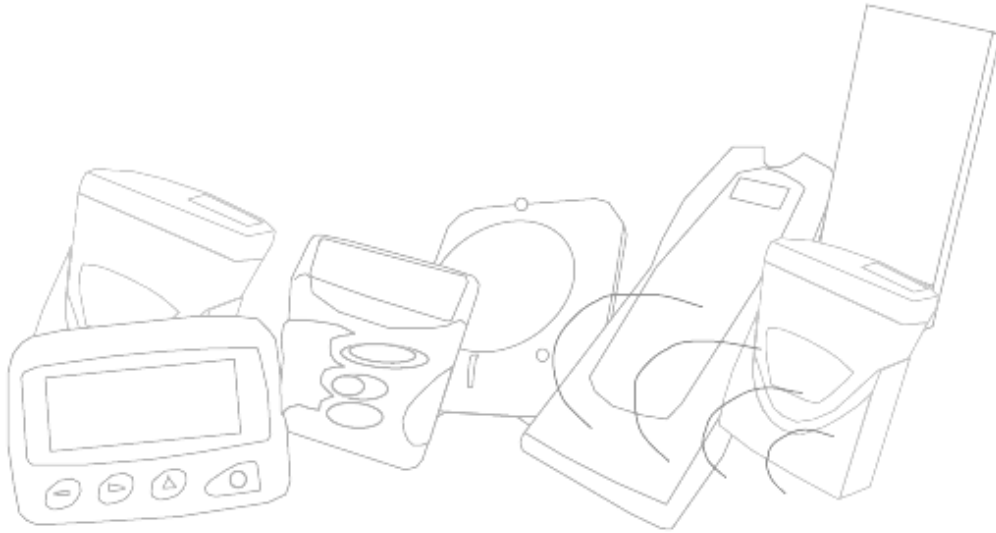
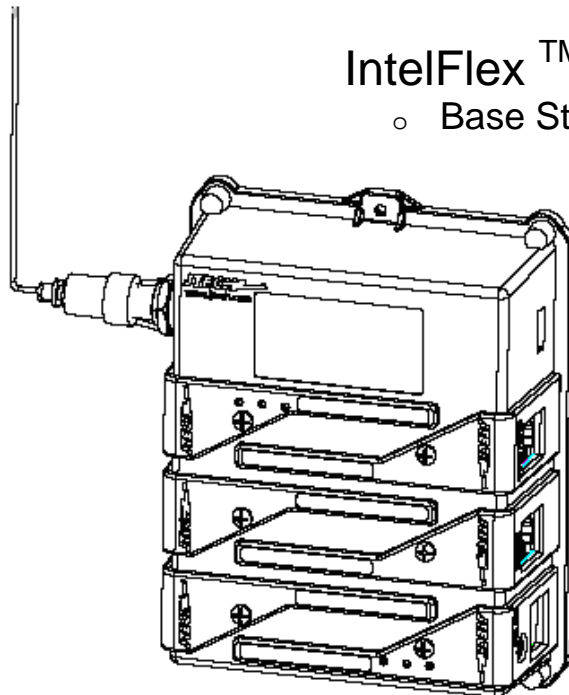


Installation, Programming and Operator Guide
Part Number 320XXXC



IntelFlex™ Controller
o Base Station

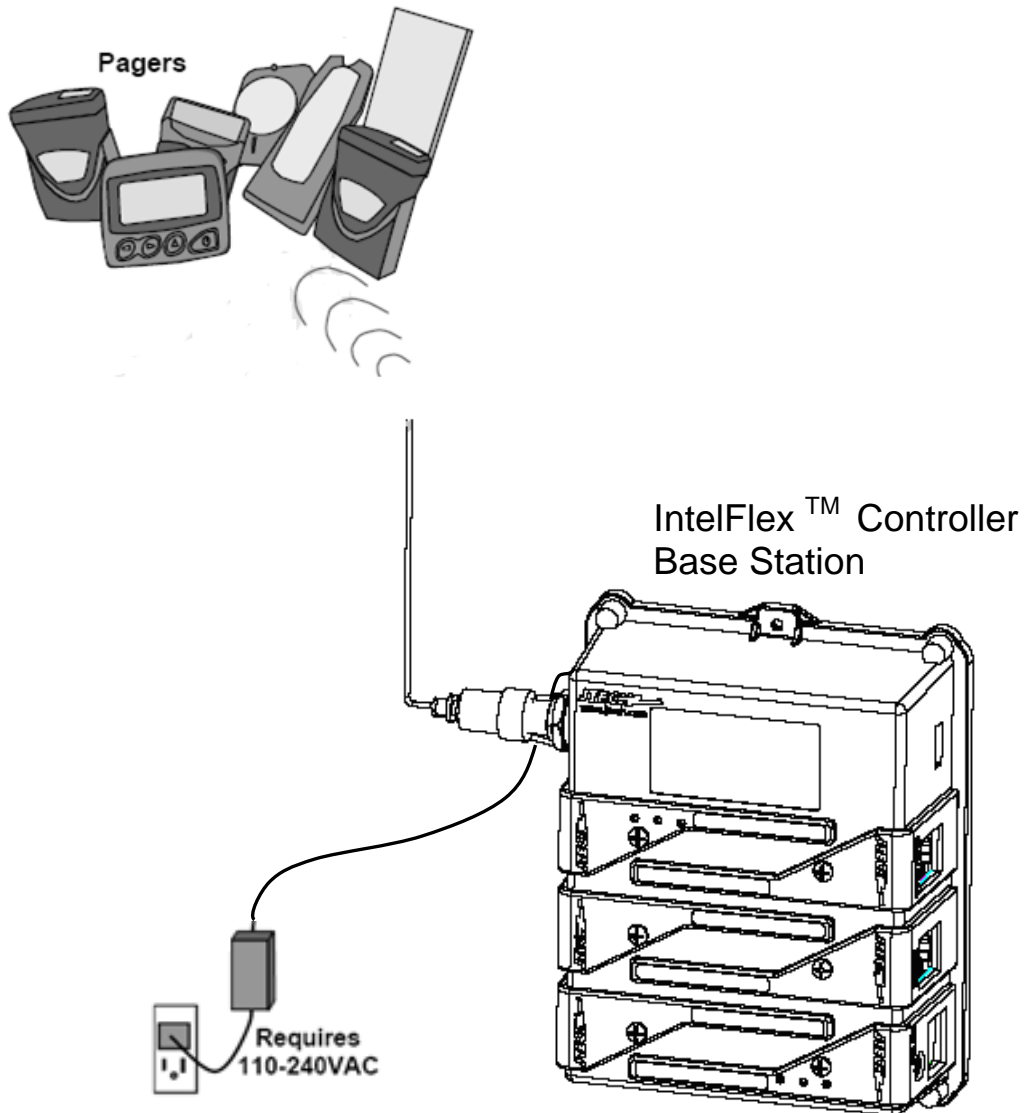


Introduction:

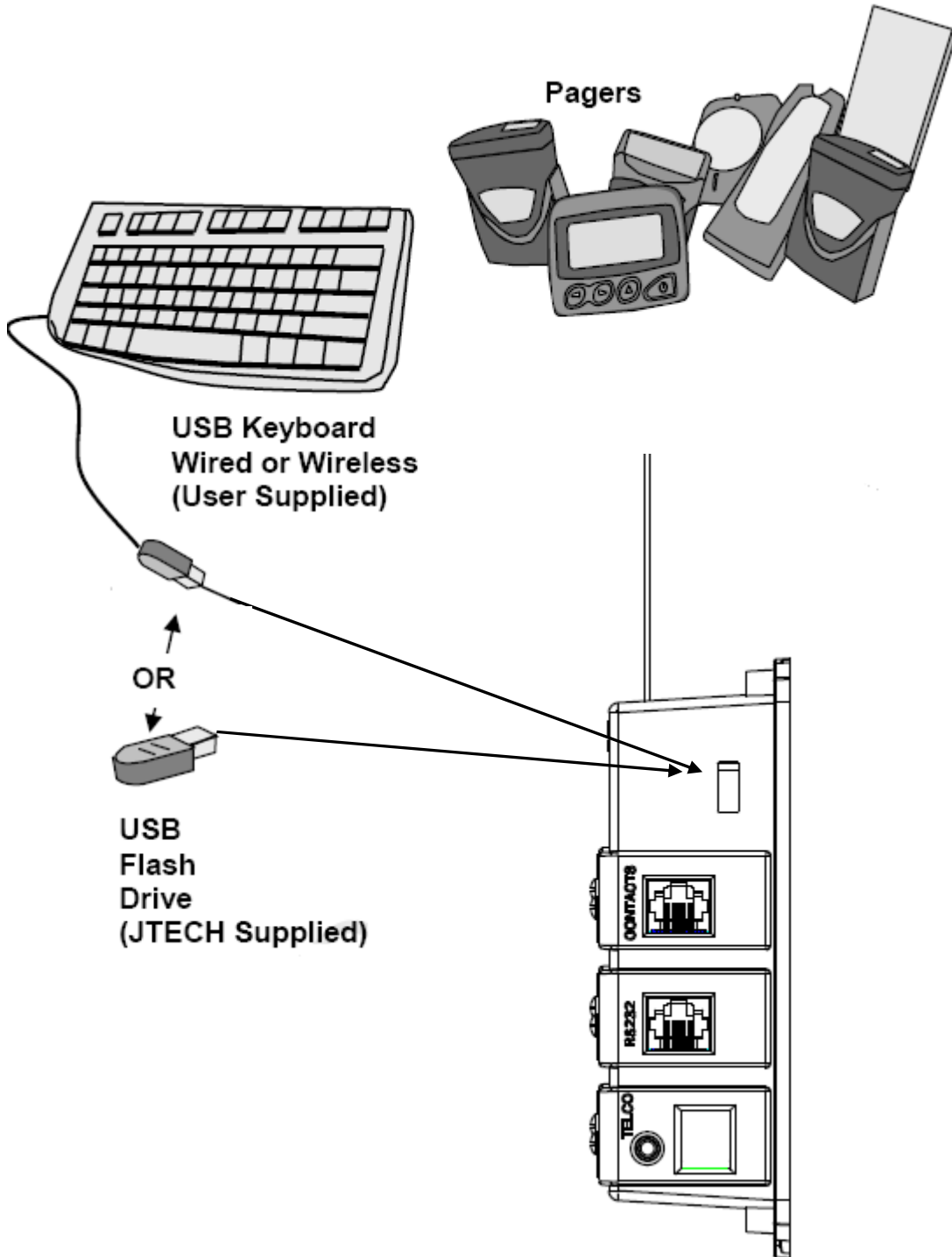
Congratulations on your purchase of a JTECH Message System containing the IntelFlex Controller. Please take a few minutes to review this manual prior to installing and operating your system.

Please inspect the System upon receipt. If the contents appear to be damaged, notify the shipper immediately to file a claim and notify JTECH Customer Care. If components are missing, contact JTECH Customer Care.

If you have any questions or need assistance, please call JTECH Customer Care at 800-321-6221 or 561-997-0772, option 6.

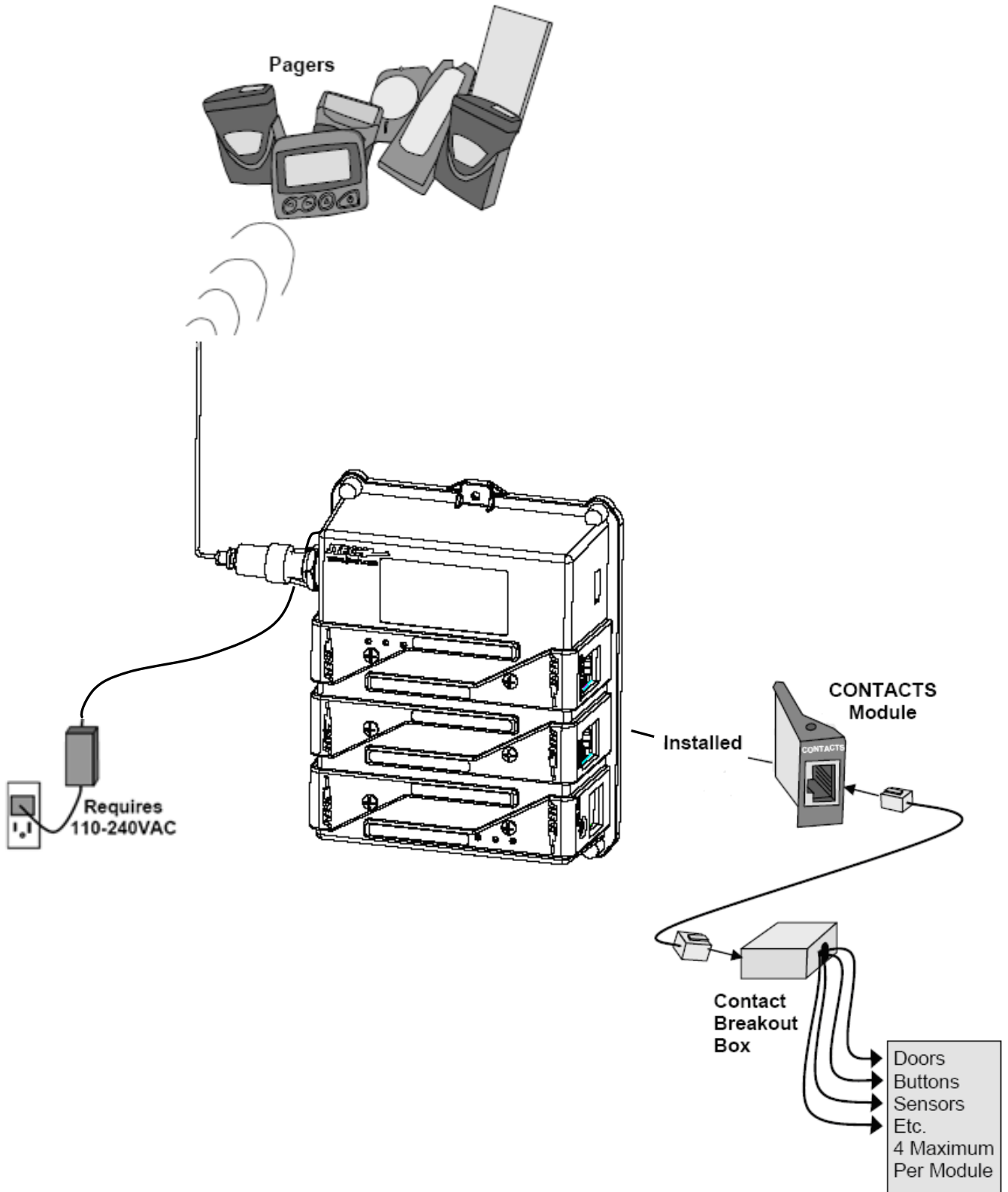
IntelFlex Standard System Components:

IntelFlex Standard System With USB Components:



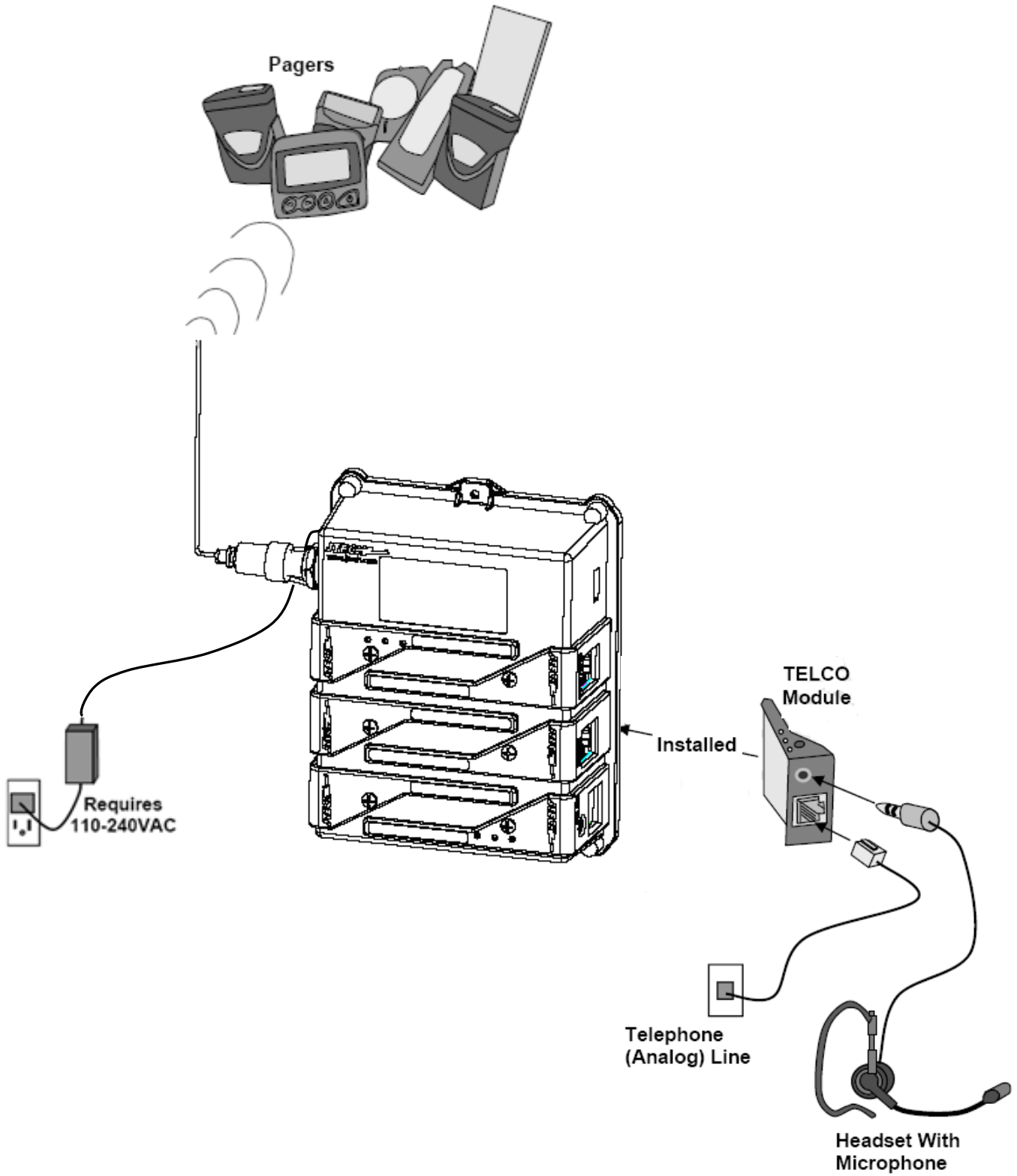
IntelFlex System with Contacts Components:

IntelFlex with Contacts Module



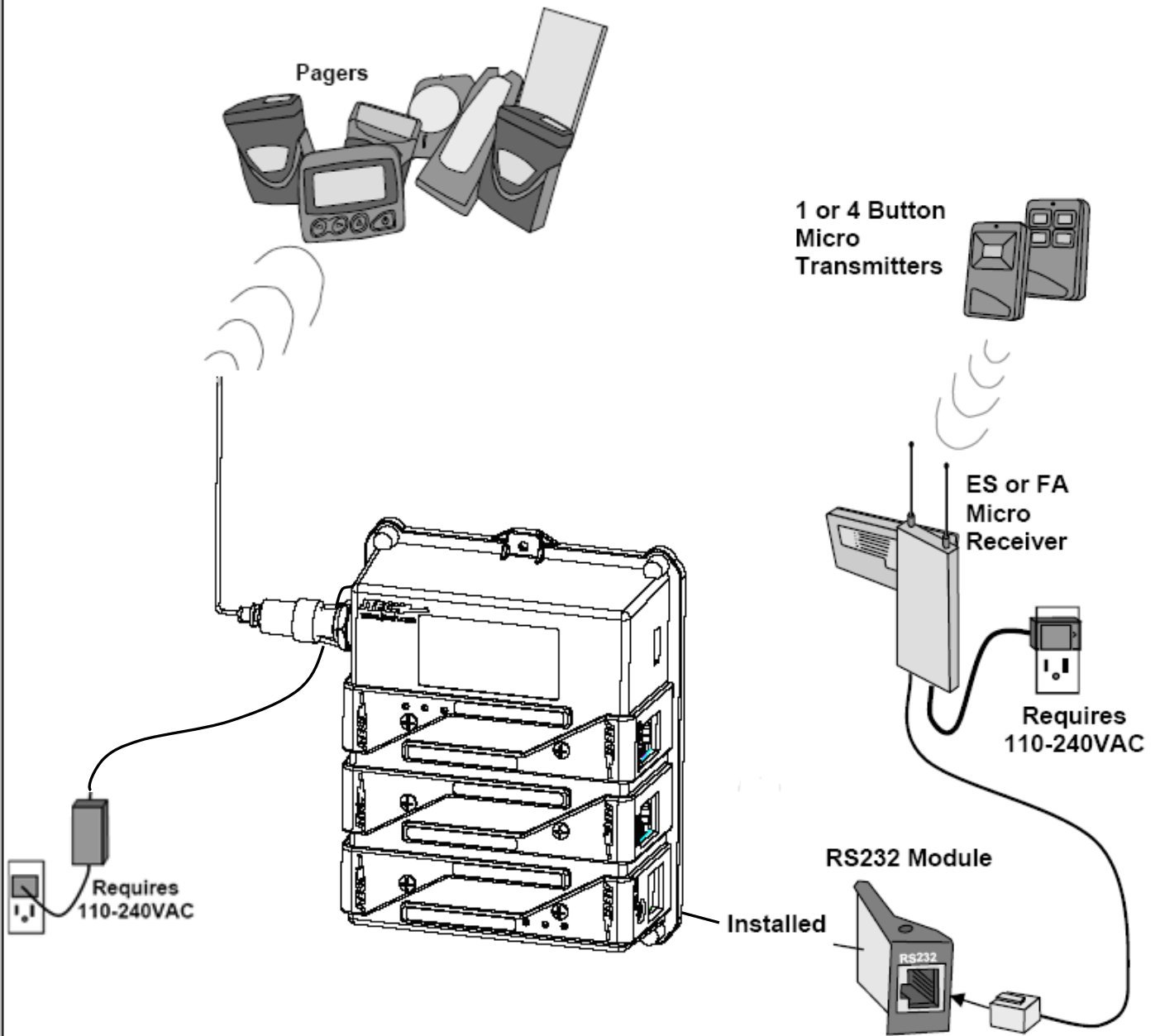
IntelFlex System with Telco Components:

IntelFlex with TELCO Modules



IntelFlex System with Micro Transmitter Components:

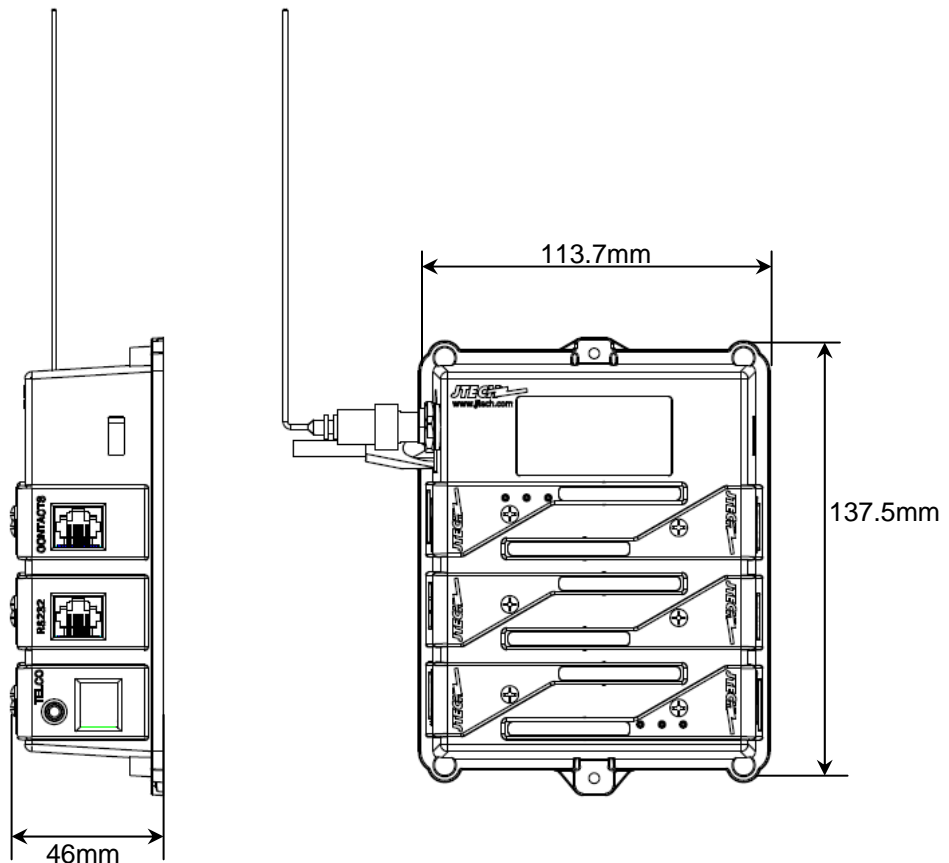
IntelFlex with Micro transmitter Module



General Specifications (Includes Optional Expansion Modules):

DC Operating Voltage:	13.5VDC 2.4A
Power Adaptor:	110-240VAC 50-60Hz power adaptor
Controller RF Power Output:	0.1-2 Watts - adjustable using 5 levels
Modulation:	FSK 512BPS
Protocol:	POCSAG
Transmit:	512, 1200, 2400 Baud
Maximum Expansion Modules:	6 (Any combination; RS232, Telco or Contacts)
RS232 Module (Optional):	1200 Baud, No parity, 8 Data bits, 1 Stop bit (for JTECH protocol and up to 115,200 Baud for TAP)
Telco Module (Optional):	REN=0
Contact Module (Optional):	NC/NO 4 Pair. 100Ft Maximum wire length.
Antenna Port:	50 Ohm BNC
Gain of antenna:	2.0dBi max.
Antenna type:	Monopole antenna
Operating Frequency:	UHF synthesized 435-470MHz
Temperature Stability:	-22° to 122°F (-30 to 50°C) at better than 5 ppm
Weight:	1.95-2.25 Lbs (0.89-1.02kg) – Depending on options

Base Station Dimensions



IntelFlex Controller Highlights:

- Built in transmitter for paging Vibe/ Tone/ Flash, Numeric and Alphanumeric Pagers.
- Send canned and user defined messages to Alphanumeric and Numeric Pagers.
- Adjustable RF power settings from 0.1-2.0 Watts.
- Time stamped events and an exportable Log (.txt format) are available.
- 6 expansion slots allow for increasing capabilities.
- “Monitor Before Transmit” eliminates missed pages caused by surrounding equipment.
- Queues up to 32 messages with priority.
- Supports past and present JTECH Transmitter functions and more:
 - Out-of-Range: Warn when the Pager is moved out of transmission range.
 - Range Test: Measure, establish and adjust transmitter range.
 - Search Mode: Find lost Pagers.
 - Group and Dynamic Group Paging: Page several Pagers with a single entry.
 - Call4Sure: Cell phone paging.
 - Replace Pager: Change Pager numbers as needed.
 - Pager Voice: Turns Pagers voice alerts ON or OFF.
 - Change alert vibration settings.

Range:

- Maximum transmitter range is 1.5- 2 miles (2.4 – 3.2km).
- Range will vary, depending on the equipment location and surrounding environment.
- Increase range with an optional Magnetic Mount Antenna, 6ft Antenna or Extended Range Kit (FCC license required).

USB and Ethernet Connection:

- USB 2.0 port for Flash Drive software upgrades or keyboard support.
- IP addressable Ethernet port for paging support “online” and software upgrades.

Optional Expansion Modules:

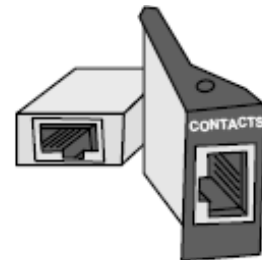
RS232 (Communications):

- Supports existing JTECH RS232 Interfaces including Smart Alert Transmitters.
- Receives TAP (Telocator Alphanumeric Protocol) at various baud rates.
- Receives data input at up to 115,200 Baud.
- Connect to a computer to send page information to Vibe/Tone, Numeric and Alphanumeric Pagers.
- Connect to a Thermal Printer to print Call4Sure receipts and phone lists.
- Develop special applications (User software and interface development may be required).
- Includes a RJ45/RS232 adapter cable.



CONTACTS (Contact Closure):

- Each Module supports up to 4 buttons/contacts.
- SPDT Connections
- Normally Open (NO) or Normally Closed (NC) programmable contacts.
- 25 feet (7.6m) of Cable and Contact Breakout Box included.



Call4Sure:

- Use with Call4Sure functions to send messages to cellular phones.
- Requires a dedicated analog phone/fax line for each TELCO Module installed.
- Outgoing calls will queue.
- Customize voice messages and monitor calls using the included Headset with Mic.



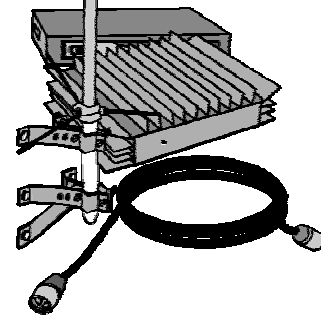
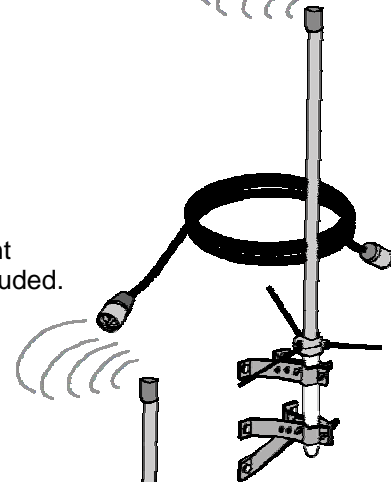
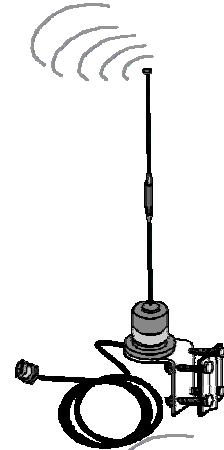
Antenna Choices to Extend Range

(Requires FCC licensing)

--- current Desktop controller is for indoor use.

Outdoor antenna function is not considered at this time

- **3 Ft (0.9m) Magnetic Mount Antenna with 12ft (3.6m) Cable:** All metal indoor/outdoor Antenna with a magnetized base for mounting to steel or iron. Wall mounting hardware included for wall mounting to non magnetic surfaces.
- **6ft (1.8m) Antenna and 25ft (7.6m) Cable:** Fiberglass indoor/outdoor *Antenna* which can mount to any stable surface. Wall mounting hardware included.
- **Extended Range Antenna Kit:** Includes a 6ft (1.8m) fiberglass indoor/ outdoor *Antenna*, 35watt *Power Amplifier*, *Power Supply* and 50ft (15m) or 100ft (30m) *Cable*. Increases the output of the IntelFlex's Controller to 35 Watts and range of up to 5 miles (8km).

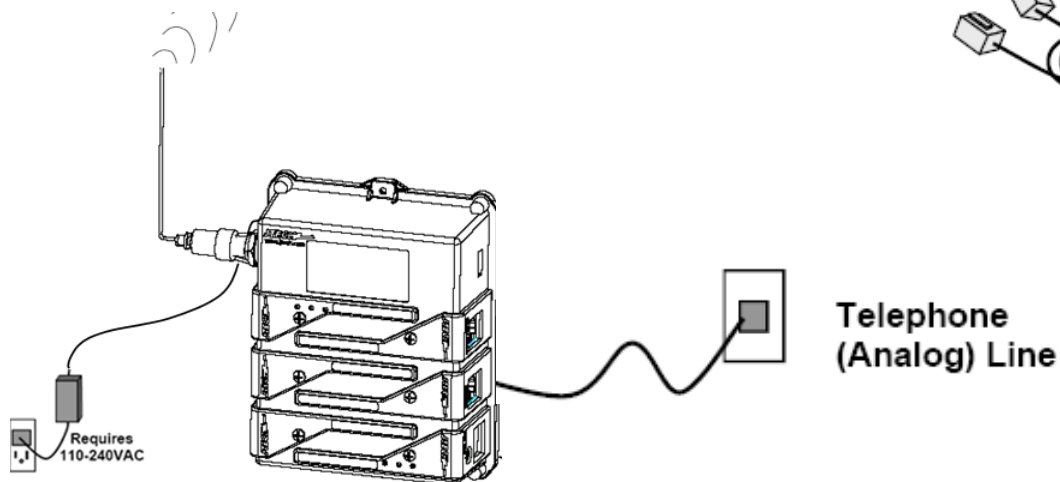


Connect your system for testing.

1. Connect the Antenna and point upward (vertical).
2. Connect the USB port to USB keyboard and RS232 port to PC.
3. Plug in the AC Power Cord into the Adapter.
4. Plug the Adapter into the IntelFlex Controller.
5. Plug the AC Power Cord into a 120VAC outlet.
6. When powered and ready, the Controller will respond to commands sent via the RS232 port. The RS232 protocol is defined on page ____ of this manual. Pages can also be sent via telephone or changes in contacts if the unit is so equipped. See page ____ and page ____ of this manual:
 - Initialization Process...
 - Base Station Connecting....
 - Receiving config data....
 - Enter Pager Number:
7. When PC application software shows "Enter Pager Number:" comment appears, the Controller is ready for use.

Connecting the TELCO (Telecommunications) Module for Phone connections.

1. Verify that a TELCO Module has been installed in your Controller. The Module can be installed into any of the expansion slots except slot 6.
2. Connect the supplied RJ11 Cable to the TELCO Module and the other end to a dedicated (analog) telephone line.
3. Up to 5 TELCO Modules can be installed to 5 different phone lines if needed. Each one independently controlled.



Paging a single pager using the telephone:

1. Pick up the phone and listen for the dial tone.
2. Dial the phone number that has been assigned to the TELCO Module installed.
3. Listen for a voice message from the telephone that confirms the Controller is ready.
4. Within 8-10 seconds, use the telephone keypad:
 - a. Enter the Pager number (up to 4 digits).
 - b. Press the * key.
 - c. Enter a numeric message, if desired (16 digits maximum).
 - d. Press the # key to send the page.
5. A voice message heard on the phone confirms the message was sent.
6. Hang up the telephone.



Group Paging using the telephone:

Group information can be preprogrammed into the Pagers at your Distributor's site or JTECH. "Dynamic" Groups can be programmed by the user.

1. Pick up the telephone and listen for the dial tone.
2. Dial the telephone number that has been assigned to the Telco Module installed.
3. Listen for a voice message that confirms the Controller is ready.
4. Within 8-10 seconds, use the telephone keypad:
 - a. Press the * key.
 - b. Enter the Group number (1-99) to page.
 - c. Press the * key.
 - d. Enter a numeric message, if desired (16 digits maximum).
 - e. Press the # key to send the page.
5. A voice message heard on the phone verifies that the message was sent.
6. Hang up the telephone.



Programming For The RS232—JTECH Protocol:

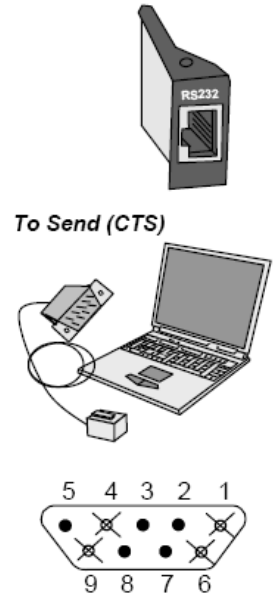
To communicate with the Controller, the computer software must send RS232 1200 baud message information using the following protocol.

RS232 Baud Rate And Settings

1200,N,8,1 (1200 Baud, No Parity, 8 Data Bits, 1 Stop Bit).

RS232 Handshaking-Request To Send (RTS) - Clear To Send (CTS)

- The Controller uses CTS to allow data out of the Host output buffer.
- The Controller does not monitor RTS.
- The Controller requires the host to stop sending data immediately, when CTS signal switches from high to low. Incoming data are not monitored while CTS signal is low.
- High-speed serial port drivers may continue to send data after CTS signal is switched to low. This condition causes data to be lost. Serial port drivers having settings for the amount of buffered data , should be set to 0.



7 Digit Message Format: Contains six parts:

- | | |
|--------------------------|--|
| 1. Preamble (3 bytes) | 4. Separator (1 byte) |
| 2. Function Bit (1 byte) | 5. <i>Pager</i> Message (120 bytes max.) |
| 3. Cap Code (7 bytes) | 6. Terminator (1 byte) |

Preamble: Is a 3 character hex string that supplies start up synchronization “padding” between messages IN, an output buffer, and information to the *Controller*, that a message is coming. The Preamble is [Chr\$(255)].

Function Bit: The Function Bit is the single hex character following the preamble. This character tells the *Controller* which bit to turn ON in the POCSAG message sent. Characters are:

- (Hex 01) Non Priority Alert for *Numeric Pagers*.
- (Hex 02) Priority Alert for *Numeric Pagers*.
- (Hex 03) Non Priority Alert for *Alphanumeric Pagers*.
- (Hex 04) Priority Alert for *Alphanumeric Pagers*.

Cap Code: Cap Code is a seven digit data string which contains the address information of the *Pager* to be used.

Cap Code Prefix: Is the first 3 digits of the Cap Code. **ONLY Cap Code Prefixes of 000 and 008-199 are allowed.** If the first 3 digits of the *Pagers* cap code are [000], the *Controller* will convert the last 4 digits (*Pager* number) of Cap Code by multiplying by 8.

Example: Cap code information sent to the *Controller* = [0000111].
The *Controller* sends to the *Pager* address [0000888].

If the first 3 digits of the *Pagers* cap code are not [000], the *Controller* will send the Cap Code information as received.

Example: Cap code information sent to the *Controller* = [1230111].
The *Controller* sends to the *Pager* address [1230111].

Messages:

- **Alphanumeric Pagers** can be sent a maximum of 120 alpha characters (using separator Chr\$(02) or Chr\$(0A)).
- **Numeric Pagers** can be sent a maximum of 16 numeric characters (using separator Chr\$(0B) or Chr\$(03)).
- **ParentPass or Patron** use message characters as controls.
- **PeoplePass (programmed without Groups)** use message characters as controls.

Example: To send default alert three to a *Glowster* or *CommPass*, send the hex string to the *Controller*: FF FF FF 01 3P 3P 3P 3P 3P 3P 03 0D] where PPPPPP is the 7 digit *Pager* number. See Cap Code for more information.

Example: To send an alert, other than the default, send the hex string to the *Controller* [FF FF FF 01 3P 3P 3P 3P 3P 3P 03 3A 3A 0D] where PPPPPP is the 7 digit *Pager* number and AA is the alert.

<u>Alerts</u>	AA	3A,3A	Alert type
	31	33, 31	Alert 1 – one alert of 15 seconds total.
	32	33, 32	Alert 2 – two alerts for 30 seconds total.
	33	33, 33	Alert 3 – three alerts for 45 seconds total.
	34	33, 34	Alert 4 – four alerts for 60 seconds total.
	35	33, 35	Alert 5 – sixty alerts for 15 minutes total.
	36	33, 36	Alert 6 - Demo alert 1 for 5 seconds total.
	37	33, 37	Alert 7 - Demo Alert 2 for 7 seconds total.
	38	33, 38	Alert 8 - Range Test Alert.
	39	33, 39	Alert 9
	30	33, 30	Alert 0 - Group Alert.

The first '33' in the message is used as a filler and can be any ASCII numeric digit.

Terminator: The terminator marks the end of message. The terminator character is the Chr\$(13) or Hex 0D.

Example Of Visual Basic Code: Below is an sample section from a Visual Basic program. This example produces a non-inverted, non-priority page sent to a 512 baud *Alphanumeric Pager*.

```

MSComm1.PortOpen = True                (Opens serial port for communication)
Preamble = Chr$(255) & Chr$(255) & Chr$(255)
FBit = Chr$(03)                          (Set Function bit #3 (non-priority for Alpha))
Cap Code = "1236789"                      (where '123' is the cap code prefix and '6789' is the Pager number)
Separator = Chr$(10)                     (This is an Non Inverted, 512 RF baud, Alpha Page)
PagerMessage = "This is a test Page"
Terminator = Chr$(13)
OutPutString = Preamble & Fbit & CapCode & Separator & PagerMessage & Terminator
MSComm1.Output = OutPutString
    
```

Example of Hex Data Stream Into Controller:

[FF FF FF 03 31 32 33 36 37 38 39 0A 54 48 49 53 20 49 53 20 41 20 54 45 53 54 20 50 41 47 45 0D]

Example Data Stream reads as:

P	F	Cap Code:1236789	S	Message: THIS IS A TEST
PAGE	T			

P =Preamble

F = Function Bit

Cap Code = Seven Digits (the 3-digit cap code prefix should match the cap code prefix stored in the *Controller*; the remaining 4 digits represent the *Pager* number)

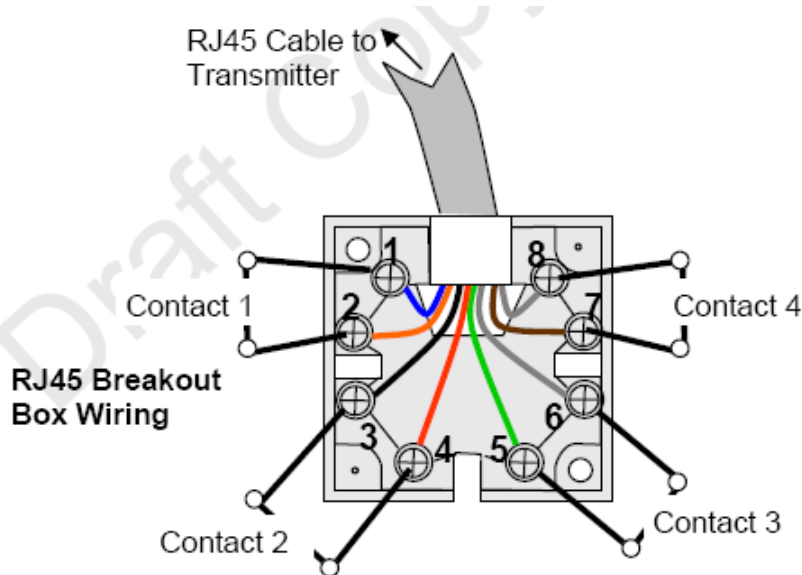
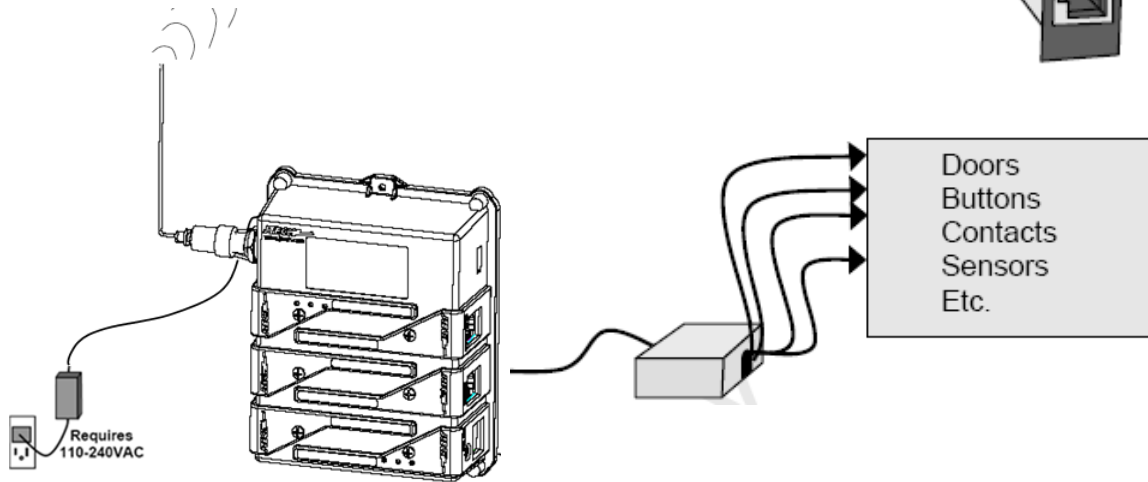
S = Separator

Message = A maximum of 120 alphanumeric or 16 numeric characters (Function Bit determines alphanumeric or numeric)

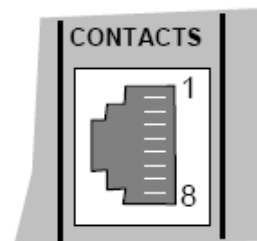
T = Terminator

CONTACTS (Using remote contacts to send pages (CONTACTS Module Required))

1. Verify that a CONTACTS Module has been installed if needed. The Module can be installed into any of the controllers expansion slots.
2. Up to 6 Contacts Modules can be installed if needed.
3. Each CONTACTS Module has the ability to monitor 4 individual contacts; doors, buttons, sensors, etc



CONTACTS RJ45 Jack Identification:
 Caution Pins 2, 4, 6 and 8 are chassis ground



Service

Assistance: For assistance, please contact JTECH Customer Care at 800-321-6221 option 6, fax at 561-995-2260 or email at wecare@itech.com.



JTECH provides complete diagnostic technical support 24 hours a day, 7 days a week.

Warranty: Equipment under warranty will be repaired without charge.

Extended warranties are available. If the equipment is out of warranty there will be a nominal service fee charged when the equipment has been repaired and shipped.

Controllers and Chargers (Advance Replacement): If service is required, a JTECH Customer Care Representative will arrange for a service replacement Controller or Charger to ship from their factory. The advanced replacement equipment will arrive with a packing list and a Return Material Authorization (RMA) document. To avoid a charge for non-return of equipment, return the defective equipment within 10 business days of receipt of the advanced equipment.

Pagers and Peripherals: (Return and Replace): All pager products and peripherals will be serviced on a return and replace basis. If service is required, a JTECH Customer Care Representative will issue a Return Material Authorization (RMA) for the equipment. Only equipment specified on the RMA will be serviced.

Billing for Repairs: Terms are C.O.D. (company check), company billing or credit card. If "advanced replacement" is required, replacement equipment will arrive with a packing list and a Return Material Authorization Sheet (RMA). To return the defective equipment and ensure proper credit, include the Return Material Authorization (RMA) sheet in the shipment back to JTECH. Mark the outside of the box with the Return Material Authorization (RMA) number. If advance replacement of equipment service is used and the defective equipment is not received back at JTECH within 10 days, JTECH will bill the amount of the list price of the equipment to the Customer.

Shipping Costs: Costs to ship equipment from JTECH to the Customer paid by JTECH. If Expedited shipping is needed, the Customer pays the additional costs. Costs for shipping equipment from the Customer to JTECH are the responsibility of the Customer. JTECH recommends using a shipping service that is traceable in case shipping delays occur.

FCC RF Exposure Statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Antenna Gain: 2.0dBi max.

Antenna Type: 50ohm BNC, monopole antenna

To satisfy FCC RF exposure requirements, a separation distance of 25 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Gain d'antenne: 2.0dBi maximal

Type d'antenne: 50 Ω BNC, antenne monopôle

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 25 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 25 cm ou moins de la position centrale de l' antenne.

La FCC des états-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 25 cm des personnes pendant son fonctionnement.