

## INSTALL THE SOFTWARE

- o The UNIX multiscreen software and the ABCS updates are already installed on new systems.

## CONFIGURE PSEUDO TTY'S

- o Check the number of pseudo tty's (there should be at least 64):

```
mkdev pttty
```

If there is not a third option to show you the number of pseudo tty's, this command will show you (first number):

```
l /dev/ttyp* | wc
```

- o Supposedly you should add pseudo tty's in multiples of 8. Also, it is supposedly a good idea to add 10 extra pseudo tty's.

- o If there are not enough tty's, then you will need to create them, relink the kernel, and have the customer reboot- NOTE -be sure the customer knows he will have to reboot before you begin this step.

```
mkdev pttty
l - for add more psuedo tty's
type in the # of additional--not the total
q - to quit
```

- o Now relink the kernel by answering yes to the next three questions and have the customer reboot immediately.

- o Add the pseudo tty's to /etc/ttytype (p0-p7 should already exist).

```
dialup      ttyp8
dialup      ttyp9
dialup      ttyp10
dialup      ttyp11
...
```

- o Assign station numbers to the pseudo tty's in tdevconf.

- o The file msc.cfg contains the station number assignments used by msc. It must be located in the . gcfgs directory with termdevs.cfg. It is in the following format:

```
ttya03      120 121 122 # Joe's terminal.
ttya07      123 124 125 # POS left counter.
ttya12      126 127 128 # POS right counter.
```

The first column is the tty. Tab once. Type in the new station numbers separated by a space. The station numbers are the ones assigned in tdevconf (120 is p0, 121 is p1, etc.).

- o Maxspeed ports need additional entries in /etc/inittab and also its source file in /etc/conf/init.d (ss8, ss80, etc.). Just change the source file and make a new inittab file. Specifically, copy the line for each port and add a number (2 for second line, 3 for third, etc.) immediately after the tty (ttyab2, ttyab3, etc.).

## CONFIGURE MSC

- o Msc is located in /abcs/bin (/usr/bin on old OS). It contains much information. Read it for more info. Mscreen is located in /usr/bin.

'msc' is actually a front-end script to 'mscreen,' a Unix multiscreen utility. 'mscreen' assigns pseudo-ttys unpredictably and must be

given as a shell command after logging on a terminal.

The main purpose of 'msc' is to assign station numbers to the multiscreens assigned to the terminal by 'mscreen.' It also uses an alternate set of keystrokes for Advantage (and maxscreen) compatibility (for example, the code for a wy150-25 to change to the first multiscreen was changed from SHIFT-F1 to CTRL-F1). The "quit" command was also removed, since it produces a non-zero exit from 'mscreen.'

#### CONFIGURE USER'S .PROFILE'S

- o New systems already have an updated .profile for msc. If not, add

```
msc && exit
```

to the .profile before the line which loads the ABCS software.

#### CONFIGURE TERMINALS

- o Some terminals need to have the multipage option enable for multiple screens (F5 on wy150 and F6 on wy55).
- o Give the customer the station numbers for them to set up forms and printer configurations.
- o Spotline terminals need the updated mscreencap file found in this directory. Copy it to /etc/mscreencap.

#### USING MSC

- o A terminal supporting multiscreens will be given usage information and another login when it normally would select the company to use.
- o The usage screen for a wy150-25 terminal looks as follows:

```
Use CTRL-F1 for the first multiscreen
Use CTRL-F2 for the second multiscreen
Use CTRL-F3 for the third multiscreen (if configured)
Use CTRL-F7 for a help screen (this usage screen)
Use CTRL-F8 to find out which screen you are on
Use CTRL-F9 to stop the multiscreen session
```

Since this help screen appears at the beginning of every multiscreen session, the user can look at the help screen to know what to do.

- o At this point, the user can login again. The same login used to start the multiscreen session can be used to log in to the first screen. Other logins are available on the other multiscreen(s). Have him switch between the screens until he is comfortable.

- o Advise the user of the following:

```
When finished with multiscreens, log out of all of the
multiscreens (in whichever order is desired). When all the
multiscreens are at "login:," press the "stop" key (CTRL-F9
for a Wyse 150 or 60). It will say "mscreen ended" and return
you to another "login:," at which point you is back on the
"master" tty. (You should not exit multiscreen session until
all the multiscreens are logged out, or they will be abruptly
terminated.)
```

Attributes are kept when switching to a new screen. Attributes include Caps Lock, flashing or invisible cursor, etc.

If you switch away from a screen that is trying to update the screen, execution there will continue for awhile (perhaps

about 20 screens of plain text), but will eventually stop until you return to that screen. This is an improvement over the Maxpeed multiscreens ("maxscreens"). Which had no screen buffering at all (note that this buffering may be provided by DigiBoard, on which 'msc' was written, and this buffering may disappear if 'msc' is used on a Maxpeed port).

Do not change screens when a lot of non-text information is being sent to the screen (ie menus, painting the screen, etc). This is especially important when logging in, since the terminal's keyboard may end up locked as a result (use SELECT to unlock the keyboard).

#### ADMINISTRATIVE NOTES

- o If you wish to see who is using multiscreens, type

```
msc -r          -OR-          mscq
```

- o For 'msc's built-in help function, type

```
msc -h
```

- o root's .profile is emphatically NOT to be modified to support multiscreens. However, to use msc on a terminal which has been configured for msc type

```
msc          -OR-          msc && exit
```

- o DoubleVision appears to be able to attach to the "master" tty, or any of the multiscreens assigned to it.

- o Wyse 150 terminals may deprogram the arrow keys for all screens when exiting the software on one screen. When this happens, (1) re-enter the software, (2) don't exit the software until finished on all three screens, or (3) use the numeric keypad arrow keys with numlock off.

- o Files used by msc include the following (on abcssup):

```
/abcs/bin/msc  
/abcs.bin/lockit  
/abcs/bin/mscq  
/etc/rc.d/4/cleanup  
$gcfgs/msc.cfg          <- created on site.  
$gcfgs/termdevs.cfg  
/usr/bin/msscreen  
/etc/msscreencap
```

