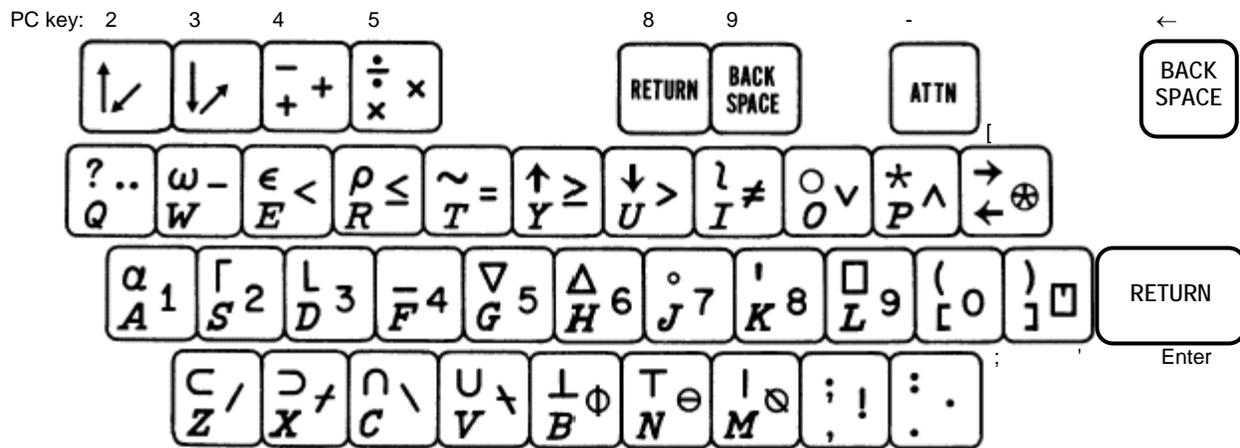


## Getting Started with APL\1130 on the Simulated IBM 1130 (for Windows Users)

1. Open Windows Explorer to view the folder into which you've unzipped the APL files.
2. Install the enclosed font APLPLUS.TTF. On Windows 2K/XP it's easy: Open the Control Panel, open the Fonts applet, and drag APLPLUS.TTF from the APL folder to the Fonts applet.
3. Download and view the APL\1130 Tutorial from [http://www.bitsavers.org/pdf/ibm/apl/C20-1697-0\\_apl1130primer.pdf](http://www.bitsavers.org/pdf/ibm/apl/C20-1697-0_apl1130primer.pdf)
4. Print this page to get a copy of the keyboard diagram, and set it by your keyboard. You really do need this diagram in hardcopy:




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**NOTE:** IF YOU ARE USING WINDOWS XP WITH SERVICE PACK 2 AND WINDOWS FIREWALL IS ENABLED: You must open port 1130 in order for Hyperterminal to be able to connect to the simulator. To do this, log on to a Computer Administrator account. Then, follow one of the following procedures (depending on how much you trust the simulator, from most trust to least):

- (a) Run the enclosed batch file apl.bat. When the Windows Firewall dialog appears, click Unblock; **or**
- (b) Open the Windows Firewall window. View the Exceptions tab. Click Add Program. Click Browse, and locate ibm1130.exe. Click Open. Click Change Scope and select My Network. Click OK. Close the Firewall window; **or**
- (c) Open the Windows Firewall window. View the Exceptions tab. Click Add Port. Enter IBM 1130 Simulator as the name, and 1130 as the port number. Select TCP. Click OK. Click Change Scope and select My Network. Click OK. Close the Firewall window.

Now the port is opened, and you can run the simulator from any user account.

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5. Run the enclosed batch file 'apl.bat' (double-click its icon in Explorer). It will start up the simulator, boot APL, and fire up Hyperterminal.

Be sure scroll lock is not lit! Hyperterminal won't send any keystrokes if it is.

6. Set the Hyperterminal font to APLPLUS. 12 point seems to look OK. On Windows XP, 10 and 11 don't seem to. Enable ANSI emulation (click File, Properties, choose Settings Tab, select ANSI).
7. Sign on as user #47 by pressing the following keys:

PC Key	Meaning
2	up shift
'	APL )
3	up-right shift
3	up-right shift lock
f	APL 4
j	APL 7
Enter	Enter

What's going on here?

Look at the Keyboard layout diagram. When you're using APL, you HAVE to use this mapping. Note that the PC's numeric key row and some punctuation keys are in the location of some special character and special function keys for APL:

PC Key	APL Function	(Corresponding key on 1130's keyboard, not that it matters here)
2	up shift	@
3	up right shift	%
4	+	*
5	multiply	<
8	return	-
9	back space	/
-	ATTN	INT REQ
[	left arrow	EOF
;	[	back space
'	]	ERASE FIELD

To get a numeric 7, for instance, you have to type **3j**, for up-right shift, APL 7.

Play with the 2 and 3 keys for a moment, and watch the 1130 GUI display: when you're in up shift mode (2 key), the left side of the extension register lights up. In right shift mode (3), the right side of the extension register lights up. Cool, no?

Press the 2 or 3 key twice, and it shift locks -- try it, and notice the GUI display: more lights!

The other shift key cancels a shift or shift lock, as does Enter or ATTN.

Note that on the key chart, - should be the enter key. It is, but since the 1130 keyboard didn't have a key where the PC's Enter key is, it was possible to let the PC's Enter key work as APL Enter too. Same for the backspace key. This makes life a bit easier.

8. Once signed in you can type APL commands. For example, to add 2 and 3:

<b>PC Key</b>	<b>Meaning</b>
3	numeric shift
s	2
4	+
3	numeric shift
d	3
Enter	Enter

Frightening, isn't it? All I can say is, you'll get used to it in an hour or so.

9. If you make a typing error, backspace to the leftmost incorrect character, and hit - (ATTN). APL prints a down caret, and lets you continue typing. For example, **1 2 x x backspace backspace ATTN** prints this:

```
12xx
```

```
  v
```

You can then type 34, and it looks like 1234 to APL. Give this a try, and you'll be ready to roll. Try some of the examples in the tutorial.

10. You can save your workspace with the command

```
)SAVE xxxx
```

where xxxx is an alphanumeric name. You can reload the workspace with

```
)LOAD xxxx
```

11. If you want to print the Hyperterminal session, you have to set the font to APLPLUS in the Page Setup dialog.

12. To quit, just close Hyperterminal and emulator's black console window.

## **NOTE**

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If you get junk like "[30m" on your telnet screen, try setting the telnet program to use ANSI emulation. If that doesn't work, close it all down, edit the file "APL", and change the line

```
set tto ansi
```

to

```
set tto noansi
```

Save the file, and rerun apl.bat. You only lose the simulated red ribbon for user input.

## DOCUMENTATION NOTES

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The version of the APL tutorial on spies.com doesn't list the Administrative commands. Here's the scoop on those:

When APL is booted in Privileged mode, the first user to log on can use special maintenance commands to create and delete workspaces and user accounts. Usually, for this purpose you'll log on as user #0 (the logon command is )0).

The commands are:

### **)ASSIGN ### USERNAME [:PASSWORD]**

Creates account number ### for user USERNAME, optionally assigning a password. Creates one slot in the disk directory for saving a workspace. Allocates an additional workspace slot each time it's issued. For example,

```
)ASSIGN 47 NORM
```

```
)ASSIGN 47 NORM
```

```
)ASSIGN 47 NORM
```

creates user #47 for Norm, and allocates three workspaces.

### **)EXPUNGE ###**

Deletes user account number ### and all allocated workspaces.

### **)PEOPLE**

Prints a register of all users assigned to the system giving user name, number, password, and the number of times the account has logged on.

### **)SPACES**

Prints the name and password of every workspace assigned to each user in the system.

User 0 cannot, however, use )SAVE or )LOAD, as this account has no disk workspace allocation of its own.

After the first logout with )OFF, the administrator privilege is removed and you must reboot to get it back.

To boot APL in administrative mode, run the APL batch file included in the apl distribution with the command line "**apl priv.**" This boots APL with a modified APL cold start card built into the simulator.

<p><b>NOTE:</b> Thanks to <a href="#">John Slazenger</a> who kept a copy of APL\1130 binary load deck all these years, and who loaned the deck to ibm1130.org so we could read it and make it available for the simulator.</p>
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