How Do I Recover X 3 Remotes?

Overview

Special for the new X 3 remote, there is a **Reset** push button at the back panel. The **Reset** button is designed for recovery from situations that do not require the unit to be shipped back for repair, such as the following:
- Password recovery
- Corrupted Software Packages and Option files
- Corrupted Flash memory

The system allows for two levels of reset:

• **Soft Reset** – Solving issues like that remote reboots every 2-3 minutes due to wrong Options file.

• **Hard Reset** – Recovers remotes with corrupted Linux Kernel, corrupted Software Packages, etc.

A. Soft Reset to Recover Remote with Corrupted Options File

When the remote tries to start falcon process with the wrong or badly corrupted Options file, the falcon process might fail. Thus you couldn't log into to iSite to recover the remote. And the falcon_monitor is ON and tries to restart the falcon process every 2-3 minutes, which causes the remote to reboot again and again. In such case, you can use **Soft Reset** to stop the falcon_monitor and to recover the remote by loading the correct Options file.

When the **Reset** button is pushed and released immediately (without allowing enough time for the Status LED to start flashing), it is a **Soft Reset** as Figure 1 shown. In a Soft Reset, the modem only resets the IP address to the default of 192.168.0.1 and therefore a correct password needs to be supplied either through serial console login or login through the Ethernet.

The unit performs the following functions:
• Soft Reset (Reset Processor)
• Start Redboot
• Start Linux (Special Run level 4)
• Start SSH
• The remote falcon_monitor will be stopped
• Temporarily reset the IP address to the default of 192.168.0.1

```
/ # DRAM Test   ...............
DRAM Test Successful
+Detected Soft Push Button Reset
 Ethernet eth0: MAC address 00:60:43:00:00:00
IP: 192.168.0.1/255.255.255.0, Gateway: 192.168.0.2
Default server: 192.168.0.2
                            ......
RedBoot(tm) bootstrap and debug environment [ROM]
release, version "iDirect 1.1" – built 18:54:19, Apr  9 2008
RedBoot> fis load Linux
RedBoot>  exec –c "console=ttyS1,9600 root=/dev/mtdblock2 /sbin/init 4"
Using base address 0x01600000 and length 0x00100000
```

```
Uncompressing
Linux.......................................................................
done, booting the kernel.
Linux version 2.4.24-uc0-iDirect0 (root@gimli) (gcc version 3.3.2) #1 Mon Jun
23 17:26:14 EDT 2008
                                     ......
Starting system log daemon: syslogd klogd.
Starting OpenBSD Secure Shell server: sshd.
# /etc/init.d/idirect_falcon status
falcon is stopped
falcon_monitor is stopped
```

Figure 1 Terminal Output - Soft Reset

What the user needs to do is:

Recover the Remote according to **"How Do I Recover iNFINITI Remotes and Line Cards"** at FAQ
section of TAC website as following: http://tac.idirect.net/faqs.asp **but skip Procedure 2 Loading
Linux from Redboot, since the unit had done it for you.**

B. <u>Hard Reset to Recover Remote with Corrupted Image File or to Recover the Password</u>

If the Soft Reset does not resolve the problem, a Hard Reset can be used to recover from a corrupted
Flash or recover the password for you. When the **Reset** button is pushed and held until the status LED
stops flashing (estimated time 10 to 15 seconds), **Hard Reset** will be detected by the remote.

The unit performs the following functions:
• Soft Reset (Reset Processor)
• Start Redboot
• Start telnet port 9000 only
• Reset the IP address to the default "192.168.0.1"
• Reset the password to the default "iDirect"

```
/ # DRAM Test   ................
DRAM Test Successful
+Detected Hard Push Button Reset
 Ethernet eth0: MAC address 00:60:43:00:00:00
IP: 192.168.0.1/255.255.255.0, Gateway: 192.168.0.2
Default server: 192.168.0.2

RedBoot(tm) bootstrap and debug environment [ROM]
 release, version "iDirect 1.1" - built 18:54:19, Apr  9 2008

Platform: iDirect iDS Platform (XScale)
Copyright (C) 2004, 2005  iDirect Technologies, Inc.

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RAM: 0x00000000-0x10000000, [0x0001c4f8-0x01fd1000] available
FLASH: 0x50000000 - 0x52000000, 256 blocks of 0x00020000 bytes each.
RedBoot>
```
Figure 2 Terminal Output – Hard Reset

What the user needs to do is:

- Connect a console cable to the console port of the remote and open terminal emulator such as HyperTerminal, SecureCRT, or Tera Term, etc.
- Reload the Flash by following the procedure of **"How Do I Recover iNFINITI Remotes and Line Cards"** on reloading Linux, establishing IP connectivity, and start SSH Daemon.
- Follow that procedure on reloading the Software Package and Options file.
- Reboot

  Normally speaking, the remote will be recovered. If the Linux could not be loaded and the Linux Kernel is damaged, or the remote encounters please do the following procedure.

C. Hard Reset to Recover the Remote with Corrupted Linux Kernel

1. Extracting the zImage from the NMS server

Perform the following steps on the NMS server:

Via a SSH session to the NMS server, extract the zImage from the cumulative update located on the NMS.

```
# cd /home/nms/cfg/image_sets/cumulative_update_package/
# cp cumulative_update-9_0_0_X.pkg /tmp/
# cd /tmp
# package –mx –a cumulative_update-9_0_0_X.pkg
# bunzip2 cumulative_update_package.tar.bz2
# tar –xf cumulative_update_package.tar
```

This will extract all of the files from the Cumulative Update Package, including the file "zImage". You then need to use a Secure Copy program (such as WinSCP) to copy that file from /tmp on the NMS server to your PC.

Once the file is on your PC, set the IP address of your PC to 192.168.0.2 with subnet mask of 255.255.255.0. The address of the stranded modem should be 192.168.0.1, which you can verify with the command "ip_address" from the Redboot prompt.

Note:
- **Please disable the other Network interfaces such as Wireless LAN interface except for the one you are using.**
- **Please disable the firewall.**
- **Please ensure you could ping the remote from your PC.**

Start a TFTP server ONLY through iSite, and from the console session on the X3 Remote, continue with the following procedure.

2. Loading the zImage on the Remote

Perform the following steps on the remote:

- Connect a PC to the remote via the console port. You can use HyperTerminal or Tera-Term for this operation.

- **Hard Reset** the remote by push the Reset button and hold it until the status LED stops flashing (estimated time 10 to 15 seconds). When the Reboot is started, type the following commands:

  Redboot> prompt displays.
  Redboot> load -v -r -b 0x01600000 zImage
  Redboot> fis unlock Linux
  Redboot> fis erase -f 0x50060000 -l 0x00100000
  Redboot> fis write -b 0x01600000 -f 0x50060000 -l 0x100000

- Once it is done power cycle the remote
- Reload the Flash by following the procedure 3, 4, and 5 of **"How Do I Recover iNFINITI Remotes and Line Cards"** on establishing IP connectivity, and start SSH Daemon, reloading the Software Package and Options file.
- Reboot

Note: Instead of using the console port, you can also use the LAN A Ethernet port of the remote and from your PC telnet to the remote port 9000 by typing telnet 192.168.0.1 9000 to start from procedure C.2.on the previous page, and continue using the Ethernet port to finish recovering the remote. But please don't use the terminal emulator to connect the remote at the same time, since it will conflict with the telnet session.

If the unit still does not operate after performing the above procedures, please call iDirect TAC at 703-648-8151 or email TAC at tac@idirect.net