

Elta Radar Proxy Installation Procedure

This procedure installs the **elta_proxy** program and an updated **udpdup** startup script on an Elta radar. Follow the steps in order.

Before You Begin

What you need

- A computer on the same network as the radar
- An SSH client (PuTTY, or a terminal that has the `ssh` command)
- A file-copy tool (PSCP, or the `scp` command)
- The two files below, saved on your computer:
 - [elta_proxy](#)
 - [udpdup](#)
- The radar's **name** and **IP address**

Fill in your radar's values

Write down these two values. You will use them throughout the procedure.

Item	How to find it	Example (radar R0202)	Your radar
Radar IP address	IP address documentation for the site	10.60.105.81	
Port number	Take the radar number, drop the R, and put a 2 in front (see below)	20202	

How to work out the port number: Take the radar name, remove the leading R, and add 2 at the front.

Radar name	Port
R0202	20202
R0402	20402
R050A	20510 (the letter A counts as the number 10)

How to read this document

- **[On your computer]** means type the command on your own computer.
- **[On the radar]** means type the command in the SSH window connected to the radar.
- Text in a gray box is a command. Type it exactly as shown, then press **Enter**.
- Where the example shows `R0202` or `10.60.105.81`, use your own radar's values instead.

Step 1: Connect to the Radar

[On your computer]

Elta radars are very old, so most modern SSH programs refuse to connect to them unless you tell them to allow older security settings. Use **one** of the two options below.

PuTTY users: PuTTY usually connects without any special settings. Enter the radar's IP address, port 22, and log in as `root`. If PuTTY gives a security warning about the host key, accept it.

Option A: Save the settings once (recommended)

This lets you connect later by typing just the radar's name.

1. Open the file `~/.ssh/config` in a text editor. (Create it if it does not exist.)
2. Add the following. Change `R0202` to your radar's name and `10.60.105.81` to your radar's IP address.

```
Host R0202
  HostName 10.60.105.81
  KexAlgorithms +diffie-hellman-group1-sha1
  HostKeyAlgorithms +ssh-rsa
  PubkeyAcceptedAlgorithms +ssh-rsa
  User root
```

3. Save the file, then connect:

```
ssh R0202
```

Option B: Type the settings every time

Use your radar's IP address in place of `10.60.105.81`:

```
ssh -o KexAlgorithms=+diffie-hellman-group1-sha1 -o  
HostKeyAlgorithms=+ssh-rsa -o PubkeyAcceptedAlgorithms=+ssh-rsa root@10.60.105.81
```

What you should see: a login prompt or a command prompt ending in `#`. You are now connected to the radar.

Step 2: Turn Off the Radar's Start-Up Script

[On the radar]

When you log in, the radar automatically runs a script. That script gets in the way of copying files, so we switch it off temporarily by renaming it.

```
cd /root  
mv .bashrc .bashrc_bak
```

Important: You must put this file back in Step 4. Do not skip that step.

Step 3: Copy the Two Files to the Radar

[On your computer]

Note: Open a **new** terminal window for this step (or type `exit` to leave the radar). The copy command is typed on your own computer, not inside the radar session. Make sure the terminal is open in the folder where you saved `elta_proxy` and `udpdup`.

If you used Option A in Step 1 (replace `R0202` with your radar's name):

```
scp elta_proxy udpdup R0202:
```

If you used Option B in Step 1, add the same settings to the copy command:

```
scp -o KexAlgorithms=+diffie-hellman-group1-sha1 -o  
HostKeyAlgorithms=+ssh-rsa -o PubkeyAcceptedAlgorithms=+ssh-rsa elta_proxy udpdup  
root@10.60.105.81:
```

If you use PSCP (Windows):

```
pscp elta_proxy udpdup root@10.60.105.81:
```

Don't forget the `:` at the end. It tells the tool to copy to the radar.

What you should see: a line for each file showing it was copied (100%).

Step 4: Turn the Radar's Start-Up Script Back On

[On the radar]

Reconnect to the radar (as in Step 1) if you are not still connected, then undo the rename from Step 2:

```
cd /root
mv .bashrc_bak .bashrc
```

Step 5: Move the Files into Place

[On the radar]

Make sure you are in the `/root` folder, where the files were copied:

```
cd /root
```

5a. Back up the old `udpdup` file, in case you need to undo this later:

```
mv /etc/rc.d/udpdup ./udpdup_bak
```

5b. Move the two new files to the places the radar expects them:

```
mv elta_proxy /usr/bin/elta_proxy
mv udpdup /etc/rc.d/
```

5c. Mark both files as programs that are allowed to run:

```
chmod +x /usr/bin/elta_proxy
chmod +x /etc/rc.d/udpdup
```

Step 6: Edit `udpdup` for This Radar

[On the radar]

The `udpdup` file needs your radar's **port number** and **IP address**. You will change **3 lines**.

Open the file in the `vi` editor:

```
vi /etc/rc.d/udpdup
```

Quick guide to using `vi`

`vi` is an older editor and works differently from Notepad. You only need these keys:

To do this	Do this
Move around	Use the arrow keys
Start typing / changing text	Press i (you will see <code>-- INSERT --</code> at the bottom)
Stop typing	Press Esc
Save and exit	Press Esc , then type <code>:wq!</code> and press Enter
Exit without saving (if you made a mistake)	Press Esc , then type <code>:q!</code> and press Enter
Show line numbers (optional)	Press Esc , then type <code>:set number</code> and press Enter

The three lines to change

Find these lines in the file. The line numbers are a guide; you can also search for the text.

Line	What it looks like now	What to change
12	<code>port=20202</code>	Change <code>20202</code> to your radar's port number
17	<code>\$proc \$port 10.60.105.81 20020 \$port</code>	Change <code>10.60.105.81</code> to your radar's IP address
28	<code>\$proc \$port 10.60.105.81 20020 \$port</code>	Change <code>10.60.105.81</code> to your radar's IP address

Do not change anything else, including the number `20020`, which stays the same for every radar.

Here is the top part of the file for reference, shown for radar R0202:

```

#!/bin/sh
### BEGIN INIT INFO
# Provides: proxy
# Required-Start: $network $remote_fs
# Required-Stop: $network $remote_fs
# Default-Start: 3 5
# Default-Stop: 0 1 2 6
# Description: Radar-Forwarder
### END INIT INFO

proc=/usr/bin/elta_proxy
port=20202

if [ "$1" == "special" ]; then

    $proc $port 10.60.105.81 20020 $port

    exit
fi

. /etc/rc.status

rc_reset

case "$1" in
    start)
        $proc $port 10.60.105.81 20020 $port &

```

When you are done, save and exit (**Esc**, then `:wq!`, then **Enter**).

Step 7: Save and Restart the Radar

[On the radar]

The `sync` command makes sure all your changes are written to the radar's storage. Run it first, then restart:

```

sync
reboot

```

Your SSH connection will close. This is normal. Wait a few minutes for the radar to start back up.

Check that the radar came back

[On your computer]

Use your radar's IP address:

```
ping 10.60.105.81
```

If you get replies, the radar is back online.

Appendix: Stop the Radar's Storage from Filling Up (Recommended)

[On the radar]

The `elta_proxy` program writes a lot of log entries, and during testing the radar's storage filled up. These two changes make the radar clean up its old logs more often.

A. Run the log clean-up every hour instead of every day

```
mv /etc/cron.daily/logrotate /etc/cron.hourly/logrotate
```

B. Make the log clean-up more aggressive

1. Open the file:

```
vi /etc/logrotate.d/syslog
```

2. Find the section that begins with `/var/log/warn /var/log/messages ...` and make it match the following exactly:

```

/var/log/warn /var/log/messages /var/log/allmessages /var/log/localmessages
/var/log/firewall {
    compress
    dateext
    maxage 7
    rotate 1
    missingok
    notifempty
    size +4096k
    create 640 root root
    sharedscripts
    postrotate
        /etc/init.d/syslog reload
    endscript
}

```

3. Save and exit (**Esc**, then `:wq!`, then **Enter**).

Troubleshooting

Problem	What to try
SSH says "no matching key exchange method" or "no matching host key type"	The older-security settings are missing. Use Option A or B in Step 1 exactly as shown.
The copy in Step 3 fails or hangs	Check that you renamed <code>.bashrc</code> in Step 2, and that you typed the copy command on your own computer, not in the radar session.
You rebooted the radar and forgot Step 4	Reconnect and run the Step 4 commands.
The radar does not answer <code>ping</code> after the reboot	Wait a few more minutes and try again. If it still does not respond, check the network cable and the radar's power.
You made a mistake while editing a file	In <code>vi</code> , press Esc , type <code>:q!</code> , and press Enter to leave without saving, then open the file and try again. The original <code>udpdup</code> is saved as <code>udpdup_bak</code> in <code>/root</code> .