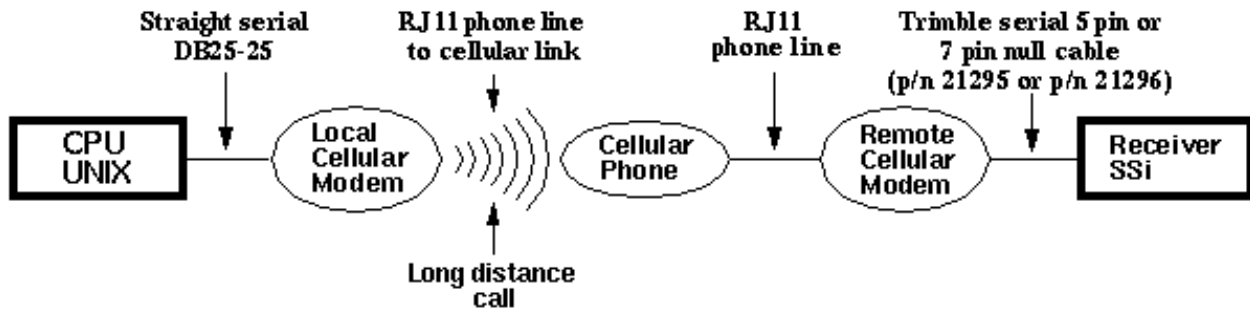


# Comms Example: GPS Receiver--Cellular Modem--Cellular Phone--Cellular Modem--CPU

361 Beth Bartel July 8, 2009 [Comms and Networking Examples \(Diagrams\)](#), [ZyXel](#) 2696

## 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 ([unavco.org](http://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

Online URL:

<https://kb.unavco.org/article/comms-example-gps-receiver-cellular-modem-cellular-phone-cellular-modem-cpu-361.html>