



ORBIT Terminal

ORBIT TERMINAL OWNER'S MANUAL



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The first entry in the table corresponds to character code 101. When a button is pressed the table is used in the following way to send a code sequence (pseudo-Pascal):

```
var cpal: CPALRecord;
    csICode: Integer;

cpal := (CPAL resource) [(the buttons refCon) - 101]; (Get record)
case cpal.f of
0: Send(cpал.g);
1,2: begin
    if controlKeyWasDown and cpal.ctrlCSI ≠ 0 then
        csICode := cpal.ctrlCSI
    else if shiftKeyWasDown then
        csICode := cpal.shftCSI
    else
        csICode := cpal.CSI;
    if csICode = 99 then (Break state as long as the mouse button is down);
    if not extendedControlMode then
        if cpal.f = 1 then Send(cpал.g)
        else
            case cpal.g of
            1: begin Send('0'); Send('0') end;
            2: begin Send('0'); Send('0'); Send('0') end;
            end
        else if csICode ≠ 99 then
            Send(escape, [ , csICode as two digits, _ ]);
        end;
    3: if clearLampsSwitch in [both, key] then
        ClearLamps(EXP, APP, BUSY, MSG);
    4: if shiftKeyWasDown then
        Send(PushKey(cpал.shftCSI + 8))
    else
        Send(PushKey(cpал.shftCSI));
end;
```

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"Extended Keys" contains the button legends for the extended keys (used in the dialog box in the Extended Keyboard Equivalents command).

Note that if a new font is added the corresponding FOND resource should also be created. This is normally handled by the font editor. However, an easy way to make sure is to move the font out to a temporary file and then back into the application with the Font/DA Mover 3.2 or later.

Languages

STR# 256 contains the language names (as shown in the list under Convenience Switches). Parallel to STR# 256 is LTB# 256, a table with a 9 word entry (nine two byte integers) for each language. Each entry contains the following fields:

- CA2M id (128 byte standard ASCII to Macintosh extended ASCII conversion table),
- CM2A id (256 byte Macintosh extended ASCII to standard ASCII conversion table),
- Font number for font used for button legends in key palette,
- Character set number for CSI n U,
- CPAL id (see below),
- Lamp 1 (EXP) title (index in STR# 260),
- Lamp 2 (APP) title (index in STR# 260),
- Lamp 3 (BUSY) title (index in STR# 260),
- Lamp 4 (MSG) title (index in STR# 260).

These tables do not affect the keyboard layout in any way; they only affect characters sent to and received from the host. The keyboard layout is determined by the System configuration on the Macintosh.

Key Panel

Each button in the key panel is described by a CNTL (control) resource, a character in the ".TDVButtons xxx" font, and an entry in the CPAL resource. The CNTLs and characters are numbered 101-154. The refCon field in each control contains the character code (same as its id). Since the legends are 16x16 pixels, the buttons look best when the control rectangle has a size of 18x18 pixels.

The four lamps (CNTL 256-259) are special controls; their titles are stored in STR# 260 and the corresponding strings are selected by the indices in the current LTB# entry.

Code Sequences Generated by the Buttons in the Key Panel

The codes sent by the buttons are coded in CPAL resources. The LTB# resource entry for the current language determines which CPAL resource to use. A CPAL resource is a table with one entry for each button. Each entry contains the following fields:

```

type CPALRecord-packed record
f:      Byte;      (opcode)
g:      Byte;      (character code (when not extended control mode))
unused: Byte;      (not yet used)
ctrlCSI: Byte;      (CSI when control)
CSI:    Byte;      (CSI no modifiers)
shiftCSI: Byte;     (CSI when shift)
end;
```



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INTRODUCTION

ORBIT Terminal is an emulator for the Tandberg 2200/9S terminal (Notis) that runs on Apple® Macintosh® computers (MacPlus or newer). It allows the Macintosh to be used as a terminal to a host (usually a Norsk Data machine), instead of having a Tandberg terminal.

The program emulates the Tandberg terminal functionally and provides nearly all relevant features. Most applications that use the Tandberg 2215 series terminals will also run under ORBIT Terminal, but some special 2215 keys are missing.

The emulator uses a resizable window on the Macintosh screen to emulate the Tandberg screen. Standard ASCII characters found on the Macintosh keyboard may be used directly. Special keys on the Tandberg terminal are represented by small pictures in a movable palette. To press one of these keys, position the mouse cursor over the desired key and click. Keyboard equivalents, based on Macintosh extended ASCII, can easily be defined. Notis and Nortext users can also use the mouse for certain operations within the Tandberg screen area.

Soft switches on the Tandberg are set using standard Macintosh dialog boxes. A dialog box is activated by choosing the desired set of switches, e.g. Convenience switches, from the Configuration menu (a standard Macintosh menu).

A few Tandberg features are not supported: blinking, double width characters, privacy messages, local printer and half-duplex operation.



Text printed on the terminal can be saved in a Macintosh file (capture). Small amounts of text can be pasted in, and thus sent to the host. Other file transfer capabilities depend on the kind of communication you are using (see below).

ORBIT Terminal is available in two versions. The first, ORBIT Terminal/Serial communicates via the serial port only. The second, ORBIT Terminal/TCP, supports both serial port and Telnet communication, and is intended primarily for users who have Ethernet. Using ORBIT Terminal with Telnet communication requires Macintosh System version 6.0.3 or later. Serial communication will work with some older System versions as well.

With serial communication, the possible communication protocols are determined by the Macintosh hardware: V.24 (RS232) with a baud rate of 300 or more may be used. V.11 (current loop) is not supported. The speed of ORBIT Terminal is approximately the same as that of the Tandberg 2200/95. Except for capturing text printed on the terminal, file transfers require the use of an appropriate program on both the Macintosh and the host. We recommend Kermit, a public domain program found on many computers. Additional information about Kermit may be obtained from Senator Software.

TCP/IP communication is based on MacTCP™ (delivered together with ORBIT Terminal), and can therefore run on hardware configurations supported by MacTCP. These include Ethernet cards that plug into the Macintosh, gateways, and ordinary LocalTalk™ cabling. Terminal emulation uses the Telnet protocol, and file transfers can be performed using the FTP protocol.

ORBIT Terminal has been designed and tested using Norsk Data host computers. Application software on ND-100 and ND-500 computers should run without problems. NOTIS and QED-like editors work correctly. ORBIT Terminal has been designed to support terminal type 93, but terminal types 53 and 83 will also work.

ORBIT Terminal can be run in the background under Multifinder. ORBIT Terminal runs faster when the Macintosh screen is set to black and white only, rather than to grays or colors. ORBIT Terminal/Serial requires 180K bytes of memory. ORBIT Terminal/TCP requires 280K bytes.

CONNECTING UP FOR SERIAL COMMUNICATION

The host computer is connected to the Macintosh via a cable plugged into one of the Macintosh's serial connectors (either the modem connector or the printer connector). These connectors support RS422/423 as well as RS232 (V.24) communication. ORBIT Terminal will run with any host able to communicate using the Macintosh protocols. Note that this means that not all communications protocols supported by Tandberg terminals can be used with ORBIT Terminal (specifically, not current loop [V.11]).

In general it will be possible to connect a computer with an RS232 interface to the Macintosh. You can also use ORBIT Terminal when the host is remotely connected via modem. The cable construction is then determined by the modem hardware.

Connecting to a Norsk Data host

To connect the Macintosh directly to a Norsk Data host, make sure the switch on the Norsk Data computer's interface card is set to RS232 (not current loop). Remember to set the speed correctly (9600 baud will work fine). The cable between a Norsk Data computer and Macintosh should be constructed according to the diagram below. This cable is for Macintosh Plus or later; early Macintoshes used a DB-9 connector. Pin-out for the DB-9 connector is described in Macintosh Technical Note #65. If it is absolutely necessary to use current loop rather than RS232, such as when the building is wired for current loop, a hardware current loop converter must be used.



The following are changes to the Tandberg:

- Method of accessing soft switches uses Macintosh dialog boxes.
- Make Permanent is separate for each set of switches. Each set is handled identically.
- Auto-repeat works for all keys on Macintosh keyboard, but not with the mouse button.
- Time-out and bell moved to menu 1 (convenience switches) from menu 2.
- The break key (command-Exit) will hold the line in a break state as long as it is held down, minimum 1/2 second. (In some Tandberg revisions the time is controlled by a communication switch called Break Length.) If you have a Telnet connection, the break key sends a Telnet BRK.
- Communication protocols supported are those supported by Macintosh hardware. Communication switches not implemented:
 - Communication Mode
 - Communication Clock
- V.11 (current loop) not supported. RS232 (V.24), RS422/423 supported.
- Baud rates under 300 not supported. New high baud rates are supported.
- 1.5 Stop Bits is possible.
- ORBIT Terminal/TCP supports communication via the MacTCP software; in this case, many of the ordinary communication parameters are not relevant.
- A delay has been added after ESC in a push key (so that push keys can be used to log in with Norsk Data hosts).

CUSTOMIZING

This section contains information on how to customize ORBIT Terminal 1.4 using a resource editor. It is written for advanced Macintosh users. Only resources particular to ORBIT Terminal or resources used in a special way are explained. Resources that can be edited in a straightforward manner (dialog boxes, strings, etc.) are not discussed.

Telnet and FTP parameters

The following resources may be edited to change various parameters of the communication.

STR 257	Timeout (in seconds) for connecting
STR 258	Timeout (in seconds) for FTP data connection disconnect
STR 259	Number of FTP response lines buffered for response panel in window
STR# 300	Terminal type response strings (Telnet terminal type option, not used by Norsk Data hosts).

Fonts

Many special fonts are used by ORBIT Terminal. All are included in the application file.

"TDV1" through "TDV15" are the various 2200/95 character sets. Each occurs in nine sizes (10-18) corresponding to the possible screen sizes. "TDV1" is the normal character set. It also contains the cursor and underline characters. The line cursor, block cursor, and underline character are nos. 29, 30, and 31, respectively.

"TDVControl" is a modified version of Chicago with characters representing the control characters. These are character nos. 64-95. This font is used in the push key dialog box. "TDVChicago" is a modified version of Chicago with extra Icelandic characters. This font is used in the push key dialog box.

"TDVButtons xxx" contains the button legends for language xxx. If new languages are defined, new versions of these may be added on any unused font ID.



- A new Use Mouse convenience switch allows certain mouse operations in the Tandberg screen area. This is intended primarily for Notis and Nortext users.
- A new Numeric Pad convenience switch can be used to require that the option key be held down in order to generate function key sequences from the numeric pad.
- A new Suspend/Resume convenience switch allows the use of control-S and control-Q to temporarily stop output on the screen. There is also a menu command for this function.
- A new Language setting in the Convenience dialog determines the conversions between Macintosh extended ASCII and standard ASCII when communicating with the host. It also affects the appearance and coding of the panel of keys at the top of the screen.
- A new Auto SuperShift Convenience setting permits SuperShift sequences to be generated automatically for characters in the extended Macintosh ASCII set.
- A new Port communication switch permits use of either Macintosh serial connector, and TCP/IP communication in ORBIT Terminal/TCP.
- A new CR Sends communication switch determines the Telnet end-of-line.

The following Tandberg features are not supported:

- Blinking on the screen. Codes and switches connected with blinking are ignored.
- Convenience switch Margin Bell.
- Convenience switch Display Type Select.
- Convenience switches Key Rollover and Keyboard CAPS on power up.
- Communication switch Send-Receive Mode. Will always be Simultaneous when using serial communication.
- Communication switch Echo. Will always be external for serial communication, i.e. no half-duplex operation.
- Function switch Character Set. (Its function is partially replaced by the Language convenience switch.)
- Function switch Overstrike.
- Not implemented:
 - CSI n h/ Parameter values 63=CS (character set), 86=DTS (Display Type Select), and 87=OS (overstrike)
- Facilities for connecting a printer directly to the terminal:
 - Received sequence MC (media copy) = CSI n i
 - Received sequence SM (set mode) = CSI n h/ with parameter 40,42,43,69
- Function switches: Printer Mode, Printer Form-feed
- Communication Switches:
 - Printer Handshake, Printer Code Format, Printer Speed

No keys on keyboard for controlling printer
(Use of text capture and a printer attached to the Macintosh should fill most of the needs of users who have previously used a printer attached directly to the terminal.)

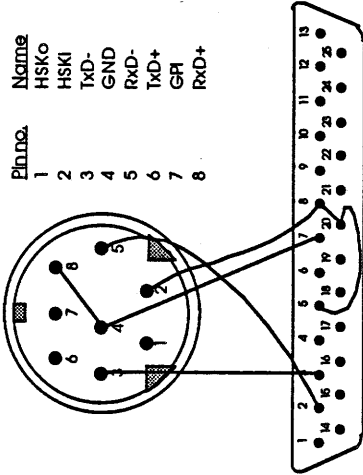
Facilities for using the terminal via modem:
Function switch Modem

Communication switch Handshake value DTR
(ORBIT Terminal can be used via modem when a modem is connected to the Macintosh in the usual way.)

- Double width characters (3 character ESC sequences):
Received sequence SWL (single-width character) = ESC #5
Received sequence DWL (double-width character) = ESC #6
- Privacy messages:
Received sequence PM (privacy message) = ESC ^
- Not accepted in SGR sequence
(SGR is Select Graphic Rendition, sequence: CSI p1:p2...:pn m)
50 (neutral); parentheses around parameter
- Locking mechanism on keyboard.



Macintosh Din-8 Male Connector



Norsk Data DB-25 Male Connector

Name	Description
HSKO	Output handshake
HSKI	Input handshake
TxD-	Transmit data
GND	Ground
RxD-	Receive data
TxD+	Transmit data
GPI	General purpose input (Mac II only)
RxD+	Receive data, ground this to emulate RS232

Pin No.	Name	Description
2	TXD	Transmitted data
3	RXD	Received data
5	CTS	Clear to send
7	GND	Ground
8	DCD	Data carrier detect
20	DTR	Data terminal ready

It is best to use XON/XOFF communication protocol when using the Macintosh as a terminal. Without it ORBIT Terminal will run, but at 9600 baud characters may be lost. It is seldom noticeable that the terminal is running with XON/XOFF. However, a Norsk Data machine will not process a control-S (XOFF) until the next character is received. To set up XON/XOFF on the Norsk Data side, find the address of XOFTR in the file SYMBOL-1-LIST or SYMBOL-2-LIST under user SYSTEM. Change the data field as follows:

```
@SINTRAN-SERVICE-PROGRAM
*CHANGE-DATAFIELD <logical unit (e.g. 37D)> I Y Y
DFLAG/1001
ROUSP/<address of XOFTR>
*EXIT
@
```

Installing ORBIT Terminal

Once the cable is connected between the host and one of the Macintosh ports, it is time to start ORBIT Terminal. Insert the ORBIT Terminal disk. If you wish, copy the program and the help file to your hard disk. Double-click the ORBIT Terminal icon. The program should display the extra Tandberg key palette and the blank Tandberg screen.

- Some Communication soft switches may need to be set up before the program can be used:
 - Port should be set to Modem or Printer according to where the cable is plugged in on the Macintosh.
 - The Handshake switch should be set to None or XON/XOFF according to the communication used by the host machine. In general, XON/XOFF is preferable.
 - Be sure the speed setting corresponds to that used by the host machine.
 - Check other Communication switches: Data Bits, Stop Bits, Parity. These should be 7, 1, and even, respectively, for Norsk Data hosts.
- Information about how to set these switches is in the Soft switches section below.
- The Macintosh can now be used as if it were a Tandberg terminal. For Norsk Data host machines, press ESC (or click ESC in the palette). The normal log-in message should appear. (If the log-in message does not appear, check the communication switch settings and the cable.)



Then press ESC again. Try pressing Return one or more times.) Log in and use the computer as usual. When you are finished log out as usual.

GETTING STARTED WITH TCP/IP COMMUNICATION

First, MacTCP must be installed. If you have several applications that use MacTCP, it only needs to be installed once. Insert the ORBIT Terminal disk. Copy MacTCP and the Hosts file to the System Folder of your start-up disk.

(If you have installed other TCP communications software that does not use MacTCP, it may not be compatible with MacTCP. It may be necessary to restart your Macintosh in order to change from one to the other.)

Use the Control Panel in the Apple menu to configure MacTCP. For most users, it is sufficient to enter your own IP address. Click the More button. Change the Obtain Address radio button setting from Server to Manually. Click OK. Click OK for the restart message. Enter your IP address in the original control panel box. Click the close box. Click OK for the restart message.

Restart your Macintosh.

To start ORBIT Terminal, insert the ORBIT Terminal disk. If you wish, copy the program and the help file to your hard disk. Double-click the ORBIT Terminal icon. The program should display the extra Tandberg key palette and the blank Tandberg screen.

Choose Communication switches from the Configuration menu. Set the Port switch to TCP/IP to activate TCP/IP in ORBIT Terminal. Click OK.

You can now use ORBIT Terminal to communicate with machines on the network. If you are going to use the same host most of the time, use Default Host in the Network menu to set the host name or address. Use Open Connection in the Network menu to open a Telnet connection to a host (specified by name or IP address).

If the host is a Norsk Data computer, press ESC (or click it in the palette) to get the log-in messages. When the computer asks for terminal type, you should answer 93 (or 53 or 83). Log in and use the computer as usual. When you are finished, log out as usual. If the host is a Norsk Data computer, an alert appears stating that the connection went down. If you want to log in as another user, choose Open Connection again.

If you have trouble establishing a connection, you may need to restart the Macintosh between trials (in case MacTCP has gotten into a bad state). By holding down option and choosing in the File menu, you can also bring up a debug window that may help in identifying the problem.

If you have a complex network with a network administrator, it is possible for the administrator to pre-configure MacTCP before distributing it. Contact Senator Software for more information.

About the Hosts file

The Hosts file maps machine names to internet addresses, which is the same service provided by the domain name system. You can use the Hosts file if there is no domain name server on your network. It is also convenient to place frequently used name-to-address mappings in this file. In dialogs in ORBIT Terminal, you can specify a host using a pop-up menu over Host file entries.

To use the Hosts file, you must customize the sample file and add text that defines name-to-address mappings. The file is a text file, and can be customized with TeachText, text



a directory double-clicking sets the current directory (moves down, except for the parent directory name which moves up). If the name is a file, the file is fetched. If this scheme is too simple to work with the file system of the host, you can use the receive file button and the CWD command.

Entering FTP commands directly

Advanced users can type commands in the FTP command panel at the bottom of the FTP window. The response to each command is shown in the FTP response panel. Each command causes at least one line to appear in the response panel. The information below gives some basic guidelines, and lists some of the most common FTP commands.

Typing HELP produces a list of commands available on the server. Some servers give a long list containing both implemented and non-implemented commands. Non-implemented commands are usually marked by an asterisk, or the help response explains how to identify them.

An FTP command consists of the command name followed by one space and the argument, if any. Case is not significant in command names. Initiate the command by pressing return. Some common FTP commands are:

USER username	Use when no automatic log in.	QUIT	Disconnect from server.
PASS password		RMD	Remove directory.
ACCT account-info		MKD	Make directory.
CWD pathname	Change current directory.	PWD	Print name of current directory.
CDUP	Change to parent directory.		
RETR pathname	Transfer file to Macintosh.	TYPE A	Use ASCII file transfer.
STOR pathname	Transfer file to host.	TYPE I	Use Image (binary) file transfer.
LIST	List files.		
LSLT	List files.		
RNFR pathname	Rename from: old file name.		
RNTO pathname	Rename to: new file name.		
DELE pathname	Delete file.		
		SYST	Print name of operating system.
		STAR	Print current status.
		HELP	Print the list of commands.
		NOOP	Do nothing. See if server answers.

SUMMARY OF DIFFERENCES WITH TANDBERG TERMINAL

The following summarizes the differences between ORBIT Terminal and Tandberg terminals. This list is based on Tandberg documentation TDV 2215 S, *Functional Specifications*, publ. no. 5176, April 1985 and TDV 2200/9 S *User's Guide (ND)*, publ. no. 5509, November 1984.

The following extensions to Tandberg are included:

- Push keys can have as many characters as desired.
- Screen contents are not lost when setting switches.
- A new Low Intensity convenience switch allows low intensity to be ignored.
- A new CR in Paste convenience switch allows line feeds to be automatically inserted after carriage returns in text sent to the host during paste.
- A new Command Key convenience switch determines whether the command key on the Macintosh keyboard is used to generate control characters or as the normal menu shortcut.



FTP Settings

The Settings dialog is brought up by clicking the Settings button in the FTP window. Click OK to change the settings temporarily, or click Make Permanent to set initial values used each time ORBIT Terminal is started.

FTP Settings

ND host

Log in automatically when connected

Include parent directory

Get directory automatically

Text MacBinary MREB

Directory prefix: _____

Directory suffix: _____

ND host should be on if you know that you are connecting to a Norsk Data host. It affects how file names are converted. ORBIT Terminal will make an attempt to convert Norsk Data file names into reasonable Macintosh file names and vice versa.

Log in automatically when connected. If this is checked, ORBIT Terminal will automatically attempt to log in to the FTP server when the Connect button is clicked in the FTP window. The User name, Password, and Account number specified in the FTP window are used; for Norsk Data hosts, the Account number is not needed and the password is the Sintran password. If automatic log in is not checked, you must issue the log in command yourself in the FTP command panel.

Include parent directory determines whether or not the name of the parent directory is shown as the first entry in the file panel. This is only relevant for hosts with a hierarchical file system (not relevant for Norsk Data hosts).

Get directory automatically determines whether or not the file panel is automatically updated (when logging in, moving up or down in the hierarchy, or transferring files to the host). If you are running on a slow network and know what you are doing, you may want to turn this off. Get the file list manually by using the List Files button.

Text sets transfer mode to text (7-bit ASCII). Binary sets transfer mode to Binary (all 8 bits of each byte are transferred). MacBinary enables MacBinary transfers. See the discussions in the About File Transfer section and in Parts of the FTP Window section above. MACB should be on or off depending upon whether the FTP server uses the MACB command to enable MacBinary. For NCSA Telnet and TCP/Connect hosts, it should be on. For Norsk Data and most other hosts, it should be off. If in doubt, try with the switch off first.

Directory prefix and Directory suffix are used to decide whether a name in the file list is a directory or a file. This determines what happens when you double-click a name. If the name is



editors, and word processors. (If you use word processors, remember to save the file as Text Only.) When you edit, do not use special or graphics characters (those in the Macintosh extended character set). This applies to æþðöå in Scandinavian languages. Using them can cause unpredictable results. After editing the Hosts file, restart your Macintosh.

The form of text that associates a name with an address is:

- ```
<name> <type> <data> [;<comment>]
```
- where
- name is the name assigned to a host or domain on the internet.
  - type is A (address), NS (name server), or CNAME (canonical name).
  - data is determined by the type specified:
    - if type=A, the data is an internet address.
    - if type=NS, the data is the name of the domain name server that has authority over the domain specified in the name field.
    - if type=CNAME, the data is the canonical (or official) name for the name field.
  - comment allows you to add a comment. A semicolon is used to start a comment.
- Any combination of tabs and spaces can be used to separate the items in a line.

The following are examples of entries in a hosts file.

```
acct.sco.com A 128.8.1.1 ; address of host "acct"
xco.com NS server.xco.com ; name server for domain xco.com
fred.xco.com CNAME bonzini.xco.com ; canonical name for alias fred.xco.com
```

USE OF KEYBOARD AND DISPLAY

ORBIT Terminal displays a palette for the extra Tandberg keys and a window for the Tandberg screen. Both the palette and the window can be moved about. Move the palette by dragging on the background pattern. Also, the Tandberg screen window can be resized (even when no resize icon is visible). Since only certain full screen sizes can be used, the new size will only approximate the specified size. If you make the window smaller than the smallest full screen size, only a portion of the screen (the lower left hand corner) is shown. If you use keyboard equivalents for the Tandberg keys, you may want to remove the palette from view by choosing Hide Palette from the Configuration menu.

Various common window placements and sizes can be set by choosing a Window Placement item from the Configuration menu. Choosing Remember Windows from the Configuration menu causes the current sizes and placements to be used each time ORBIT Terminal is started.

Typing on the keyboard produces ASCII characters which are then sent to the host. Normally, the keys will generate the same characters as used on a Macintosh. The backspace key will generate a delete, and the enter key a carriage return. Typing characters in the Macintosh extended character set may produce special SuperShift sequences; see the section on Features for Notes and Nortext Users.

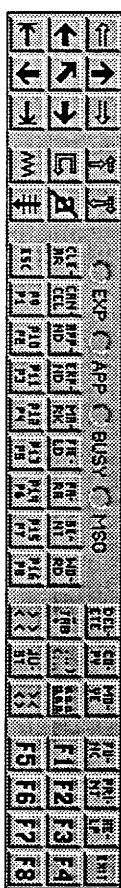
If you know which ASCII code you want to send to the host, you can send it by choosing Send Code from the Edit menu. This is particularly useful if you don't know which key to press in order to generate the desired code, or if the code is represented by a dead key on your Macintosh keyboard. Except for dead keys, sending a code in this way is the same as sending the code by pressing the associated key on the keyboard.

An ASCII zero can always be generated by pressing control-2. Users with a Norsk Data host and a MacPlus should note that escape is generated by the upper left key on the numeric keypad.



The behavior of the command key (⌘) is determined by the Command Key switch in the Convenience switch dialog. The switch determines whether the command key works as a control key (for typing control characters) or as the ordinary Macintosh shortcut for menu commands. When Control is chosen, the command and control keys work identically; otherwise, you must use the control key to type control characters. When Command is chosen, command key equivalents show in the menus.

The keys and lamps not found on the Macintosh keyboard are displayed in the key palette. To press one of these keys, place the mouse cursor over the key and click. The code(s) associated with the key will be sent to the host machine. The following shows the layout of these keys for the International language setting:



Keyboard equivalents can be defined for these Tandberg keys. This is done by associating characters in Macintosh extended ASCII (for most of them, hold down the option key) with a Tandberg key. Choose Keyboard Equivalents from the Configuration menu to change the definitions. The dialog box contains a double entry for each code in Macintosh extended ASCII. Press the key on the keyboard for which you wish to define an equivalent. The character it generates will be highlighted briefly. Drag the picture of the Tandberg key to the character. If you plan to use the automatic SuperShift feature, you should try to avoid equivalents for the same characters that should generate SuperShift sequences (the equivalent has priority).

When using keyboard equivalents, the state of the shift key is significant. For example, to have an equivalent for both F1 and shift-F1, you must associate the F1 key with two characters in the extended ASCII set. One character is generated without holding down the shift key, while the other is generated using shift. Another example is the push keys, e.g. P1 and P9. To get both on the same keyboard key, you must define two equivalents.

If you have the extended Macintosh keyboard, you can associate the extra Tandberg keys with keys on the extended keyboard. Choosing Extended Keyboard Equivalents from the Configuration menu lets you change the definitions in a way similar to ordinary Keyboard Equivalents. To retrieve the original preset definitions, click the Default button.

If you wish, you can temporarily stop output on the screen in order to read what is already there. Choose Suspend in the Edit menu to suspend output, and choose it again to resume. If you have the Command Key Convenience switch set to command, you can press command-S. The suspend function can also be mapped to the keyboard keys control-S (suspend) and control-Q (resume) using the Suspend/Resume Convenience switch.

The desired Language is specified in the Convenience switch dialog. Options correspond to the various Tandberg terminal versions: International (US ASCII), Norwegian, Swedish, Danish, English, SDS, French, Swiss, German, FAO, Finnish, Icelandic and several variations of Nortext keyboards. The choice of language affects:

- The appearance of the panel of Tandberg keys at the top of the screen.
- The escape sequences that are associated with the keys in the panel.
- Conversion of characters sent to the host (Macintosh extended ASCII to standard ASCII).
- Conversion of characters received from the host (standard ASCII to Macintosh extended).

Character conversions enable the usual use of special letters in the standard portion of the ASCII character set, e.g. (|) are converted to and from ÅæÆçËöÿÅÄ as appropriate for Scandinavian languages. An experienced user who can use a resource editor can add new



For Norsk Data hosts, the file panel lists the files of the current user. Browsing is unnecessary because Norsk Data computers do not use a hierarchical file system.

Before you transfer a file, check the Text, Binary, and MacBinary settings. More information about whether to use Text or Binary may be found in the section called About File Transfer. If you know that the file is a standard text file, you may want to transfer it as text. Otherwise, transfer it as binary.

Checking MacBinary enables MacBinary transfers. MacBinary transfers make it possible to send Macintosh files (including type, creator, icons, and both forks) over the network. Without MacBinary, only the data fork is sent. MacBinary files are virtually useless on any other machine than a Macintosh. If your host is not a Macintosh, the main use for MacBinary is for archiving Macintosh files that you transfer back to a Macintosh when you want to use them.

If MacBinary is checked, the Send File operation will cause files to be sent as MacBinary. The Receive File operation checks the incoming file for a MacBinary header and, if found, receives the file as MacBinary. This means that the file name, icon, etc. will be set up from the transferred file.

The Send File... button causes a file to be sent from the Macintosh to the host. You specify which file to send using a standard Macintosh dialog. The file will be transferred to the current directory of the host computer. If the host has a hierarchical file system, browse to the directory where you want to place the transferred file before clicking Send File.

The Receive File... button causes a file selected in the file panel to be sent from the host to the Macintosh. Receive File can also be activated by double-clicking a file in the file panel. A standard Macintosh dialog appears to allow you to name the transferred file and place it in the desired folder.

While transfers are in progress, a small hourglass is shown below the Settings button. No FTP commands may be executed when the hourglass is showing. You can, however, use the Terminal window while the transfer proceeds in the background.

The FTP response panel gives feedback about how the current operation is proceeding. Each response is an answer given by the host to an FTP command. A response consists of a 3-digit number and an explanatory text. The number is for use by computers, and the text is (mostly) for use by humans. When file transfer concludes the number of bytes transferred and the transfer rate are shown. For most users, it is not necessary to understand the contents of the panel, but you will probably find it useful to follow along.

The next two sections contain information on the Settings dialog, brought up by clicking on the Settings button, and on using the FTP command panel at the bottom of the window.

Clicking in the close box removes the FTP window. Before clicking the close box, you should click Disconnect to terminate the connection gracefully.

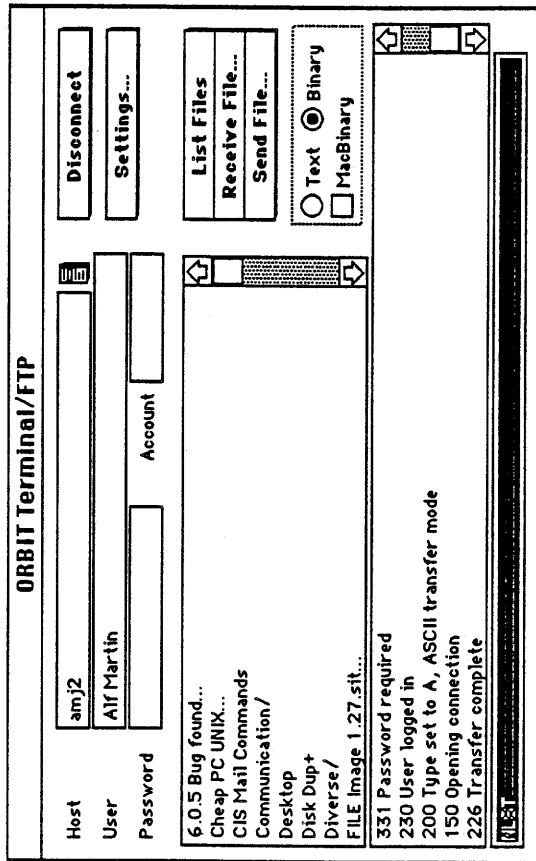




- Find the file you want to transfer in the file panel and select it. For hierarchical file systems, you may need to move up and down the hierarchy. Double-click a directory name to move down, double-click the parent name to move up.
- Click the Receive File button, or double-click the file you want to transfer.
- The hourglass appears to show that the file is being transferred.

- When you have transferred all the files you want, click Disconnect.
- Close the FTP window.

Parts of the FTP Window



Host, User, Password, and Account are fields that you fill out. Under these fields are three panels: the file panel that displays a list of files on the host, the FTP response panel that lets you peek at the inner workings of FTP, and the FTP command panel where you can enter commands directly. To the right are buttons that start various actions. You also specify the kind of file you are transferring: Text, Binary, or MacBinary.

Fill out the Host field with name or IP address of the host. Whether User, Password, and Account are also needed depends on the settings. When the fields have been filled out, click Connect to attempt to establish a connection to the specified host. If specified in the settings, the user is automatically logged in. Once logged in, the window should resemble the one shown above, although the actual values shown may be different.

You can browse in the host files if the host has a hierarchical file system. Move downward in the file hierarchy by double-clicking a directory. Move upward by double-clicking the parent directory. (An FTP Settings switch determines if the parent directory is visible.) If specified in the settings, the contents of the new current directory are automatically fetched and shown in the file panel. Otherwise, you can click List Files to fetch the list manually. If you double-click a file name, a Receive File is performed. Whether a particular name is interpreted to be a directory or a file name is determined by the FTP settings.



language options and/or modify the definitions associated with an existing language. This applies to the panel appearance and escape sequences as well as character conversion. See the Customizing section for more information.

Auto-repeat works for all codes generated by pressing keys on the Macintosh keyboard. It does not work for codes generated using the mouse button.

Codes generated from the keyboard and extra buttons follow Tandberg's manual TDV 2200/9S *User's Guide (ND)*, publ. no. 5509, November 1984 (except for the NorText variants). Control codes and CSI sequences work as documented. TDV 2215 users will find that the keyboard works for all of the usual typewriter keys (including control codes), but that special keys (in particular, DEL LINE, INS LINE, DEL CHAR, INS CHAR) do not exist. To enter these codes, you must type the associated CSI sequences.

FEATURES FOR NOTIS AND NORTEXT USERS

You can use the mouse for certain operations within the Tandberg screen area. The mouse behavior is adjusted to produce reasonable results for Notis and NorText. It may also produce reasonable results in other programs, but it may also produce gibberish. Correct behavior is dependent upon assumptions about the screen setup used in the host program. Therefore, if you find that it works for you, great; otherwise, you may want to turn off these mouse functions with the Use Mouse switch in the Convenience dialog.

The mouse behavior is as follows:

- Commands in the first two lines can be chosen by clicking on them.
- If the Tandberg cursor is in the text, and you click in the first two lines, HOME is sent.
- If the Tandberg cursor is in the first two lines, and you click in the text, HOME is sent.
- If the Tandberg cursor is in the text, and you click in the text, the cursor is moved.
- If you drag to create a rectangle in the text, MARK is sent at the two corners. Hold down shift while you drag to generate shift-MARK.
- In the setup menus, you will find that clicking works best if you click on the first column of the entered values.

ORBIT Terminal can generate SuperShift sequences automatically. The purpose of automatic SuperShift is to enable you to type special characters as usual on the Macintosh keyboard. These are automatically translated into the special character sequences that the host recognizes. Because the SuperShift sequences vary with program versions and installations, ORBIT Terminal includes facilities for modifying the tables.

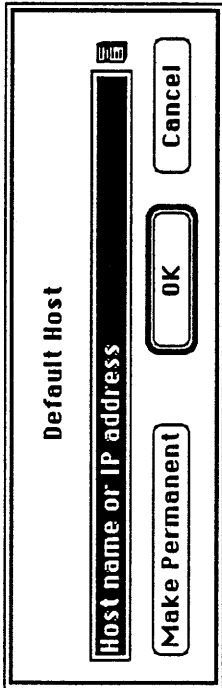
The list of SuperShift tables appears in the lower right hand corner of the Convenience dialog. Set the table to use by choosing it in the list. To turn off automatic SuperShift, choose None in the list. Delete a table by choosing it in the list and clicking the Remove... button. You can also create a new table or modify an existing table. Choose the table in the list most similar to the new table you want to create, and click the Edit... button. A new window appears.

At the top is the name that appears in the list of tables. If you don't change the name, you can modify an existing table. If you change the name, you will be able to create a new table. The Clear button at the right removes all definitions for this table. Revert reverts to the definitions you had when you brought up the window. Cancel dismisses the dialog without changing anything. Redefine (or New) modifies or creates a new table.

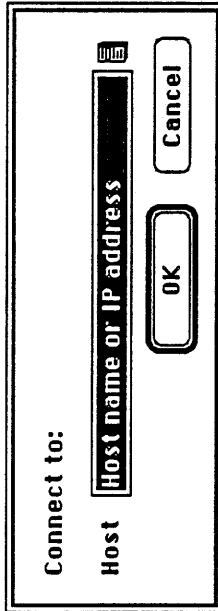




**Default Host...** brings up a dialog that allows you to specify a default host name (or IP address) to be used in all subsequent Open Connection and FTP Connect commands. The default name or IP address may include the port number. Clicking small icon at the right brings up a pop-up menu over the hosts specified in the Hosts file. (You can customize this file if you wish; see the *Hosts file* section.) Make Permanent causes the value be the new start-up value for ORBIT Terminal, while OK changes the value temporarily.



Open Connection opens a Telnet connection to the host, specified by name or IP address. The names that can be used here are found in the Hosts file (see *About the Hosts file* in the *Getting Started with TCP/IP Communication* section) or from name servers on the network. Click the small icon at the right to get a pop-up menu over the hosts specified in the Hosts file. If you need to connect to a Telnet or FTP server running on a non-standard TCP port, you may include the TCP port number after the IP address or host name.



Close Connection terminates the current Telnet connection. On many systems (including Norsk Data hosts), the connection is automatically closed by the host when the logout (or similar) command is issued. Since it is not possible in general for ORBIT Terminal to know when a logout command is issued, no attempt is made to do so. If the host terminates the connection, an alert appears stating that the connection went down. This is normal after logout.

Send "Are you there?", Send "Abort output", Send "Interrupt process", Send "Erase Character", and Send "Erase Line" send the corresponding Telnet command to the host. Are you there? will usually answer with a string such as "yes" or "yes I am here". These functions may or may not be implemented on the host.

A Telnet BRK function can be sent by holding down control and clicking EXIT in the palette.



see the text on the screen, it isn't working. If the terminal starts blinking or exhibits strange behavior, the file is probably not a pure text file (i.e. it contains control characters). (If this happens, you need to press escape to stop the copy command. You may also need to restart ORBIT Terminal. You may need to do these steps several times to get everything going again.)

- When the copy command is finished, the Sintran @ will again appear as usual.
- Choose Stop Capture from the File menu.
- Log off the Norsk Data machine.
- Quit ORBIT Terminal.
- Start your favorite word processing program and open the transferred document. It will have an extra carriage return at the beginning, and the @ at the end. Remove these. Then format the document as you wish.

### PASTE

Paste enables you to send text to the host machine by pasting in from the clipboard. If you are using serial communication, only small amounts of text can be pasted. If you are using TCP/IP, you may paste freely.

For serial communication, there is no protocol in the Macintosh-to-host direction, so characters may be lost in unfavorable circumstances. Paste seems to work with a Norsk Data host at 9600 baud (when alone on the machine) with the QED editor and with the COPY command in Sintran. (It doesn't seem to work with NOTIS-WP, except with very small amounts of text.) If characters are lost, results may be improved by using the Delay switch to insert a delay after each character. This will, however, slow down communication considerably.

A convenience switch, CR in Paste, determines whether the terminal will send a line feed after each carriage return. Usage of the switch is as follows for Norsk Data hosts. When pasting using Sintran COPY, set the switch to CR and LF if you later wish to read the file with QED or NOTIS-WP. The switch must be set to CR only when pasting directly into NOTIS-WP, as NOTIS goes into command mode upon receiving a line feed. Its position doesn't matter when pasting directly into QED.

Paste can be aborted by pressing command-period or escape.

### ABOUT FILE TRANSFER

When you want to transfer a file between two computers, there are two major issues. The first is the physical transfer of the data. Text files and binary files may be handled differently at the physical transfer stage. For example, with ORBIT Terminal you can usually transfer text files to the Macintosh using Text Capture. With serial communication, you can't perform other kinds of file transfer under ORBIT Terminal. With TCP/IP communication, you can use FTP to transfer any kind of file. Once the data is on the other computer, you must have software that can make use of this data. If the programs can't use the data directly, you'll need conversion software to convert it to a form that can be used.

Raw text (pure ASCII) is a basic data format, and most text editors on any computer can use data in this form. Raw text can be seen as a long stream of letters (characters); for each character, we only know which character it is, not extra information about its appearance or placement. This means that any formatting information, such as font, type size, bold, italic, and justification, is lost in the conversion to raw text and must be redone after transferring the file. Examples of raw text files are a NOTIS-WP file in 7-bit format or a MacWrite document saved as text only. The MacWrite document is not completely standard; it is in Macintosh extended ASCII rather than standard ASCII (see the discussion below).



Binary files usually contain programs, or data for a specific program. Examples of binary files are an ordinary NOTIS-WP file (S-format) or an ordinary MacWrite document. In many cases, it is not interesting to transfer binary files because there is no software on the receiving machine that can make use of the information. For example, in order to use a NOTIS-WP S-format file on a Macintosh, you need to use a converter to one of the Macintosh word processor file formats. (See the *Other File Transfers* section below). Even with such a converter, the result is not usually perfect, due to differences in the capabilities of NOTIS and the Macintosh word processor. The moral: before investing great effort in physically transferring the files, be sure you have software that can handle the transferred files.

When transferring text files, the transferring programs may try to adjust certain aspects of the file to the receiving computer's conventions. Examples are end-of-line character(s), parity bits, and character conversions. When transferring binary files, the entire file is always transferred "as is" without modifications of any kind.

#### Transferring text files with capture and paste

In almost all cases, you can physically transfer pure ASCII files (raw text) to the Macintosh. The exception is using serial communication without XON/XOFF. Most Macintosh editors can read pure text files, so you'll be able to use the information you transfer. To get a pure ASCII text file in NOTIS-WP, the 7-bit format must be used. (Use the Func-O command to convert existing documents.) Formatting information cannot be transferred, and is lost in NOTIS-WP when converting to 7-bit format. It is not possible to transfer characters in the Tandberg's extra character sets, e.g. graphics characters. Only the "raw" text can be transferred. Transfer the text using *Text Capture* as described in the section on *Text Capture*. Once the text is on the Macintosh, it can be read by most word processing programs. Then, you can add formatting information manually using that program.

The process of transferring text to the Macintosh is suitable when you only need to transfer the text once, and are willing to "fix it up" on the Macintosh side. It is not suited to transferring text back and forth, first working on the host and then on the Macintosh. Such a solution would require either word processing software on both machines with compatible data formats, or extra software to convert between formats. In addition, the formats would likely be binary rather than ASCII so that ORBIT Terminal with serial communication could not be used to do the actual data transfer (see below).

Macintosh has an extended ASCII character set that permits a total of 256, instead of the usual 128, characters (8 bits, instead of 7 plus parity, are used for each character). Thus, Macintosh text files that contain characters in the extended part of the character set cannot usually be interpreted by other computers. In other computers, extended characters (such as Scandinavian åöä) are usually made by "stealing" characters (such as [N][J]) from the standard 7-bit set. This means that transferring 7-bit files to the Macintosh without any character conversion may produce strange results (all of the Ø characters will become \ etc.). ORBIT Terminal provides tables for converting the extended part of the ASCII set to and from specified characters in the standard set. These tables can be customized if necessary by advanced users; see the *Languages* part of the *Customizing* section.

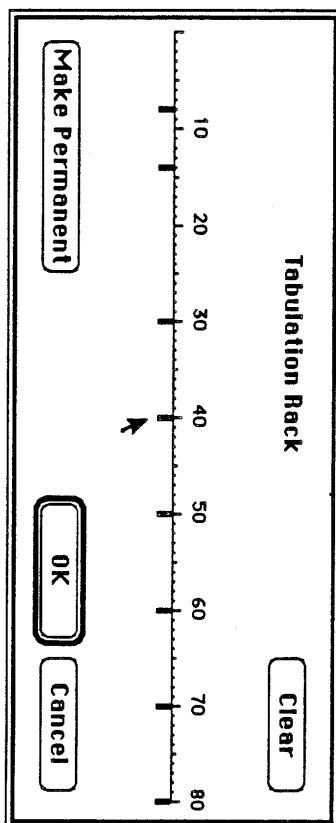
Macintosh files containing characters in the extended part of the ASCII character set may need to be transferred as binary files. For example, if you want to store a Macintosh text file on a Norsk Data computer that you will later use on a Macintosh, transfer it as binary (or MacBinary, if you can). If you want to use the file on a computer with standard ASCII, transfer it as a text file.

With serial communication, it is not possible to transfer large amounts of data from the Macintosh to the host without risking loss of data. This is because there is no protocol in that direction; that is, the terminal sends characters to the host whether or not the host is prepared to



#### Tabulation Rack

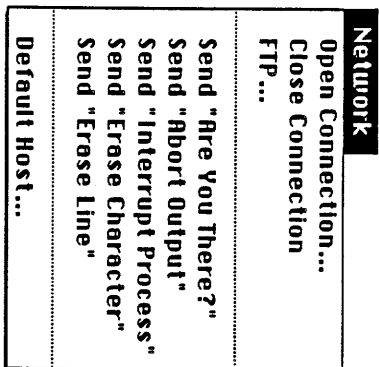
When *Tabulation Rack* is chosen a dialog box appears.



The small black rectangles show the position of tabs. To remove a tab, click it. To add a tab, click at the desired position. All tabs may be cleared by clicking the *Clear* button.

#### THE NETWORK MENU

The Network menu is found only in the ORBIT Terminal/TCP version. It contains the *Telnet* and *FTP* commands.





**Parity** •None •Odd •Even  
As on Tandberg.

**Mode** •Local •Online

Provides the same functionality as the Online switch together with the Line key.

**Handshake** •None •XON/XOFF

As on Tandberg, except the DTR option found on newer Tandberg models is not available.

**Port** •Modem •Printer •TCP/IP

This is a new switch in ORBIT Terminal. It tells which plug on the Macintosh is used to communicate with the host computer. This switch may be changed while ORBIT Terminal is running. The new value takes effect immediately.

The TCP/IP option is available in ORBIT Terminal/TCP only. It activates Telnet and FTP. Many of the other communications switches have no meaning, and therefore cannot be changed, when the Port switch is set to TCP/IP.

**CR Sends** •CR-LF •CR-NUL

This is a new switch in ORBIT Terminal. It determines how end-of-line is sent during Telnet communication. The switch should be set to CR-LF unless you have problems with the host.

**Transmit delay** •None •20ms •40ms •60ms

As on Tandberg, except that the delay values are different.

### Push Keys

The **PUSH KEY** texts are modified by choosing **Push Keys...** from the **Configuration** menu. A dialog box appears that allows to you enter text for each of the 16 push keys. Each push key may contain as many characters as you want (although fewer may be visible on the screen).

To enter a new text for a push key, use the mouse to click on the current definition. Then enter the new text. To enter a palette key, click it. Control characters are entered by simply typing them. The control characters carriage return, escape and tab can also be entered by typing them; each has its own special appearance. Some characters do not have a predefined special appearance, and these will appear as underlined characters. If the underline is immediately under the character, it indicates shift; if it is further down, it indicates control. If both underlines are present, it indicates that both shift and control were held down when typing the character.

If you know the ASCII code you want to enter (but perhaps not which key will generate it), you can insert the code using the "Insert Code" pop-up menu. Using this menu is equivalent to pressing the associated key.



receive them. If the host is busy, characters will be lost. However, Paste can be used to transfer small amounts of data. This is only recommended when you can easily check the results.

### Other file transfers

If you are using serial communication and want to transfer binary files in either direction, or text (ASCII) from the Macintosh to the host, communicating programs must be run on both sides. That is, one program must be running on the host machine, communicating with another program running on the Macintosh. This is outside the scope of ORBIT Terminal, so we recommend Kermit, a public domain program which is designed for this purpose. More information about Kermit can be obtained from Semafor Software.

If you have TCP/IP communication, you should be able to use FTP to perform all types of file transfer.

If you want to convert between NOTIS-WP S-format and Macintosh formats, you should be aware that the conversion is possible via an IBM defined format called DCA. The Norsk Data product NOTIS-DCA Convert (ND211261) can be used to convert NOTIS documents to and from DCA. Converted documents can be transferred using FTP or Kermit (Text capture cannot be used because these are binary files). On the Macintosh side, DCA documents can be converted to Word format using a special program delivered together with Microsoft Word, or they can be converted to MacWrite format using Apple File Exchange.

### SOFT SWITCHES

The soft switches are intended to be functionally equivalent to those on the Tandberg terminal. The **Configuration** menu in the menu bar provides access to different sets of switches. These are: Convenience Switches, Function Switches, Communication Switches, Push Keys, and Tabulation Rack. Choosing one of these causes a dialog box to appear. Each dialog box shows the current state of the soft switches and three buttons at the bottom: **Make Permanent**, **OK** and **Cancel**.

After setting the switches to the desired state, click one of the buttons to dismiss the dialog. **Cancel** causes the switches to remain unaltered in their original states. **OK** causes the switches to be changed to the current setting temporarily. That is, the new states are not saved on the disk so that the next time ORBIT Terminal is started the switches will revert to their original values. **Make Permanent** causes the new setting to be the initial setting each time ORBIT Terminal is started.

An annotated list of the available switches follows.

### Convenience Switches

**Cursor Type** •Line •Block  
As on Tandberg.

**Key Click** •On •Off  
As on Tandberg. (Instead of click, the bell is sounded at low volume.)

**Auto Repeat** •On •Off

Auto-repeat works for all codes generated by pressing keys on the Macintosh keyboard. It does not work for codes generated using the mouse button.



**Time-out •On •Off**  
As on Tandberg.

**Bell •On •Off**  
As on Tandberg.

**Low Intensity •Low •Ignore**  
This is a new switch in ORBIT Terminal. It tells how low intensity should be represented by the Macintosh screen. If the switch is set to **Low**, low intensity will be represented by removing some pixels from the displayed information. Since this can make text difficult to read, it is possible to ignore low intensity being sent from the host by setting the switch to **Ignore**. Changing the switch affects characters as they are written to the screen; it will not alter the appearance of characters already displayed.

**CR in Paste •CR only •CR and LF**  
This is a new switch in ORBIT Terminal. It tells whether line feed should be added after each carriage return when pasting. (See the *Paste* section for more details.)

**Command Key •Control •Command**  
This is a new switch in ORBIT Terminal. It determines whether the command key works as a control key for typing control characters or as the ordinary Macintosh shortcut for menu commands.

**Use Mouse •On •Off**  
This is a new switch in ORBIT Terminal. When off, mouse clicks are ignored in the area representing the Tandberg screen. When on, mouse clicks generate codes that are appropriate to **Notis** and **Nortext**. See the section on *Features for Notis and Nortext Users*.

**Numeric Pad •Normal •Option Key**  
This is a new switch in ORBIT Terminal, and is useful when the Numeric Pad Function switch is set to **Function**. If the Convenience switch is set to **Normal**, the Numeric Pad will generate function key sequences. If, however, it is set to **Option Key**, the option key must be held down in order to generate the function key sequences; otherwise, ordinary numeric sequences are generated. This method of operation allows you to have both numeric pad mechanisms available all of the time.

**Suspend/Resume •\S/\Q •Off**  
This is a new switch in ORBIT Terminal. When on, you can press control-S to temporarily stop output on the screen, and control-Q to resume. This is useful when you want to have time to read the contents of the screen.

**Language**  
This is a new switch in ORBIT Terminal, but the choices correspond to various language versions of the Tandberg terminal. Current choices are: **International**, **International Nortext**, **Norwegian**, **Norwegian Nortext**, **Swedish**, **Swedish Nortext**, **Danish**, **English**, **SDS**, **French**, **Swiss**, **German**, **FAO**, **Finnish**, **Icelandic**, and **Icelandic Nortext**. The setting determines the appearance of the panel of Tandberg keys at the top of the screen, the escape sequences they generate, and the way characters are converted to and from Macintosh extended ASCII when they are sent to and from the host. For Scandinavian languages, the switch defines conversions between Å/æ/É/é/Ö/ö/Å in Macintosh extended ASCII and [ ] in standard ASCII. If your copy of ORBIT Terminal has been customized, other choices of language may be available, or a particular language may work in a special way.

**Auto SuperShift**  
This is a new switch in ORBIT Terminal. Its purpose is to allow you to type special characters on the Macintosh keyboard, and have them converted into SuperShift sequences



used in **Notis** and **Nortext**. For more information, see the section on *Features for Notis and Nortext Users*.

### Function Switches

**Carriage Return •CR only •CR and LF**  
As on Tandberg.

**Beginning of Line Wrap •Stop •Wrap**  
As on Tandberg.

**End of Line Wrap •Stop •Wrap**  
As on Tandberg.

**Roll/Page Mode •Roll •Page**  
As on Tandberg.

**Roll Type •Step •Smooth**  
As on Tandberg.

**PUSH-Key Programming •Allowed •Prohibited**  
As on Tandberg.

**Extended Control Mode •Off •On**  
As on Tandberg.

**Numeric Pad •Numeric •Function**  
As on Tandberg.

**Vertical Editing Mode •Following •Preceding**  
As on Tandberg.

**Clear Lamps •Both •Key •SYN**  
As on Tandberg.

**Graphic Rendition Mode •Attribute •Underline •SGR**  
As on Tandberg, except that blinking is not implemented.

**Underline Representation Combination of •Underline •Inverse Video •Low Intensity**  
As on Tandberg. This switch can be set only when **Graphic Rendition Mode** is set to **Underline**. Each switch choice is set separately. Blinking is not implemented.

### Communication Switches

**Baud Rate •300 •600 •1200 •1800 •2400 •3600 •4800 •7200 •9600 •19200 •57600**  
These are baud rates supported by Macintosh hardware. Tandberg calls the switch **Transmission Speed**.

**Data Bits •7 Bits •8 Bits**  
As on Tandberg, except that it is called **Transmit Code Length** on Tandberg terminals.

**Stop Bits •1 Bit •1.5 Bits •2 Bits**  
As on Tandberg.