receiver power fail, lost transmitters and test function will be sent to this tel number.

**RxTel3** If a telephone number is entered here, receiver power fail, lost transmitters and test function will be sent to this tel number.

Three telephone numbers can be allocated to each transmitter.

Transmitter TX1  
TX1Tel1  
TX1Tel2  
TX1Tel3

Transmitter TX2  
TX2Tel1  
TX2Tel2  
TX2Tel3

Transmitter TX3  
TX3Tel1  
TX3Tel2  
TX3Tel3

Transmitter TX4  
TX4Tel1  
TX4Tel2  
TX4Tel3

Transmitter TX5  
TX5Tel1  
TX5Tel2  
TX5Tel3

Transmitter TX6  
TX6Tel1  
TX6Tel2  
TX6Tel3

Transmitter TX7  
TX7Tel1  
TX7Tel2  
TX7Tel3

Transmitter TX8  
TX8Tel1  
TX8Tel2  
TX8Tel3

Transmitter TX9  
TX9Tel1  
TX9Tel2  
TX9Tel3

Transmitter TX10  
TX10Tel1  
TX10Tel2  
TX10Tel3

**Note:** Transmitters shown are for the setup range 1 to 10 (Page 11). Example if range for transmitters were 11 to 20, transmitter TX1 would become TX11 etc.



### 10.1 Setup Safety Telephone Number RxTel1

**RxTel1** must have a telephone number entered. This number is a "Safety Telephone Number", if no telephone number is entered here the AS300RX LCD display will intermittently show \*INSERT\* RXTEL1\*. If no telephone numbers are entered into the transmitter telephone sequence, RxTel1 will be called in the event of an alarm from a transmitter. This number will also text power fail on the receiver and the monthly test message.

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ rxtel1= Safety telephone number.
- ◆ 07528352415 = required telephone number.

Send the following text message to the AS300RX.

**2222space rxtel1 space 07528352415**

**2222 rxtel1 07528352415**

Master Pin Required

### 10.2 Additional telephone numbers for Receiver Power Fail, Lost and Test Alert

**RxTel2** and **RxTel3** telephone numbers are allocated for the internal receiver alarms and test function. These telephone number allocations if used will send a text message for a power failure at the receiver and the test call from the receiver.

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ rxtel2= AS300RX Receiver telephone number 2.
- ◆ 07527289101 = required telephone number.

Send the following text message to the AS300RX.

**2222space rxtel2space 07527289101**

**2222 rxtel2 07527289101**

Master Pin Required

**2222space rxtel3space 07527289101**

**2222 rxtel3 07527289102**

Master Pin Required

### 10.3 Setup Telephone Number 1 for Transmitter Number 1

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ tx1tel1= Transmitter 1, Telephone number 1.
- ◆ 07742663872 = required telephone number.

Send the following text message to the AS300RX.

**2222space tx1tel1space 07742663872**

**2222 tx1tel1 07742663872**

Master Pin Required

### 10.4 Setup Telephone Number 2 for Transmitter Number 1

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ tx1tel2= Transmitter 1, Telephone Number 2.
- ◆ 07742663873 = required telephone number.

Send the following text message to the AS300RX.

**2222space tx1tel2space 07742663872**

**2222 tx1tel2 07742663873**

Master Pin Required

### 10.5 Setup Telephone Number 3 for Transmitter Number 1

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ tx1tel3= Transmitter 1, Telephone Number 2.
- ◆ 07742663873 = required telephone number.

Send the following text message to the AS300RX.

**2222space tx1tel3space 07742663872**

**2222 tx1tel3 07742663874**

Master Pin Required

### Further Example :- AS200TX transmitter unit number 9 with first tel number to be contacted 07345678965

- ◆ To setup any values the master pin has to be used.
- ◆ tx9tel1 = Transmitter 9, Telephone Number 1.
- ◆ 07345678965 = required telephone number.

Send the following text message to the AS300RX.

**2222space tx9tel1space 07345678965**

**2222 tx9tel1 07345678965**

Master Pin Required

**Further Example :- AS200TX transmitter unit number 9 with second tel number to be contacted 07345678969**

- ◆ To setup any values the master pin has to be used.
- ◆ tx9tel1 = Transmitter 9, Telephone Number 1.
- ◆ 07345678965 = required telephone number.

Send the following text message to the AS300RX,  
**2222space tx9tel2space 07345678969**

2222 tx9tel2 07345678969

Master Pin Required

**Further Example :- AS200TX transmitter unit number 28 with the third tel number to be contacted 07345678965**

- ◆ To setup any values the master pin has to be used.
- ◆ tx28tel3 = Transmitter 28, Telephone No 3.
- ◆ 07345678965 = required telephone number.

Send the following text message to the AS300RX,  
**2222space tx28tel3space 07345678965**

2222 tx28tel3 07345678965

Master Pin Required

**IMPORTANT**

This process is repeated for every AS200TX transmitter that is logged on to the AS300RX receiver. If no telephone numbers are entered for the AS200TX transmitter, safety telephone Rxtel1 will be texted in the event of an alarm.

**10.6 Query Telephone Numbers for Safety Tel Number, Receiver Power Failure and Test Alert in the AS300RX Receiver.**

Three telephone numbers are allocated for internal receiver alarms. RxTel1 is the safety telephone number which must be entered. RxTel2 and RxTel3 if required can be used to text additional telephone numbers for power fail at the receiver and the test function.

To query telephone numbers set for AS200RX receiver.

Useful information :-

- ◆ rxtel= AS300RX receiver telephone numbers.
- ◆ ? = Query

Send the following text message to the AS300RX,  
**rxtel?**

rxtel?

Master, User or No Pin Required

**10.7 Query Telephone Numbers set for AS200TX transmitters in AS300RX Receiver**

When a telephone number is set or changed in the receiver a text message will be sent to the mobile which changed the telephone number. This should be checked to make sure the telephone numbers have been entered correctly and it is in the correct transmitter location.

If the telephone numbers are require to be checked at any other time the following text message should be sent to the AS300RX receiver.

To query telephone numbers set for AS200TX Transmitter Unit Number 1.

Useful information :-

- ◆ tx1tel= AS200TX Transmitter Unit Number 1, telephone numbers
- ◆ ? = Query

Send the following text message to the AS300RX,  
**tx1tel?**

tx1tel?

Master, User or No Pin Required

**Further Examples :- To query telephone numbers set for AS200TX Transmitter Unit Number 26**

Useful information :-

- ◆ tx26= AS200TX Transmitter Unit Number 26, telephone numbers.
- ◆ ? = Query

Send the following text message to the AS300RX,  
**tx26tel?**

tx26tel?

Master, User or No Pin Required

## Section 11 ► Set Out Going Message (OGM)

### 11.0 Out Going Message Summary

When an alarm is activated, a message will be sent to the recipients on the telephone list for the appropriate AS200TX transmitter or the receiver for power fail and test. If the message is sent to a mobile telephone it will be in the form of a text message. If it is sent to a land line it will be processed as a synthesised voice message.

The OGM can be up to 80 characters long, messages longer than this will be rejected by the AS300RX. The temperature value and alarm input are attached at the end of the OGM.

### 11.1 Setup Out Going Message

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ OGM = Out Going Message ( NOTE : OGM has to be in upper case)

Send the following text message to the AS300RX,

**2222spaceOGMspace-80C freezer No 16, Dr J Trident, Room 235, Cell Research, Thomas Building, Leeds**

**2222 OGM -80C freezer No 16, Dr J Trident, Room 235, Cell Research, Thomas Building, Leeds**

Master Pin Required

### 11.2 Query Out Going Message set in AS300RX

When a outgoing message is set or changed in the receiver a text message will be sent to the mobile which changed the message. This should be checked to make sure the message has been entered correctly.

Useful information :-

- ◆ To query any values the master pin has to be used.
- ◆ OGM = Out Going Message
- ◆ ? = Query

**2222spaceOGM?**

**OR**  
**OGM?**

**2222 OGM?**

**OGM?**

Master, User or No Pin Required

## Section 12 ► Lost AS200TX Transmitters

### 12.0 Lost of transmission from a AS200TX Transmitter

If the AS300RX receiver does not receive a transmission from a AS200TX transmitter registered on the system between 90 to 180 minutes, a lost transmitter alarm will be generated. The receiver will log the alarm in the alarm menu and NEW ALARMS will be displayed on the Receiver LCD display, the sounder will not sound. The AS300RX receiver is factory set to send an alarm message to telephone number 1 of the transmitter which is lost. This lost alarm text message can be disabled if required.

To turn OFF lost AS200TX transmitter message.

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ Txlost off = turns text message off for lost AS200TX transmitters.

Send the following text message to the AS300RX

**2222spacetxlostspaceoff**

**2222 txlost off**

Master Pin Required

To turn ON lost AS200TX transmitter message.

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ Txlost on= turns text message on for lost AS200TX transmitters.

Send the following text message to the AS300RX

**2222spacetxlostspaceon**

**2222 txlost on**

Master Pin Required

## Section 13 ► Acknowledge Alarms

### 13.0 Acknowledge Alarms Summary

When an alarm is activated, it has to be acknowledged before it will stop sending out the alarm OGM text. Once acknowledged, recipient's who have received the alarm OGM text will be sent a text giving telephone details of the acknowledge. Acknowledging of alarms can be carried out by the master password, acknowledge password or simple tx"X"ack text. At the end of the alarm text message a prompt will tell the user the correct acknowledgement text to use. Once the alarm has been acknowledged the Alarm Activated Led will be extinguished and the sounder will be silenced. The AS300RX alarm sounder can also be silenced by depressing the mute button on the front panel of the receiver. The LCD on the AS300RX will display NEW ALARMS. On power fail of the receiver the front panel led's are extinguished to conserve battery life apart from Power Fail. When the power has been restored and alarm acknowledged, press the Mute Button to extinguish the power fail led.

### 13.1 Acknowledge Alarm for Alarming AS200TX Transmitters

An alarm from a AS200TX transmitter, sent from the AS300RX can be acknowledged with any of the following texts to the alarming unit. Passwords can be used or omitted.

Useful information :-

- ♦ tx1ack= AS200TX transmitter unit 1, acknowledge after an alarm.

Send the following text message to the AS300RX,

**2222space tx1ack**

**OR**

**tx1ack**

2222 tx1ack

tx1ack

Master, User or No Pin Required

### Further Examples :- To acknowledge an alarm from AS200TX transmitter unit No 16

Useful information :-

- ♦ tx16ack= AS200TX transmitter unit 16, acknowledge after an alarm

Send the following text message to the AS300RX,

**tx16ack**

tx16ack

Master, User or No Pin Required

### Further Examples :- To acknowledge an alarm from AS200TX transmitter unit No 34

Useful information :-

- ♦ tx34ack= AS200TX transmitter unit 34, acknowledge after an alarm

Send the following text message to the AS300RX,

**tx34ack**

tx34ack

Master, User or No Pin Required

### 13.2 Acknowledge Alarm for Power Failure and Test Function on the AS300RX Receiver

A power fail or test alarm from the AS300RX can be acknowledged with any of the following texts. Passwords can be used or omitted.

Useful information :-

- ♦ rxack = AS300RX receiver, acknowledge after an alarm.

Send the following text message to the AS300RX,

**2222space rxack**

**OR**

**rxack**

2222 rxack

rxack

Master, User or No Pin Required

## Section 14 ► Query Unit Commands

### 14.0 Query Unit Commands

When information is required from a AS200TX transmitter or the AS300RX receiver, the AS300RX can be queried. A list of the most commonly used queries are listed in this section. The user can select a master pin number in front of the message which in some queries gives more information.

### 14.1 Query Base Value in the Receiver

This will send back to the users mobile telephone the Base number set in the AS300RX receiver.

Setup information :-

- ♦ base= base setting in the AS300RX receiver.
- ♦ ? = query

Send a text a message to the AS300RX receiver,

**base?**

base?

Master, User or No Pin Required



#### 14.2 Query Registered Transmitters in the Receiver

This will send back to the users mobile telephone, the transmitters registered on the AS300RX receiver.

Setup information :-

- ◆ regtx= registered AS200TX transmitters on the AS300RX receiver.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**regtx?**

regtx?

Master, User or No Pin Required

#### 14.2 Query Active Transmitters in the Receiver

This will send back to the users mobile telephone, the transmitters which are active on the AS300RX receiver.

Setup information :-

- ◆ actx?= active AS200TX transmitters on the AS300RX receiver.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**actx?**

actx?

Master, User or No Pin Required

#### 4.3 Query Alarm Log in the Receiver

This will send back to the users mobile telephone, the last five alarms logged.

- ◆ alarms= the last five logged alarms in the AS300RX receiver.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**alarms?**

alarms?

Master, User or No Pin Required

#### 14.4 Query AS200TX Transmitter Values

This will send back to the users mobile telephone the current values in the transmitter.

- ◆ tx7= current values in transmitter unit number 7, including current temperature.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**tx7?** Note : Master pin returns more information

tx7?

Master, User or No Pin Required

#### 14.5 Query Transmitter Telephone Numbers

This will send back to the users mobile, the three telephone numbers stored for the relevant AS200TX transmitter.

- ◆ tx9tel= the three telephone numbers stored in the AS300RX receiver for the AS200TX transmitter unit number 9.

- ◆ ? = query

Send a text a message to the AS300RX receiver,

**tx9tel?**

tx9tel?

Master, User or No Pin Required

#### 14.6 Query Receiver Telephone Numbers

This will send back to the users mobile, the telephone numbers stored for the receiver. These numbers will be contacted in the event of a power fail and test alarm in the AS300RX receiver.

- ◆ rxtel= the telephone numbers stored in the AS300RX for power fail and test in the receiver.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**rxtel?**

rxtel?

Master, User or No Pin Required

#### 14.7 Query OGM Outgoing Message

This will send back to the users mobile telephone the Out Going Message. (OGM is case sensitive)

- ◆ OGM= the outgoing message set in the receiver, this message will be sent in the event of an alarm.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**OGM?**

OGM?

Master, User or No Pin Required

#### 14.8 Query Hit Count

This will send back to the users mobile, the current number of transmission hits from the transmitter to the receiver. This is mainly used for commissioning the system and diagnosing faults.

- ◆ hits= current number of transmission hits from the transmitter to the receiver..
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**hits?** Note : 40 hits excellent, 6 hits lowest acceptable.

hits?

Master, User or No Pin Required

#### 14.9 Query Time and Date Stored in the Receiver

This will send back to the users mobile, the time and date set in the receiver.

- ◆ time= the current time and date set in the receiver.
- ◆ ? = query

Send a text a message to the AS300RX receiver,

**time?**

time?

Master, User or No Pin Required

## Section 15 ► Enable / Disable Receiver

### 15.0 Enable / Disable Overview

The AS300RX can be enabled or disabled from a mobile text command. When the unit is in the disabled mode no alarm reporting will take place, in the enabled mode all alarms will be reported. An illuminated green LED indicates the unit is enabled and in the disabled mode this LED is red. The unit can be sent query messages in the disabled mode.

#### 15.1 Enable Unit

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ enable = enable Unit.

Send the following text message to the AS300RX,

**2222spaceenable**

**2222 enable**

Master Pin Required

#### 15.2 Disable Unit

Useful information for setting an alarm.

- ◆ To setup any values the master pin has to be used.
- ◆ disable = disable Unit.

Send the following text message to the AS300RX,

**2222spacedisable**

**2222 disable**

Master Pin Required

## Section 16 ► Test Alarm

### 16.0 Test Alarm Summary

The test alarm function will send the full OGM to all the three receiver telephone numbers Rxtel1, Rxtel2 and Rxtel3. The message will have test at the end of the OGM. The test alarm has to be acknowledged to stop the test.

#### 16.1 Test Alarm

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ test = test alarm unit.

Send the following text message to the AS300RX,

**2222spacetest**

**2222 test**

Master Pin Required

#### NOTE

To acknowledge a test alarm use text message **rxack**

#### 16.2 Test Message

When the AS300RX is powered up, the time and date is recorded into memory. Every 28 days from this time a test message will be sent to receiver telephone number 1 (Rxtel1).

## Section 17 ► PAYG / Contact Sim Card Setup

### 17.0 PAYG / Contact Sim Card Setup

The receiver is set up for a "Pay As You Go" sim card by default. If a contract sim card is used the low credit warnings must be disabled in the GSM Unit as many contract sims display a £0.00 balance when interrogated by the unit which will set off alarms.

#### 17.1 Setup Contact Sim

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ CONT = set AS300RX receiver for contact sim. (CONT uppercase)

Send the following text message to the AS300RX,

**2222spaceCONT**

**2222 CONT**

Master Pin Required

#### 17.1 Setup PAYG Sim

Useful information :-

- ◆ To setup any values the master pin has to be used.
- ◆ PAYG = set AS300RX receiver for PAYG sim.

Send the following text message to the AS300RX

**2222spacePAYG**

**2222 PAYG**

Master Pin Required

## Section 18 ► Power Fail Delay Time in AS300RX Receiver

### 18.0 Power Fail Delay Time

To set the delay time before a power fail alarm is activated at the receiver.

Useful information for setting an alarm.

- ◆ To setup any values the master pin has to be used.
- ◆ PWR = power fail.
- ◆ 10 = time delay in minutes.

Send the following text message to the AS300RX,

**2222spacepwrspacetd10**

**2222 pwr td10**

Master Pin Required

## Section 19 ► Load Ident on Display

### 19.0 Load Ident on Display

The Load Ident will be shown on the display if the sim card used is not an O2 or Vodafone sim. If a O2 or Vodafone sim card is used the telephone number of the sim card will be shown instead of load Ident. To load an ident in the AS300RX text a message to the AS300RX unit.

Example for setting the ident to SIM 07565627811.

Send the following text message to the AS300RX

**\*##spaceIDENTspaceSIMspace0756;5627811**

**\*## IDENT SIM 0756;5627811**

## Section 20 ► Data Logging & Alarm Log

### 20.0 Data Logging and Alarm Log Overview

The AS300RX can log data which can be sent to a server, this data can be down loaded to a computer and stored. This downloaded data can be analysed using the Data Analysis Software. The data interval stored from the transmitters are every 15 minutes. The alarm log gives details of all alarms, listing alarm input, time, date, call direction, telephone number, acknowledgers number and whether the call was successful or failed.

To activate this service please contact your supplier or visit [www.asper.co.uk/Webserver.htm](http://www.asper.co.uk/Webserver.htm) (Register for Logging)

### 20.1 Set Time and Date in the Real Time Clock

The real time clock is required to be set up to give accurate readings of time and date, two methods are available

#### Method 1

Example for setting 19th January 2010, 1:45pm (13:45) and 30 seconds.

Send the following text message to the AS300RX

**2222spaceetimepace19/01/11,13:45:30**

**2222 time 19/01/11,13:45:30**

Master Pin Required

The time sent should be approx 1 minute ahead of the current time. The time sent will be displayed on the LCD display and the buzzer will start beeping. Check the real time on an accurate clock e.g. mobile phone or computer. When the current time matches the displayed time, press the mute button on the AS300RX. The real time clock will now be set to the correct time.

#### Method 2

Example for setting 19th January 2010, 1:45pm (13:45) and 30 seconds.

Send the following text message to the AS300RX

**2222spaceclockspace19/01/11,13:45:30**

**2222 clock 19/01/11,13:45:30**

Master Pin Required

The time will now be set in the unit.

### 20.2 Query Date & Time in the AS300RX Receiver

This will query the current time and date in the AS300RX.

- ◆ time= time and date set in the AS300RX receiver.
- ◆ ? = query

Send a text a message to the first AS300RX receiver with the following text.

**time?**

**time?**

Master, User or No Pin Required

### 20.3 Change Logging Time

The data logged time interval can be changed by a text command to the receiver. The more data stored will impact on the cost to send the data to the server, a good compromise is every 30 minutes.

Useful information for setting an alarm.

- ◆ To setup any values the master pin has to be used.
- ◆ STDL = data logged time
- ◆ 30 = logging time interval

Send the following text message to the AS300RX,

**2222spaceSTDLSpace30**

**2222 STDL 30**

Master Pin Required

### 20.4 Initiate a Current Download of Data

The data is sent to the server every 24 hours, if current data is required since the last download, send a text a message to the AS300RX.

Useful information for setting an alarm.

- ◆ To setup any values the master pin has to be used.
- ◆ DNLD = download data (DNLD upper case)

Send the following text message to the AS300RX,

**2222spaceDNLD**

**2222 DNLD**

Master Pin Required

This will immediately initiate a download to the server.

### 20.5 Network Settings (APN Settings) Default setting 02 PAYG SIM

For data to be sent to the server the network settings must be set up in the AS300RX. Each network has different settings, the AS300RX by default is setup for a 02 PAYG SIM.

If you have purchased your PAYG SIM with the AS300RX the relevant network settings will have been set for you. A list of all network settings can be found in the document Network Settings which can be downloaded from [www.asper.co.uk/Downloads.htm](http://www.asper.co.uk/Downloads.htm)

### 20.6 Access to the Data Server

The data from the AS300RX can be accessed from the following web location.

<http://datadump.co:8080/login>

A Username and Password will be required to access the data. Several AS300RX units can be accessed using the same username and password.

### 20.7 Download Data Required

Tick on the data you wish to download, then click on “Zip Selected Files and Download” button.

A new screen will be displayed, click on button “Your Zip Files are ready click here to Download”

Received	Device IMEI	Item File No.	Serial	Alarm Message	Firmware
2010-12-30 11:36:54	35782002514434	SM 0784 2016257	1000	Geo square ULT	2683J1V014
2010-12-12 12:48:51	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-11 12:49:29	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-10 12:49:30	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-09 12:52:55	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-08 12:48:54	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-07 10:43:51	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-06 10:43:58	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-05 10:42:53	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014
2010-12-04 10:43:43	35782002514434	SM 0784 2016257	1000	GSM Alarm and Monitoring System	2683J1V014

### 20.8 Winzip Data Files

The files will now be presented in winzip or a zip application that is running on your computer. These file now should be stored in a folder on your computer for later analysis.

It is the customers responsibility to regularly download their data files for backup. The data files on the server are not deleted once they have been downloaded



## Section 21 ► Data Logging Software

### 21.0 AS300RX Data Analysis Software Overview

- Numerical & Graph information easily displayed.
- Easy print facility for data required.
- Filtering of data is possible between specific dates and times.
- Statistical Information of the following is recorded : First Reading; Date and Time, Last Reading; Date and Time, Number of Readings, Maximum Temperature, Minimum Temperature, Average Temperature, Time in High Alarm and Time in Low Alarm.
- AS300RX Data Analysis software can be used on as many computers as required.

### 21.1 Installing Data Analysis Software

Double click on the AS300RX Alarm and Monitoring Data Analysis file, prompts will guide the installation. Once installed the program can be accessed from the program bar under the heading Asper.

### 21.2 Opening a Data File

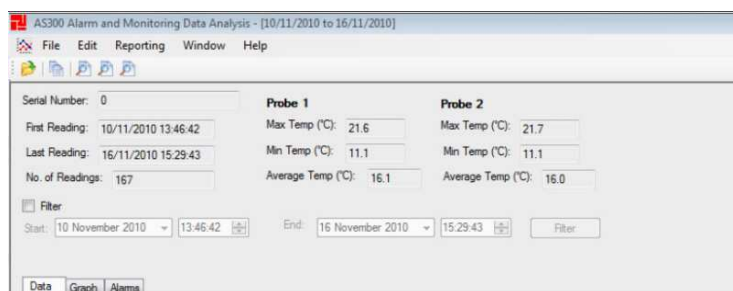
To open a data file go to File > Open. The files are automatically saved in a date form.

### 21.3 Using a Data File

Once the required date or dates are open, data for this unit is displayed.

### 21.4 Top Screen Displayed Information

Information at the top of the screen is displayed for the selected transmitter. The information is Serial Number, First Reading, Last Reading, Number of Readings, Max Temp, Min Temp and Average Temp for I/P1 and I/P2.



### 21.5 Column Data

The data in the columns gives easy access to the following :-

Date, Time, Temperature input 1, Temperature Input 2, High Alarm Set-point, Low Alarm Set-point and Delay Time.

Name	Type	Modified	Size	Ratio	Packed	Path
1017_20110115_1357.txt	Text Document	15/01/2011 13:57	3,121	0%	3,121	
1017_20110115_1354.txt	Text Document	15/01/2011 13:54	3,121	0%	3,121	
1017_20110114_1356.txt	Text Document	14/01/2011 13:56	3,061	0%	3,061	
1017_20110114_1354.txt	Text Document	14/01/2011 13:54	3,061	0%	3,061	
1017_20110113_1354.txt	Text Document	13/01/2011 13:54	3,121	0%	3,121	
1017_20110112_1354.txt	Text Document	12/01/2011 13:54	3,121	0%	3,121	
1017_20110111_1354.txt	Text Document	11/01/2011 13:54	3,061	0%	3,061	
1017_20110110_1354.txt	Text Document	10/01/2011 13:54	3,121	0%	3,121	
1017_20110109_1355.txt	Text Document	09/01/2011 13:55	3,121	0%	3,121	
1017_20110108_1355.txt	Text Document	08/01/2011 13:55	3,061	0%	3,061	

## 21.6 Column Data

The data in the columns gives easy access to the following :-

Date, Time, Temperature input 1, Temperature Input 2, High Alarm Set-point, Low Alarm Set-point and Delay Time.

AS300 Alarm and Monitoring Data Analysis - [10/11/2010 to 16/11/2010]

File Edit Reporting Window Help

Serial Number: 0

First Reading: 10/11/2010 13:46:42

Last Reading: 16/11/2010 15:29:43

No. of Readings: 167

Filter

Start: 10 November 2010 13:46:42 End: 16 November 2010 15:29:43 Filter

Probe 1 Max Temp (°C): 21.6 Min Temp (°C): 11.1 Average Temp (°C): 16.1

Probe 2 Max Temp (°C): 21.7 Min Temp (°C): 11.1 Average Temp (°C): 16.0

Data Graph Alarms

Time	Probe 1 Actual Temp (°C)	Probe 1 Upper Limit (°C)	Probe 1 Lower Limit (°C)	Probe 1 Time Delay	Probe 2 Actual Temp (°C)	Probe 2 Upper Limit (°C)	Probe 2 Lower Limit (°C)	Probe 2 Time Delay
10/11/2010 13:46:42	15.2	28.0	-199.0	1	14.9	99.0	-199.0	10
10/11/2010 14:47:05	15.9	28.0	-199.0	1	15.7	99.0	-199.0	10
10/11/2010 15:47:28	15.3	28.0	-199.0	1	15.0	99.0	-199.0	10
10/11/2010 16:47:52	14.8	28.0	-199.0	1	14.6	99.0	-199.0	10
10/11/2010 17:48:15	14.4	28.0	-199.0	1	14.4	99.0	-199.0	10
10/11/2010 18:48:39	13.8	28.0	-199.0	1	13.9	99.0	-199.0	10
10/11/2010 19:49:02	13.3	28.0	-199.0	1	13.4	99.0	-199.0	10
10/11/2010 20:49:26	12.7	28.0	-199.0	1	12.7	99.0	-199.0	10
10/11/2010 21:49:49	12.5	28.0	-199.0	1	12.4	99.0	-199.0	10
10/11/2010 22:50:13	12.2	28.0	-199.0	1	12.2	99.0	-199.0	10
10/11/2010 23:50:36	12.1	28.0	-199.0	1	12.0	99.0	-199.0	10
11/11/2010 00:50:59	11.9	28.0	-199.0	1	11.9	99.0	-199.0	10
11/11/2010 01:51:23	11.9	28.0	-199.0	1	11.8	99.0	-199.0	10
11/11/2010 02:51:46	11.8	28.0	-199.0	1	11.8	99.0	-199.0	10
11/11/2010 03:52:16	11.6	28.0	-199.0	1	11.6	99.0	-199.0	10
11/11/2010 04:52:33	11.3	28.0	-199.0	1	11.3	99.0	-199.0	10
11/11/2010 05:52:57	11.1	28.0	-199.0	1	11.1	99.0	-199.0	10
11/11/2010 06:53:20	11.4	28.0	-199.0	1	11.4	99.0	-199.0	10
11/11/2010 07:53:44	11.7	28.0	-199.0	1	11.5	99.0	-199.0	10
11/11/2010 08:54:09	12.3	28.0	-199.0	1	12.2	99.0	-199.0	10
11/11/2010 09:54:31	12.5	28.0	-199.0	1	12.3	99.0	-199.0	10
11/11/2010 10:54:54	12.7	28.0	-199.0	1	12.6	99.0	-199.0	10
11/11/2010 11:55:17	13.0	28.0	-199.0	1	12.9	99.0	-199.0	10
11/11/2010 12:55:41	13.5	28.0	-199.0	1	13.3	99.0	-199.0	10
11/11/2010 13:56:45	13.3	28.0	-199.0	1	13.0	99.0	-199.0	10
11/11/2010 13:56:45	13.3	28.0	-199.0	1	13.0	99.0	-199.0	10
11/11/2010 14:57:08	13.1	28.0	-199.0	1	13.0	99.0	-199.0	10

## 21.7 Alarm Highlighting Column Data

If an alarm occurs it will be highlighted in red for a high alarm and blue for a low alarm in the column

AS300 Alarm and Monitoring Data Analysis - [14/02/2007]

File Edit Reporting Window Help

Temperature Unit: °C

Serial Number: 1702

First Reading: 24/02/2007 09:30:41

Last Reading: 24/02/2007 23:44:45

No. of Readings: 47

Filter

Start: 24 February 2007 09:30:41 End: 24 February 2007 23:44:45

Probe 1 Max Temp (°C): 45.2 Min Temp (°C): 32.5 Average Temp (°C): 38.9

Probe 2 Max Temp (°C): 58.7 Min Temp (°C): 33.5 Average Temp (°C): 45.6

Data Graph

Date	Time	Temperature Input 1 (°C)	Temperature Input 2 (°C)	Door Op	AC Power	Battery Condition	HPI Alarm Setpoint (°C)	Low Alarm Setpoint (°C)	Delay Time (s)
24/02/2007	09:30:41	47.0		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:51:12	46.3		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:51:44	46.3		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:52:16	46.2		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:52:47	46.2		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:53:18	45.5		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:53:50	42.7		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:54:21	41.7		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:54:52	41.5		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:55:23	41.0		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:55:54	40.5		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:56:25	40.4		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:56:56	40.3		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:57:27	40.2		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:57:58	40.1		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:58:29	40.1		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:59:00	40.1		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	09:59:31	40.1		Closed	AC OK	BATT OK	50.0	110.0	30
24/02/2007	10:00:02	40.0		Closed	AC OK	BATT OK	50.0	110.0	30

## 21.8 Filtering Data

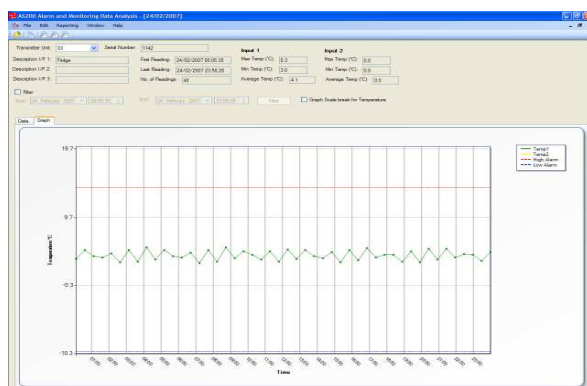
Data can be filtered by ticking the filter box and selecting a start date and time and end date and time. Once this has been done click on the filter button.

## 21.9 Displaying Graphs

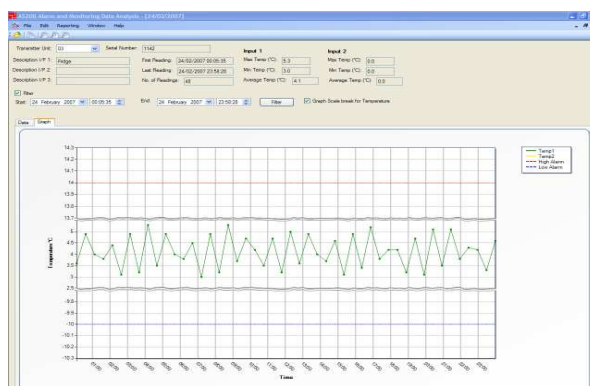
A graph of the current data can be displayed by clicking on the Graph Tab. To return to the column data, click on the Data Tab.

### 21.10 Graph Scale Break for Temperature

When the graph is displayed, if there is a relatively large difference between the High Alarm, Low Alarm and I/P1, I/P2 measurements, the I/P1 and I/P2 variations can be hard to distinguish. To make this clearer, the “Axis Scale Break” feature collapses the gap between the highest data line and lowest data line. This allows the variations between the data lines to become more visible.



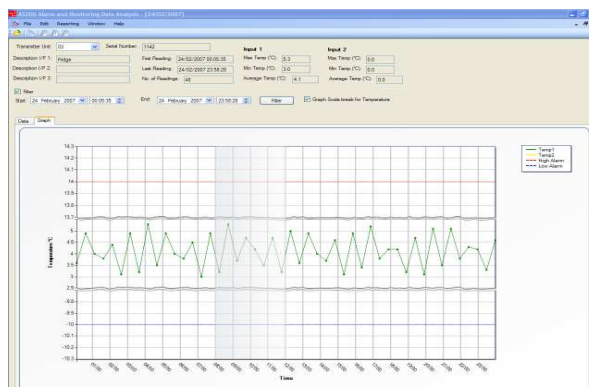
## Scale Break Off



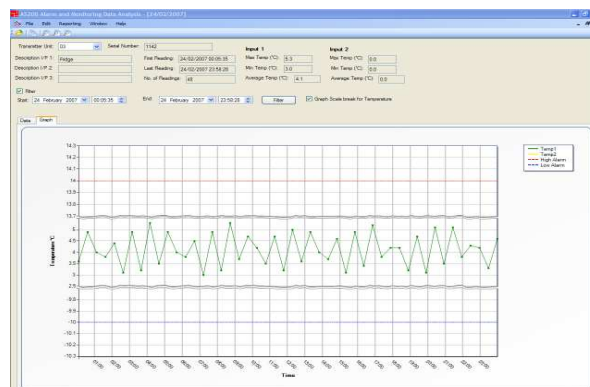
**Scale Break On**

## 21.11 X Axis Zooming

As well as the existing “Filter” functionality of the analysis application, which allows the user to filter a subset of the transmitter readings using a smaller time span, there is also the “Graph Zoom” function. This allows the user to zoom into a specific X-axis range of the graph. This is achieved by clicking on the start of the range required and then dragging the mouse to the end of the range, the zoomed data is then displayed.

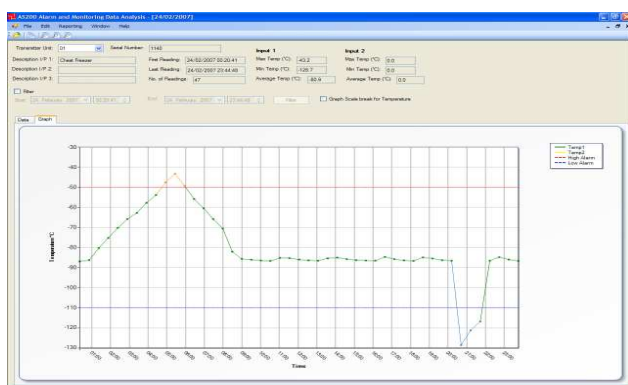


**Highlighted Area to be Zoomed**



### Zoomed Graph

## 21.12 Alarm Highlighting



If either I/P1 (Temp1) or I/P2 (Temp2) value goes into the high alarm, the graph line is coloured red. If the input value goes below the low alarm set-point, the graph line is coloured blue.

## 21.13 Alarm Log

To view the alarm log, click on the alarm tab, the log will then be displayed giving time, date, call direction, telephone number, alarm input and whether the call was sent or failed.

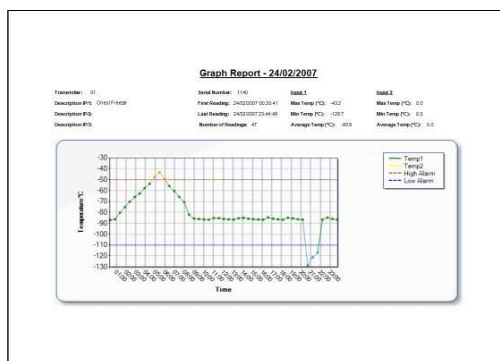
[illegible]

Print out of data can be done in three ways.

- “Transmitter Report” prints the data column view.
- “Graph Report” prints the graph view.
- “Summary Report” prints the “header” information for each transmitter and alarm log.

[illegible]

Transmitter Report



## Graph Report

Summary Report - 24/02/2007		
Transmitter ID#	3	Serial Number
Decomposition #	1, 038 - 1st Pass - General 03	Knowledge
Decomposition #	2, 039 - 2nd Pass - General 03	Learning
	3, 040 - 3rd Pass - General 03	% of Readings
Total #		Total #
Min Temp (°C)	-0.0	Min Temp (°C) - 0.0
Max Temp (°C)	0.0	Max Temp (°C) - 0.0
Average Temp (°C)	0.0	Average Temp (°C)
Decomposition #	2	Serial Number
Decomposition #	1, 038 - 1st Pass - General 03	Knowledge
Decomposition #	2, 039 - 2nd Pass - General 03	Learning
	3, 040 - 3rd Pass - General 03	% of Readings
Total #		Total #
Min Temp (°C)	-0.0	Min Temp (°C) - 0.0
Max Temp (°C)	0.0	Max Temp (°C) - 0.0
Average Temp (°C)	-0.0	Average Temp (°C)
Transmitter ID#	3	Serial Number
Decomposition #	1, 038 - 1st Pass - General 03	Knowledge
Decomposition #	2, 039 - 2nd Pass - General 03	Learning
	3, 040 - 3rd Pass - General 03	% of Readings
Total #		Total #
Min Temp (°C)	-0.0	Min Temp (°C) - 0.0
Max Temp (°C)	0.0	Max Temp (°C) - 0.0
Average Temp (°C)	0.0	Average Temp (°C)

## Summery Report

## ALARM LOG

<u>Time</u>	<u>Call Log</u>	<u>GSM Number</u>	<u>Alarm Input</u>	<u>Send Fail</u>
08/04/2000 11:18:54	SENT	07872665126	Input 1	Sent
08/04/2000 11:21:65	SENT	07743712116	Input 1	Sent
08/04/2000 11:24:46	SENT	07743712102	Input 1	Sent
08/04/2000 11:27:37	SENT	07742484924	Input 1	Sent
08/04/2000 11:30:28	SENT	07742684982	Input 1	Sent
08/04/2000 11:35:30	SENT	07872665126	Input 1	Sent
08/04/2000 11:36:61	RECEIVED	+447872665126	Acknowledged	Sent
11/04/2000 13:27:09	SENT	07872665126	GSM IP03	Sent
11/04/2000 13:27:69	RECEIVED	+447872665126	Acknowledged	Sent

Summery Report Alarm Log (At end of Summery Report)

## Section 22 ► SETUP NOTES

Receivers Installed	Base Number	Location	Transmitters Installed
Receiver Number 1			
Receiver Number 2			
Receiver Number 3			
Receiver Number 4			
Receiver Number 5			
Receiver Number 6			
Receiver Number 7			
Receiver Number 8			
Receiver Number 9			

Receiver	Transmitter Range Used	Telephone Number	Contact Name
RXTX1 TEL No 1			
RXTX2 TEL No 2			
RXTX3 TEL No 1			



Transmitter Number	Transmitter Range Used	Telephone Number	Contact Name
TX1 TEL No 1			
TX1 TEL No 2			
TX1 TEL No 3			
TX2 TEL No 1			
TX2 TEL No 2			
TX2 TEL No 3			
TX3 TEL No 1			
TX3 TEL No 2			
TX3 TEL No 3			
TX4 TEL No 1			
TX4 TEL No 2			
TX4 TEL No 3			
TX5 TEL No 1			
TX5 TEL No 2			
TX5 TEL No 3			
TX6 TEL No 1			
TX6 TEL No 2			
TX6 TEL No 3			
TX7 TEL No 1			
TX7 TEL No 2			
TX7 TEL No 3			
TX8 TEL No 1			
TX8 TEL No 2			
TX8 TEL No 3			
TX9 TEL No 1			
TX9 TEL No 2			
TX9 TEL No 3			
TX10 TEL No 1			
TX10 TEL No 2			
TX10 TEL No 3			

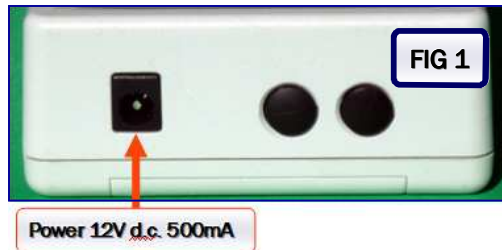
**NOTE :-** Please insert in "transmitter range used" correct transmitter number .

**Examples.:-** If receiver is set to accept Tx11 to Tx20, this would change TX1 to TX11 , Tx11 to Tx20 etc.

If receiver is set to accept Tx31 to Tx40, this would change TX1 to TX11 , Tx31 to Tx40 etc.

## Section 23 ► Layouts of AS300RX and AS200TX

## AS300RX RECEIVER



**FIG 1** Power supply input for AS300RX. Only use power supply supplied. 12V d.c. 500mA



**FIG 2** Antenna positions for the AS300RX. Wireless antenna to the LHS and GSM antenna to the RHS.

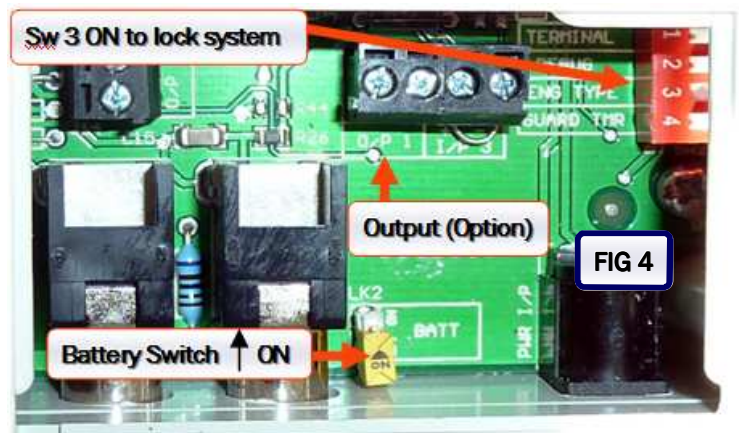
**FIG 3** Sim position and correct way up insertion.



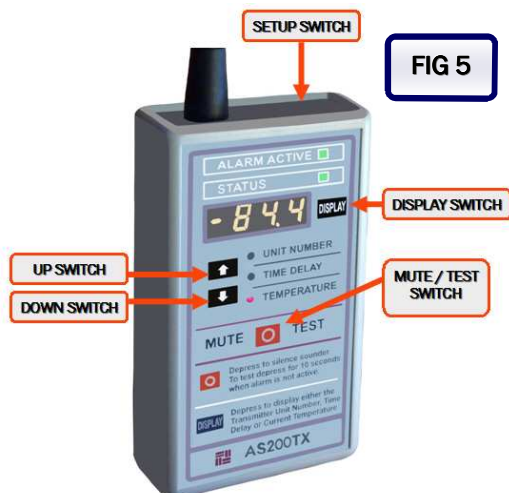
**FIG 4** 1. AS300RX battery position, push in the upward direction for ON.  
2. (Eng Type) Sw 3 in the ON position locks the receiver. No master pin numbers will be accepted in this position.

**FIG 5** Layout of switches for the AS200TX transmitter.

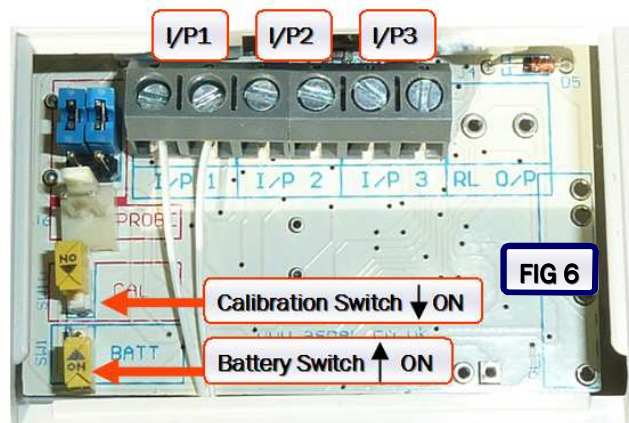
**FIG 6** 1. AS200TX battery position, push in the upward direction for ON.  
2. AS200TX calibration switch, push in the downward direction for ON.  
3. Position of I/P1, I/P2 and I/P3.



## AS200TX TRANSMITTER



**FIG 5**



**FIG 6**