Circuit Switched

Network

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On campus or within the Brisbane (07) telephone area dedicated leased lines connected to the CS (Circuit Switched) network are most convenient for clients who use the computing facilities for long periods of time. *Modems* which connect a terminal or PC to any telephone outlet and allow a *data* telephone call to the CS network provide a low cost method for connecting by clients who do not use the facilities for long periods at a time. Note that the telephone can still be used for normal voice calls but not at the same time as a data call. This method can also be used by making STD or ISD calls, however, it may be more cost effective to use the Telecom Austpac network for longer distance access.

The Telecom Austpac network is ideal for long distance data calls, that is, from another city in Australia or from overseas. The charge rates are distance independent and mainly based on volume of data transferred. In some cases *reversed charged* calls are possible but generally the client will need an account with Telecom or the network (overseas) concerned. The same type of *modem* used for telephone network is suitable for Austpac.

Once connected to the CS network there is a variety of ways you can access a host computer or networking facility, for example, most hosts can be accessed directly or via a *terminal server*. Which method used will depend on individual requirements. If you are unsure please contact the Prentice Computer Centre **HELP** desk.

Network Characteristics

The network requires ASCII characters for commands during call set up but is transparent thereafter. That is, the network does not *look at* or *interpret* any data transferred during the call.

Host computers require ASCII characters, 8 bits, no parity except:-

- 7 bits, even parity when using a PC or not using a true VT100 terminal on UQKL10.

- 7 bits, space parity when using KERMIT on host UQVM.

- 7 bits, even parity when using the MICOM Circuit Switch to access machines at the Department of Computer Science.

Command Formats

In the text below user type-in appears in bold face e.g. **UQVM<CR>**; *descriptive comments in italics eg. this text; computer type-out in normal type face eg.* CHANNEL.

Direct Connections

Connection Establishment Procedure

<CR> i(nitiates automatic speed determination by MICOM).

This is the "UQNET" MICOM Circuit Switch CHANNEL 03/081. Select Host NAME.

(For Service Difficulties report channel number to PCC Fault Reporting Ext. 3938)

HELP <CR> *gives list of present hosts.*

UQVM<CR>
CONNECTED TO CHANNEL 04/115

<CR> *(initiates automatic speed determination by host, type <CR> at 1 second intervals until host prompt appears).*

Note - If MICOM does not respond as above depress <BRK> (Break Key) three times and retry.

Call Clear Down (Disconection)

Logoff host computer. This procedure is host computer dependent.

Note - depressing <BRK> (Break Key) three times in succession will disconnect the call immediately without "logging off" the host computer.

Dial-Up Modems

Automatic Answering Modems are connected to the University PABX in rotary or hunt groups. Internal calls are free. Calls from outside the University over the Public Switched Telephone Network cost the usual telephone call charges. Incoming calls only.

See diagram for types and speed of operation.

Call Establishment

Manually or Automatically dial the service required. After modems establish a connection proceed as for Direct Connection above; if service busy re-dial later.

Call Clear Down (Disconnection)

Logoff host computer. This procedure is host computer dependent.

"Hang up" or disconnect the modem.

AUSTPAC

Terminal access to the University over Austpac is available either using direct connect modems to the Austpac PAD or via PAD facilities on remote host computers connected to Austpac.

Your computer account will need account priviliges to enable use of these facilities - contact the Prentice Computer Centre Accounts Section.

Call Establishment from AUSTPAC public PAD

This requires the user to have a Telecom Australia assigned NUI (Network User Identifier) for billing purposes.

The X.121 addresses should be used with a prefix digit of '0' or the initial '505' omitted eg.

to call UQVAX

> ?N<nui>   050527372000094   <cr>

or   ?N<nui>   27372000094   <cr>

For UQKL10 users who have been authorised to use this facility it is possible to make reverse charge calls from Public PAD's and no NUI is required, eg.

> ?273720000D   ppp/nnn   <cr>

where ppp/nnn is the users UQKL10 project programmer number (eg. 123/456).

Call establishment from privately operated system connected to AUSTPAC - consult the system operator.

Call Clear Down (Disconnection)

Logoff host computer. This procedure is host computer dependant.

"Hang up" or disconnect the Modem.

If connected to UQKL10 type ^ \ (control-\) then DISC to terminate the packet switched network session.

Circuit Switched Network

Packet Network Addresses

The following numbers are the international standard (X.121) addresses for interactive access to UQNET hosts.

    505 2 737 20000 1   UQKL10

    505 2 737 20000 80   UQNET MICOM circuit switch in "line mode".

    505 2 737 20000 87   UQNET MICOM circuitswitch in "full screen" mode for UQVM access.

    505 2 737 20000 94   UQVAX

On some packet switching networks these addresses maybe used; others require the insertion of a prefix digit - consult the network operator for details.

DS500 DECnet Terminal Server

Host DS500 on the MICOM is a DECnet terminal server which will allow terminal access to any DECnet host supporting the LAT protocol (this includes all VMS and ULTRIX hosts connected to the Ethernet).

Connection Establishment Procedure

Connect to the MICOM in your preferred way and select host.

DS500 <CR>

<CR> *Wait 1 second and* **<CR>** *until terminal Server responds*

DECserver 500 Terminal server V1.0 - LAT V5.1
Please type HELP if you need assistance

Enter username> **Fred Bloggs** *(enter your name)*

LOCAL> **HELP**

(The HELP command will display a list of HELP services available).

To connect to a particular host

LOCAL> **SET HOST UQVAX**

LOCAL -010- Session 1 to UQVAX established

Prentice Computer Centre VAX/VMS V4.5(UQVAX::)

Username:

If the service requested is not available the DECserver500 will return a message such as:

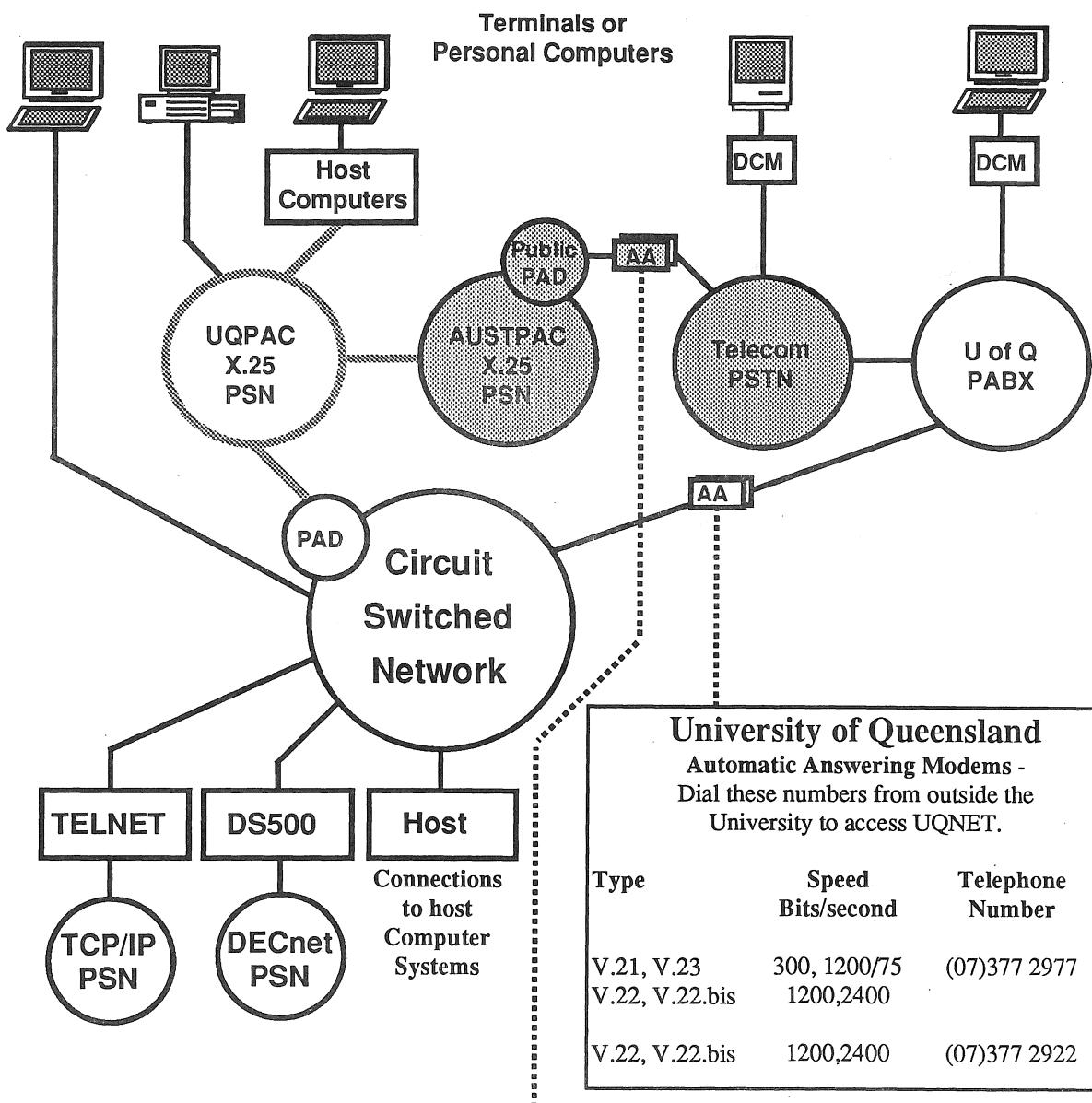Local -711- Service not known

The DECserver500 uses the 'DEC Standard' line editing conventions; control-U rubs out the current line and <DEL> or <RUBOUT> deletes the rightmost character from the type-in.

Call Clear Down (Disconnection)

Logoff host computer. This procedure is host computer dependent.

TELNET Terminal Server

Will be installed soon.

Terminals or
Personal Computers

DCM

DCM

Host
Computers

Public
PAD

AA

UQPAC
X.25
PSN

AUSTPAC
X.25
PSN

Telecom
PSTN

U of Q
PABX

AA

PAD

Circuit
Switched
Network

TELNET   DS500   Host

TCP/IP
PSN

DECnet
PSN

Connections
to host
Computer
Systems

University of Queensland

Automatic Answering Modems -
Dial these numbers from outside the
University to access UQNET.

Type	Speed Bits/second	Telephone Number
V.21, V.23	300, 1200/75	(07)377 2977
V.22, V.22.bis	1200,2400	
V.22, V.22.bis	1200,2400	(07)377 2922

AUSTPAC Public PAD

Automatic Anserwing Modems - Dial these numbers to access
AUSTPAC Public PAD services.

Type	Speed Bits/second	Telephone Number
V.21	300	01921
V.23	1200/75	01923
V.22	1200	01922
V.22.bis	2400	01924

Legend

PSN	Packet Switch Network
PAD	Packet Assembler Disassembler
DCM	Direct Connect Modem
AA	Automatic Answering Modem
PSTN	Public Switched Telephone Network