

<b>Subject:</b> <b>Connecting Qualstar Tape Drives to a Sun SPARCstation Running Solaris 2.5</b>	<b>Initial Release Date:</b> <b>3/18/96</b>	<b>Revision Date:</b>	<b>Revision:</b>
	<b>Models Affected: All Qualstar SCSI Tape Drives</b>		<b>Page:</b> <b>1 of 2</b>

This application note describes the procedure to use when attaching any of the following Qualstar tape drive products to a Sun Microsystems SPARCstation running Solaris 2.5:

Model	Type
1054	9-Track
1260s	9-Track
34xx	9-Track
M2483B	3480/3490
M2488	3490e

The procedure involves adding new entries to the system configuration file /kernel/drv/st.conf and then recompiling the kernel. This will cause new devices to be configured in "/dev/rmt". See the 'man' entry on 'st' for details about the device naming.

## Procedure

1. Modify the file "/kernel/drv/st.conf". The modification is:

**From:**

```
#tape-config-list=
```

**To:**

```
tape-config-list=
"FUJITSU M1016B M2483B",      "Fujitsu 3480 1/2\" Cartridge",    "FJ-83B",
"FUJITSU M2488 M2488 ",      "Fujitsu 3490e 1/2\" Cartridge",    "FJ-88",
"QUALSTAR 34",               "Qualstar 3410 1/2\" Reel",        "Qualstar3410",
"QUALSTAR1054",              "Qualstar 1054 1/2\" Reel",        "Qualstar1054",
"QUALSTAR1260",              "Qualstar 1260 1/2\" Reel",        "Qualstar1260";

#

FJ-83B      =      1,0x21,0,0x8a19,4,0x09,0x09,0x09,0x09,0;
FJ-88      =      1,0x21,0,0x8a19,4,0x09,0x09,0x09,0x09,0;
Qualstar3410 =      1,0x33,0,0x941d,4,0x01,0x02,0x03,0x06,2;
Qualstar1054 =      1,0x33,0,0x941d,4,0x00,0x02,0x06,0x06,1;
Qualstar1260 =      1,0x33,0,0x941d,4,0x00,0x02,0x03,0x03,2;
```

The spacing in the first string in the tape-config-list entries is critical. There is one space between 'FUJITSU' and 'M'. There are two spaces between 'M1016B' and 'M2483B'. There are three spaces between 'M2488' and 'M2488'. There is one space between 'QUALSTAR' and '34'.

If the st.conf file was already modified, the tape-config-list may already be un-commented. If this is so, add the next 5 lines of text shown above just after the 'tape-config-list=' line and change the trailing ';' to a ','. The tape-config-list is a series of sets of three strings terminated with a ';'. There must be only one ';' in the list. Add the other lines shown above after the end of the tape-config-list.

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3. Shut down the SPARCstation and power off the tape drive.
4. Physically attach the Qualstar tape drive(s) to the SCSI bus. Be sure that the bus termination is properly setup. The rule is there should be only one terminator at the end of the SCSI bus. Many Qualstar tape drives ship with internal termination. The internal termination must be removed unless the tape drive is the last device on the chain (in which case an external terminator must NOT be used).

Also be sure that the SCSI ID's of the Qualstar tape drive(s) do not conflict with each other or with other SCSI devices. The above changes to st.conf allow the tape drive to be addressed to any SCSI ID that is not in use.

5. Power on the Qualstar tape drive(s) followed by the SPARCstation.
6. At the boot prompt execute a "probe-scsi-all" command. Verify that all SCSI bus devices are present.
7. Boot the system as follows "boot -rv". This command causes the kernel to be recompiled before the boot. This recompile should discover and install any tape drive that is present on the SCSI bus. Device files for newly discovered tape devices will be created in "/dev/rmt". Verify that the reboot process display the proper name for each new tape drive (the name is the second string in the tape-config-list set, e.g. a Qualstar 3412s at SCSI ID 5 should display st5: <Qualstar 3410 1/2" Reel>). If the correct proper name is not displayed, check the "/kernel/drv/st.conf" file for spelling against the text displayed by the "probe-scsi-all".

This completes the tape drive installation. If more Qualstar tape drives are added at a later time, only steps 2-6 need to be repeated.