User's Guide for:

SeaSonde® Radial Site
Interconnection assembly, Initial Power up & Check out

Please read the disclaimer on the last page of this publication.

This Guide has **three sections**:

1. INTERCONNECTION
2. INITIAL POWER UP and CHECK OUT
3. COPYRIGHT NOTICE and DISCLAIMER

SECTION 1: INTERCONNECTION

When you have **installed both Antennas** (Transmit and Receive), and the **electronics** for your **SeaSonde Radial Site**, you can begin with interconnections.

Leave everything switched off and unplugged from electric outlets until you are asked to apply power in the *Initial Power up* section of this Guide.

Note: Do not turn on the transmitter without the antenna connected. Doing so will cause the transmitter to soon overheat and may cause permanent damage to the transmitter.

You will be connecting a **USB** (universal serial bus)-**equipped Apple® computer**. The standard SeaSonde computer is an **Apple desktop configured with SeaSonde software.** We ship with the latest computer from apple that we have been able to thoroughly test and approve for use with the SeaSonde software.
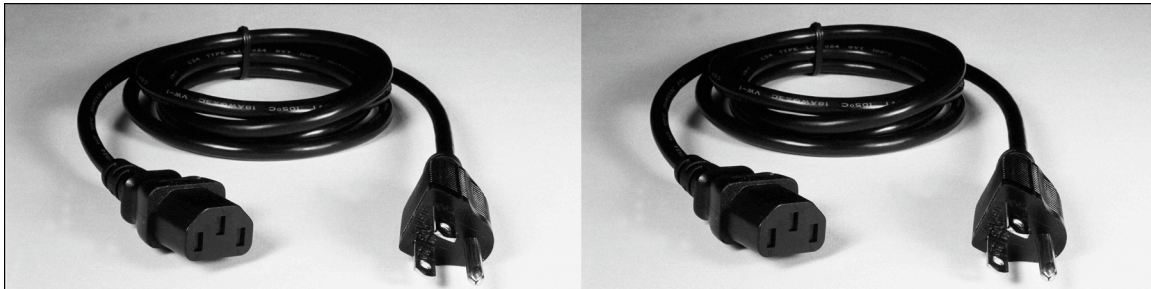
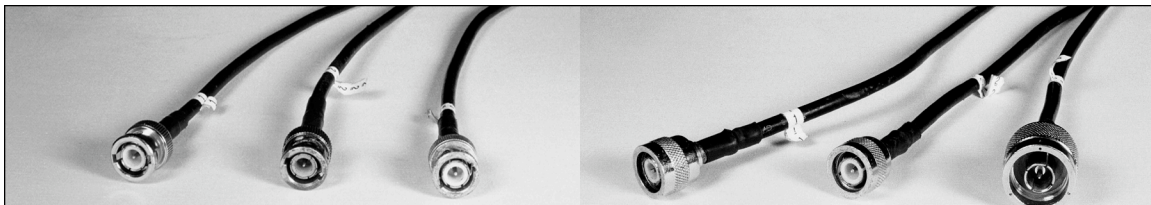You will also be connecting the following:

Transmitter and Receiver
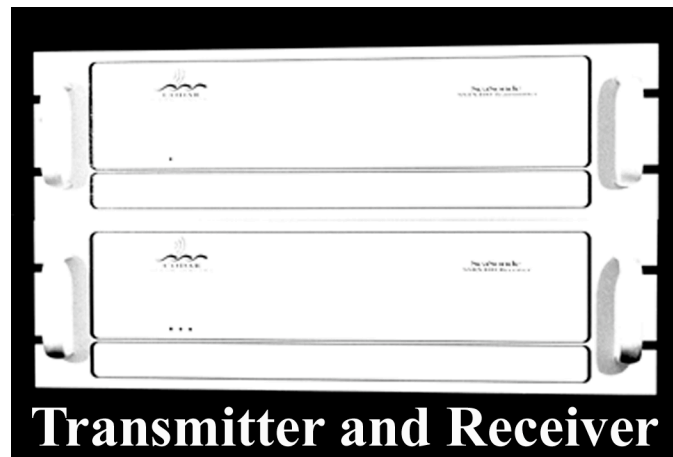
And you will be connecting the following:

Receive Antenna

Transmit Antenna
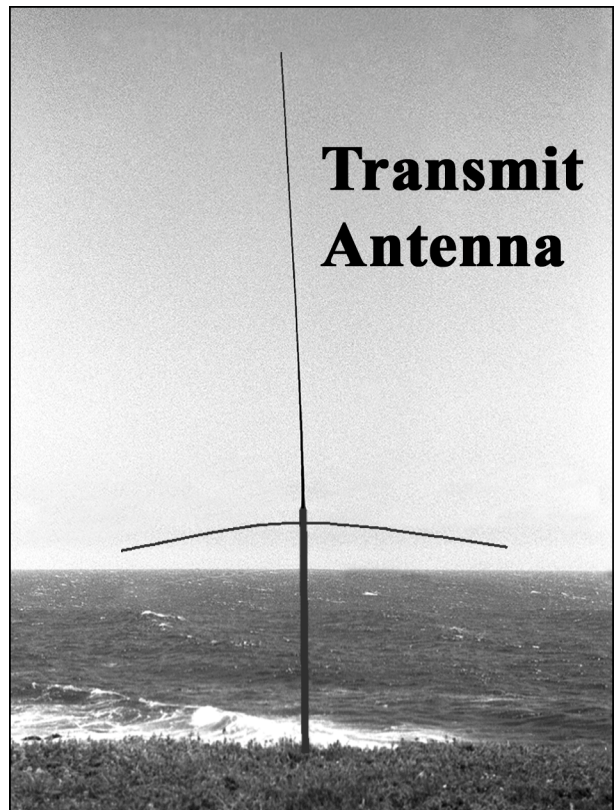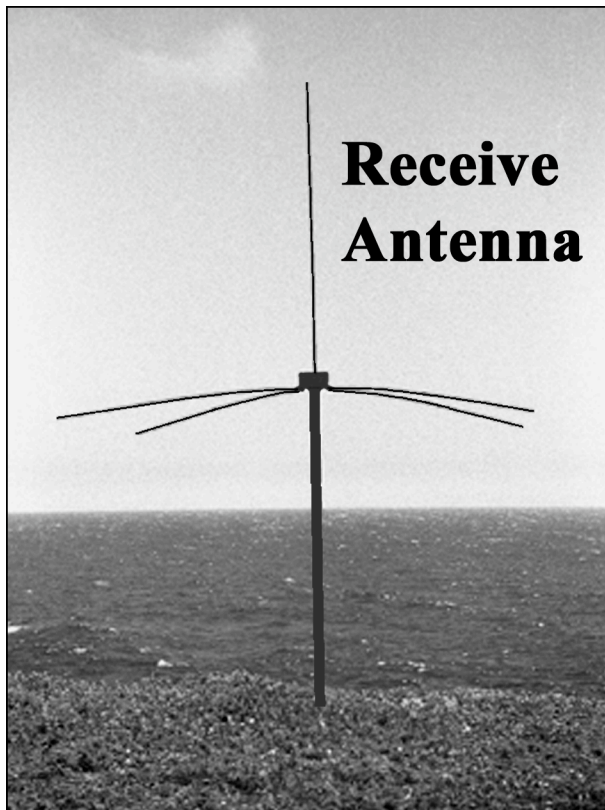
Here are **cables** and **connectors** you will need:

2 Electric Power Cords

On One End: 3 BNC Connectors   **Other End: 2 TNC, 1 "N" Connectors**

3 RG-58 Cables (200 Meters Maximum)
Connect From Receiver To Receive Antenna
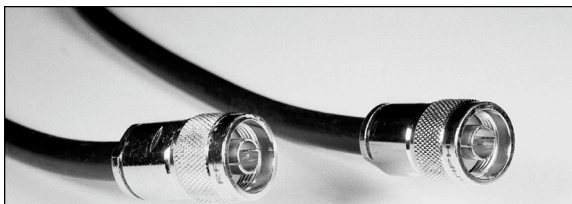
RG-8 Cable With "N" Connectors
(200 Meters Maximum)
Connects From Transmitter To Transmit Antenna

USB Cable
Connects From Receiver To Computer

Data Cable With 9-pin "D" Connectors
Connects From Receiver To Transmitter

RG-58 Cable With BNC Connectors
Connects From Receiver To Transmitter

Chassis To Chassis Power Cord
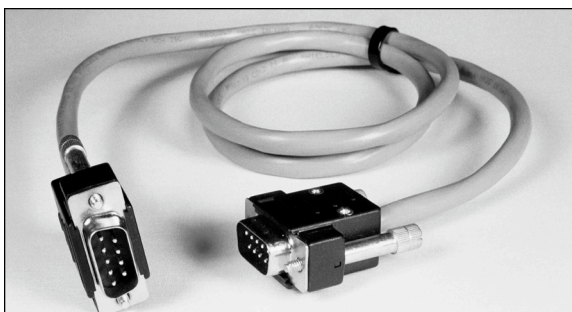**Connects From Receiver To Computer**

Telephone Cable

Connects From Computer To Telephone Line

Connect the **Receiver** to the **Receive Antenna.** This allows **signals** from the Receive Antenna to reach the Receiver, where they are **amplified**.

Here is the Receiver, from the back, where you will be **making connections**:

Receiver Back Panel

Here is a close-up of the Receiver, back panel, left side:

DATA COMM OUT TO COMPUTER   TRANSMIT CONTROL   REMOTE

Receiver Back Panel Left

ANTENNA 3 TO MONOPOLE   ANTENNA 2 LOOP 2   ANTENNA 1 LOOP 1   TRANSMIT DRIVE OUT

CAUTION!

15 VDC OUT

Connections from the Receiver go to the Receive Antenna. At the **base** of the Receive Antenna, you will find connectors **arranged like these**:
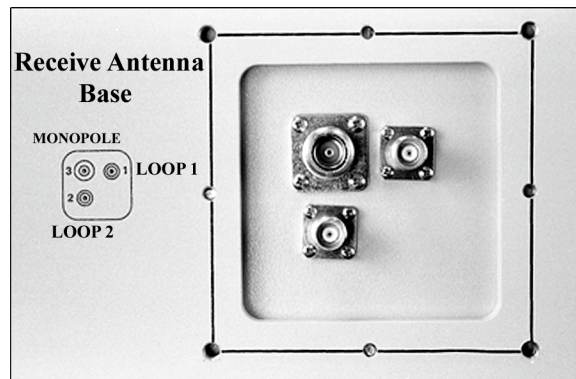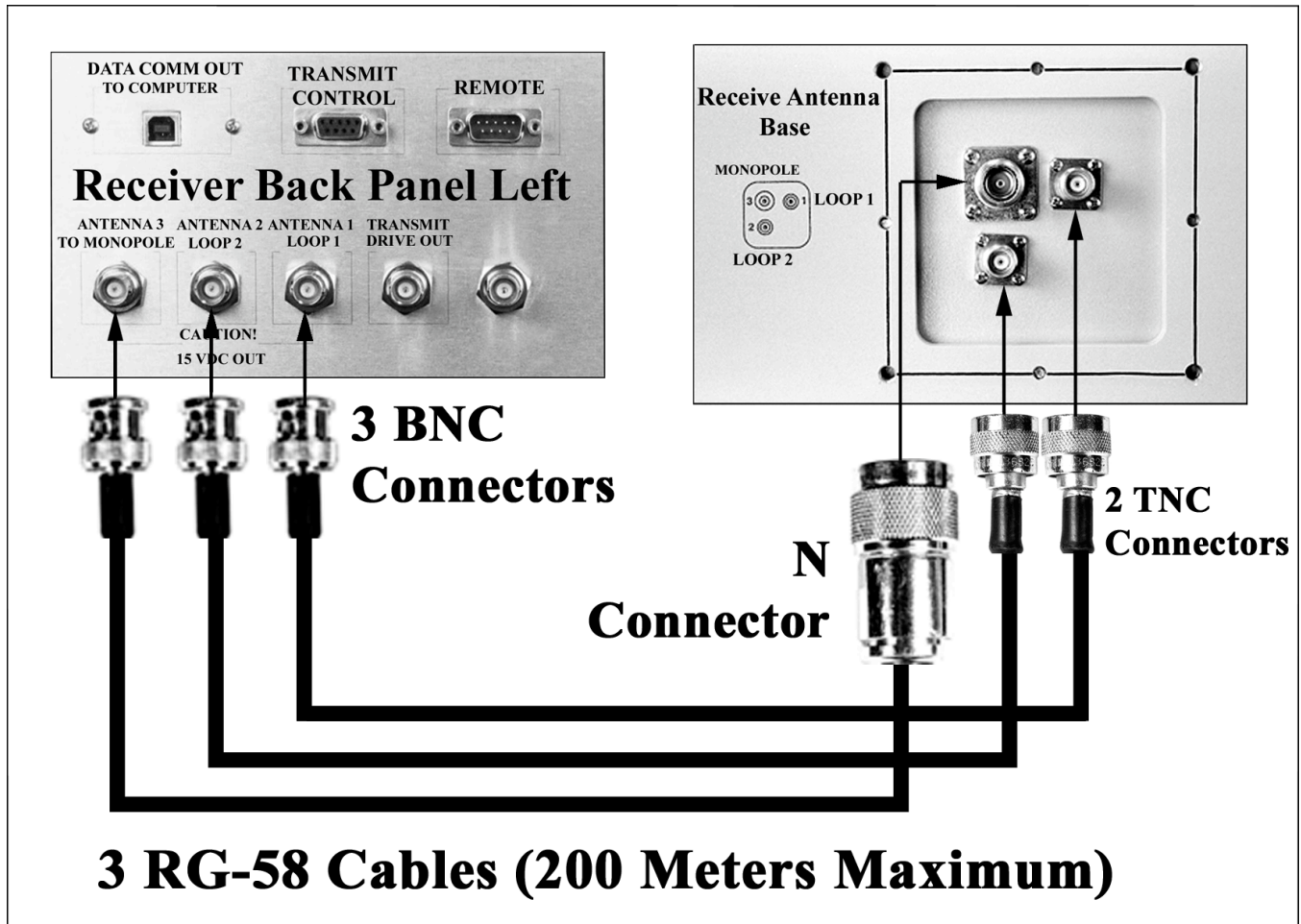

Connect **three RG-58 cables** between the Receiver and the Receive Antenna.

"**Antenna 1/Loop 1**" on the Receiver goes to "**Loop 1**" on the Receive Antenna.
"**Antenna 2/Loop 2**" goes to "**Loop 2**" on the Receive Antenna.
"**Antenna 3/Monopole**" goes to "**Monopole**" on the Receive Antenna.

These cables can be **as long as 200 meters**:

DATA COMM OUT TO COMPUTER   **TRANSMIT CONTROL**   **REMOTE**

Receiver Back Panel Left

ANTENNA 3 TO MONOPOLE   **ANTENNA 2 LOOP 2**   **ANTENNA 1 LOOP 1**   **TRANSMIT DRIVE OUT**

CAUTION! 15 VDC OUT

3 BNC Connectors

Receive Antenna Base

MONOPOLE   **LOOP 1**   **LOOP 2**

2 TNC Connectors

N Connector

3 RG-58 Cables (200 Meters Maximum)

The three cables are **tagged** "**1**," "**2**," and "**3**," to help you keep track of your connections.

These cables must be the **same length**.

Be sure to **tighten** the N and TNC connectors **firmly**. Do not use a wrench.

Connect the Transmitter to the Transmit Antenna. This allows the Transmit Antenna to **broadcast** signals from the Transmitter.

Here is a **back** view of the Transmitter:
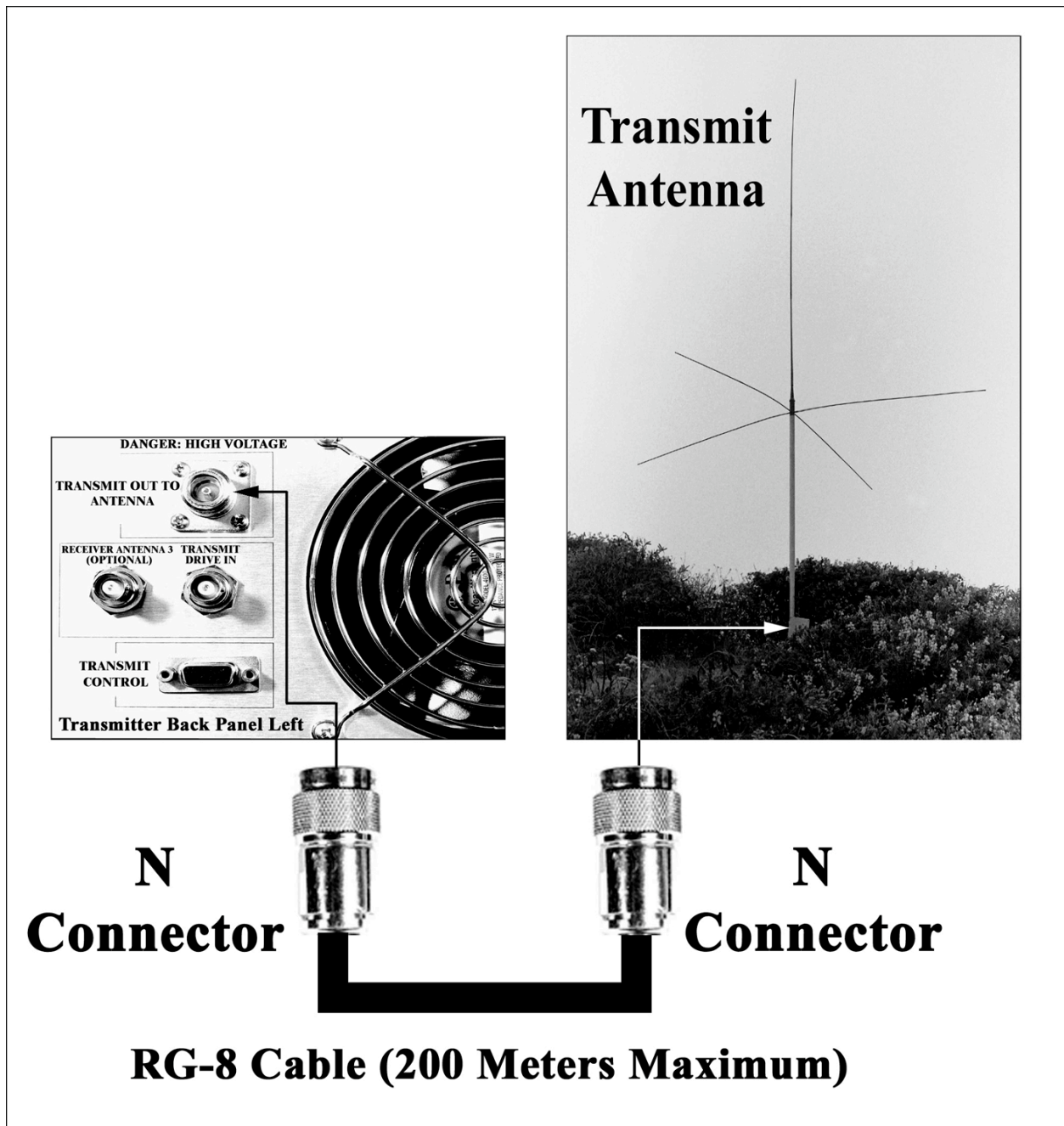

Transmitter Back Panel

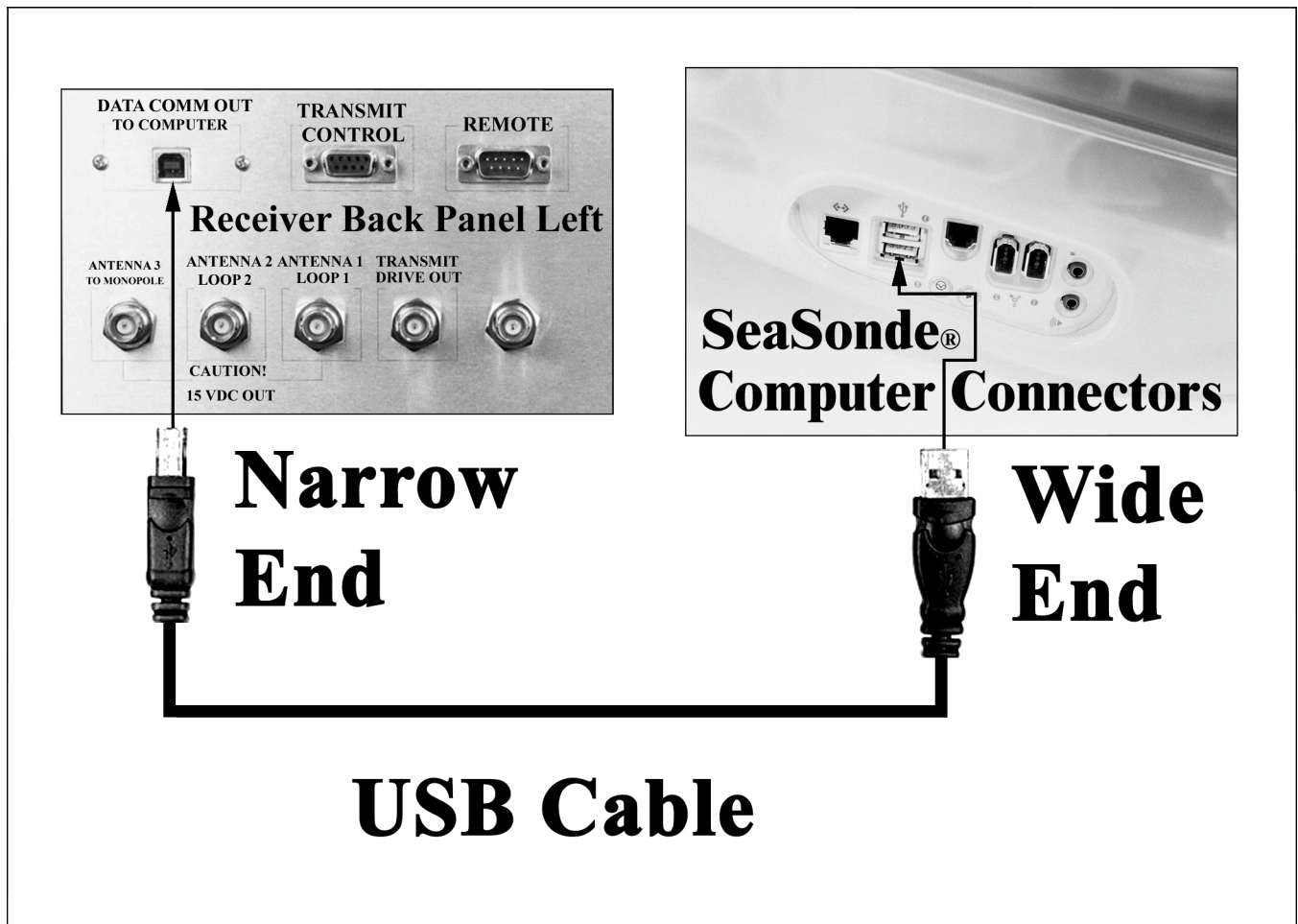Here is the Transmitter back panel, left side:

Connect an **RG-8** cable between "**Transmit out to Antenna**" to the Transmit Antenna. There is an **electrical junction box** at the **base** of the Transmit Antenna, where a connection can be made:

Transmit Antenna

DANGER: HIGH VOLTAGE

TRANSMIT OUT TO
ANTENNA

RECEIVER ANTENNA 3   TRANSMIT
(OPTIONAL)   DRIVE IN

TRANSMIT
CONTROL

Transmitter Back Panel Left

N Connector

**N Connector**

RG-8 Cable (200 Meters Maximum)

Connect the Receiver to the Computer. This cable allows the computer and Receiver to send **data** back and forth.

Connect a USB cable between the Receiver and the Computer:

DATA COMM OUT TO COMPUTER   TRANSMIT CONTROL   REMOTE

Receiver Back Panel Left

ANTENNA 3 TO MONOPOLE   ANTENNA 2 LOOP 2   ANTENNA 1 LOOP 1   TRANSMIT DRIVE OUT

CAUTION!
15 VDC OUT

SeaSonde® Computer Connectors

**Narrow End**   **Wide End**

USB Cable

Connect the Computer's **internal modem** to a **telephone line**. This allows your SeaSonde Radial Site to **communicate** with the **outside world**:
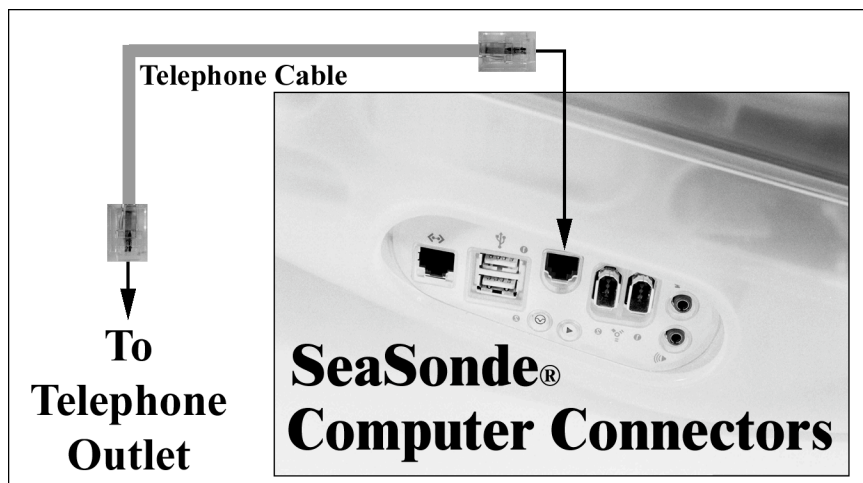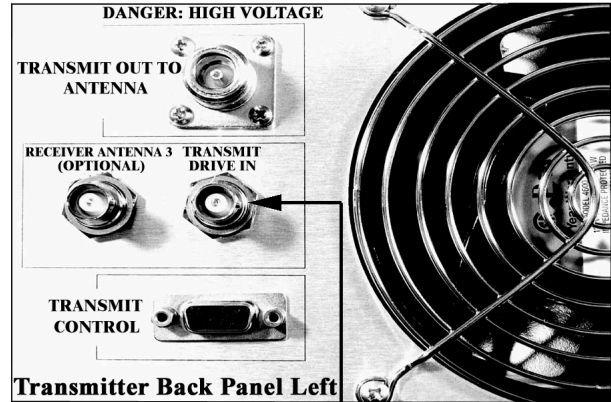

Please **do not share** the SeaSonde **data communications telephone line** with **other telecommunications devices** such as **FAX machines**, **telephones**, or **answering machines**.

Connect the Transmitter to the Receiver. This allows the Transmitter and Receiver to **synchronize**:
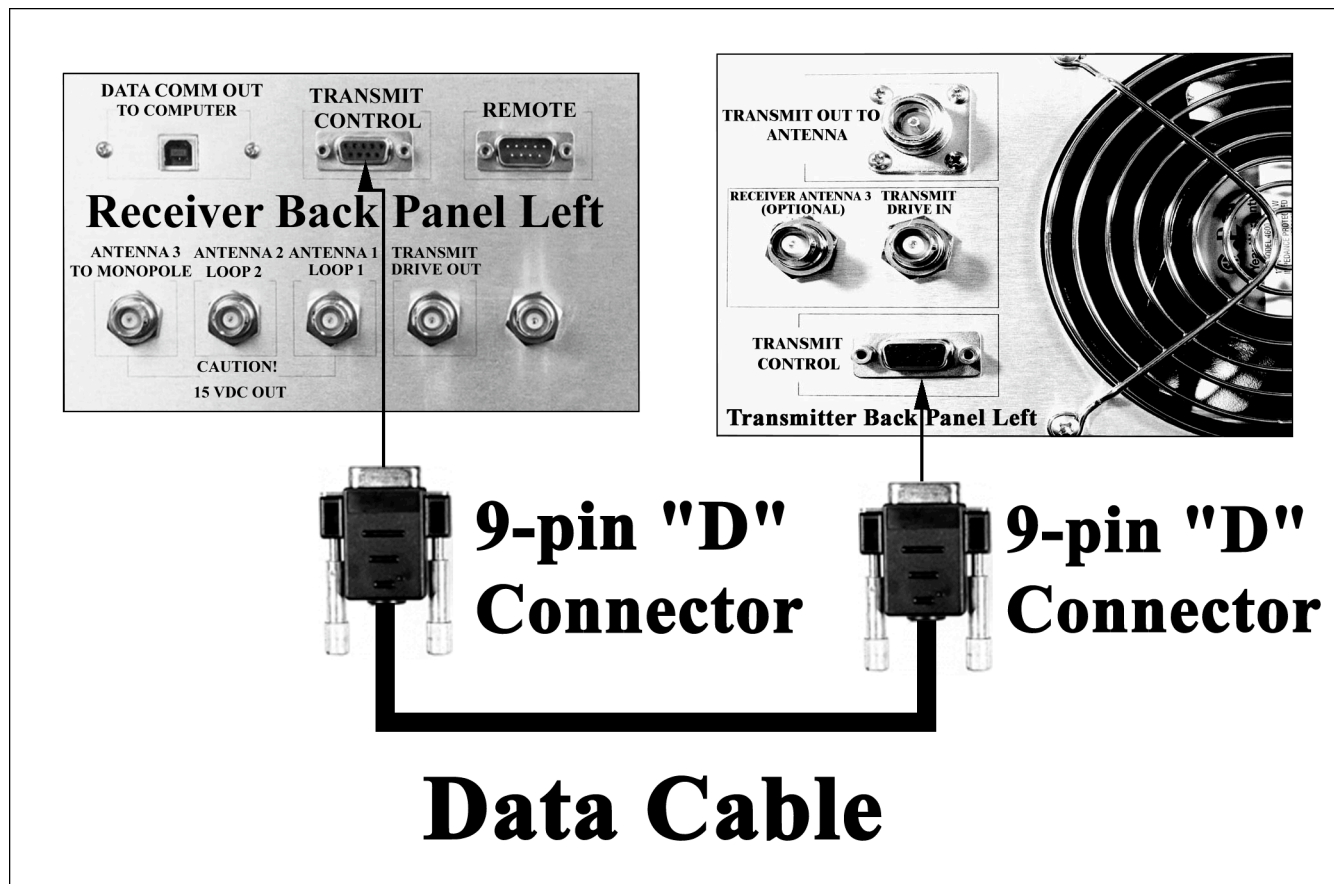
Make a **second connection** between the Transmitter and Receiver. This provides a **drive signal** to the Transmitter:
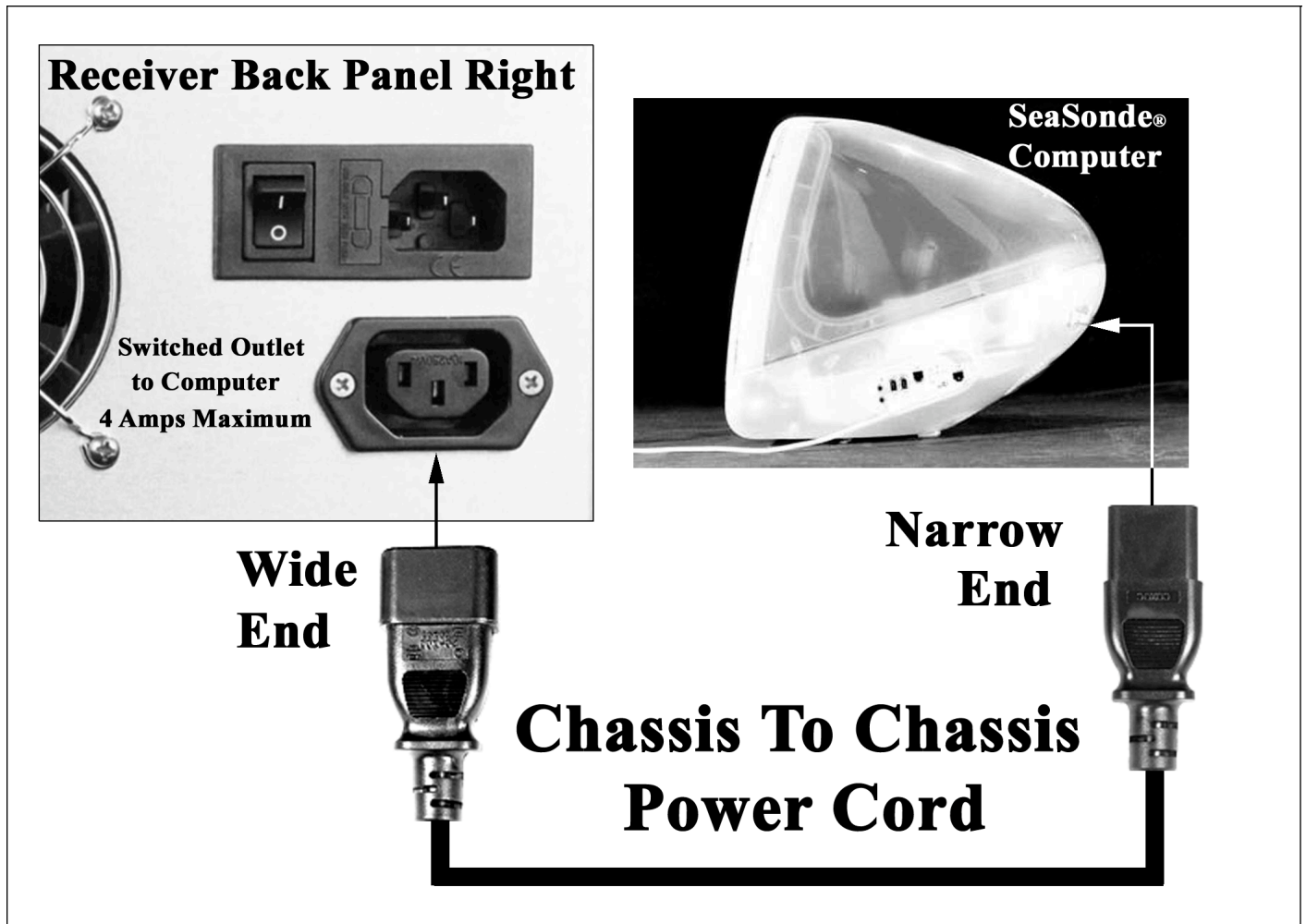

DATA COMM OUT TO COMPUTER   TRANSMIT CONTROL   REMOTE

Receiver Back Panel Left

ANTENNA 3 TO MONOPOLE   ANTENNA 2 LOOP 2   ANTENNA 1 LOOP 1   TRANSMIT DRIVE OUT

CAUTION!
15 VDC OUT

DANGER: HIGH VOLTAGE

TRANSMIT OUT TO ANTENNA

RECEIVER ANTENNA 3 (OPTIONAL)   TRANSMIT DRIVE IN

TRANSMIT CONTROL

Transmitter Back Panel Left

BNC Connector

BNC Connector

RG-58 Cable

Connect a **chassis to chassis power cord** from the Receiver to the Computer:

Receiver Back Panel Right

Switched Outlet
to Computer
4 Amps Maximum

SeaSonde® Computer

Wide End

Narrow End

Chassis To Chassis Power Cord

Connect a **standard power cord** to the Receiver. **Be sure the Receiver power switch is off.**

Connect a standard power cord to the Transmitter. **Be sure the Transmitter power switch is off.**

Connect a **mouse** and **keyboard** to the Computer. Cables to do this are included with the Computer, as well as instructions.

Check all connections you have made up to this point.

SECTION 2: INITIAL POWER UP and CHECK OUT

Check all connections you have made up to this point.

Now that you have made all the necessary connections for SeaSonde, you can start **switching on** SeaSonde electronics.
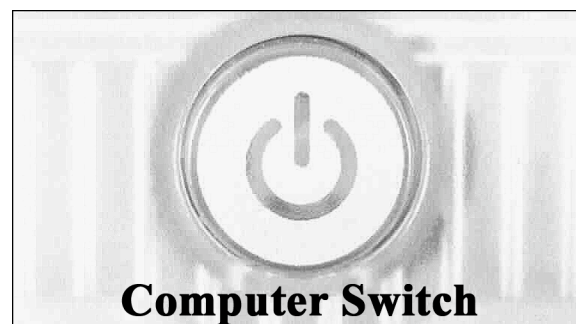
Switch on the Receiver. Leave the Transmitter off for now.

Here is the **power switch** for the **Receiver**:
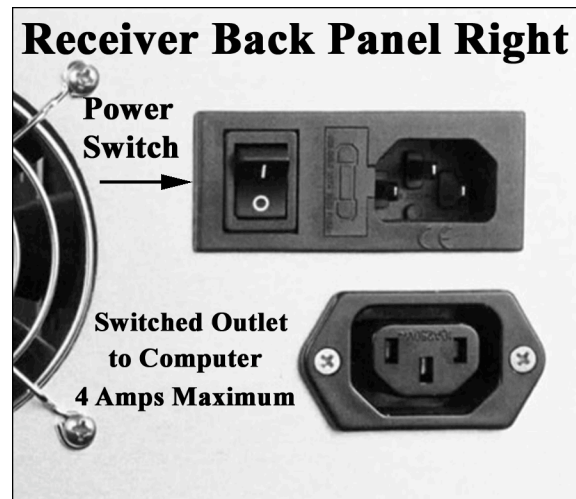
Press the **power button** on the **computer** for **a few seconds** until the computer turns on. The computer power will be on the front of the computer.

The computer power switch looks like this:

Shortly after you have turned on the Computer, you should see "**Welcome To MacIntosh**."

Wait about **2 minutes** for the Computer to start running.

You will notice **windows** appearing on the screen. These are SeaSonde **applications**.

On the Receiver front panel, look for a **solid green light**. This tells you the Receiver is switched on. Look for a **flashing yellow light**. This tells you that the Receiver and Computer are **communicating**:

Receiver Front Panel

See the SeaSonde Radial Suite User Guide for detailed instructions on using the software. You will need to use the application SeaSondeController to set your approved frequency and bandwidth.

After you have used SeaSondeController to set the frequency and bandwidth, switch on the transmitter. *Be sure the Transmitter is connected to the Transmit Antenna,* or you may **permanently** damage the Transmitter. On newer Transmitters, SeaSondeController can show you the transmitter's measured forward and reflected power. You should check this to help verify that transmitter and transmit antenna are connected and working properly.

Next use the SeaSondeAcquisition application to graph the signal power versus Doppler for range cell 3. You will have to wait 2.5 minutes (longer for LongRange) for the graph to update. There is a progress bar at the bottom of the window, which shows when then next update will occur. It will require at least two updates from when you turned on the transmitter to get a stable reading. The graph should then show the characteristic bragg energy received for that range cell.

If SeaSonde electronics still fail to operate after consulting the *SeaSonde Troubleshooting Guide*, contact Codar Ocean Sensors for technical support (e-mail: support@codaros.com).

Do not attempt to repair or modify SeaSonde electronics unless you are a qualified electronics technician.

SECTION 3: COPYRIGHT NOTICE and DISCLAIMER

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