

## **Avaya CM R3 and later TN Circuit Pack Firmware Upgrade Process**

### **Notes:**

- To upgrade TN circuit packs, 'source' and 'target' boards need to be identified. A 'source' board is the TN board where the firmware is uploaded. The 'target' is the board to be upgraded. The new firmware is sent from the 'source' to the 'target.' There is only one 'source' board. There can be many 'target' boards.
- Only TN packs that have a suffix ending in a 'P' can be upgraded.
- Not all boards can be 'source' or 'target.' Refer to the chart below for details.
- FYI: IPSI boards are not upgrade using this process.
- This document assumes firmware uploads are done from a Windows based PC.
- TN circuit pack firmware can be downloaded at the following URL:  
<http://support.avaya.com/japple/css/japple?PAGE=ProductArea&temp.productID=107639&temp.bucketID=108025>

| Circuit Pack       | TN Code               | Role in Self Download | Role in C-LAN-distributed Download |
|--------------------|-----------------------|-----------------------|------------------------------------|
| C-LAN              | TN799C <sup>1</sup>   |                       | Source                             |
|                    | TN799DP <sup>2</sup>  | Source and Target     | Source                             |
| VAL                | TN2501AP              | Source and Target     |                                    |
| IP Media Processor | TN2302AP <sup>3</sup> |                       | Target                             |
| DIG-LINE (2-wire)  | TN2214CP              |                       | Target                             |
|                    | TN2224CP              |                       | Target                             |
| Maintenance/Test   | TN771DP               |                       | Target                             |
| UDS1               | TN464GP               |                       | Target                             |
|                    | TN2464BP              |                       | Target                             |
|                    | TN2313AP              |                       | Target                             |

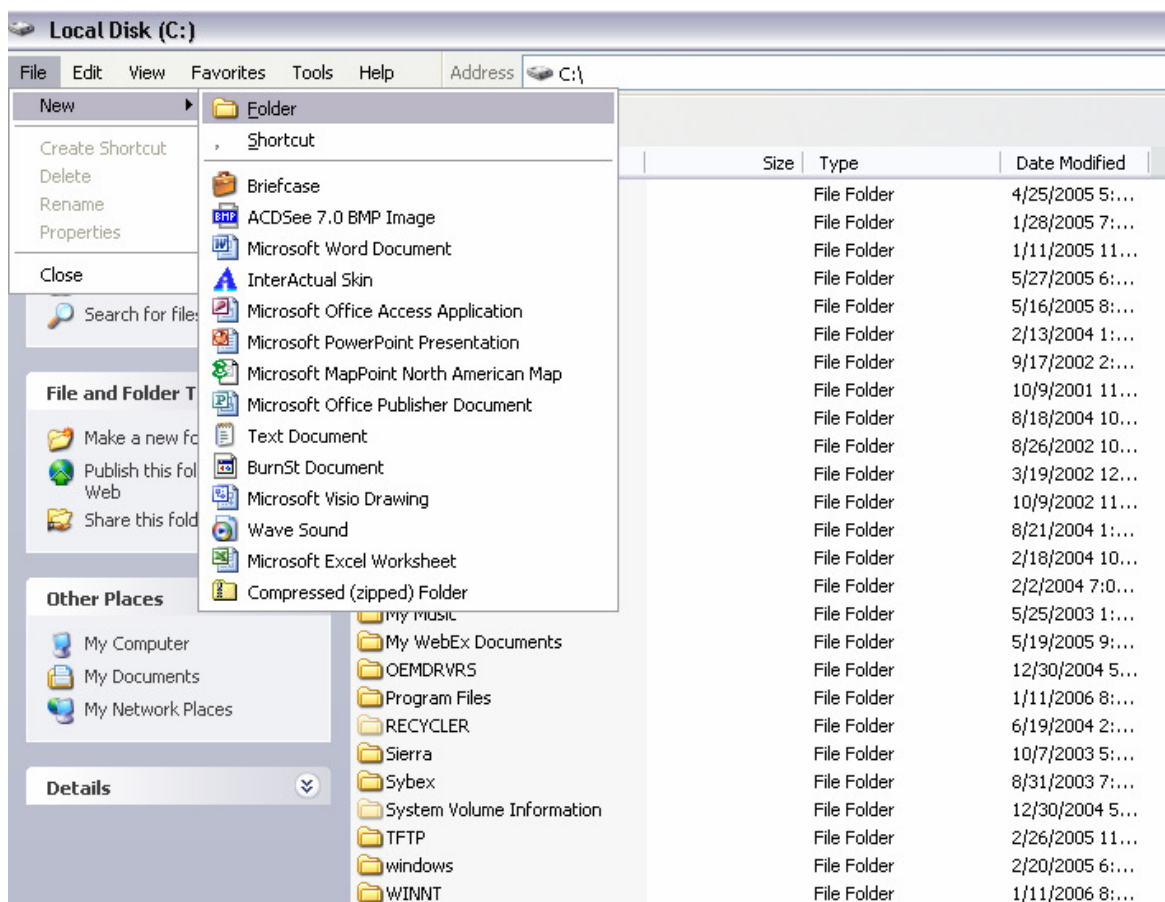
- 
1. The TN799C C-LAN circuit pack can be the "source" for a C-LAN-distributed download but cannot be the "target" circuit pack for either a self or C-LAN-distributed download since it is not a programmable circuit pack (no "P" suffix).
  2. The TN799DP can be both source and target for a self download and can be the source for a C-LAN-distributed download.
  3. For TN2302AP circuit packs with a vintage less than 22, a different download procedure is required that is not described here. Go to the Avaya Support Web site under **Software & Firmware Downloads, DEFINITY ECS, TN2302AP firmware downloads**. On the page titled "Retired - (OLD Do Not Use) DEFINITY Firmware Downloads", scroll down to the TN2302AP section and click on [TFTP\\_Firmware\\_download\\_procedure.pdf](#).

## Upgrade Process

### Notes:

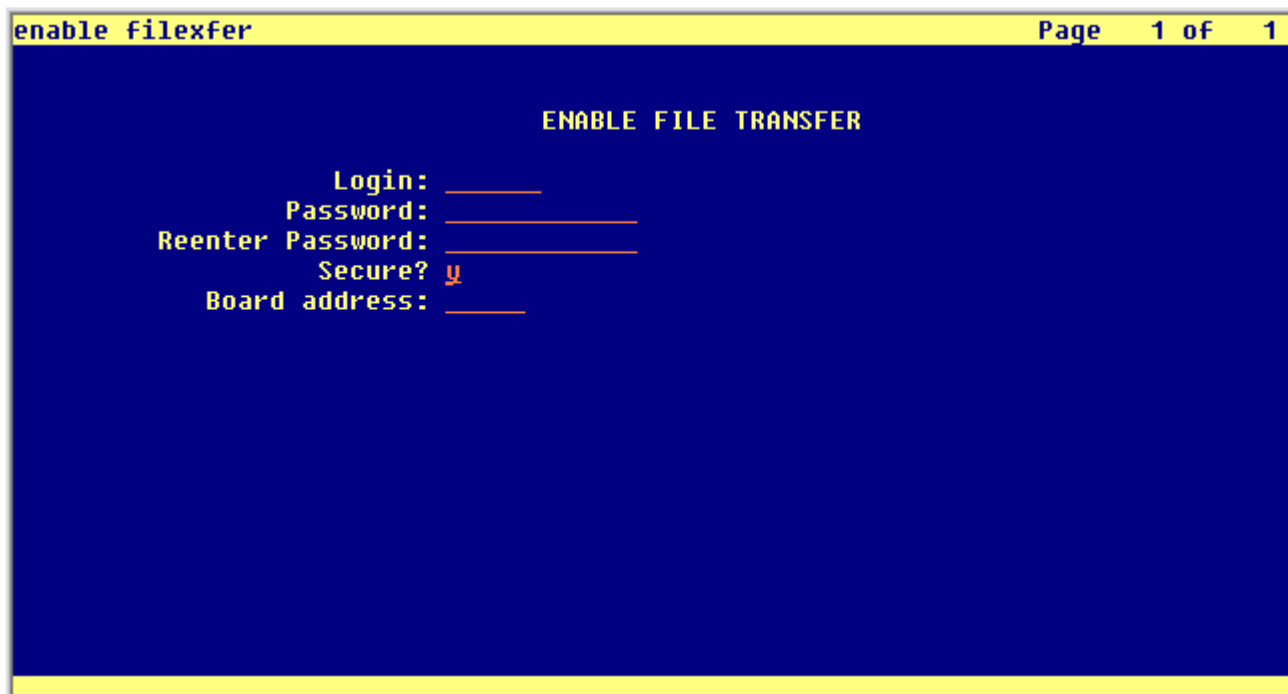
- The following assumes that firmware has been downloaded to a local computer. TN circuit pack firmware can be downloaded at the following URL:  
<http://support.avaya.com/japple/css/japple?PAGE=ProductArea&temp.productID=107639&temp.bucketID=108025>
- Any text in **blue** are commands to be executed on the Avaya voice system.

1. For simplicity, the firmware file should be place in the 'c:\temp' folder. If the folder does not exist, please create as illustrated below:

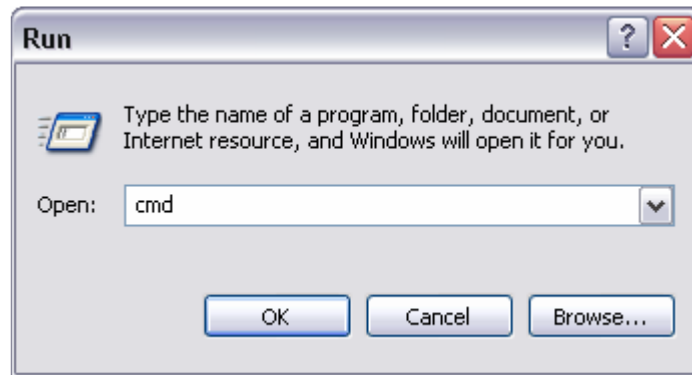


2. The next step is to:

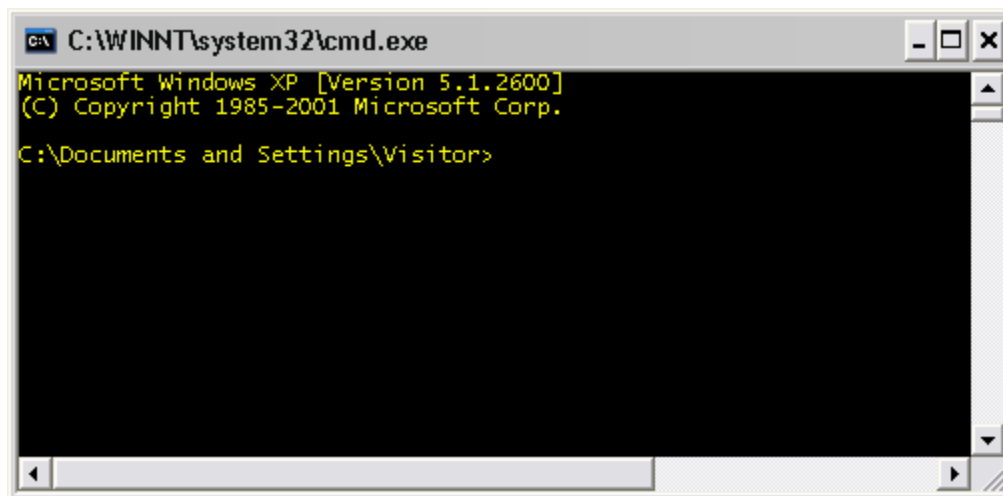
- Enable FTP on the 'source' board -> [enable filexfer](#)
- Create a temporary login for the FTP session
  - Username must be 3 to 6 characters long
  - Password must be 7 to 11 characters long
  - Define 'source' board where firmware will be uploaded



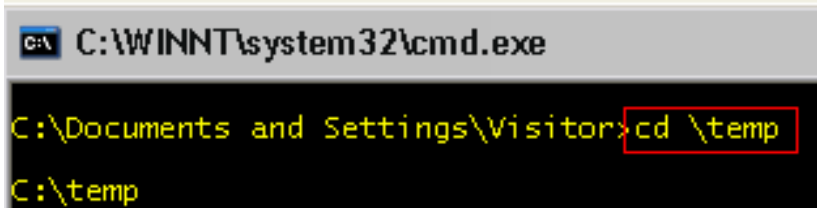
3. The next step is upload the firmware from the local computer to the 'source' board. Go to START -> RUN, type in 'cmd' and then left-click on OK.



The following DOS window opens...



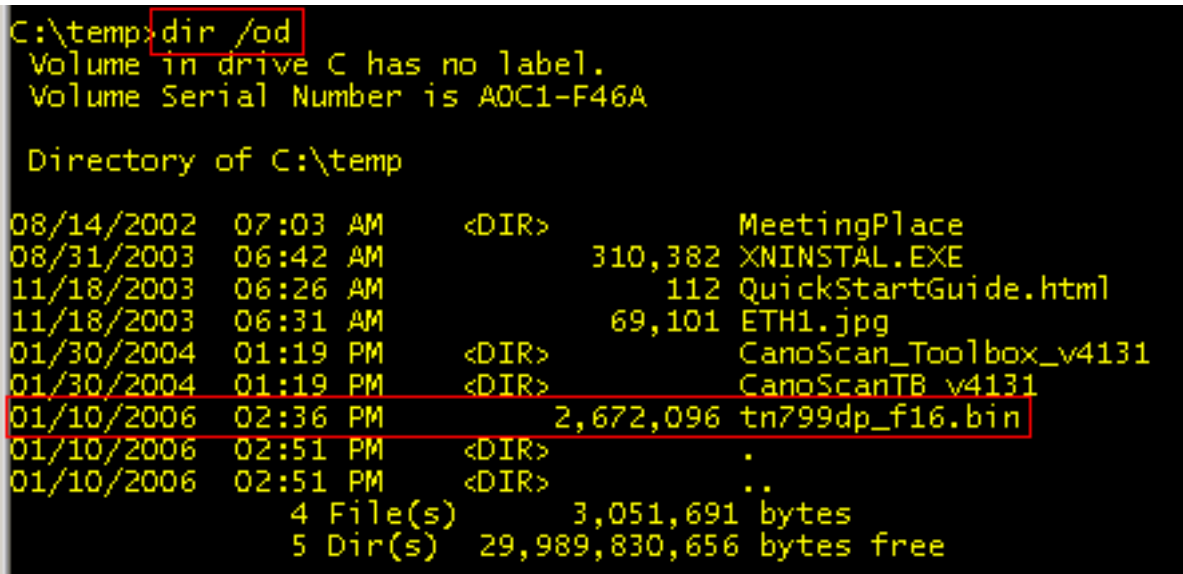
4. In order to use the FTP client that comes with Windows, commands must be executed from the directory where the firmware file is located. The default directory in the DOS window in step 2 is not likely to be the location of the firmware files. To change to the directory to where the firmware file exists as defined in step 1, execute the command illustrated below:



```
C:\WINNT\system32\cmd.exe
C:\Documents and Settings\Visitor>cd \temp
C:\temp
```

A red arrow points to the 'cd \temp' command and its output.

5. Verify that the firmware file exists in the c:\temp folder as illustrated below:



```
C:\temp>dir /od
Volume in drive C has no label.
Volume Serial Number is A0C1-F46A

Directory of C:\temp

08/14/2002  07:03 AM    <DIR>          MeetingPlace
08/31/2003  06:42 AM           310,382 XNINSTALL.EXE
11/18/2003  06:26 AM             112 QuickStartGuide.html
11/18/2003  06:31 AM           69,101 ETH1.jpg
01/30/2004  01:19 PM    <DIR>          CanoScan_Toolbox_v4131
01/30/2004  01:19 PM    <DIR>          CanoScanTB_v4131
01/10/2006  02:36 PM      2,672,096 tn799dp_f16.bin
01/10/2006  02:51 PM    <DIR>          .
01/10/2006  02:51 PM    <DIR>          ..
               4 File(s)        3,051,691 bytes
               5 Dir(s)  29,989,830,656 bytes free
```

The 'dir /od' command and the file 'tn799dp\_f16.bin' are highlighted with red boxes.

6. FTP to the IP address of the 'source' board as shown below:

```
C:\temp>ftp 10.30.70.19
Connected to 10.30.70.19.
220 FTP server ready
```

7. Once the FTP connection is established, you will be prompted for the username and password defined in step 2. The username was defined as 'mike' and the password was 'voipnut'

```
User (10.30.70.19:(none)): mike
331 Password required
Password:
230 User logged in
```

8. At this point, the data type to be transferred needs to be defined. Enter 'binary' here.

```
ftp> binary
200 Type set to I, binary mode
```

9. We are now ready to upload the firmware file from the local computer to the 'source' board. This is done using a 'put' command. A 'Transfer complete' statement verifies it was uploaded successfully.

```
ftp> put tn799dp_f16.bin
200 Port set okay
150 Opening BINARY mode data connection
226 Transfer complete
ftp: 2672096 bytes sent in 3.92Seconds 681.14Kbytes/sec.
```

10. Verify that the firmware is located on the 'source' board using the 'ls' command as shown below:

```
ftp> ls
200 Port set okay
150 Opening ASCII mode data connection
tn799dp_f16.bin
226 Transfer complete
ftp: 17 bytes received in 0.00Seconds 17000.00Kbytes/sec.
```

11. The FTP upload is now complete. Terminate the FTP session with the 'source' board using the 'bye' command:

```
ftp> bye
221 Bye...see you later

C:\temp> _
```

12. Now that the firmware is located on the 'source' board, it needs to be downloaded to the 'target' board. On the Avaya voice system, enter the 'change firmware download <1-4>' command. The following needs to be defined:

- Source board location
- Firmware Image File Name
- Target Board Code
- Suffix
- Schedule Download
  - This field allows you to schedule a download at a later time or immediately. The example below is an immediate download.
- Remove Image File After Successful
  - It is recommended that a 'no' is put in this field in the event of a failed download.

```
change firmware download 1                               Page 1 of 1
                FIRMWARE DOWNLOAD
Source Board Location: 01a07
Firmware Image File Name: tn799dp_f16.bin
Target Board Code: TN799  Suffix: DP  Firmware Vintage:
Schedule Download? n  Remove Image File After Successful Download? n

Target Location      Target Location      Target Location      Target Location      Target Location
1. 01a07             11. _____      21. _____      31. _____      41. _____
2. _____        12. _____      22. _____      32. _____      42. _____
3. _____        13. _____      23. _____      33. _____      43. _____
4. _____        14. _____      24. _____      34. _____      44. _____
5. _____        15. _____      25. _____      35. _____      45. _____
6. _____        16. _____      26. _____      36. _____      46. _____
7. _____        17. _____      27. _____      37. _____      47. _____
8. _____        18. _____      28. _____      38. _____      48. _____
9. _____        19. _____      29. _____      39. _____      49. _____
10. _____       20. _____      30. _____      40. _____      50. _____
```



13. The download time is variable depending on the number of 'target' boards involved. During the download process, a 'status firmware download <1-4>' command can be run for updates. The screen below shows the status of 'Pending'

```
status firmware download 1
STATUS FIRMWARE DOWNLOAD

Source Board Location: 01A07
Firmware Image File Name: tn799dp_f16.bin
Target Board Code: TN799  Suffix: DP  Firmware Vintage: 16
Schedule Download? n  Remove Image File After Successful Download? n

Target Location St   Target Location St   Target Location St   Target Location St   Target Location St
1. 01A07 P   11.                21.                31.                41.
2.                12.                22.                32.                42.
3.                13.                23.                33.                43.
4.                14.                24.                34.                44.
5.                15.                25.                35.                45.
6.                16.                26.                36.                46.
7.                17.                27.                37.                47.
8.                18.                28.                38.                48.
9.                19.                29.                39.                49.
10.                20.                30.                40.                50.
Status: Pending(P) Completed(C) Failed(F) Aborted(A)

Command:
```

14. After a successful download, the screen will show 'Completed'

```
status firmware download 1
STATUS FIRMWARE DOWNLOAD

Source Board Location: 01A07
Firmware Image File Name: tn799dp_f16.bin
Target Board Code: TN799 Suffix: DP Firmware Vintage: 16
Schedule Download? n Remove Image File After Successful Download? n

Target Location St Target Location St Target Location St Target Location St Target Location St
1. 01A07 P 11. 21. 31. 41.
2. 12. 22. 32. 42.
3. 13. 23. 33. 43.
4. 14. 24. 34. 44.
5. 15. 25. 35. 45.
6. 16. 26. 36. 46.
7. 17. 27. 37. 47.
8. 18. 28. 38. 48.
9. 19. 29. 39. 49.
10. 20. 30. 40. 50.
Status: Pending(P) Completed(C) Failed(F) Aborted(A)

Command:
```

- When running the 'status firmware download <1-4>' command, there may be times where the download has completed but enough time has passed so that the 'Completed' status is not displayed. To make certain that the previous download completed, run the 'status firmware download last <1-4>' command.

```
status firmware download last 1
STATUS FIRMWARE DOWNLOAD

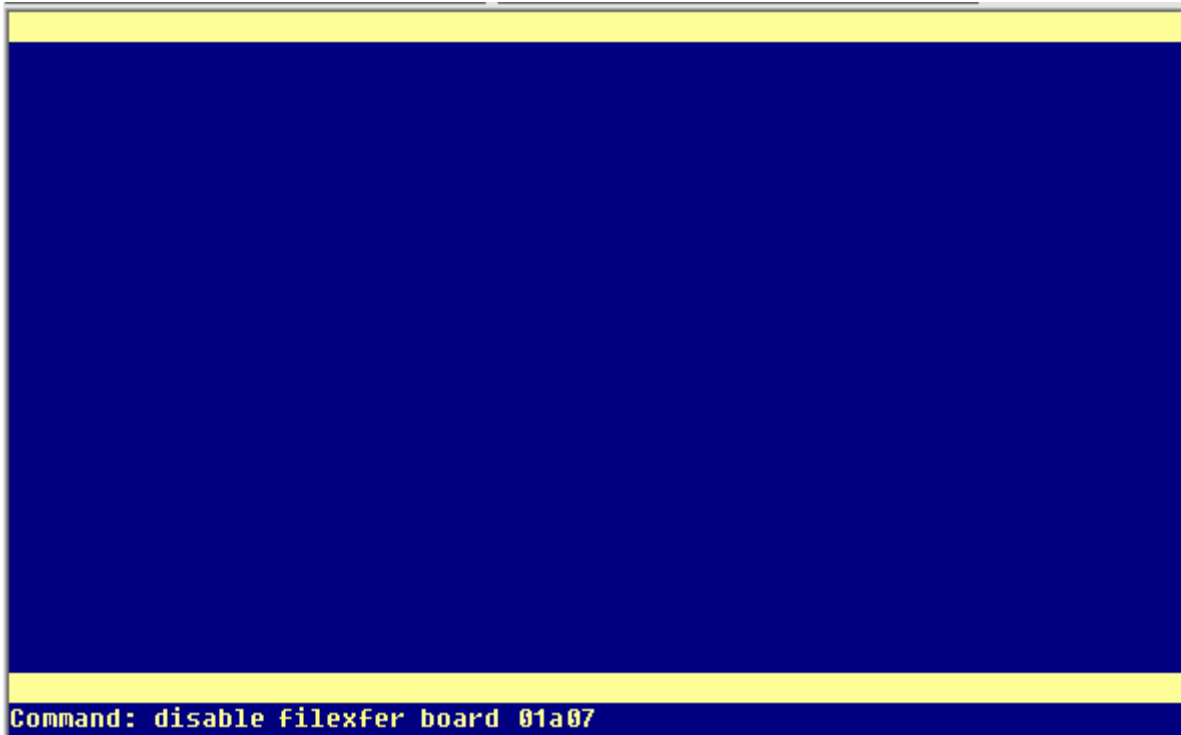
Source Board Location: 01A07
Firmware Image File Name: tn799dp_f16.bin
Target Board Code: TN799 Suffix: DP Firmware Vintage: 16
Schedule Download? n Remove Image File After Successful Download? n

Target Location St Target Location St Target Location St Target Location St Target Location St
1. 01A07 C 11. 21. 31. 41.
2. 12. 22. 32. 42.
3. 13. 23. 33. 43.
4. 14. 24. 34. 44.
5. 15. 25. 35. 45.
6. 16. 26. 36. 46.
7. 17. 27. 37. 47.
8. 18. 28. 38. 48.
9. 19. 29. 39. 49.
10. 20. 30. 40. 50.
Status: Pending(P) Completed(C) Failed(F) Aborted(A)
Command:
```

16. To verify that the firmware version is now loaded on the 'target' board, execute a 'list config all' to see the current load.

```
list configuration all Page 1
SYSTEM CONFIGURATION
Board Number Board Type Code Vintage Assigned Ports
u=unassigned t=tti p=psa
01A01 RESERVED-PROCESSOR TN2314 000004
01A02 PROCESSOR-TONE/CLK TN2314 000004 x x x x x x x x
mj u
01A03 CALL CLASSIFIER TN744E 000002 01 02 03 04 05 06 07 08
01A05 IP MEDIA PROCESSOR TN2302AP HW03 FW093 01 02 03 04 05 06 07 08
01A06 UAL-ANNOUNCEMENT no board u u u u u u u u
u u u u u u u u
u u u u u u u u
01A07 CONTROL-LAN TN799DP HW00 FW016 0 u u u u u u u
u u u u u u u u
17
press CANCEL to quit -- press NEXT PAGE to continue
```

17. Once you have verified the firmware download is successful, disable FTP on the 'source' board. The screen below shows this command. The process is now complete.



```
Command: disable filexfer board 01a07
```

### Related Commands

- **'list directory board <board location>** - lists all existing files on source board
- **'test firmware download <1-4>** - clear alarms on 'source' board after failed upgrade
- **'remove file board <board location> <filename>** - manually remove file from 'source'