

AS/400



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AS/400 Work Station Description and Error Codes

Introduction

The following describes the AS/400 Device Descriptions and display station error codes.

Problem Description

In order to properly emulate a TN session on an AS/400 device, descriptions must exist on the AS/400. Currently the RF terminal manufacturers only support Monochrome terminals at a 24X80 screen size.

Resolution

The values set on the AS/400 can be found at
<http://www.connectrf.com/Documents/as400neg.html>

The following are error codes that can be received by terminals from the AS/400. If you initially receive a blank screen from the AS/400 (no user id or password seen), press Enter, and receive a '0003' error, then there are no devices defined on the AS/400. Contact the AS/400 administrator for assistance.

<http://www.connectrf.com/Documents/AS400errcodes.html>

<http://www.connectrf.com/Documents/as400err2.html>

Extended Commands AS/400 Display File Program to Disable the Scanner

Introduction

The following describes an AS/400 Display file program to disable the scanner from within the application.

Resolution

To verify the extended commands work, you may access Connect's AS/400 over the WEB (reference Tech Note T1149). After Logging in, you will be asked which test to run. Select number 96. It is used to verify printing and extended commands.

Or, you may compile the following display file on the customers AS/400. Create a CLP program to write and read these screens. You do not have to place this information in these specific columns, but you must maintain the same delimiters across the host application. (/cmd,/cmde).

```
0038.30  A      R ASCIIAMD
0038.50  A      F37      5A B 1 2CHECK(ER)
0038.60  A              2 2'ASCII Command Seq 1  '
0038.70  A              3 2'/cmd!1;3z/cmde  '
0038.80  A              4 2'KEY'
0038.90  A              4 6'ONLY'
0039.00  A              5 2'No'
0039.10  A              5 5'Scanner'
0039.20  A      R ASCIIAMD2
0039.40  A      F37      5A B 1 2CHECK(ER)
0039.50  A              2 2'ASCII Command Seq 2  '
0039.60  A              3 2'/cmd!1;0z/cmde  '
0039.70  A              4 2'SCAN'
0039.80  A              4 7'OR'
0039.90  A              4 10'KEY'
0040.00  A      R SINGLEFLD
```

You must also set up the Host list entry or twin client under the Misc tab. You must set the Extended command Start to "/cmd" and the End to "/cmde".

Note: Refer to the PowerNet manuals for information on configuring the terminals for the extend commands option.

Accessing Connect's AS/400 over the WEB

Introduction

The following describes acquiring access to AS/400 for testing and pre-demo configuration.

Problem Description

Our partners sometimes need a host to perform demos and/or to set up prior to visiting the customer.

Resolution

Telnet to the AS/400 at 207.241.78.5.

After telnetting to the AS/400 over the correct media using the appropriate TCP/IP address, you can log in as follows:

Your userid and password are available to you after renewing the annual OEM/VAR subscription for service.

All of these ID's run the same application we use for test, found in tech doc T1192. The application is used for validating emulations per our test procedures.

While not user friendly, if you select enter you will get to a keyboard loopback routine.

The difference is that the application remaps the keyboard to simulate a 3278 terminal when you login in and connect as VT100.

The only function keys it does not move are PF6 and PF7 and I believe they are tied to the roll-up and roll-down keys. Since it is an AS/400, we are stuck with it.

AS/400 SDLC Setups for Release 5

Introduction

The following describes settings for AS/400 SDLC for Open Air Release 5.

Resolution

AS/400 SDLC V.24/V.35 Setup

Line description	LINEV.24
Option	*BASIC
Category of line	*SDLC
Resource names	CMN05
Online at IPL	*YES
Data link role	*PRI
Physical interface	*RS232V24
Connection type	*MP
Switched network backup	*NO
Exchange identifier	05655B50
NRZI data encoding	*YES
Maximum controllers	4
Clocking	*MODEM
Line speed	19200
Modem type supported	*NORMAL
Modem data rate select	*FULL
Autoanswer type	*DTR
Maximum frame size	265
Error threshold level	*OFF
Duplex	*HALF
Modulus	8

Text

Line created by QSECOFR

3270 Controller AS/400 Setup

Controller description	A3274
Option	*BASIC
Category of controller	*RWS
Controller type	3274
Controller model	0
Link type	*SDLC
Online at IPL	*YES
Switched connection	*NO
Switched network backup	*NO
Attached nonswitched line	LINEV.24
Character code	*EBCDIC
Maximum frame size	265
Exchange identifier	01700001
SSCP identifier	050000000000
Station address	01
Autocreate device	*NONE

Text	*BLANK
3278 Display AS/400 Setup	
16 LU's	
Device description	A3278LU02
Option	*BASIC
Category of device	*DSP
Automatically created	NO
Device class	*RMT
Device type	3278
Device model	0
Local location address	02
Online at IPL	*YES
Attached controller	A3274
Keyboard language type	USB
Drop line at signoff	*NO
Print device	*SYSVAL
Output queue	*DEV
Printer file	QSYSPRT
Library	*LIBL
Maximum length of request unit	*CALC
Application type	*NONE
Workstation customizing object	*NONE
Dependent location name	*NONE
Text	*BLANK

5250 Controller AS/400 Setup

Controller description	A5294.1
Option	*BASIC
Category of controller	*RWS
Controller type	5294
Controller model	1
Link type	*SDLC
Online at IPL	*YES
Switched connection	*NO
Switched network backup	*NO
Attached nonswitched line	LINEV.24
Character code	*EBCDIC
Maximum frame size	261
Exchange identifier	04500002
Station address	02
Text	*BLANK

Controller description	A5294.2
Option	*BASIC
Category of controller	*RWS
Controller type	5294
Controller model	1
Link type	*SDLC
Online at IPL	*YES

Switched connection	*NO
Switched network backup	*NO
Attached nonswitched line	LINEV.24
Character code	*EBCDIC
Maximum frame size	261
Exchange identifier	04500003
Station address	03
Text	*BLANK

5251 Display AS/400 Setup

Device description	A5251.1LU0
Option	*BASIC
Category of device	*DSP
Automatically created	NO
Device class	*RMT
Device type	5251
Device model	11
Local location address	00
Online at IPL	*YES
Attached controller	A5294.1
Drop line at signoff	*NO
Character identifier	*SYSVAL
Allow blinking cursor	*YES
Print device	*SYSVAL
Output queue	*DEV
Printer file	QSYSPRT
Library	*LIBL
Maximum length of request unit	*CALC
Workstation customizing object	*NONE
Dependent location name	*NONE
Text	*BLANK

5251 Display AS/400 Setup

Device description	A5251.2LU0
Option	*BASIC
Category of device	*DSP
Automatically created	NO
Device class	*RMT
Device type	5251
Device model	11
Local location address	00
Online at IPL	*YES
Attached controller	A5294.2
Drop line at signoff	*NO
Character identifier	*SYSVAL
Allow blinking cursor	*YES
Print device	*SYSVAL
Output queue	*DEV
Printer file	QSYSPRT
Library	*LIBL

Maximum length of request unit	*CALC
Workstation customizing object	*NONE
Dependent location name	*NONE
Text	*BLANK

AS/400 Save and Restore Diagnostic Screen Support

Introduction

The following describes AS/400 Save and restore diagnostic screen support.

Problem Description

Some canned applications written for AS/400's utilize an unorthodox 5250 diagnostic mode protocol. For example: CA BOSS, JD Edwards and PRMS. The reason that this is unorthodox is that for every screen that is sent down one is sent back, reducing the effective bandwidth by 50 % and increasing transaction times by 50 %.

Resolution

If you are using the Thick client, add the line `jdeopt=1;` to the bottom of your `xxxxxx.cf` config file. If you are using the Thin client, add `"-jde"` to the custom options on your host list screen.

Note: When this option is selected, highlighted fields will not be shown as reverse video, when the reverse video is enabled in the handler.

AS/400 Test Program Options

Introduction

Below are AS/400 Test Program options. See tech note T1149 for access instructions.

Resolution

Connect's AS/400 engineering test program contains a number of individual tests. Below is a list of the tests and a corresponding description of the test sequence.

Test #	Internal Branch	Description
1	ECHO	Echo back the input entered with what AID key was pressed.
2	VIDEO1	Colors supported by the hardware display.
3	VIDEO2	Video attributes supported by hardware display. Protected Input and cursor Positioning.
4	VIDEO3	More attributes supported by the hardware display.
5	FLDTST1	Field editing capabilities.
6	FLDTST2	More field editing capabilities.
7	FLDEXIT	Field exiting capabilities.
8	NUMFLD	Field justification and validation capabilities.
9	SCANINT	Verify scanning options, wrap and truncation.
10	SGLFLD	Must fill single field.
11	PROTINT	Protecting and unprotecting input fields.
12	QUADRNT	Verify quadrant modes.
13	SCANTRM	Verify scan termination AID key.
14	SCNDDTA	Verify display mapping.
21	CHRIS	Screen for remapping to multiple pages.
22	KEVIN	Screen to verify scan wrapping as type ahead.
36	OVERLOAD	Replace default data from application.
37	PDFSCAN	Verify a PDF scan.
49	OVERLAY	Verify overlays function.
59	ROI	Compatible ROI options if implemented.
67	KANBAN	
68	AEMFNENME	Auto Enter, Must Fill, Modify Data Tag, No Digits, No Field Exit.
69	HANSLER	Example of a bad application you cannot exit from.
70	EXAMPLE	Screen for remapping to multiple pages.
85	ERRSCRN	Application Error message.
86	OUTONLY	Output only screen.
87	POLARIS	Window test.
88	UNSOL	Unsolicited message without an input field.
89	DISCONNECT	Disconnects the session from the AS/400.
90	SCANMULTI	Scanner wrapping test.
91	OFR	Field wrapping on the right.
92	LANG	Different characters sets for different languages supported by hardware display.
93	RW	Window within a screen Key PF6 to see.
94	MULTI	Screen for remapping to multiple pages.
95	BEEPFLASH	Verify beeps and flash based on field video attributes.
96	PRTMENU	Print test menus and extended VT100 commands to enable disable scanner.
97	DISP	Display only no input fields used for reformat test.
98	RECADV	Verify record advance.
99	TIMER	Response time test.

AS/400 Alarm Function

Introduction

The following describes an AS/400 Alarm Function.

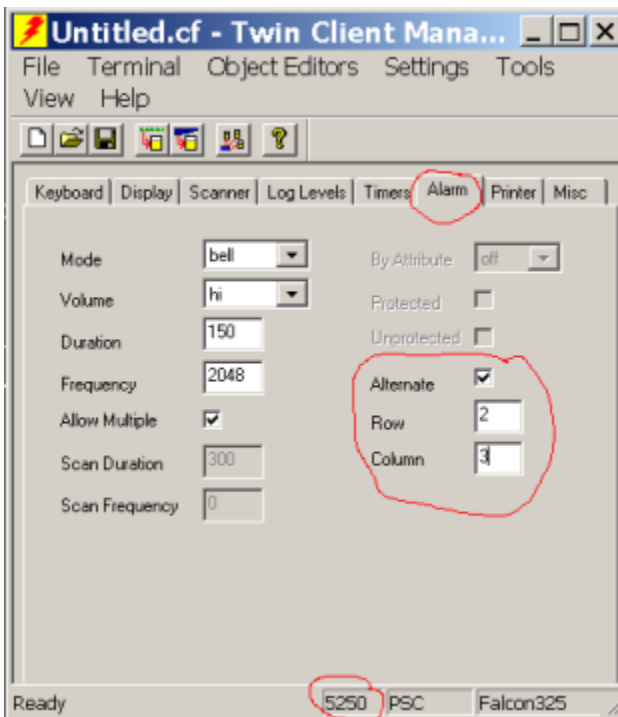
Resolution

Use this Sample Display file Program:

```
A      R VERSION
A*%%TS SD 20000803 083012 QSECOFR  REL-V4R2M0 5769-PW1
A          OVRDTA
A          PUTOVR
A          BLINK
A          ALARM          <= to beep on a terminal
A          1 2'Validation Tests'
A          2 3'5250/3270 V1.0'
A          3 1' Enter'
A          3 8'to'
A          3 11'Continue'
A      SSS1      2A B 4 8
```

You may also use the alternate method of producing an alarm by looking at a row and column for a value n from 1-9 to create a beep n times.

For example, the red 5 above in row 2 column 3 will cause a beep 5 times.



AS/400 3270 Keyboard Sequences for PowerNet TN

Introduction

The following describes how to emulate a 3270 session to the AS/400.

Resolution

Below are keyboard sequences for 3270 for PowerNet Twin Client to the AS/400. This should provide help for 3270 keyboard mapping.

3270 Key Sequence	Function	3270 Key Sequence	Function
PF1	5250 help text	PF13	F13
PF2	3270 help text	PF14	F14
PF3	Clear display	PF15	F15
PF4	Print display	PF16	F16
PF5	Display attributes	PF17	F17
PF6	Test request	PF18	F18
PF7	Page up (Roll down)	PF19	F19
PF8	Page down (Roll up)	PF20	F20
PF9	Attention	PF21	F21
PF10	Error reset	PF22	F22
PF11	System request	PF23	F23
PF12	Record backspace	PF24	F24
PA1	PF1 F1	PA2	PF1 F13
PA1	PF2 F2	PA2	PF2 F14
PA1	PF3 F3	PA2	PF3 F15
PA1	PF4 F4	PA2	PF4 F16
PA1	PF5 F5	PA2	PF5 F17
PA1	PF6 F6	PA2	PF6 F18
PA1	PF7 F7	PA2	PF7 F19
PA1	PF8 F8	PA2	PF8 F20
PA1	PF9 F9	PA2	PF9 F21
PA1	PF10 F10	PA2	PF10 F22
PA1	PF11 F11	PA2	PF11 F23
PA1	PF12 F12	PA2	PF12 F24

Function	3270 Key Sequence	5250 Key Sequence
Erase all input fields	Not supported	Erase Input
Field plus	Not supported	Field+
Field minus	Not supported	Field-
Erase end-of-field and exit field	Erase EOF,-->	Field Exit

To use the attention function (ATTN), do one of the following:

- Press Test Request, then press PA1 if using a 3277 display attached to an SNA 3274 controller.
- Press ATTN if using a 3278 or 3279 display attached to an SNA 3274 controller.

- Press the 3270 key sequence set by the user if using a distributed host command facility, network routing facility, or SNA Primary LU2 Support device.
Display attributes = display imbedded attributes

AS/400 Keyboard Sequences for VT100/VT220 for PowerNet

Introduction

The following provides instructions on how to emulate a VT100/VT220 session to the AS/400.

Resolution

See <http://www.connectrf.com/Documents/as400vtkeys.html> for Keyboard Sequences for VT100/VT220 for PowerNet TN to the AS/400.

See <http://www.connectrf.com/Documents/fol.cf> for the configuration file for Symbol 6840 terminals with Connect's 5250 overlay running VT220 emulation to an AS/400.

See <http://www.connectrf.com/Documents/FOL.cfk> for the keyboard map file for the 5250 overlay in VT220 emulation.

See <http://www.connectrf.com/Documents/FOL.kbm> for the keyboard macro file for the 5250 overlay in VT220 emulation.

AS/400 Work Station ID, LuNames for TN3270E, New Environment

Introduction

The following is information on AS/400 Work Station ID, LuNames for TN3270E, and New Environment.

Background

This information is for the purpose of securely managing Telnet sessions and resources on an AS/400 or IBM 3270.

Currently, we do not have examples of 3270 setups.

The default for the 3270 handler, tn3270e, is on. You also may disable this option if the host does not support it and run in 3278-2 mode. This is done by specifying "-3270e" on the custom options on the controller.

Below is an example for an AS/400 setup.

AS/400 Setup Devices Values

If your AS/400 does not automatically configure your 5291 mod 1 devices you can use the CRTDEV DSP command to do so.

Create Device Desc (Display) (CRTDEV DSP)

Type choices, press Enter.

```
Device description . . . . . 5291MOD1__ Name
Device class . . . . . *VRT_      *LCL, *RMT, *VRT, *SNPT
Device type . . . . . 5291_      3101, 3151, 3161, 3162...
Device model . . . . . 1_____  0, 1, 2, 3, 4, 5, 12, 23...
```

Bottom

F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

Using the AS/400 command WRKDEVD, select a 5291 device and use the Rename option:

Work with Device Descriptions

System: POWERNET

Position to _____ Starting characters

Type options, press Enter.

2=Change 3=Copy 4=Delete 5=Display 6=Print **7=Rename**
8=Work with status 9=Retrieve source

```
Opt Device  Type  Text
7 5291MOD1  5291  Device created for POWERNET.
_  QPADEV00BK 5291  Device created for POWERNET.
_  QPADEV00BL 5291  Device created for POWERNET.
```



```
_ QPADEV00BM 5291 Device created for POWERNET.  
_ QPADEV00BN 5291 Device created for POWERNET.  
_ QPADEV00BP 5291 Device created for POWERNET.  
_ QPADEV00BQ 5291 Device created for POWERNET.  
_ QPADEV00BR 5291 Device created for POWERNET.  
_ QPADEV00BS 5291 Device created for POWERNET.
```

More...

Parameters or command

===>

F3=Exit F4=Prompt F5=Refresh F6=Create F9=Retrieve F12=Cancel
F14=Work with status

The Following Screen appears enter the new LUNAME: 5291MOD1

Rename Object (RNMOBJ)

Type choices, press Enter.

```
Object ..... > 5291MOD1 Name  
Library ..... *LIBL Name, *LIBL, *CURLIB  
Object type ..... > *DEV D *ALRTBL, *AUTL, *BNDDIR...  
New object ..... RF5291.001 Name
```

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

After entering the information you will need to make it available:

Work with Device Descriptions

System: POWERNET

Position to Starting characters

Type options, press Enter.

2=Change 3=Copy 4=Delete 5=Display 6=Print 7=Rename
8=Work with status 9=Retrieve source

```
Opt Device Type Text  
_ QPADEV0098 5291 Device created for POWERNET.  
_ QPADEV0099 5291 Device created for POWERNET.  
_ QQAHOST *APPC  
_ QTIDA *APPC  
_ QTIDA2 *APPC  
_ Q1PDEV *APPC PM400 device  
_ Q1SHARE400 *APPC AS/400 FORUM ACCESS DEVICE  
8 RF5291.001 5291 Device created for POWERNET.  
_ SPANISH 3179 Device created for POWERNET.
```

More...

Parameters or command

===>

F3=Exit F4=Prompt F5=Refresh F6=Create F9=Retrieve F12=Cancel
F14=Work with status

Select Make Available and you are all set:

Work with Devices

System: POWERNET

Type options below, then press Enter.

1=Make available 2=Make unavailable 5=Display details
7=Display message 8=Work with controller and line 9=Rename
13=Change description

Opt Device Type Status

1_ RF5291.001 5291 Unavailable (use Opt 1)

Bottom

F1=Help F3=Exit F5=Refresh F9=Command line F11=Display descriptions
F12=Cancel F17=Top F18=Bottom F21=Select assistance level

After made available:

Work with Devices

System: POWERNET

Type options below, then press Enter.

1=Make available 2=Make unavailable 5=Display details
7=Display message 8=Work with controller and line 9=Rename
13=Change description

Opt Device Type Status

__ RF5291.001 5291 **Available to use**

Bottom

F1=Help F3=Exit F5=Refresh F9=Command line F11=Display descriptions
F12=Cancel F17=Top F18=Bottom F21=Select assistance level

RF5291.001 made available.

Now follow the process for either Twin Client or PowerNet controller for setting LU names to match the AS/400.

The PowerNet Controller setup is at: <http://www.connectrf.com/Documents/NewEnv.doc>

About This Document

This document is based on the following Technical Documents in our Notes Database that have been made obsolete: T1120, T1121, T1123, T1140, T1149, T1154, T1191, T1192, T1202, and T1203.

Please let us know about any errors in this document at:

<http://207.241.78.223/isoxpert/calltrak.nsf/WebTracking?OpenForm>.