



7000  
iris+

7943/P

Eight Input Half Watt Transmitter



Installation & Programming Guide

# Contents

Introduction	3
Tools & equipment	3
Equipment required	3
Programming connection details	5
Input programming	6
ID	14
CON	15
TYPE	15
MODE	17
TXD	18
QUIT	18
LOAD DEFAULT VALUES	19
Input internal wiring	20
Adding an input into the Iris+ radio receiver (hand push mode)	21
Adding an input into the Iris+ radio receiver (contact mode)	23
Assigning a text description to an input	25

# Introduction

The 7943/P eight input half watt transmitter has been designed to operate in conjunction with the EMS Iris+ 7256 radio receiver. The transmitter unit is a 230Vac operated device and comprises of a 500mW transmitter fitted with an additional printed circuit board allowing the activation of eight opto isolated inputs. Each of the inputs can be separately programmed into the Iris+ receiver therefore allowing individual identification via text descriptions. The inputs themselves can also be programmed to operate either normally open or normally closed and the transmitted data from the input can be selected from Alarm, Local, Tamper, or Low Battery.

As each input is opto isolated, a negative is required to be applied to one side of the input. To trigger the input, a positive voltage should be applied if the contact is programmed as normally open or removed if normally closed (see Figure 3 on page 20 for details). On an input activation a signal will be transmitted to the Iris+ receiver and displayed in the format programmed i.e. Alarm: Zone Area 1 for an input that has been set as an Alarm input and programmed with the text description Zone Area 1.

## Tools & test equipment

Only standard hand tools are required to install the transmitter unit. The transmitter is supplied with the inputs factory set as follows: -

<b>Input Number</b>	<b>Type</b>	<b>Input Orientation</b>
1	Alarm	N/C
2	Alarm	N/C
3	Alarm	N/C
4	Alarm	N/C
5	Alarm	N/C
6	Alarm	N/C
7	Alarm	N/C
8	Alarm	N/C

## Equipment required

7943/P Eight Input Half Watt Transmitter

7256 Iris+ Receiver

A suitable terminal program with serial lead (if programming changes are required)

Remote devices and high gain aerials may also be required depending upon the customers specification and requirements.

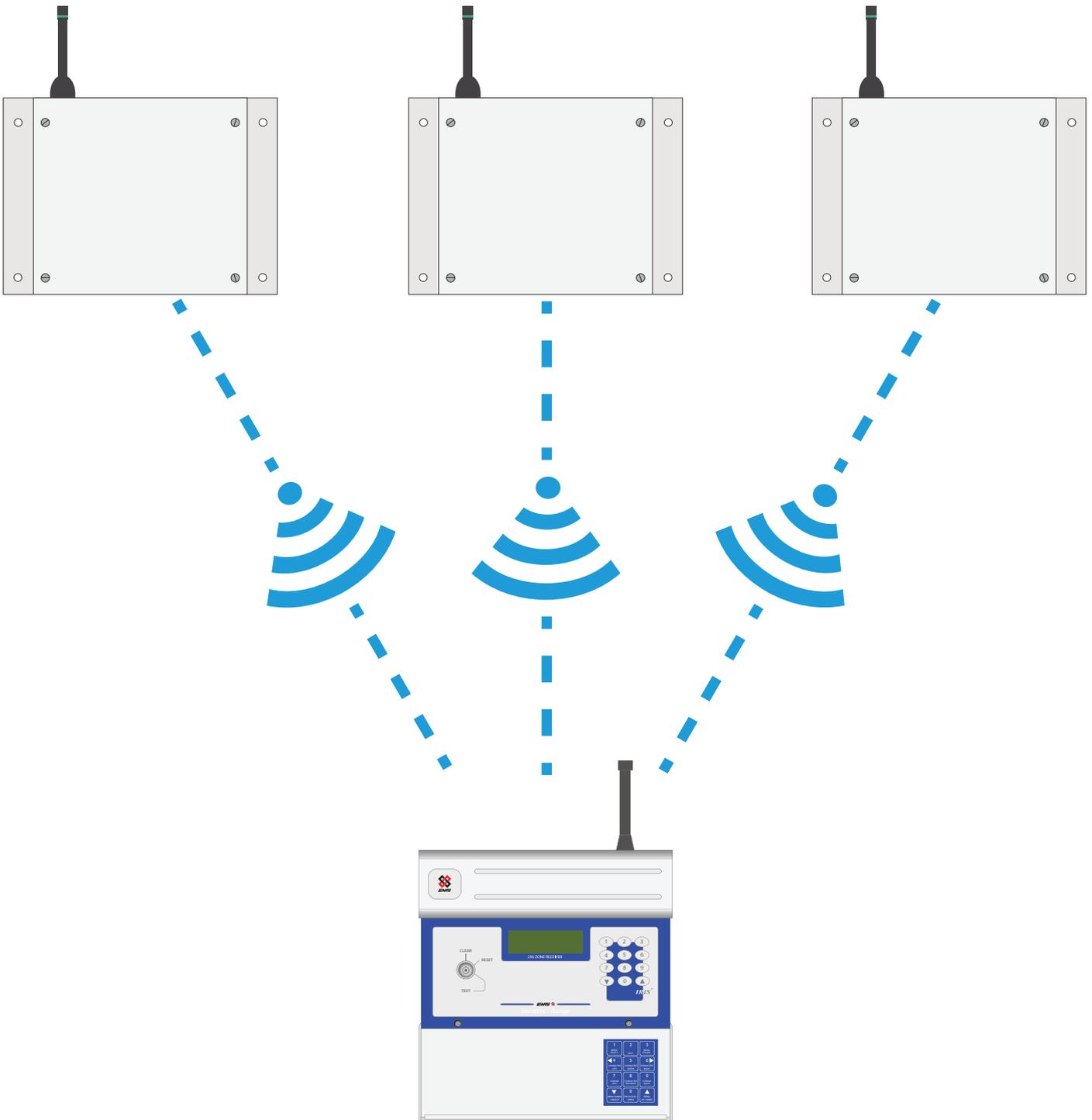
**Please note the Iris+ receiver will require an external power supply.**

Figure 1 shows a typical Iris+ wireless remote monitoring system:

**7943/P - Eight Input  
Half Watt Transmitter**

**7943/P - Eight Input  
Half Watt Transmitter**

**7943/P - Eight Input  
Half Watt Transmitter**

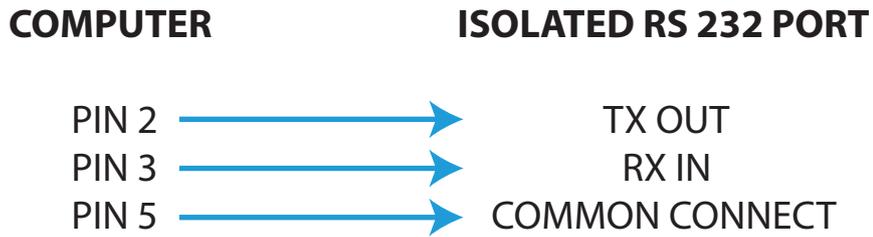


**7256 - Iris+ Wireless  
Receiver**

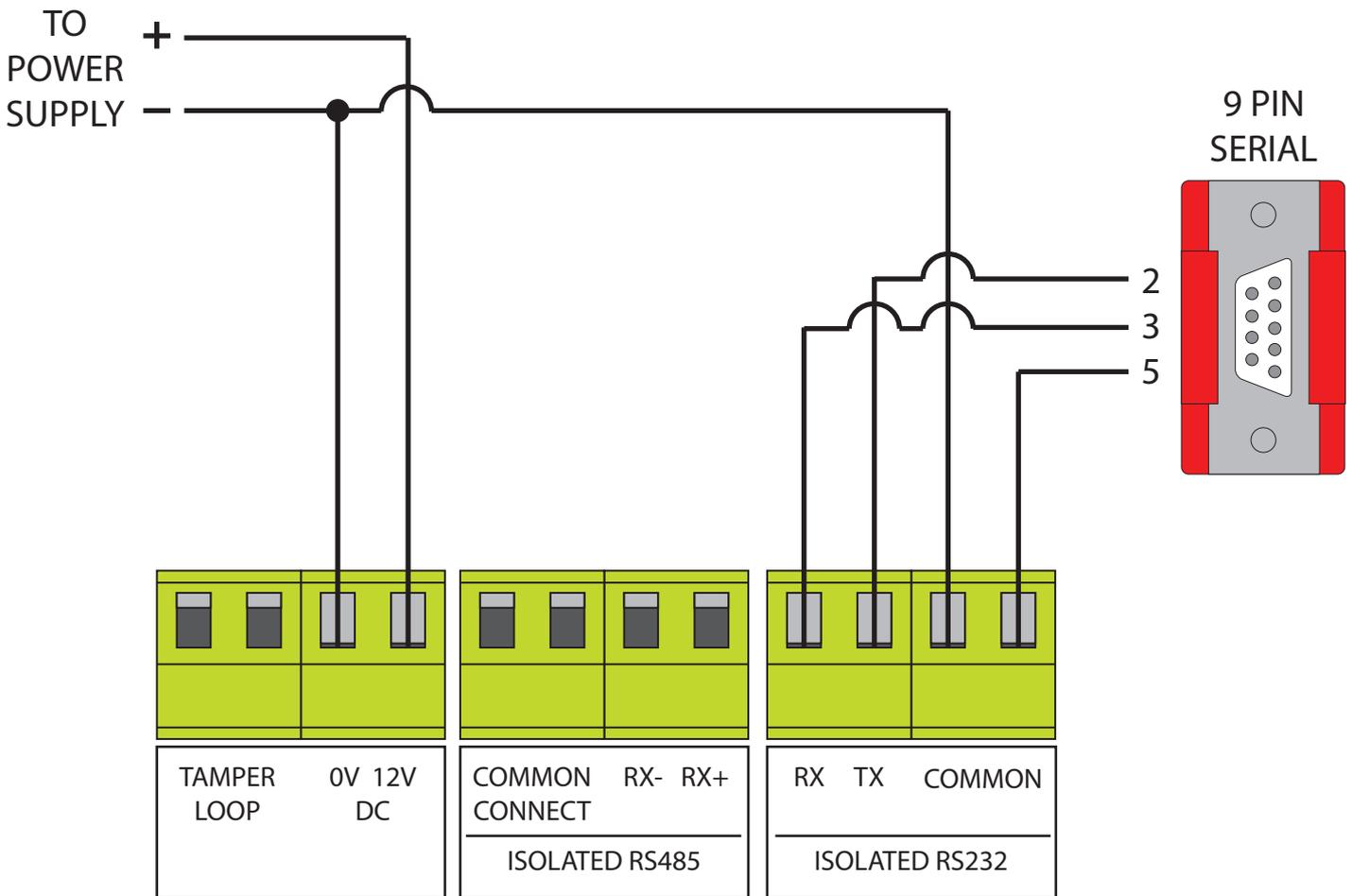
**Figure 1**

# Programming connection details

The computer to transmitter physical connection details are as follows:-



All Computer to Terminal connections are shown below in Figure 2.



**Figure 2**

# Input programming

The computer to transmitter physical connection details are as follows:-

The transmitter unit has the facility of allowing each of its inputs to be individually configured. The settings for each input are as follows with the menu commands required shown in brackets:- Inputs unique identification code (ID). Orientation of the input to normally open or normally closed (CON). Inputs transmitted data on activation, which ranges from Alarm, Local, Low Battery, Reset, Tamper and Not Used (TYPE). Inputs mode of operation which can be selected between a contact operated device which will also transmit input restored data or a hand push device which must be used for certain types of transmitted data and does not transmit restore data (MODE). A full explanation of all input settings and the operation of the inputs if selected is described in more detail in the following paragraphs under their menu commands headings.

The inputs have their settings defaulted to the following parameters: -

Inputs 1-8.....ID: A0001-A0008  
Con: Normally Closed  
Type: Alarm  
Mode: Current State

To allow access into the programming menu the computer should be set up using a suitable terminal program:-

**PLEASE NOTE: Examples shown are using Hyperterminal in Windows XP. Other versions of Windows / terminal programs will vary.**

To start a new terminal session, click on the 'Start' button.

Then select 'Programs' and then 'Accessories'.

Now select 'Communications', then 'HyperTerminal'.

You will then be presented with the following screen: -



Now enter your desired connection description: -



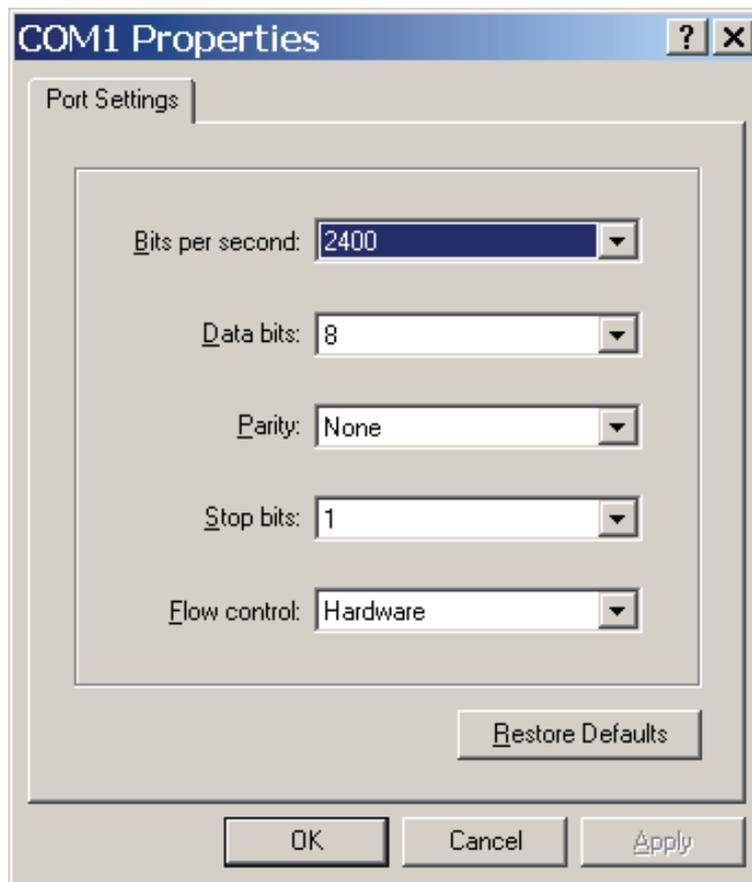
Then click on the 'OK' button, and the screen will change to the following: -



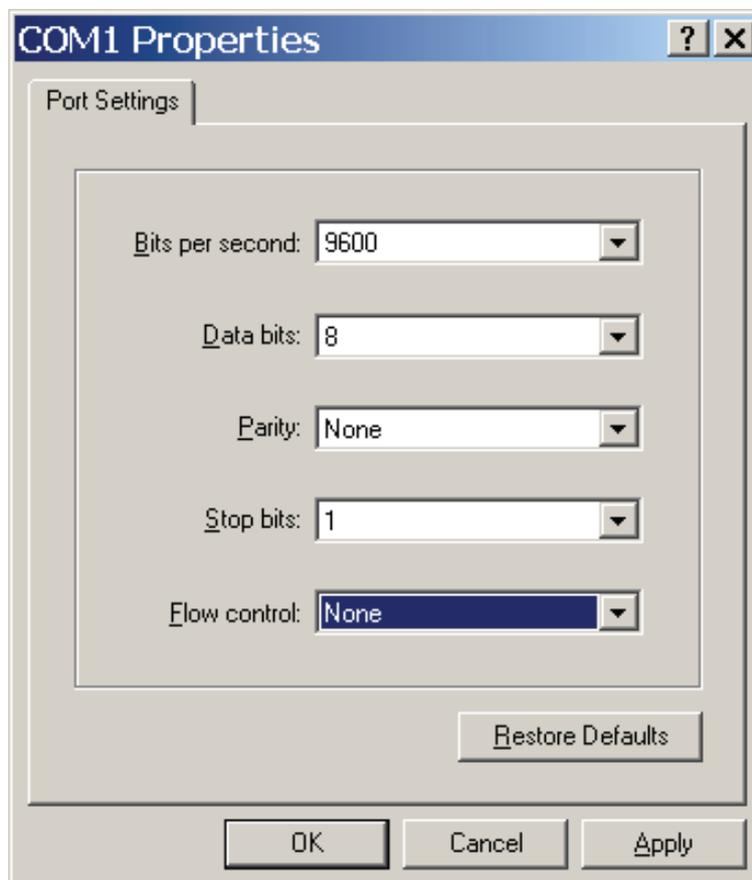
Now select the Comm Port required as below: -



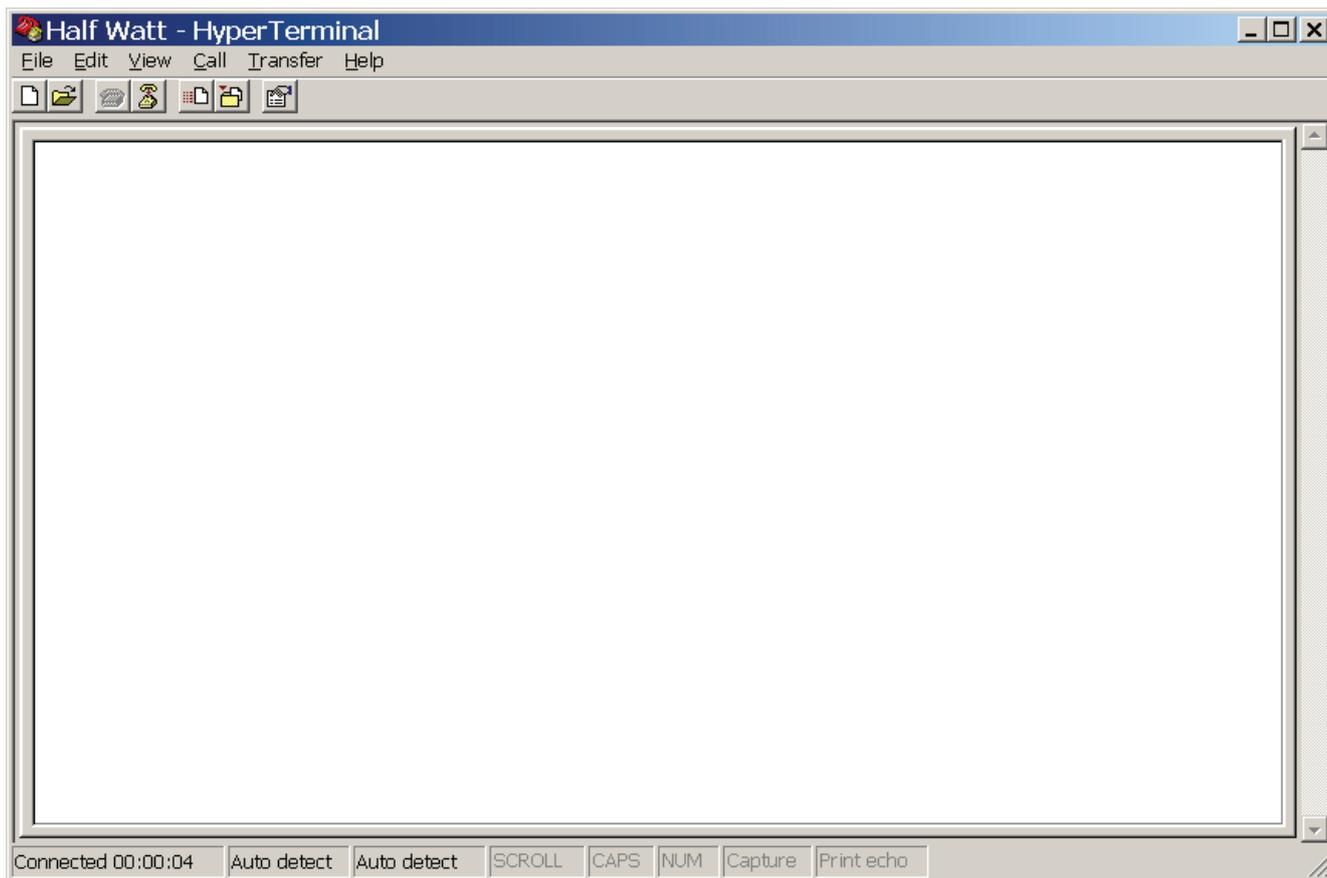
Then click on the 'OK' button, and the screen will change to the following screen:



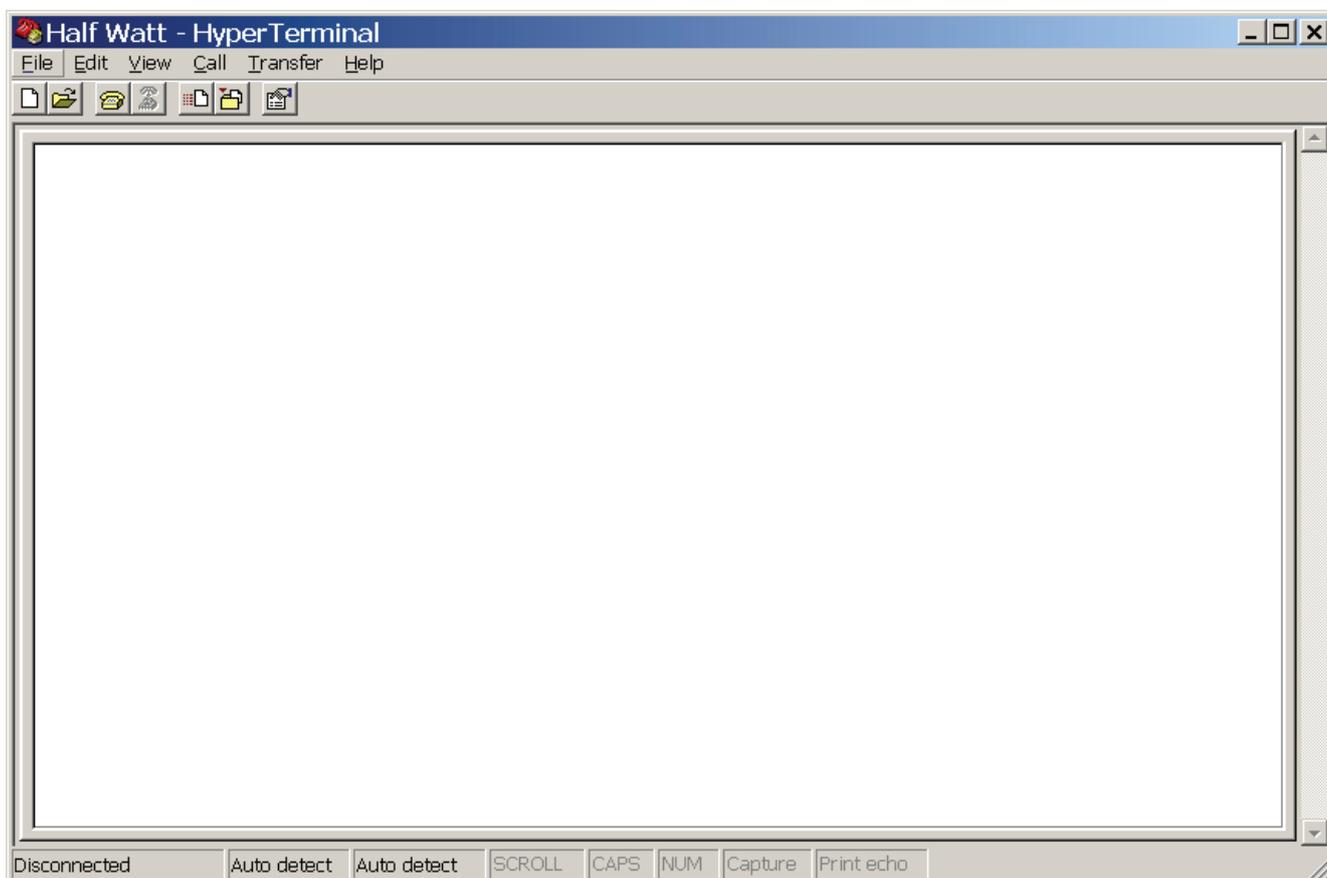
Now select the following settings: -



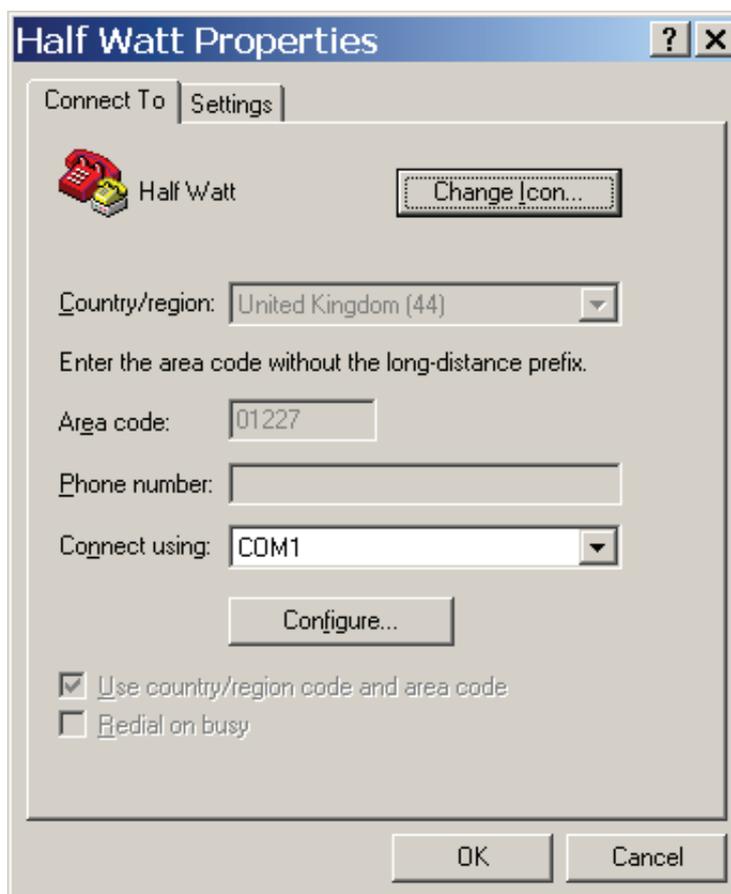
Once completed, click on the 'Apply' button and then the 'OK' button. The screen will change to display:-



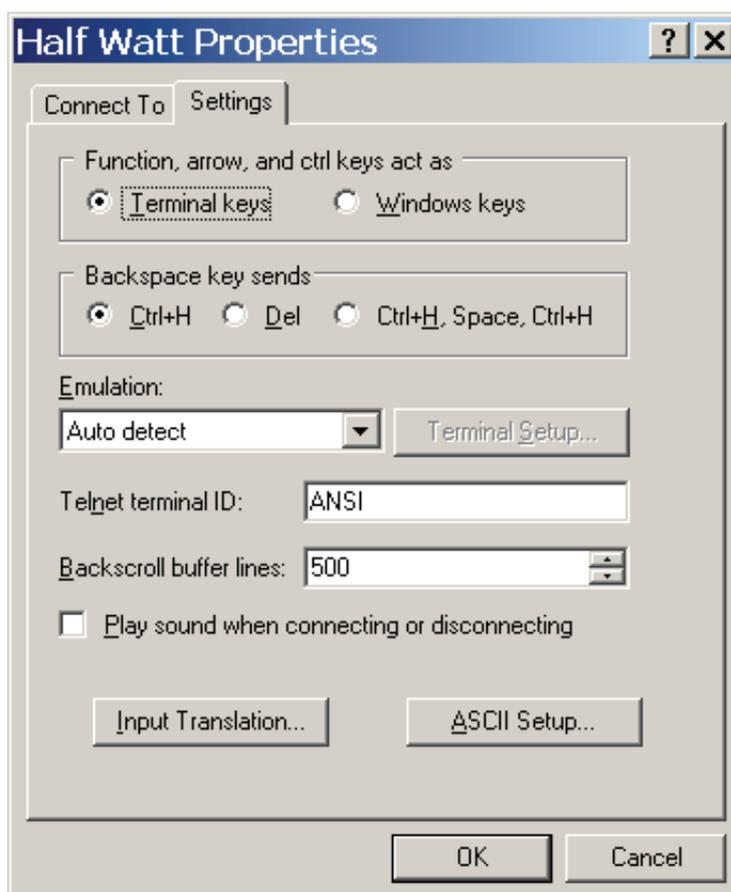
Now select 'Call' and 'Disconnect' and the screen will change to display: -



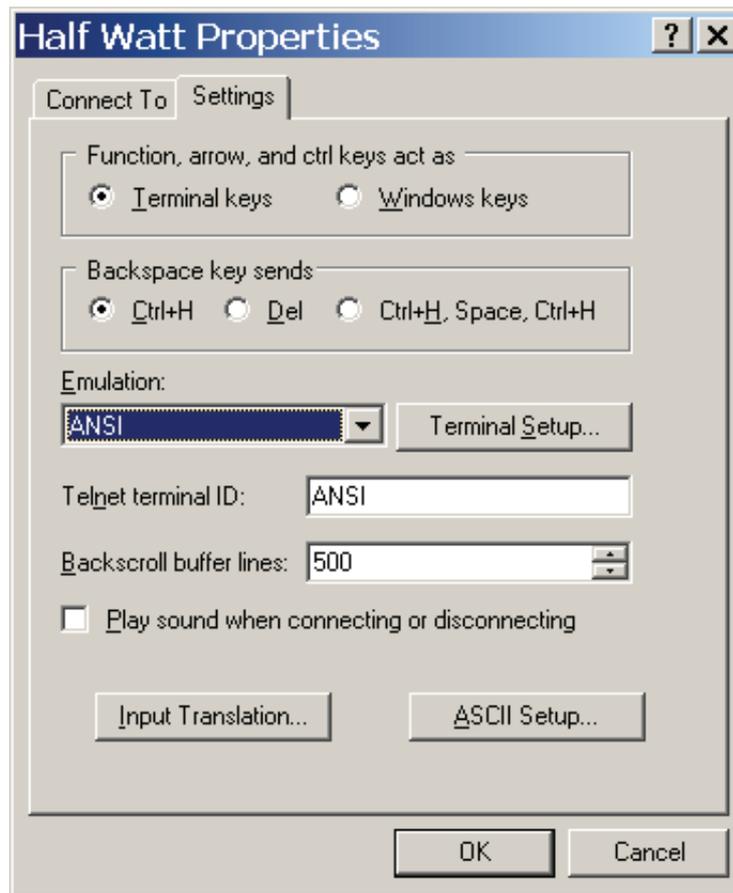
Now select 'File' and 'Properties'. The screen will change to display:-



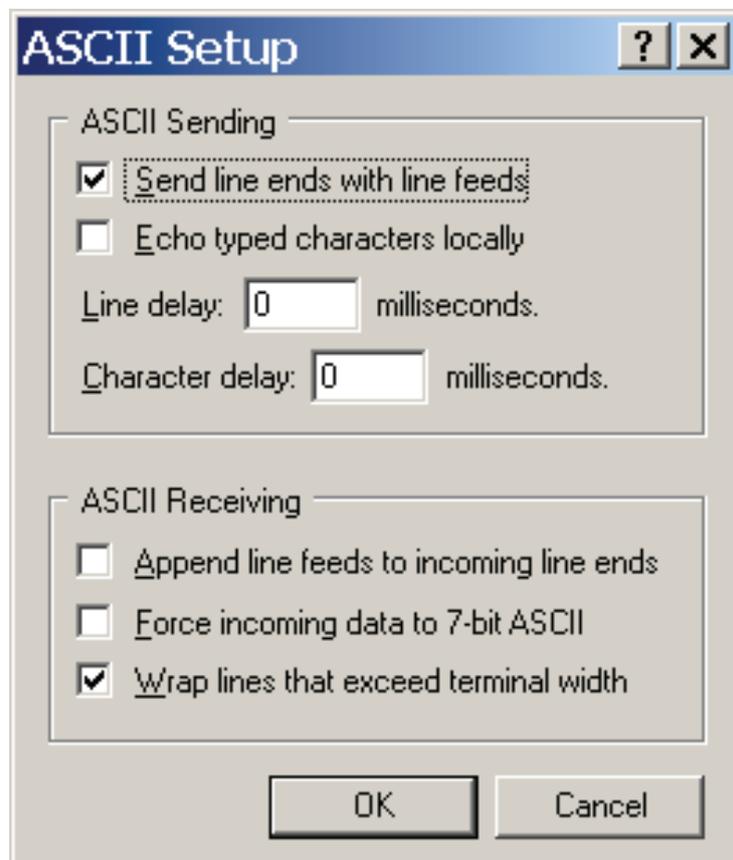
Now select the 'Settings' tab and the screen will change as below: -



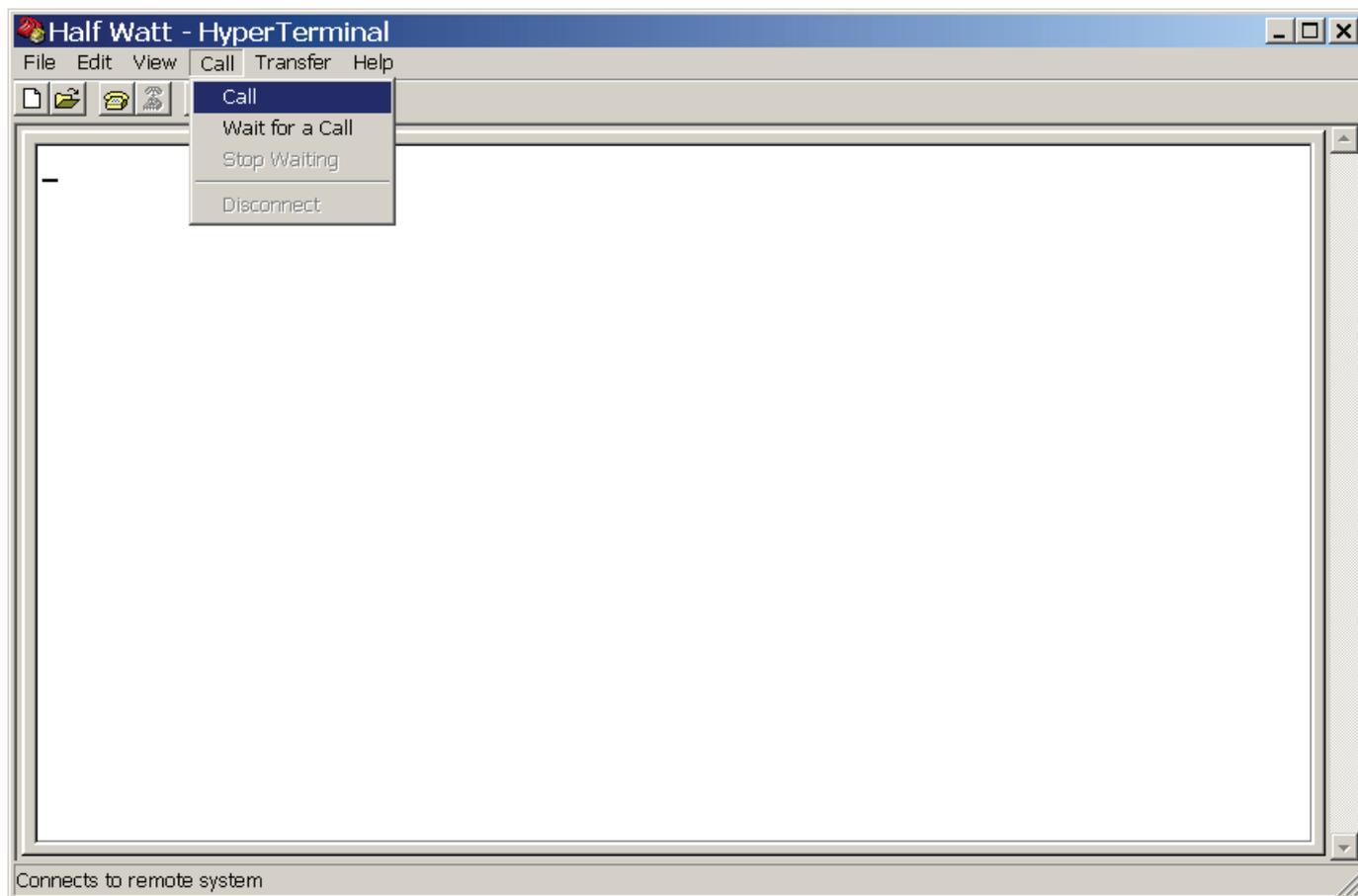
The Settings should be set as follows: -



Once the settings are as above, click on the 'ASCII Setup' button and check that the settings are as follows: -



Once the settings are as above, click on the 'OK' button then on the next window click on the 'OK'. We can now establish a connection by selecting 'Call' and 'Call' as below: -



Once completed, HyperTerminal is configured.

**Please Note: To prevent future reconfiguration, the HyperTerminal session can be saved for future use.**

# ID

Each of the transmitters inputs have their individual identification numbers set from this menu. This allows the input to be added into the Iris+ receiver with a unique number. The identification numbers are defaulted to range from A0001 - A0008 for inputs 1-8. Under normal circumstances this menu should not require changing.

The only time the default settings will require changing is if additional transmitter units have been added to an existing installation. If this is the case a print out should be taken from the Iris+ receiver and the transmitter ID settings checked. The new transmitter can then be added to the system ensuring that the new inputs id's do NOT correspond with any already programmed into the Iris+ unit.

To change the inputs identification number, from the command menu type **id** and press the enter key. The display will then show:

```
Input No: 1  
ID code (hex) is A0001  
Change Y/N?
```

To change the ID press Y and then the enter key, the display will now show:

```
New ID Code (hex)
```

Enter the new ID code and press enter. If the hex number is a valid number the display will change to show:

```
New ID Code (hex) NNNNN (Where N represents new code)  
NNNNN
```

```
Input No: 2  
ID code (hex) is  
Change Y/N?
```

Repeat for all inputs if changes are required. If all changes are complete press the enter key until the display returns to:

```
COMMAND id, con, type, mode  
Txd, quit >
```

## CON

Each of the transmitters inputs can be programmed to operate via a normally open connection or normally closed configuration. The default setting for all of the inputs is to normally open. If this requires changing, from the command menu type **con** and press the enter key. The display will then show:

**Input Number 1 is N/O  
Change Y/N**

## TYPE

Each of the transmitters inputs have a **type** setting, which sets the kind of alarm data that is transmitted to the Iris Receiver. The setting is defaulted to alarm for each of the inputs, but can be changed to one of the following depending on the overall systems requirements:-

**NU = NOT USED** If selected no output transmission will be generated when triggered and no call in's signals from the input will be transmitted.

**RESET** This feature is not currently used on this system.

**LOW BATTERY** If selected on triggering this input a low battery alarm transmission will be sent to the Iris+ receiver. To ensure correct operation this input requires it's mode setting programmed to hand push and should be added into the Iris+ as an opposed action hand push. It should be noted that the first transmission from a low battery input will not be seen but every subsequent transmission from the input will be registered on the Iris+.

**TAMPER** If selected on triggering this input a tamper alarm transmission will be sent to the Iris+ receiver. To ensure correct operation this input requires it's mode setting programmed to hand push and should be added into the Iris+ as an opposed action hand push.

**LOCAL** If selected on triggering this input a local alarm transmission will be sent to the Iris+ receiver. This input can have it's mode setting set to either hand push or contact and can be added into the Iris+ as an opposed action hand push or N/O contact operated transmitter. If the mode is set to contact the input should be added into the Iris+ as a Local N/O contact, this will then send input restored data when the input goes clear. If the input is not clear when the Iris+ receiver is reset, a message will be displayed on the Iris+ telling you that the input has not reset. If the mode is set to hand push the input should be added into the Iris+ receiver as an opposed action hand push, this does not transmit input restored data as explained above.

**ALARM** If selected on triggering this input a full alarm transmission will be sent to the Iris+ receiver. This input can have it's mode setting set to either hand push or contact and can be added into the Iris+ as an opposed action hand push or N/O contact operated transmitter. If the mode is set to contact the input should be added into the Iris+ as an Alarm N/O contact, this will then send input restored data when the input goes clear. If the input is not clear when the Iris+ receiver is reset, a message will be displayed on the Iris+ telling you that the input has not reset. If the mode is set to hand push the input should be added into the Iris+ receiver as an opposed action hand push, this does not transmit input restored data as explained above.

If the type requires changing, from the command menu type **type** and press the enter key. The display will then show:-

**Input Number 1 is Alarm  
Change Y/N ?**

To change press Y and then enter. The display will then change to the following:

Enter new type: **0 = NU, 1 = RESET, 2 = LOWBAT, 3 = TAMPER, 4 = LOCAL, 5 = ALARM**

Enter the required number and press enter. The display will now show:

**Input Number 1 is NNNNNN ( Where N is the new option chosen)**

**Input Number 2 is Alarm  
Change Y/N ?**

If you don't require the input to be changed press N or Enter. The display will then change to show the next input.

This continues until all 8 contacts are looked at. On answering Y/N to contact 8 the display will change to show the command menu. To check settings type **type** to re-enter menu.

# MODE

Each of the transmitters inputs have a **mode** setting, which sets the operation of the input. The unit has two modes contact and hand push. The default for all inputs is set to contact.

If contact is selected the input should be added into the Iris+ receiver as a N/O contact operated transmitter, this will then cause the input to transmit data on both an activation of the input and the reinstating of the input. This will be shown on the Iris+ when its being reset, as it will show which inputs have not transmitted their restored signals by showing that the input is not reset. This contact setting is only recommended when the alarm type is set to either a local or alarm transmission.

If hand push is selected the input should be added into the Iris+ receiver as an opposed action hand push transmitter, this will then cause the input to transmit data on an activation of the input. This setting can be selected for all alarm types and is imperative for the correct activation of alarm types low battery, tamper and reset.

If the mode requires changing, from the command menu type **mode** and press the enter key. The display will then show:

**Input Number 1 is CONTACT  
Change to HANDPUSH Y/N ?**

To change press Y and then enter. The display will then change to the following:

**Input Number 1 is HANDPUSH**

**Input Number 2 is CONTACT  
Change to HANDPUSH Y/N ?**

If the input does not require to be changed press N or Enter. The display will then change to show the next input.

This continues until all 8 contacts are looked at. On answering Y/N to contact 8 the display will change to show the command menu. To check settings type **mode** to re-enter menu.

## TXD

The txd function when entered causes each of the inputs being used to transmit three bursts of call in data. To enter this function type **txd** from the command menu and press the enter key. The display will then show,

### **Transmit Call Ins**

**Call in 08EA0000**

**Call in 08EA0000**

**Call in 08EA0000**

**Call in 08EA0001 }**

**Call in 08EA0001 }** *This is call in data for input 1*

**Call in 08EA0001 }**

This is then repeated for all active inputs showing each of the inputs ID's in three transmitting bursts. Once completed it will carry on repeating the above sequence. To exit this function press the enter key 3 times.

## QUIT

To update any information changed and exit the programming mode **quit** must be typed followed by pressing the enter key. The program mode is then exited. The display will then show any transmissions from the transmitter in the following format:

### **Transmitting Data: (hex transmission and ID code shown)**

# LOAD DEFAULT VALUES

This command is not actually shown on the menu but can be used to default all of the systems inputs. Default values for the inputs are as follows:

Inputs 1-8.....ID	A0001-A0008
	Con Normally Open
	Type Alarm
	Mode Contact

To change all of the inputs to their default settings type **load defaults** and press the enter key. The display will now show:

**Load Default Values Y/N ?**

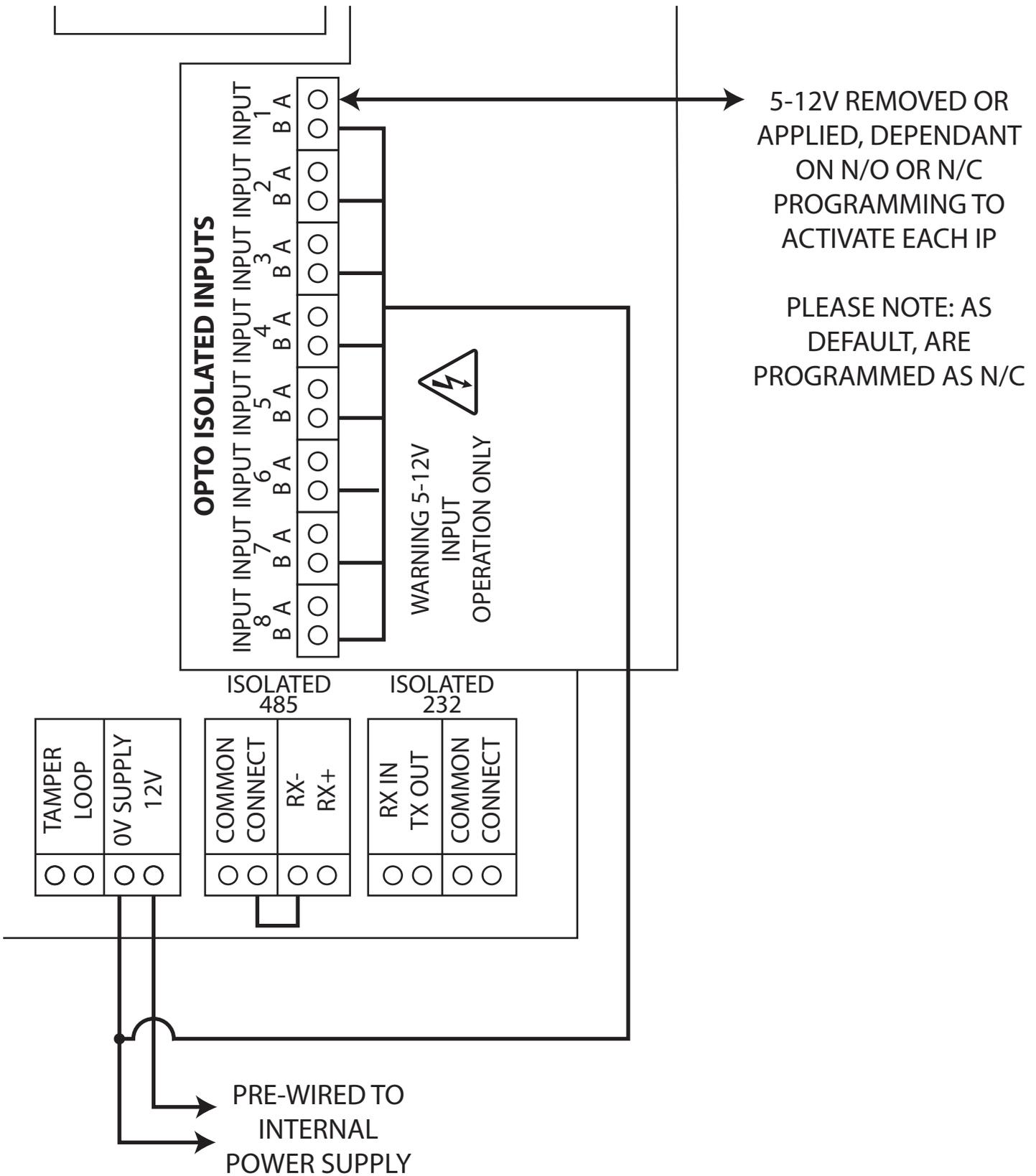
Press the Y key and then enter the display will then change to show:

**Please Wait.....**

The system will then return to the command menu.

# Internal input wiring

Connection drawing (view inside unit)



**Figure 3**

# Adding an input into the Iris+ radio receiver (Hand push mode)

The following sequence of operations is required when adding an input with the mode setting programmed as hand push into the Iris+ receiver.

With the control keyswitch in the "CLEAR" position the screen should now display:

```
System Clear
26/06/17      13:26
```

Turn the control keyswitch to the "RESET" position. The screen should now display:

```
*** SYSTEM RESET ***
13:26
```

Press the "0" key, and the screen will now display:

```
Enter Your PIN
For Menus > _
^=Done v=Del  13:26
```

Enter the engineering default PIN: "221100" and then press the "^" button, the screen will now display:

```
|** Main Menu **|
> Pins & Access <
| System Support |
2=Help          13:27
```

Press the "v" button until screen displays:

```
| Time and Date |
> Radio Setup <
| Output Setup |
2 = Help        13:27
```

Press the "1" button and the screen will display:

```
| ** Radio Setup ** |
> Add Transmitter <
| Txer Details      |
2 = Help            13:27
```

Press the "1" button and the screen will display:

```
| Add Transmitter |
> Add Hand push <
| Add Moneyclip   |
2 = Help          13:27
```

Press the "^" or "v" buttons to highlight the type of transmitter to be added, and press the "1" button and the screen will change to display the options available:

```
| Hand push Type |
> Opposed Action <
| Non-Opposed    |
2 = Help         13:27
```

With the opposed action between the > and < arrows, press the "1" button and the screen will change to display:

Operate Transmitter NOW or press Escape to cancel 13:27
--

Activate the required input to be added by applying or removing voltage (depending upon N/O or N/C input) and the screen will display:

Release all buttons NOW 13:27
-------------------------------------

After a short period of time the screen will change to display:

Operate Transmitter Again or press Escape to cancel 13:27
--

Using the same operation, once again generate a transmission, after a short period of time the screen will change to display:

Hand Push 001 Added Push any key 13:27
---

You may now add additional inputs by repeating the actions detailed. If no further inputs are to be added then escape from this menu by pressing the "3" button on the keypad or returning the control keyswitch to the CLEAR position.

# Adding an input into the Iris+ radio receiver (Contact mode)

The following sequence of operations is required when adding an input with the mode setting programmed as contact into the Iris+ receiver.

With the control keyswitch in the "CLEAR" position the screen should now display:

```
System Clear
26/06/17      13:28
```

Turn the control keyswitch to the "RESET" position. The screen should now display:

```
*** SYSTEM RESET ***
13:28
```

Press the "0" key, and the screen will now display:

```
Enter Your PIN
For Menus > _
^=Done v=Del 13:28
```

Enter the engineering default PIN: "221100" and then press the "^" button, the screen will now display:

```
|** Main Menu **|
> Pins & Access <
| System Support |
2=Help 13:29
```

Press the "v" button until screen displays:

```
| Time and Date |
> Radio Setup <
| Output Setup |
2 = Help 13:29
```

Press the "1" button and the screen will display:

```
| ** Radio Setup ** |
> Add Transmitter <
| Txer Details |
2 = Help 13:29
```

Press the "1" button and the screen will display:

```
| Add Transmitter |
> Add Hand push <
| Add Moneyclip |
2 = Help 13:29
```

Press the "v" button until the screen displays:

```
| Add Foot-trip |
> Add Contact Txer <
| Add P-Call Txer |
2 = Help 13:29
```

Press the "1" button and the screen will display:

	Contact Type	
>	Alarm N/O	<
	Alarm N/C	
2 = Help		13: 29

Select Alarm N/O or Local N/O by using the "^" and "v" buttons and when the required setting is between the > and < arrows press the "1" button and observe the display changes to:

Operate Transmitter NOW or press Escape to cancel 13: 29
---

Activate the required input to be added by applying or removing voltage (depending upon N/O or N/C input) and the screen will display:

Release all buttons NOW 13: 29
--------------------------------------

After a short period of time the screen will change to display:

Operate Transmitter Again or press Escape to cancel 13: 29
---

Using the same operation, once again generate a transmission, after a short period of time the screen will change to display:

Contact 001 Added Push any key 13: 29
--

You may now add additional inputs by repeating the actions detailed. If no further inputs are to be added then escape from this menu by pressing the "3" button on the keypad or returning the control keyswitch to the "CLEAR" position.

# Assigning a text description for an input

With the control keyswitch in the "CLEAR" position the screen should now display:

```
System Clear
26/06/17      13:30
```

Turn the control keyswitch to the "RESET" position. The screen should now display:

```
*** SYSTEM RESET ***
13:30
```

Press the "0" key, and the screen will now display:

```
Enter Your PIN
For Menus > _
^=Done v=Del 13:30
```

Enter the engineering default PIN: "221100" and then press the "^" button, the screen will now display:

```
|** Main Menu **|
> Pins & Access <
| System Support |
2=Help          13:30
```

Press the "v" button until screen displays:

```
| Time and Date |
> Radio Setup <
| Output Setup |
2 = Help        13:30
```

Press the "1" button and the screen will display:

```
| ** Radio Setup ** |
> Add Transmitter <
| Txer Details |
2 = Help        13:30
```

Press the "v" button and the screen will display:

```
| Txer Details |
> Name by Number <
| Name by Tx |
2=Help          13:31
```

Press the "1" button and the screen will display:

```
| Name by Number |
> Name by Tx <
| View Names |
2=Help          13:31
```

Press the "1" button and the screen will display:

```
Operate Transmitter
NOW or press
Escape to cancel
13:31
```

Generate a transmission by activating the input that requires re-texting and the screen will display:

```

Release all buttons
NOW
13:31
    
```

After a short period of time the screen will display:

```

Operate Transmitter
NOW or press
Escape to cancel
13:31
    
```

Once again generate a transmission from the same input, the screen will change to display:

The current selected character is shown above the centre bar. (In this example, 'M' is selected)

```

| 4<HIJKL M NOPQR>6 |
|                         |
2= Help                    13:31
    
```

By using the "4" button to move left or the "6" button to move right, move to the letter or number required and press the "5" button to select the character.

Repeat the previous step until all letters have been selected. Once complete, press the "^" button to save the information.

Once complete, you may now escape from this menu by pressing the "3" button on the keypad until the "SYSTEM RESET" message appears, or by returning the control keyswitch to the "CLEAR" position.

KEY	FUNCTION
0	Enters a <b>blank space</b> into the new device name being entered.
3	<b>Exits</b> to the previous menu
4	Moves the <b>alphabet wheel</b> of characters to the <b>left</b> , by one character space at a time.
5	<b>Enters</b> the character in the centre directly above the character selector ( )
6	Moves the <b>alphabet wheel</b> of characters to the <b>right</b> , by one character space at a time.
7	Moves the <b>flashing cursor</b> to the <b>left</b> , through the new device name by one character space at a time.
8	Moves the <b>alphabet wheel</b> of characters to the <b>right</b> , by <b>12 character spaces</b> at a time.
9	Moves the <b>flashing cursor</b> to the <b>right</b> , through the new device name by one character space at a time.
v	Backspace key, <b>deletes</b> by one character. (Deletes to the left only)
^	<b>Saves</b> and completes the current activity and returns the program to the appropriate display.





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