

New Technical Notes

Macintosh



Developer Support

Safe cdevs Text

M.TE.SafeCDEV

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This Technical Note describes a potential problem with Control Panel devices (cdevs) that contain `EditText` fields and presents a way to avoid it.

The Control Panel chapter in *Inside Macintosh*, Volume 5 describes, in detail, how run-time errors are handled by the Control Panel and a cdev. There is, however, a potential problem with cdevs that contain `EditText` items that this chapter does not cover.

When a cdev is called by the Control Panel, the cdev's `'DITL'` resource is concatenated to the Control Panel's `'DITL'`. The Control Panel then lets the Dialog Manager update the window. If the cdev contains an item of type `EditText`, the Dialog Manager allocates and activates a `TEHandle` to be used for displaying and editing text. All of this action happens before the cdev gets the `initDev` message from the Control Panel.

As detailed in The Control Panel chapter, if an error occurs from which a cdev cannot recover, the cdev should dispose of any private memory and return the appropriate error code or a `NIL` value to the Control Panel. The Control Panel then grays out the cdev's area, displays the appropriate error dialog, and then deletes the items that were added to its `'DITL'`.

All of this is fine, except that the `TEHandle` does not get deallocated. The `EditText` items get thrown away, including the strings in the item list that the Dialog Manager would use to store text entered into the `EditText` field, but the `TEHandle` stays there and stays active. Figure 1 illustrates what this would look like.

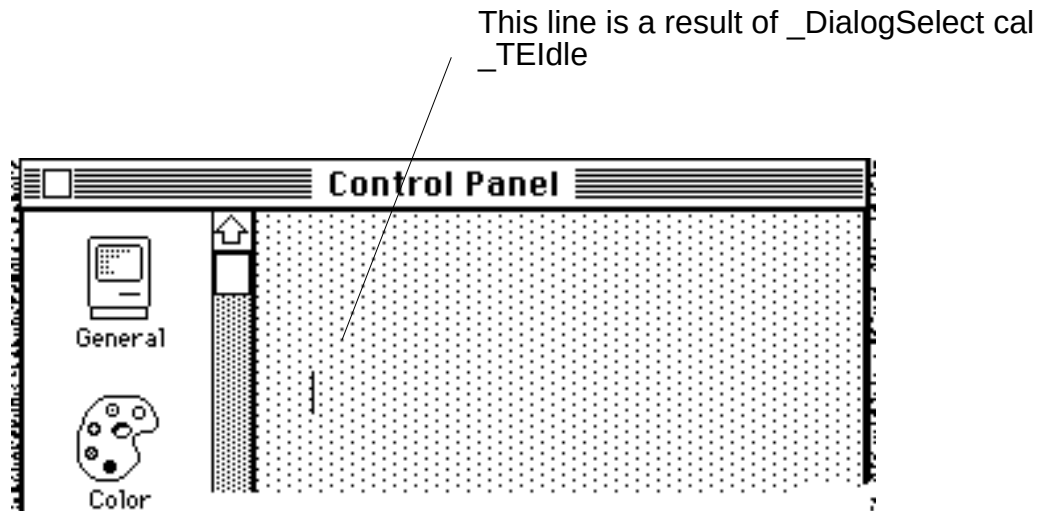


Figure 1—Erroneous Insertion Point

So the Dialog Manager, knowing that it allocated a `TEHandle` for an item that was visible, goes merrily on its way flashing the insertion point. The problem is not simply one of appearance. If a user hits a key, the Dialog Manager tries to process the key-down event just as if the `EditText` item was still available, and this series of events causes a rather nasty crash.

Fortunately, the solution for this problem is a very simple one. If an `EditText` item is hidden with a `_HideDItem` call, the Dialog Manager does not consider it active and will not try to process key-down events for it. So if your `cdev` contains `EditText` items, part of your error handling should be to first hide the `EditText` items with a call to `_HideDItem` before returning an error code or a `NIL` as the `cdev`'s function result.

Further Reference:

- *Inside Macintosh*, Volume I, The Dialog Manager
- *Inside Macintosh*, Volume IV, The Dialog Manager
- *Inside Macintosh*, Volume V, The Control Panel