Custom 802.2 Handlers Replacing standard protocol handlers

You can attach to **The LAP Manager** your own protocol handler for 802.2 protocols. **The LAP Manager** has permanent handlers for certain types of EtherTalk packets. You cannot replace or override the permanent **The LAP Manager** protocol handlers.

There are no high-level interfaces for the **LAP Manager 802.2 Protocol** routines. You call these routines from assembly language by placing a routine selector in the D0 register and executing a JSR instruction to an offset 2 bytes past the start of **The LAP Manager**. The start of **The LAP Manager** is contained in the global variable LAPMgrPtr (0x0B18).

Before you call these routines, you must be sure to place the reference number of **The .ENET Driver** in the D2 register and a pointer to the protocol type specification in the A1 register. Before you call the L802Attach routine, you must also place a pointer to your protocol handler in the A0 register. Both routines return a nonzero value in the D0 register if there is an error.

The code example shows how to call a **LAP Manager** L802.2 routine from assembly language.

```
#define LAPMgrPtr   0xB18 // Entry point for LAP Manager
#define LAPMgrCall  2     // Offset to LAP Manager routines

void CallLAPMgr (Ptr PHndlrPtr, Ptr PSpecPtr, long rSel, long refNum);

void CallLAPMgr (Ptr PHndlrPtr, Ptr PSpecPtr, long rSel, long refNum)
{
    asm    {
        move.l rSel, d0             ;place routine selector in d0
        move.l refNum, d0           ;place driver reference number
                                        ;in d2
        move.l PHndlrPtr,a0 ;put pointer to protocol handler
                                        ;in a0 (L802Attach only)
        move.l PSpecPtr,a1          ;put pointer to protocol specification
                                        ;in a1
        move.l #LAPMgrPtr,aN    ;put pointer to LAP Mgr in aN
        jsr LAPMgrCall(aN)          ;jump to start of LAP Mgr
                                        ; routines
    }
}
```

L802Attach

The L802Attach routine attaches to **The LAP Manager** a protocol handler for a specific IEEE 802.2 protocol type.

On entry D0: 21

D2: reference number of .ENET driver

A0: pointer to your protocol handler

A1: pointer to protocol specification

On exit D0: nonzero if error

Before calling this routine, you must put the value 21 in the D0 register and the reference number of **The .ENET Driver** in the D2 register. The **OpenSlot** function returns **The .ENET Driver** reference number. If you are not using **The .ENET Driver** or a driver that uses the same interface as **The .ENET Driver** , you cannot use the L802Attach routine.

You must put a pointer to your protocol handler in the A0 register and a pointer to the protocol-type specification for this protocol handler in the A1 register. The protocol-type specification consists of one or more protocol-type fields, each preceded by a length byte. **The LAP Manager** reads the protocol-type fields in the 802.2 data packet header to determine to which protocol handler (if any) to deliver the packet. The first type field in your protocol specification is the 1-byte DSAP. If the DSAP type field is equal to 0x0AA, then the protocol-type specification must contain a second type field, the 5-byte SNAP type. If the SNAP type field is 0x000000080F3, indicating the AppleTalk Address Resolution Protocol (AARP), then the protocol-type specification must contain a third type field, the 4-byte AARP protocol type. Terminate the list of protocol-type fields with a byte of zeros.

The following protocol-type specification, for example, is for the permanent **LAP Manager** protocol handler for an 802.3 packet containing AppleTalk data. **The .ENET Driver** would deliver this packet to the AppleTalk Phase 2 **LAP Manager**. The first byte, 0x001, is the length byte for the first protocol-type field (the DSAP type field), 0x0AA. The third byte, 0x005, is the length byte for the next protocol-type field, the SNAP. The final byte (0x000) terminates the type specification.

01 AA 05 08 00 07 80 9B 00

The following protocol-type specification is for the permanent **LAP Manager** protocol handler for an 802.3 packet to be delivered to the EtherTalk AARP handler. Notice that the SNAP field is followed by an additional type field, the AARP protocol type.

01 AA 05 00 00 00 80 F3 04 00 01 80 9B 00

Note: The DSAP value of 0x0AA is reserved for use with protocol-type specifications that include a SNAP field. The SNAP value of 0x008 00 07 80 9B is reserved for AppleTalk data. The SNAP value of 0x000 00 00 80 F3 is reserved for AARP data. The AARP protocol type value of 0x000 01 80 9B is reserved for EtherTalk AARP packets.

See the ANSI/IEEE standard 802.2 for more information about 802.2 protocols, and see *Inside AppleTalk,* second edition, for more information about AARP.

L802Detach

The L802Detach routine detaches from **The LAP Manager** a protocol handler for a specific IEEE 802.2 protocol type.

On entry D0: 22

D2: reference number of .ENET driver

A1: pointer to protocol specification

On exit D0: nonzero if error

Before calling this routine, you must be sure to put the value 22 in the D0 register and the reference number of **The .ENET Driver** in the D2 register. **The .ENET Driver** reference number is returned by the **OpenSlot** function. If you are not using **The .ENET Driver** or a driver that uses the same interface as **The .ENET Driver** , you cannot use the L802Detach routine.

You must put a pointer to the protocol-type specification for this protocol handler in the A1 register. You must specify exactly the same protocol type as you specified for the L802Attach routine when you attached the protocol handler.