UNIVERSITY OF EDINBURGH Edinburgh Regional Computing Centre	User Note 69
	(September 1985)

Title: Logging on to Local and Remote Computers		
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Synopsis

This User Note is designed to help users log on to local host computers via EDNET and to remote, i.e. non-ERCC machines using PSSE and JANET.
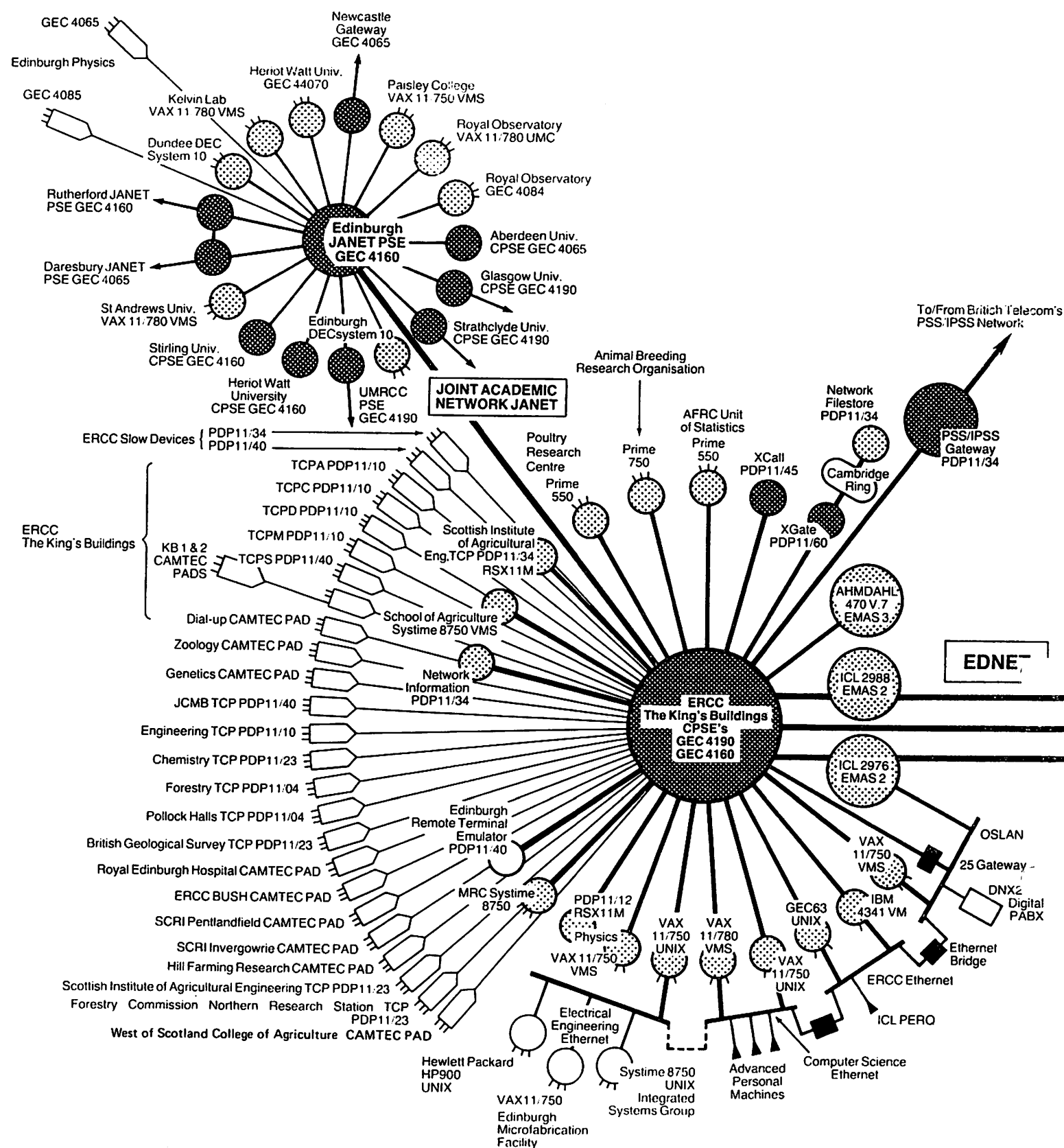
Keywords

EDNET, JANET, Logging on, PADs, PSS, PSSE, TCPs, telephone connexion, XCALL

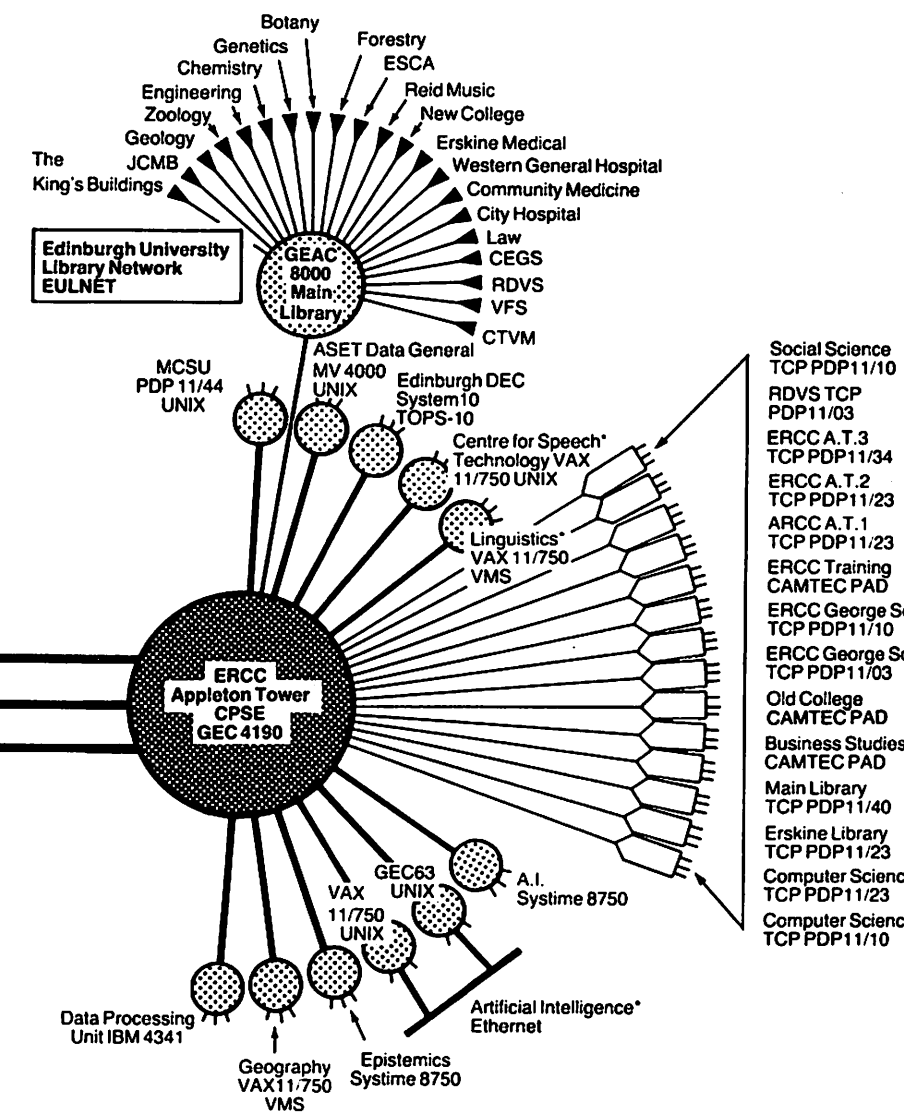## Edinburgh Regional Computing Centre Communications Network | EDNET

All EDNET hosts are accessible via British Telecom's PSS/IPSS Service from Australia, Canada, Finland, France, Germany, Israel, Japan, Norway, Sweden, Switzerland, U.S.A., etc.
Also all EDNET terminals have access to hosts in these countries and in the U.K. where academic community networking is via the joint academic network (JANET)

EDNET Supports	1985	(1984)
Host Systems	33	(26)
Synchronous Connections	100	(66)
Asynchronous Connections	1521	(1253)

- (C)Pse – Campus Packet Switch Exchanges/Gateways
- Host Systems
- Remote Systems
- Terminal Concentrators/ RJE Workstations
- Single User Workstations

J.F. Livingstone   January 1985   *Denotes scheduled for installation during 1985

GEC 4065
Edinburgh Physics
GEC 4085

Newcastle Gateway GEC 4065
Heriot Watt Univ. GEC 44070
Kelvin Lab VAX 11/780 VMS
Paisley College VAX 11/750 VMS
Dundee DEC System 10
Royal Observatory VAX 11/780 UMC
Rutherford JANET PSE GEC 4160
Royal Observatory GEC 4084
Daresbury JANET PSE GEC 4065
Edinburgh JANET PSE GEC 4160
Aberdeen Univ. CPSE GEC 4065
St Andrews Univ. VAX 11/780 VMS
Glasgow Univ. CPSE GEC 4190
Stirling Univ. CPSE GEC 4160
Edinburgh DECsystem 10
Strathclyde Univ. CPSE GEC 4190
Heriot Watt University CPSE GEC 4160
UMRCC PSE GEC 4190

JOINT ACADEMIC NETWORK JANET

ERCC Slow Devices { PDP11/34 PDP11/40 }

Animal Breeding Research Organisation

To/From British Telecom's PSS/IPSS Network

TCPA PDP11/10
TCPC PDP11/10
TCPD PDP11/10
TCPM PDP11/10
TCPS PDP11/40
KB 1 & 2 CAMTEC PADS

ERCC The King's Buildings

Dial-up CAMTEC PAD
Zoology CAMTEC PAD
Genetics CAMTEC PAD
JCMB TCP PDP11/40
Engineering TCP PDP11/10
Chemistry TCP PDP11/23
Forestry TCP PDP11/04
Pollock Halls TCP PDP11/04
British Geological Survey TCP PDP11/23
Royal Edinburgh Hospital CAMTEC PAD
ERCC BUSH CAMTEC PAD
SCRI Pentlandfield CAMTEC PAD
SCRI Invergowrie CAMTEC PAD
Hill Farming Research CAMTEC PAD
Scottish Institute of Agricultural Engineering TCP PDP11/23
Forestry Commission Northern Research Station TCP PDP11/23
West of Scotland College of Agriculture CAMTEC PAD

Poultry Research Centre
Scottish Institute of Agricultural Eng. TCP PDP11/34 RSX11M
School of Agriculture Systime 8750 VMS
Network Information PDP11/34
Edinburgh Remote Terminal Emulator PDP11/40
MRC Systime 8750

Prime 750
Prime 550
Prime 550
AFRC Unit of Statistics Prime 550
XCall PDP11/45
XGate PDP11/60
Cambridge Ring

Network Filestore PDP11/34
PSS/IPSS Gateway PDP11/34

AHMDAHL 470 V.7 EMAS 3.
ICL 2988 EMAS 2
ICL 2976 EMAS 2

ERCC The King's Buildings CPSE's GEC 4190 GEC 4160

EDNET

PDP11/12 RSX11M Physics
VAX 11/750 UNIX
VAX 11/780 VMS
VAX 11/750 VMS
GEC63 UNIX
VAX 11/750 UNIX
VAX 11/750 VMS

OSLAN
25 Gateway
DNX2 Digital PABX
IBM 4341 VM
Ethernet Bridge
ERCC Ethernet
ICL PERQ

Hewlett Packard HP900 UNIX
VAX11/750 Edinburgh Microfabrication Facility
Electrical Engineering Ethernet
Systime 8750 UNIX Integrated Systems Group
Advanced Personal Machines
Computer Science Ethernet

Edinburgh University Library Network EULNET

The King's Buildings
JCMB
GEAC 8000 Main Library

Botany
Genetics
Chemistry
Engineering
Zoology
Geology
Forestry
ESCA
Reid Music
New College
Erskine Medical
Western General Hospital
Community Medicine
City Hospital
Law
CEGS
RDVS
VFS
CTVM

MCSU PDP 11/44 UNIX
ASET Data General MV 4000 UNIX
Edinburgh DEC System10 TOPS-10
Centre for Speech* Technology VAX 11/750 UNIX
Linguistics* VAX 11/750 VMS

ERCC Appleton Tower CPSE GEC 4190

Data Processing Unit IBM 4341
Geography VAX11/750 VMS
Epistemics Systime 8750
VAX 11/750 UNIX
GEC63 UNIX Systime 8750
A.I. Systime 8750
Artificial Intelligence* Ethernet

Social Science TCP PDP11/10
RDVS TCP PDP11/03
ERCC A.T.3 TCP PDP11/34
ERCC A.T.2 TCP PDP11/23
ARCC A.T.1 TCP PDP11/23
ERCC Training CAMTEC PAD
ERCC George Sq. TCP PDP11/10
ERCC George Sq. TCP PDP11/03
Old College CAMTEC PAD
Business Studies CAMTEC PAD
Main Library TCP PDP11/40
Erskine Library TCP PDP11/23
Computer Science TCP PDP11/23
Computer Science TCP PDP11/10

I   INTRODUCTION

This User Note is designed to help users log on to local host computers via
EDNET and to remote, i.e. non-ERCC machines using PSSE (Packet Switching
System Exchange) and XCALL. The local machines, such as EMAS and BUSH are
connected on a network called EDNET, previously known as RCONET, this in turn
has the ability to call other machines throughout the UK using PSS and JANET
(Joint Academic Network, previously known as SERCNET) and the world via IPSS.
A diagram of the local network is shown in figure 1. Changes in the system which
have recently been made mean that users now do not use PSSE to connect them
with JANET hosts, these are available directly from XCALL.

Within the next few months many terminal connexions will be moved from TCPs
(Terminal Control Processors) to PADs (Packet Assembler Disassemblers). While
this is relatively straightforward there are a number of changes which must be
assimilated and the most important of these are detailed in Section II of this Note.

Section III describes the facilities available for logging on to remote hosts from
EDNET for interactive use, file and job transfer to these machines being dealt with
in User Note 34. It must be noted, however, that not all hosts to which it is
possible to log on can have files or jobs sent to them. A full list of file transfer
hosts may be had from the TRANSFER command on EMAS 2900.

It is possible using a modem to connect up a terminal to the local network via a
normal telephon wire. This method of access is described in Section IV.

Finally, Section V deals with the connexion to EDNET from remotes sites.

Throughout this Note input to the computer from the user is always shown in
emboldened text, while output from the host will be in *italics*. Should it be
necessary to hold two keys down simultaneously then this will be shown as
'Key1+Key2', while if one must type one and then the other this is represented as
'Key1, Key2'.

II   THE PAD

This section summarizes the PAD facilities most likely to be of interest to
unfamiliar users. Its more unusual features are not described here but may be
found in the JNT PAD Terminal Users' Guide (hereafter referred to as the 'Guide'),
which is available from Advisory. In the following 'CR' is 'Carriage Return' and
'DLE' is obtained by pressing the 'CTRL' and 'P' keys simultaneously, (**CTRL+P**).

Logging on
Press the return key several times to allow the PAD to determine the terminal
speed, which can be in the range 110-9600 baud. For more information on
interactive terminals see User Note 52. When the PAD responds by giving the
PAD> prompt you may call the host by typing **CALL host**, e.g.
PAD> **CALL EMAS**.

Help
Some help is available on PAD commands by typing **HELP** in response to the
PAD> prompt, while **HELP ADDRESS** gives a list of known hosts.

Interrupting the Host
On most machines, for example VAXes, interrupting the computer does not depend upon the way in which the terminal is connected, on VAXes this is **CTRL+Y**. However, on EMAS and BUSH there are two ways of interrupting the process. The *Int:* response may be obtained by simply typing **DEL, B**. Alternatively one must first return to the PAD command state by pressing the **BREAK** key or by typing **DLE, A**; this will alert the PAD which will reply with the *PAD>* prompt. The PAD must now be told to interrupt the host which is done by replying **B** to the prompt, this will give the usual *Int:* response. From this point the procedure is the same for both PADs and TCPs. Aborting the session is similar to the above except that one should then reply **CLR** to the *PAD>* prompt.

Other features
The setting of the PAD may be changed in a number of ways, some of which are described below. To select any of these type the appropriate command in reply to the *PAD>* prompt.

i **Video Terminal**
This is the default setting but those on a hard copy terminal may change this by typing **PRINTER**.

ii **Transparent Output Mode**
In this setting all characters are passed from the host and may be selected by typing **TRANSPARENT**: this is useful for, for example, graphical output. Output characters are transmitted to the terminal without being checked by the PAD. No line folding or padding is performed.

iii **Message Mode**
This is the default setting. Input from the terminal is accepted at any time. Control characters are faulted, unless they are a PAD control character (see the Guide). Output from the host is displayed on the terminal, subject to unfolding and padding. Control characters are tested for acceptability (see below) before being passed to the terminal. Type **MESSAGE**.

iv **Control Characters**
Selected control characters may be passed to the host by typing the command **FORWARD**. However, those wishing to use this should read the appropriate section in the Guide first. It is also possible to let all, or none, of the control characters through by typing **(NO)CONTROLCHARS**.

v **Terminal Width**
The number of characters per line (nn) may be changed by typing **WIDTH = nn**. The minimum width possible is 20.

There are a number of features of TCPs which are not available on PADs:

i Prompts are not suppressed when typing ahead.

ii The most popular screen editors on EMAS, SCREED and VECCE do not work on PADs. While there is the possibility that VECCE will soon be modified to correct for this it is most unlikely that SCREED will ever work on most PAD terminals, however cf. User Note 46 about SCREED on Esprit terminals.
An alternative screen editor is, however, likely to become available shortly.

A direct comparison of TCPs and PADs is most easily given by the following Table:

FUNCTION	TCP	PAD
To Log-on	SPACE	CR
Interrupt Host	ESCAPE	BREAK,B or DLE,A,B or DLE,B
Cancel Line	CTRL+X	CTRL+X
Repeat Line	CTRL+R	CTRL+R
Clear Line	CTRL+A,CTRL+D	BREAK,CLR or DLE,A,CLR

III REMOTE MACHINES

There are two possible routes to other machines within the UK; via JANET or via PSS. While neither of these is charged for at the moment it is possible that the latter may be with only short notice. Users are therefore advised to check if the remote machine is on JANET first and only then try PSS.

Hosts on JANET are obtained by logging onto XCALL as follows:

PAD	TCP
PAD> **CALL HOST**	*TCPᵢ Host:* **XCALL** *Itp-XXX Gateway V5.1 * Problems KB x2737 Enter Host Name : Call* **HOST**

Typing **HELP** at this stage will give a list of hosts available or connexion may be made to a remote machine by entering its name. Unfortunately, insufficient space is available for the list of all JANET hosts to be stored on the PAD. Thus, if you are on a PAD connexion and the host required is not known to the PAD you should type **CALL HELP** and select the host from this list. On returning to **PAD>** level if you then type **CALL XXXX** where XXXX is the numerical address given by HELP this will connect you with the JANET host.

Some 'hosts', e.g. UMRCC, are not single machines but are the gateways to other local networks, in this case at Manchester. When these are called you will then be asked for more 'Call Parameters'. This is a numerical code of up to 14 digits which defines the machine you wish to access. For example, giving the hostname **UMRCC** to XCALL as above will produce the response –

*** *Enter Call Parameters* **00001000101018**

and entering the number as shown will connect you with the Amdahl computer at Manchester.

The necessity of inputting long strings of numbers is clearly not wholly satisfactory, especially as it is impossible for us to keep a complete list. The fastest way of discovering the correct call parameters for a new host is to ring the Advisory service at the remote site. Should this not succeed then Advisory at Edinburgh will attempt to find the answer, but this may take some time.

PSS, run by British Telecom, mainly caters for non-academic hosts and access to it is through PSSE. For users on PADs this is a known host, but those on TCPs must call XCALL first and then PSSE. Logging on to PSSE requires a valid username and password; if you do not have one then application may be made on the standard form available from Advisory.

A typical logging on sequence to PSSE would thus go as follows:

PAD	TCP

PAD> **CALL PSSE**
Welcome to the EDNET PSS Gateway
User: **ABCD21**
Pass:

PSSE/Command:

TCPx Host: **XCALL**
ltp-XXX Gateway V5.1 * Problems KB x2737
Enter Host Name : Call **PSSE**

Connected
Welcome to the EDNET PSS Gateway
User: **ABCD21**
Pass:

PSSE Command:

There is some help available on PSSE and it is obtained by typing **HELP** when logged on. To log off PSSE type either **QUIT** or **STOP**. For those on TCPs abrupt disconnexion may be achieved by getting the *Int:* prompt and then typing *****. This will set you back to PSSE and log you off the host. If, however, you require to clear down the whole connexion, i.e. back to the TCP or PAD, then use **CTRL+A,CTRL+D** or **BREAK,CLR** as described above.

Once logged on to PSSE the appropriate host may be selected by typing **CALL host**, where the name of the host is a four to seven letter mnemonic which ought to be standard across the country; so for example **CALL BLAISE** connects you with the British Library on-line System.

Should you not know the name of the foreign machine then a full list is available by typing **HOSTS ALL** in response to the *PSSE/Command:* prompt. As this list is unstructured and it contains some 300 entries finding the correct one is not always easy. Should you wish to check on the existence, or otherwise, of a host called ABCD, then typing **HOST ABCD** will list the entry for that machine, if it exists, or alternatively **HOST A*** will give all hosts beginning with A. For example

PSSE/Command: **HOST Blaise**

Blaise   : 234219200222   ???? 10   5   British Library
*   on-line System*
PSSE/Command:

If the required host is not on the list then it is usually possible to have it inserted. Clearly a prerequisite for this is that the machine be connected to some network. The process of registration is considerably speeded up if you have such information as the numerical address of the machine (the number shown against each host on PSSE) and the name of a person to contact in the Computer Centre at the remote site. Requests for new machines to be entered on the list should be made to Advisory and normally take about one week.

From time to time problems with the system or perhaps mistyping by the user will give an error. A full list of PSSE error messages together with a short explanation is given in Appendix 1.

Charging

At present, the Computer Board is paying for the use of PSS by University staff, but not for calls outwith the UK using IPSS. The bill is therefore multiplied by a

discounting constant K_{dis} when it is sent out by ERCC. You will receive a bill for each call which represents the total charge for the call and comprises two parts:

i   A Charge levied by British Telecom, ERCC or the Computer Board for use of their respective Networks.

ii A Charge levied by ERCC to recover certain overheads, such as quarterly rentals.

ERCC does not currently charge for use of EDNET, nor does the Computer Board for JANET. However, British Telecom charges for use of PSS on the following basis:

i   A quarterly charge for rental of PSS facilities. This will be passed on to the user as an overhead when necessary.

ii A charge per call based on the call duration and amount of data sent. This is passed directly to the user and may be calculated from the equation below.

Segments are units of 64 bytes or part thereof and are counted as follows:

Data are sent through the Network in 'Packets' which may be of variable length up to a maximum of 128. One line of input from a user will in general be sent as one packet, though this may vary from one implementation to another. Output from a Host may be sent one line per packet or may be sent as full packets. This also depends on the implementation. The number of segments per packet is then (the packet length -1)/64 except if length = 0, in which case one segment is charged.

Notes

1   The caller bears the total call charge including the charge for segments sent from him to the host and data sent from the host back to him except if the call is reverse-charged.

2   Certain protocols allow characters to be sent one character per packet (e.g. for screen editors). Note that this would be extremely expensive over PSS as each character would be charged as one segment.

3   PSS imposes an overhead of 6 segments per successful call to cover call setup and cleardown plus a minimum charge of 10 segments per call.

4   All charges are exclusive of VAT.

ERCC will have to recover certain recurrent expenditure concerned with the Gateway, particularly the PSS quarterly charge. This is done by multiplying the per call charge by a constant K_{ov}.

Presentation of the bill

PSS sends a statistics record at the end of each call. This contains the connect time plus a count of segments transmitted and received. These are used by a programme on EMAS to calculate the charge for the call.

Billing Algorithm

As of 1 November 1983,

Charge = K_{dis} * K_{ov} * (K_{ct} * Connect Time + K_{seg} * Segments), where:
K_{ov} is   1.10
K_{dis} is   0 for University users
              1 for Research council and other users

K_{ct} and K_{seg} depend on the geographical location of the Host according to the table below:

Location	Chargeband	K_{ct}(per Hour)	K_{seg}(per 1000 Segments)
EDNET	0	0	0
UK. via PSS	4	12	12 (Cheap Rate)
UK. via PSS	5	25	25
Europe	8	132	120
U.S. & Canada	10	600	300

where all charges are in Pence.

Please note, however, that British Telecom is liable to change these rates with little or no notice.

IV TELEPHONE CONNEXIONS

It is possible, given the correct equipment, to sit at home and use EMAS or some other computer. The necessary pieces of equipment are a terminal, a modem and a telephone. The modem is a device which permits the computer to send information through the telephone wires and be decoded again for output on your terminal - and vice versa. ERCC can arrange the purchase of such machines. ERCC supports two types of modem: 300/300 and 1200/1200 - the numbers describe the speed of the line. The terminal settings should be - 300 or 1200 baud for receive and transmit; full duplex; ONE start bit; ONE stop bit; SEVEN data bits per character and parity zero, though the last is not compulsory.

Should you have all these items you may gain access to ERCC by dialling the appropriate telephone number:

031-667 1071 for 300 and 1200 baud lines

Due to a problem with pads autobaud at low speeds, users have been experiencing difficulties with 300 baud lines. Temporarily, therefore, two numbers 667 6612 and 667 8248 have been set aside especially for 300 baud access if you have problems with the main number.

When telephoning this number it should ring a few times and then give a high pitched tone - the 'Carrier Signal'. If not the network is not working. If it does, the terminal should be switched into data mode and is then ready for use.

This line goes to a PAD and hence can be used with either speed of modem.

V ACCESSING EDNET FROM REMOTE SITES

There are two possible routes between EDNET and remote sites; JANET and PSS.
As discussed in Section III users should try the former network first. Examples of
the procedures of calling EDNET hosts are given below.

i) Via JANET

All JANET users may now call EDNET hosts directly; either the host's address can
be typed or the name if the local site has entered it in the tables.

- a full list of the EDNET addresses is given in Appendix 2. However, for access to
ECSVAX, INFO and FSTORE users should first call XCALL (as above) on address
15000004 and then enter the mnemonic required in response to the command
prompt.

   e.g. For access to ECSVAX

   CALL 15000004

   XXX-ltp Gateway V5.1 * Problems KB x2737
   Enter Host Name : Call **ECSVAX**

Developments

Note that ECSVAX, INFO and FSTORE are in the process of being converted to the
XXX protocol, thus removing the necessity of going via XCALL.

ii) Via PSS

All PSS users should access our PSS gateway at address:

   2342 313 543 54

users should then receive the message:

   Welcome to EDNET PSS Gateway
   User:

Incoming users requiring access to EDNET hosts may use the username GUEST
with password FRIEND. The user will then receive the command prompt.

To access any EDNET host except ECSVAX, INFO and FSTORE, the user should
call the host mnemonic:

For example to access EDEE:

   PSSE/Command: **CALL EDEE**

Help is available on the hosts and commands available, as described in Section III

To access ECSVAX, INFO or FSTORE users should first call host XCALL then type
in the host required in response to the prompt as above.

Appendix 1: PSS Gateway Failure and Information Messages

In the following list of error explanations it will be noticed that some problems necessitate calling Operations. This may be done by telephoning 031-667 1081 ext. 2737.

A1.1: Messages received at Sign-on to the Gateway

Welcome to the PSS Gateway	This introductory message is sent whenever a user logs on to the gateway. It will be followed by the current noticeboard information (if any).
Invalid User	The supplied username does not exist in the user directory.
Invalid Pass	The username exists but the wrong password was supplied.
Process Timed Out	There was a delay of over 20 seconds in supplying the username or password.
No Free Channels	The PSS Gateway has 10 software 'Channels' or 'Ports' into PSS which is another way of saying that PSSE is allowed to maintain 10 simultaneous calls. If all these channels become busy, all calls will fail with this message. Try again later and if the condition persists, tell Operations. Note - If channels are disconnecting they will not show up on a USERS ALL command i.e. 5 users could tie up all 10 ports if hosts refused to let go of the channels.
System Full	The Gateway has its presently permitted complement of users. The user should try again later.
Shutdown Imminent	Operators are in the process of shutting down the Gateway prior to maintenance or a test slot. The PSS noticeboard should give more information as to why.
No User Service	The Gateway is closed to users during testing or housekeeping operations. The Noticeboard should give more information.
Session Aborted By Operator	This message may occasionally appear if the operators want to shut the Gateway down rapidly. The user should retry immediately and will get one of the messages above.
Account File Full	This message will appear if the Gateway account file fills up. This should be reported to Operations as a fault.
Process Running	This message indicates that the Gateway has not cleared a user process down properly. It should be reported to Operations as a fault.

A1.2: Messages seen on attempting to connect to a computer

Connected	The call has been accepted by the requested computer. It should be noted that this merely indicates that the call has successfully crossed PSS. There may be other gateways and networks between the user and the host which could disconnect the call after the *Connected* message has been received.
Invalid facility	The mnemonic (host name) is not in the Gateway directory (i.e. host not known).
Network Unavailable	There is no functioning connexion to the requested network. In practice this means that the line from the Gateway to EDNET, PSS is down. The user should try again later.
Protocol not Available	The protocol handler for the specified host was never initialized. This should be reported to Operations as a fault.
Loopback Not Allowed	The Gateway does not allow redundant calls (e.g. calling PSS from PSS or EDNET from EDNET). There must be a more direct way for the user to access the computer.
Process Timed out	The user did not submit a command within about 15 minutes.
Access Barred	There is a hierarchy of access permissions within the Gateway to prevent unauthorized use of sensitive facilities. The user should ask Operations to increase his access permission if he wishes to access a particular computer. It is important to distinguish between this *Access Barred* message (generated by the PSS Gateway) and the *Call Cleared, Access Barred* message generated by PSS (see below).

A1.3: Messages which may appear at any time

Call Cleared, <Cause> <, (Optional) Diagnostics>

> The user's call to the host has been cleared (broken), either by the host itself or by the intervening network. <Cause> and <Diagnostics> may give more information as to why.

Call Reset, <Cause> <, (Optional) Diagnostics>

> The user's call has been reset either by the host itself or by the intervening network. A reset is intended to be a less catastrophic interruption to a call than a clear but the current Gateway software clears the call in either case.
> <Cause> and <Diagnostics> may give more information as to why.

Call Restarted, <Cause> <, (Optional) Diagnostics>

> The user's call (and all other calls on that communications line) has been restarted.
> A restart is a catastrophic error usually caused by the communications line going down.
> <Cause> and <Diagnostics> may give any available information as to why the restart occurred.

Causes for Clear, Reset or Restart:

The Cause field of these three messages is a text explanation which will be one of the following:

Cleared by Facility

> The call has been broken by the Host and not by either the Gateway or the intervening Network. The Diagnostics field will give the reason why. There is a set of standard diagnostic reasons but these will not always be adhered to and the user should either consult the Host information section of this guide or ask the host's administration for a definitive list. This is one message that may appear at normal end of call.

Number Busy

> All the host's ports (analogous to telephone 'lines') are busy. Try later.

Out of order

> The host is not communicating with the Network.

Remote Error

> The computer has made a protocol error due to a hardware or software problem at its end.

No Reverse Charging

> The computer is not willing to accept the reverse charge call generated by the Gateway.

Invalid Facility Request

> The mnemonic the user is calling has been incorrectly set up in the Gateway directory. This should be reported to Operations as a fault.

Access Barred	The computer is a member of a closed group which is unwilling to accept calls from the Gateway.
Local Error	The Gateway has made a protocol error. This should be reported to Operations as a fault.
Network Busy	The intervening network is congested. Try again later. Operations staff should be told if this condition persists since it may be evidence of a network fault.
Not Obtainable	The computer is not communicating with the Network.
Incompatible Call	The mnemonic has been incorrectly set up in the Gateway directory. This should be reported to Operations as a fault.
Cause Unknown	The Gateway does not know why the call has failed.
Communications Fault	The Gateway has detected evidence of a software fault somewhere in the network. Monitoring information will have been printed on the Gateway operator console so this message should be reported to Operations in order to tie it in with what the user was doing when the fault occurred.
Facility Not Responding	The facility has stopped acknowledging data sent to it from the Gateway and seems to have died. The user should try again later or, if this symptom is associated with a particular set of actions, report it to Operations as a fault.
Conversation Aborted by User	The call was aborted by the user (EDNET only) typing Escape then *. This message confirms that the call has cleared successfully.
End of Conversation	This message indicates that the Host has cleared the connection down in a controlled manner and is an indication of normal end of call.
Process Timed out	The user has requested that any call of his be cleared if it is idle (has sent no data in either direction) for more than a specified period. This period has expired and the call has been cleared.

The Diagnostics field is presented as a decimal number in the range 0 - 255 but will be suppressed if <Diagnostics> = 0. These numbers which are of PSS origin are not readily informative or understandable.

*** Call Reset ***   This message will appear when the call has been reset and the Gateway decides it can save the call. The user's call should still be intact but he may have lost data. Resets may be generated by the user hitting the break key of his terminal, by the Network if it is congested, or by the Host (usually in

response to an interrupt from the user) and are a way of forcing a call into a known 'clean' state. The user should ascertain what data if any have been lost and carry on.

A1.4: Messages received in response to Gateway local commands

Illegal Command   The command was not recognized.

User Not Found   The command refers to a user who is not logged on

Host not found   The command refers to a host mnemonic which is not in the directory

Parameter Missing   A parameter has been missed out of the command

Text too long   The text of a TELL message exceeds 58 characters

User is Deaf   The user has rendered himself 'Deaf' to TELL messages by using the DEAF command.

Appendix 2: List of addresses of EDNET hosts

Address	Use	Comments
15000001	2972 fep (fe1)	
15000002	2972 fep (fe2)	
15000003	2988 fep (fe2)	
15000004	Xcall - XXX <-> ITP Converter	
15000099	Gateway to National Switch (Extern:7001004)	
15000006	ECSVax - Comp. Sc. Vax	No XXX, ITP only
15000007	Xgate	
15000010	ERCVax - ERCC Vax/VMS 11/750	
15000016	Physics #2 (11/23)	
15000017	Abro Prime	
15000018	Arcus Prime	
15000019	EEVax (Unix)	
15000020	Info Machine	
15000024	Physics Vax (VMS)	
15000030	SIAE Rsx11 system	
15000035	Poultry Res. Prime	
15000036	CSTvax (CS Unix Vax)	
15000037	MRC Vax	
15000039	ESAvax - College of Ag. Vax (VMS)	
15000040	PSSE	
15000043	Amdahl FEP	
15001001	ERTE	
15001002	Dev 11/34 machine (DEV4)	
15001005	Oslan x25 Gateway	
15001007	EDGR - Gec Series 63 (Unix - York FEP)	
15001009	Link to KB 4190	
15001011	VMDEV - IBM Vm/Cms	
15001015	its63b - GEC 63/40 (NB:00001500101550 for a terminal call)	
15001016	Bush FE2 - secondary Line	
16000001	2972 fep (fe2)	
16000002	2972 fep (fe1)	
16000003	2988 fep (fe2)	
16000004	Link to KB CPSE	
16000005	MCSU pdp 11/44 Unix	
16000006	GEAC - Library machine	
16000007	DPU - Admin IBM	
16000008	ADADG - Data General machine	
16000015	GeoVax - Geography Vax	
16000024	EDAI - AI Vax 750	
16000025	DEC 10 (also connected to Janet:7001001)	
16000026	AIGR - AI Gec 63/30 (Unix)	
16000027	AIVA - AI Systime Vax (Unix)	
16000028	EDEPI - Epistemics Unix 11/750 Vax	
16000029	EUSIP - Speech Technology Unix Vax	