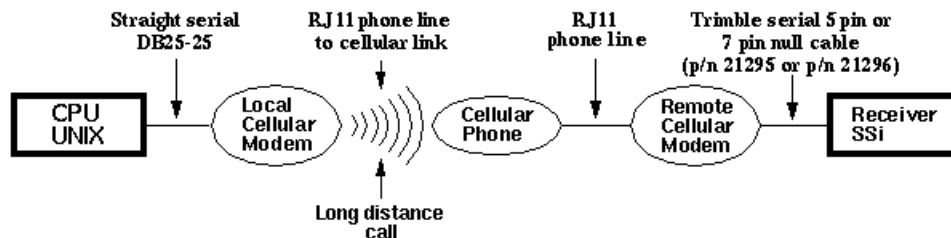


# Comms Example: GPS Receiver--Cellular Modem--Cellular Phone--Cellular Modem--CPU

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## GPS Receiver--Cellular Modem--Cellular Phone--Cellular Modem--CPU



### Equipment

- Cellular modem: [ZyXel U-1496P](#)
- Cellular phone: Motorola SUN 1908AC (*no longer in production*)
- Antenna: [Directional Yagi antenna](#)
- CPU: UNIX (Sun OS 2.3)
- Receiver: Trimble 4000SSi

### Possible Substitutions (based on site parameters)

- Cellular modem: Any modem which meets the suggested minimum requirements on our [Cellular Modem](#) page.
- Cellular phone: Since the Motorola SUN 1908AC is no longer supported, we suggest you contact cellular phone companies and describe your needs, or contact the Equipment Services Group ([support@unavco.org](mailto:support@unavco.org)).
- CPU: UNAVCO currently supports UNIX or LINUX systems.

### Connections

- 1=Straight serial DB25-25
- 2=RJ11 phone line to cellular link
- 3=RJ11 phone line
- 4=Trimble serial 5 pin or 7 pin null cable (p/n 21295 or p/n 21296)

## Equipment Configuration

### Cellular Modems

#### Local (UNIX) modem:

- V.32 (4800) protocol
- 4800 bps DTE speed
- 10 (characters)N1
- DSR always on

- DTR always assumed on
- CTS/RTS HW flow control
- v.42 with MNP4

Remote modem: as local, except modem set to pick up after one ring.

Recommended local (at CPU) Zyxel cellular modem register settings:

```
Current  Settings.....

  B0  E0  L7  M1  N5  Q0  V1  X5
&B1  &C0  &D0  &G0  &H3  &J0  &K3  &L0  &M0  &N5  &P0  &R1  &S0  &X0  &Y1
*B0  *C0  *D0  *E0  *F0  *G0  *I0  *L0  *M0  *P9  *Q2  *S0

S00=001  S01=000  S02=043  S03=013  S04=010
S05=008  S06=003  S07=090  S08=002  S09=006
S10=200  S11=070  S12=000  S13=000  S14=002
S15=002  S16=000  S17=018  S18=009  S19=005
S20=009  S21=034  S22=080  S23=104  S24=234
S25=000  S26=000  S27=155  S28=068  S29=000
S30=000  S31=017  S32=019  S33=255  S34=030
S35=034  S36=000  S37=000  S38=000  S39=000
S40=000  S41=000  S42=000  S43=000  S44=000
S45=100  S46=028  S47=064  S48=000  S49=006
S50=002  S51=000  S52=000  S53=000  S54=000
S55=000  S56=000  S57=000  S58=000  S59=000

OK
```

Recommended remote (at receiver) Zyxel cellular modem register settings:

```
Current  Settings.....

  B0  E0  L7  M1  N5  Q0  V1  X5
&B1  &C0  &D0  &G0  &H3  &J0  &K3  &L0  &M0  &N5  &P0  &R1  &S0  &X0  &Y1
*B0  *C0  *D0  *E0  *F0  *G0  *I0  *L0  *M0  *P9  *Q2  *S0

S00=001  S01=000  S02=043  S03=013  S04=010
S05=008  S06=003  S07=090  S08=002  S09=006
S10=200  S11=070  S12=000  S13=000  S14=002
S15=002  S16=000  S17=018  S18=009  S19=005
S20=009  S21=034  S22=080  S23=104  S24=234
S25=000  S26=000  S27=155  S28=068  S29=000
S30=000  S31=017  S32=019  S33=255  S34=030
S35=034  S36=000  S37=000  S38=000  S39=000
S40=000  S41=000  S42=000  S43=000  S44=000
S45=100  S46=028  S47=064  S48=000  S49=006
S50=002  S51=000  S52=000  S53=000  S54=000
S55=000  S56=000  S57=000  S58=000  S59=000

OK
```

## Receiver

Confirm these settings in the receiver's CONTROL menu:

- **BAUD RATE/FORMAT:** I/O port 1 or 2, 4800 bps, 8-None-1, no HW flow control.
- **REMOTE PROTOCOL:** Data Collector Compatible.

## Download Specifications

**Download software:** Trimble Remote Control version 2.201 (15 MAY 1996) for UNIX. All functions of Remote Control software work. Effective receiver file download speed: 4300 bps. *[Note: Download rates will vary depending upon site location, local interference, phone line quality, and cellular service.]*

This product is used to perform remote control of 4000SSE/SSi - RC receivers. The programs are available for HP-UX, DOS, SunOS 4.1.x, and Sun Solaris 2.x. The following summarizes the functions and utilities provided by the Remote control programs. Refer to the Trimble Remote Control documentation for details on these programs.

Function/Utility	Program
Modem link control	rconn, rdisconn
Station/session programming	rstation, rsession
Survey control	rsurvey

Global control	rcontrol
File/download control	rfile
File conversion (r00 to DAT)	runpkr00
Receiver status	rstatus
Receiver reset	rreset
Remote firmware update	rupdate
DAT file naming utility	rdatname

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