

# RD<sup>i</sup> 20 Firmware Upgrade

## Application Guide



New firmware is frequently released for the RDi 20 to add new features and functionality. To upgrade the RDi 20 firmware with the newer release, the upgrade is transferred from a PC to the RDi 20 using a Telnet session. HyperTerminal, an application released with the Windows operating system, is most commonly used.

## 1 Tools/Items Needed for Installation

- RDi 20 Firmware Upgrade CD (or files downloaded from BE website)
- 9 Pin Female-to-male straight-thru serial cable
- Personal computer with installed Telnet application (like Windows HyperTerminal)

## 2 Estimated Time for Installation/Setup

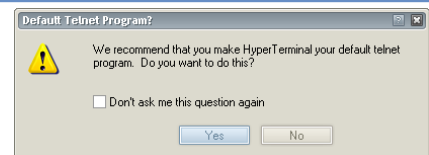
Providing that you have the tools listed above, it will take approximately 15 minutes to upgrade the RDi 20's firmware. The RDi 20 will be off of the air during this process.

## 3 Upgrade Process

- 1 Locate the firmware upgrade CD or download the upgrade files from the BE website. Copy the files to the hard drive (C:) of the PC you will be using to perform the upgrade.
- 2 With the RDi 20 powered **off**, connect a personal computer to the RDi 20 front panel console port using a standard serial cable.
- 3 Launch HyperTerminal by clicking on the Windows Start button, and selecting:

**Programs>Accessories>Communications>HyperTerminal**

The **Default Telnet Program** prompt may appear. Click **Yes** if you want HyperTerminal to be your default Telnet program. Click **No** if you do not want HyperTerminal to be your default Telnet program.

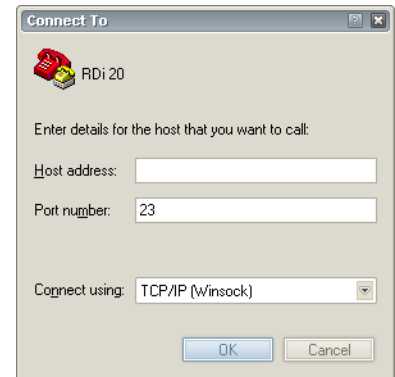


- 4 On the **Connection Description** dialog, name this connection **RDi 20**, choose an Icon, and click **OK** to continue.

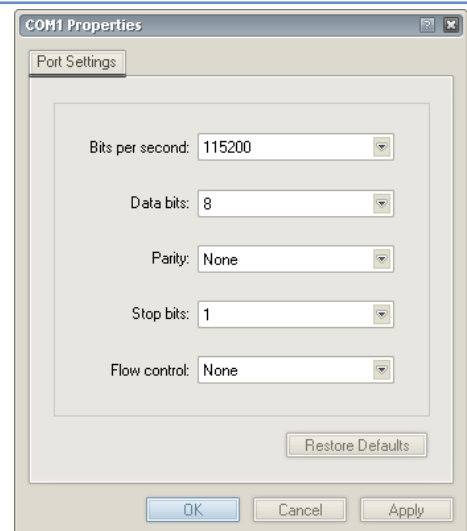


- 5 Select the appropriate connection port from the **Connect Using** drop-down box.

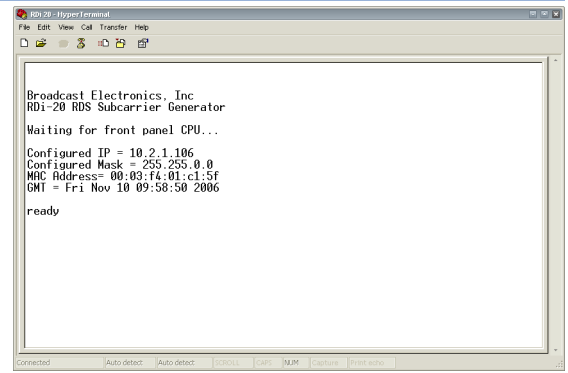
If using **TCP/IP (Winsock)** enter the RDi 20 IP address in the **Host Address** field and click **OK** to initiate the session.



- 6 If using a COM port, configure the port setting as shown, click **Apply**, then click **OK** to initiate the session.

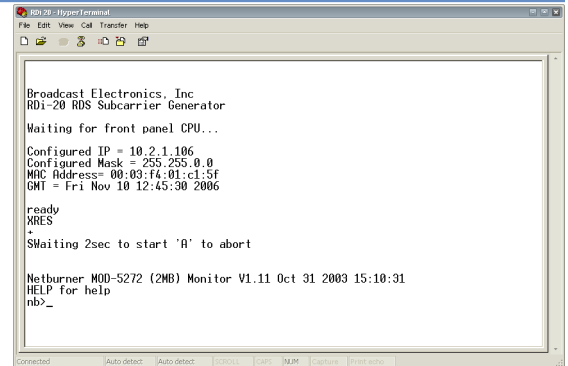


- 7 Turn the AC power switch on the rear panel of the RDi 20 to On. As the RDi 20 comes up, the HyperTerminal windows will fill in as shown.

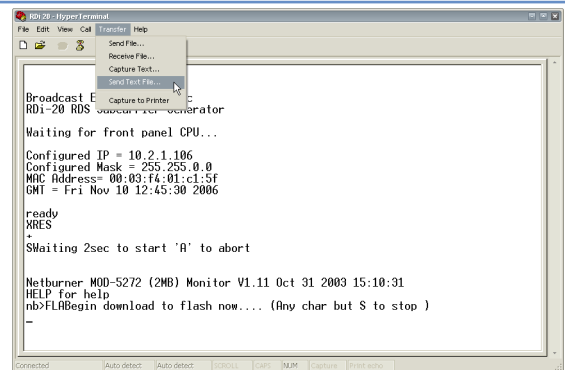


- 8 Type **XRES** <Enter>, then type **A** <Enter> (within 2 seconds) to go into programming mode (all typed commands must be UPPER case). The **nb>** prompt will appear as shown.

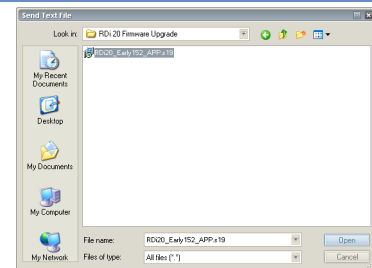
At the **nb>** prompt, type **FLA** <Enter> (to enter Flash mode).



- 9 From the HyperTerminal text menu, select **Transfer>Send Text File**.



- 10 Browse to the directory where you copied the upgrade file, set the **Files of type** filter to All files (\*.\*), select the upgrade (.s19) file, then select **Open**.



- 11 The upgrade file will now be downloaded to the RDi 20. The HyperTerminal screen should look as shown. Characters will scroll across the screen indicating download progress. Please note that the download may take several minutes.

```
Broadcast Electronics, Inc
RDi-20 RDS Subcarrier Generator
Waiting for front panel CPU...
Configured IP = 10.2.1.106
Configured Mask = 255.255.0.0
MAC Address= 00:03:F4:01:c1:5f
GMT = Fri Nov 10 12:45:30 2006

ready
XRES
*
*Waiting 2sec to start 'A' to abort

Netburner M00-5272 (2MB) Monitor V1.11 Oct 31 2003 15:10:31
HELP for help
nb>FLABegin download to flash now.... (Any char but S to stop )
*****_
```

- 12 When the upgrade is complete, the RDi 20 will automatically reset. After the RDi 20 resets, the HyperTerminal screen will look as shown.

```
*****Starting a
ddress = 02000000
S Record End detected

Programming Flash from :FFC08000
To:FFC286C3
Copying image from:FFC002E6,FFC00388to:023FFC40
Image copied
EPSWaiting 2sec to start 'A' to abort

Broadcast Electronics, Inc
RDi-20 RDS Subcarrier Generator
Waiting for front panel CPU...
Configured IP = 10.2.1.106
Configured Mask = 255.255.0.0
MAC Address= 00:03:F4:01:c1:5f
GMT = Fri Nov 10 10:05:56 2006

ready
_
```

- 13 Type **XVER** <Enter> to verify that the firmware was in fact upgraded.

In the example shown, the RDi 20 was upgraded to v0.152.

```
ddress = 02000000
S Record End detected

Programming Flash from :FFC08000
To:FFC286C3
Copying image from:FFC002E6,FFC00388to:023FFC40
Image copied
EPSWaiting 2sec to start 'A' to abort

Broadcast Electronics, Inc
RDi-20 RDS Subcarrier Generator
Waiting for front panel CPU...
Configured IP = 10.2.1.106
Configured Mask = 255.255.0.0
MAC Address= 00:03:F4:01:c1:5f
GMT = Mon Nov 13 14:24:03 2006

ready
XVER
CPU v0.152 DSP v0.099 FPC v0.104 ←
```

- 14 Disconnect the serial cable from the RDi 20.