

Extend-a-Line



FEATURES

- Uses radio to extend telephone lines to remote locations
- Easy interface to any full duplex capable radio
- Comander and high performance hybrid provide “wired” audio quality
- Compatible with tone and pulse telephones
- Works with FAX machines and modems
- A single Extend-a-Line CO base may call up to ten remotes
- A single Extend-a-Line remote may call up to ten base units
- Ideal for emergency telephone service and rural telephone applications
- Busy channel lockout and Morse code ID
- Field configurable
- DID version available for extending a trunk line to a remote paging terminal
- Dial click decode option for rotary overdial

INTRODUCTION

When telephone service must be brought to a building that's offshore, in the mountains, or in other remote locations, it can be prohibitively expensive to run wire lines.

A full-duplex radio link can often span the distance for a fraction of the cost of phone wires; however, you can't just connect phone wires to a radio transmitter's input — they are totally incompatible.

The Zetron Model 72 Extend-a-Line takes care of the telephone line to radio link problem. Ringing, DTMF, and rotary dialing, phone battery, dial and busy tones, and the conversation all pass cleanly through the radio link. The user answers and places phone calls like an ordinary phone call, without any special procedures or understanding.

APPLICATIONS

The Zetron Model 72 Extend-a-Line makes it easier than ever to deliver telephone service to nearly any remote location. Rural telephony, emergency service, and PSTN access from remote radio sites are all perfect applications for the Model 72. Provide your remote customers with a high performance telephone circuit using a pair of full duplex radios and the Model 72 Extend-a-Line.

BENEFITS

Resellers will appreciate the ease with which they can configure and sell low density rural telephone systems. System operators with remote radio sites lacking telephone lines will find the Model 72 is the perfect means of extending the reach of the telephone network, and will appreciate the high quality audio. Extend-a-Line offers wide area telephone service without the requirement for expensive, foreign exchange (FX) telephone lines. Rural telephone companies can provide service to potential customers where wired service would be too expensive or simply impossible. Telephone companies will appreciate the Model 72's low cost and simple radio interface, making the difficult task of providing emergency services much easier.

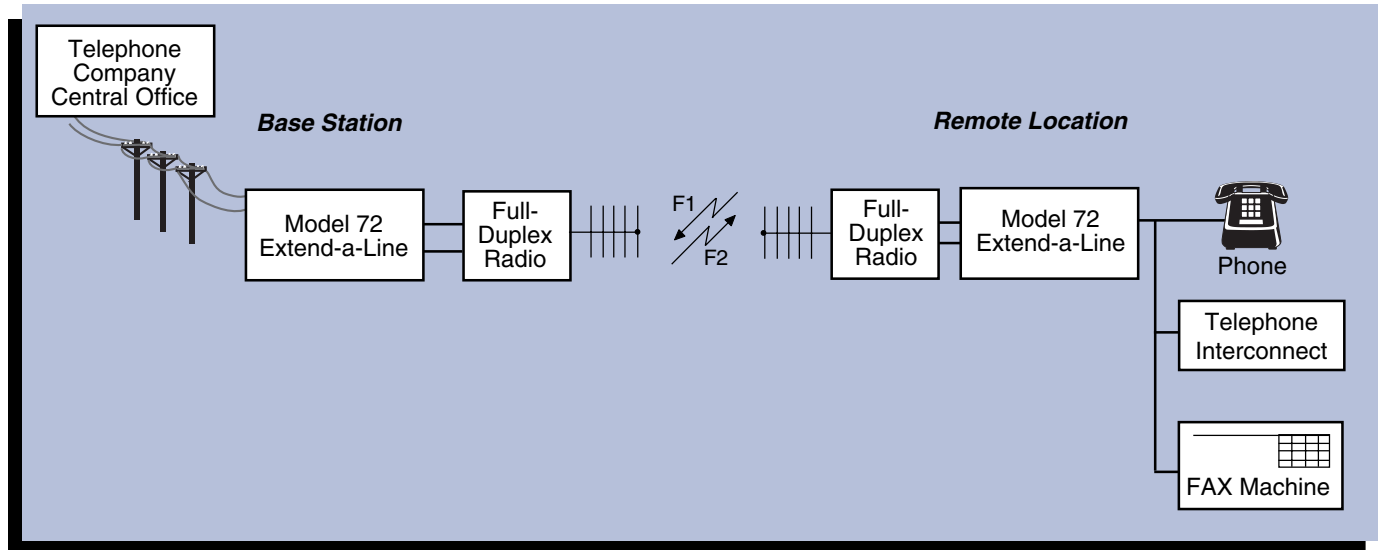
EASY INSTALLATION

Installation of the Model 72 is as simple as connecting the Model 72 to the full duplex radio's discriminator audio output, transmitter PTT, and transmit audio. The Model 72's field programming makes configuration a snap, simplifying stocking requirements and contingency planning.

OPERATING MODES

Single Line Extension

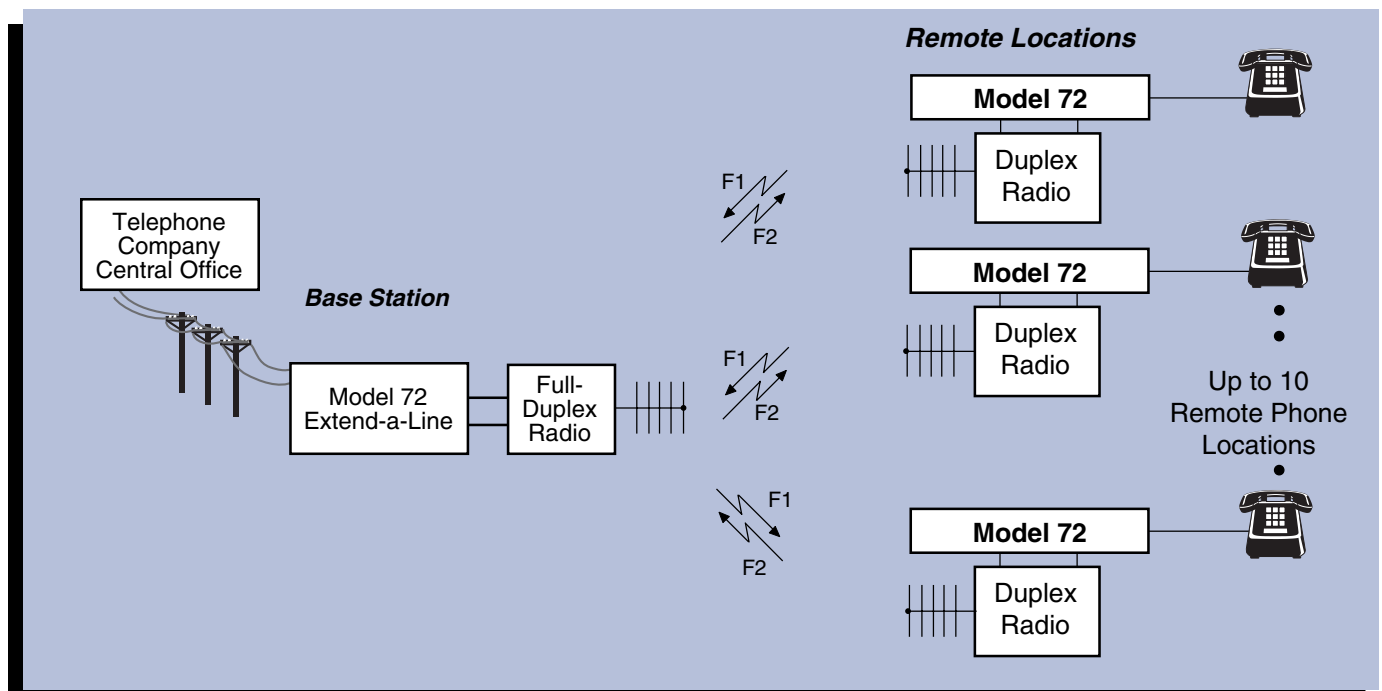
Where single line extension is required, the operation of the Model 72 is completely transparent to the users. When the “remote” user picks up the phone they will hear dial tone; when a call is received the “remote” telephone rings and is processed just like a normal call.



Multiple Remote Phones, Single CO Phone Line

An application may require remote telephones at multiple sites to access a common phone line. In this mode, up to ten remote phone locations may operate in a “party line” fashion. If a remote user picks up the phone when the channel is in use, they will hear a busy tone. Pressing the key and hanging up will cause the phone to “triple ring” when the channel becomes available.

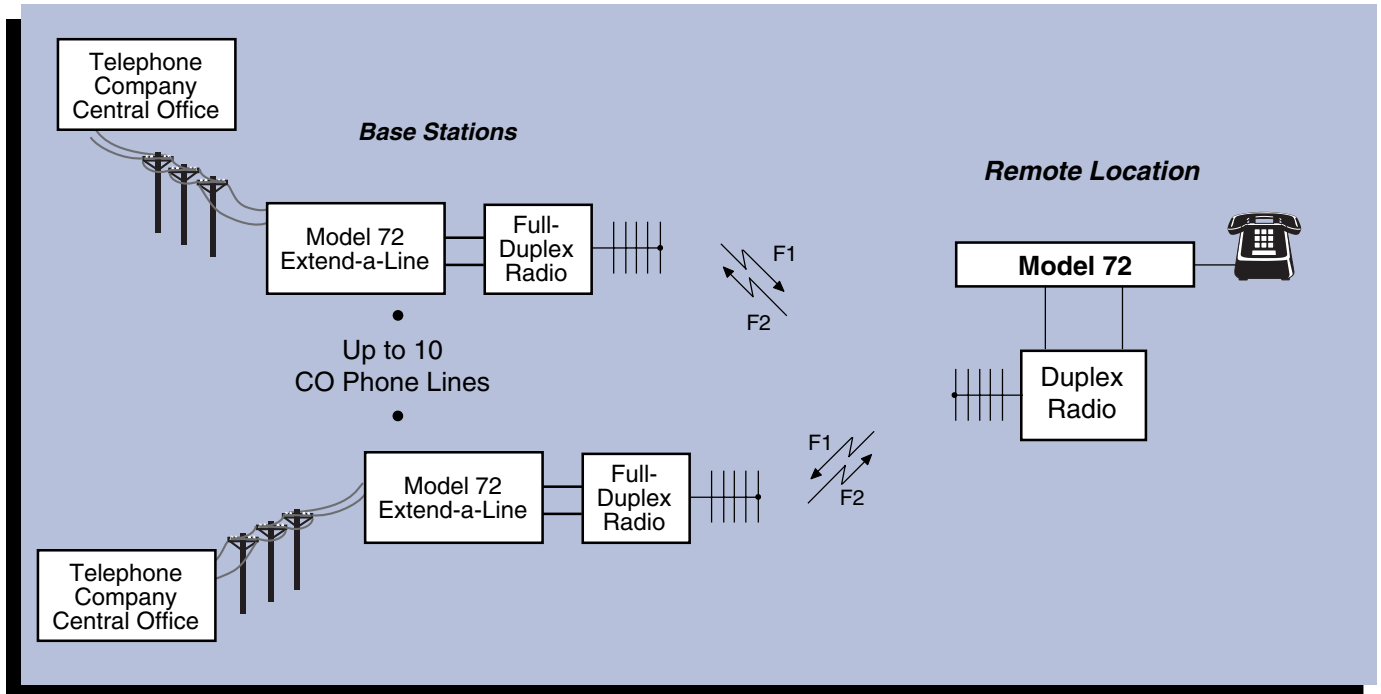
For calls to the remote telephones, a selection digit is required from the phone caller. When a user dials the Model 72 CO Base, it will answer the call then issue a dial tone prompt. The caller will then over dial a digit to select which remote telephone to ring. An optional dial click detector may be installed in the Model 72 CO Base to allow compatibility with callers using rotary dial phones.



Multiple CO Phone Lines, Single Remote

The Model 72 can support applications where a remote location needs to access more than one CO phone line. In this mode the remote telephone caller will need to select the phone line with a single prefix digit. The Model 72 will issue dial tone prompting the caller to select a line.

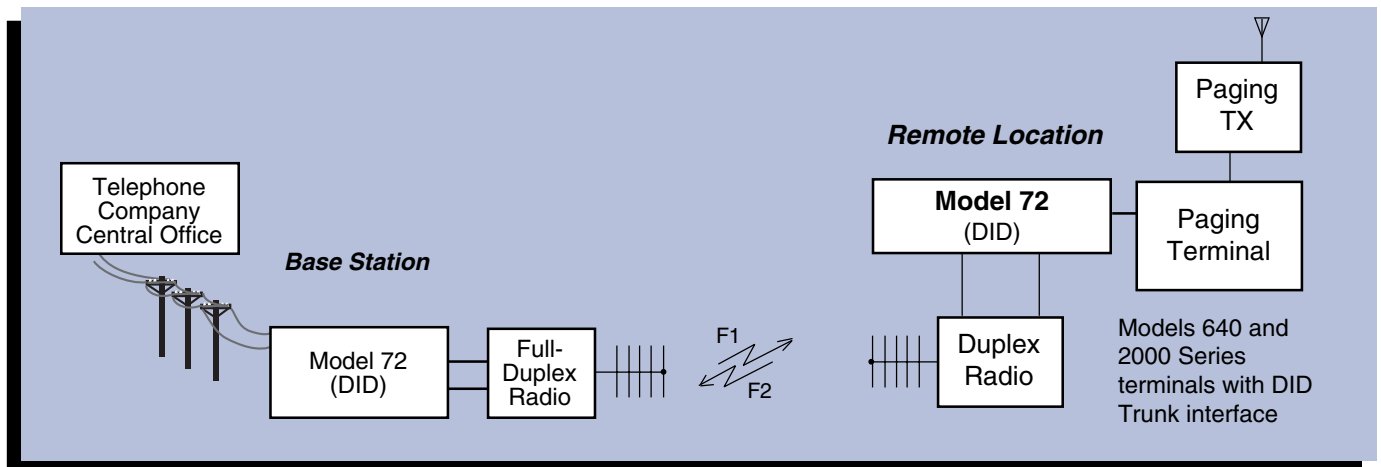
Calls to the remote telephone from any of the CO phone lines function just like a normal call.



Extend DID Lines to a Remote Paging Terminal

A Direct Inward Dial (DID) version of the Model 72 is designed to extend a trunk level access line. A typical application is extending a DID line to a remote paging terminal, or transporting DID service from a distant area to wherever the paging terminal is located.

Multiple Model 72 DID CO base units may share a common DID remote unit connected to a single line DID terminal, and thus extend DID service from multiple cities into a common remote paging terminal.



SPECIFICATIONS

GENERAL

| | |
|-------------|--------------------------|
| Power | 11 - 16 VDC ~ 750 mA |
| Temperature | 0 to 65 degrees Celsius |
| Size | 19" W x 6.25" D x 1.4" H |
| Weight | 2.0 pounds |

LINE INTERFACE (END TO END)

| | |
|------------------|--|
| Line type | End-to-end (B1) telephone line |
| Connector | RJ11-C modular jack |
| FCC Registration | EYB USA-74165-OT-E |
| Incoming call | Ring detection on tip-ring pair |
| Call answer | Off-hook, tip-ring current draw |
| Call disconnect | Channel busy, remote hang up, or call limit timer expiration |

LINE INTERFACE (DID)

| | |
|-----------------------|----------------------------------|
| Line type | DID immediate dial or wink start |
| Connector | RJ11-C modular jack |
| FCC Registration | EYB USA-74165-OT-E |
| Incoming call | Loop start |
| Number of feed digits | 2, 3 or 4, pulse or DTMF |
| DID Battery Supply | 48V DC, current limited at 60 mA |
| | Unsupervised: Tip + Ring - |
| | Supervised: Tip - Ring + |
| Disconnect | Loss of loop current > 350 mS |

RADIO INTERFACE

| | |
|-------------------|--|
| PTT | Relay with normally open and normally closed contacts |
| RX Carrier detect | Internal RX noise detector |
| TX Audio | -40 to +6 dBm. Hi/Lo range selection 1K Ohm output impedance |
| RX Audio | -40 to +10 dBm. Hi/Lo range selection, 50K Ohm input impedance, for connection to RX discriminator audio |

ADDITIONAL

| | |
|----------------------|---|
| Indicators | Power, Ring, Off-Hook, Carrier, Transmit, DTMF, Signaling |
| Station ID | Morse code, fixed 1200 Hz frequency, programmable ID sequence (not available in the DID version) |
| User prompt tones | Call progress tones, error tones, and warning tones to signal user errors and link failure |
| Secondary protection | Telephone line input is protected with high voltage clamps with protective fusing elements |

For more information on this and other Zetron products, contact:

