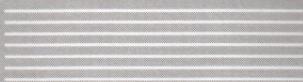


INSTALLATION GUIDE

Xceed™ Gray-Scale 30™

*8-Bit Internal
Gray-Scale Adapter
for the Apple®
Macintosh® SE/30*



MICRON
TECHNOLOGY, INC.



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Limited Warranty Information (continued)

To obtain service during the warranty period, or to obtain service thereafter:

1. Contact Micron by calling **(800) 642-7661** or **(208) 368-3850** to obtain a returned material authorization (RMA) number. Make a note of the RMA number—you may be asked to supply it when making inquiries about the repair status.
2. Return the complete product in its original packaging. If you do not have the original packaging, please contact Micron for instructions on returning your defective product. Send the product, shipping prepaid, to:

MICRON TECHNOLOGY, INC.
Memory Applications Group
Attn: RMA Area
8455 Westpark Street
Boise, ID 83704-8366

3. Enclose proof of purchase documentation showing the date of purchase (sales receipt or invoice).
4. Be sure to write the RMA number on the front of the package.

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The information in this installation guide is subject to change without notice. Micron assumes no responsibility for errors which may appear in this installation guide, nor does Micron make any commitment to update the information contained in this installation guide.

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Chapter 1 Video Adapter Overview

Introduction

Thank you for choosing Micron's Xceed Gray-Scale 30 video adapter for your Macintosh SE/30 computer. We believe you have selected one of the highest quality products available for Apple Macintosh computers. The Xceed Gray-Scale 30 adapter is just one in a full line of Macintosh products from Micron Technology, Inc. Other high quality products available include:

Xceed Products for the Apple Macintosh:

- Memory upgrade kits for Macintosh computers and the LaserWriter IINTX printer
- Video cards for the Macintosh II family of computers
- Cache card for the Macintosh IIci
- PicturePress Accelerator card for the Macintosh II family (JPEG image compression solution—includes PicturePress software.)

Before Installing the Video Adapter

Because of the difficulties and high-voltage hazards involved in installing this Macintosh video adapter, it is strongly recommended that a qualified Apple Dealer perform the installation. There are certain installation procedures and tools necessary (to ensure the safety of the person installing this device) that may only be available to a qualified Apple Dealer. ***We suggest that you do not attempt to perform this installation yourself.***

Your Video Adapter Package Should Contain the Following Items:

- Micron Xceed Gray-Scale 30 Video Adapter Card
- Video Adapter Internal Cable Assembly
- Video Adapter Installation Guide (this document)
- Warranty Registration Form

Any modifications to the video adapter will invalidate its warranty. If you have trouble using your Xceed Gray-Scale 30 video adapter, contact Micron Technology, Inc., at (800) 642-7661 or (208) 368-3850. Technical help from Micron is available weekdays between 8 a.m. and 5 p.m. Mountain time. We recommend you save the original packaging in the unlikely event you need to return the product.

Video Adapter Features

- Designed specifically for installation in the Macintosh SE/30 in conjunction with Micron's Xceed Color 30 video card
- Provides 1, 2, 4 or 8 bits per pixel gray-scale operation (up to 256 simultaneous shades of gray) on the SE/30 internal monitor (when no external monitor is used)
- Tested at the factory over a wide range of environmental conditions to ensure reliability
- Five-year registered warranty

Recommended Tools for Video Adapter Installation

1. A **static wrist strap** was provided with the Xceed Color 30 video card (required for operation of this video adapter), and should be worn **only** when you are handling the Xceed Color 30 video card or touching any part of the SE/30 system board. This will guard against any damage to the video card or your computer from static electricity. **When working around high-voltage areas inside the SE/30, the wrist strap should not be worn.**

2. A pair of **safety glasses** or other eye protection is suggested when working around the SE/30 video display tube (CRT).
3. A special "**TORX T-15**" **access tool** is required to remove the screws that are deeply recessed in the SE/30 case. This tool is available from Micron or your dealer.
4. A small **phillips screwdriver** is necessary to connect the grounding wire on the Gray-Scale 30 cable assembly to the SE/30 internal frame.

A Word of Caution:

Micron Technology, Inc., provides the instructions in this installation guide strictly as a convenience to the purchaser of this Xceed™ Gray-Scale 30™ video adapter. Micron specifically disclaims any and all liability or claims which may arise from use of these instructions and/or installation of the video adapter. We **strongly recommend** that the video adapter installation be performed by a qualified Apple Computer Dealer. Performing the video adapter upgrade on your own may void your Macintosh computer warranty.

Technical Specifications

Dimensions

2.75 in x 3.56 in
(7.0 cm x 9.0 cm)

Environment

Operating:	0°C to +50°C
Nonoperating:	-30°C to +60°C
Humidity:	80% Maximum (Noncondensing)
Vcc:	+5V Nominal

Notes

1. The Xceed Gray-Scale 30 card must be installed in conjunction with the Xceed Color 30 video card for proper operation.
2. The SE/30 internal monitor reverts to black and white operation when an external monitor is connected to the Xceed Color 30 card.

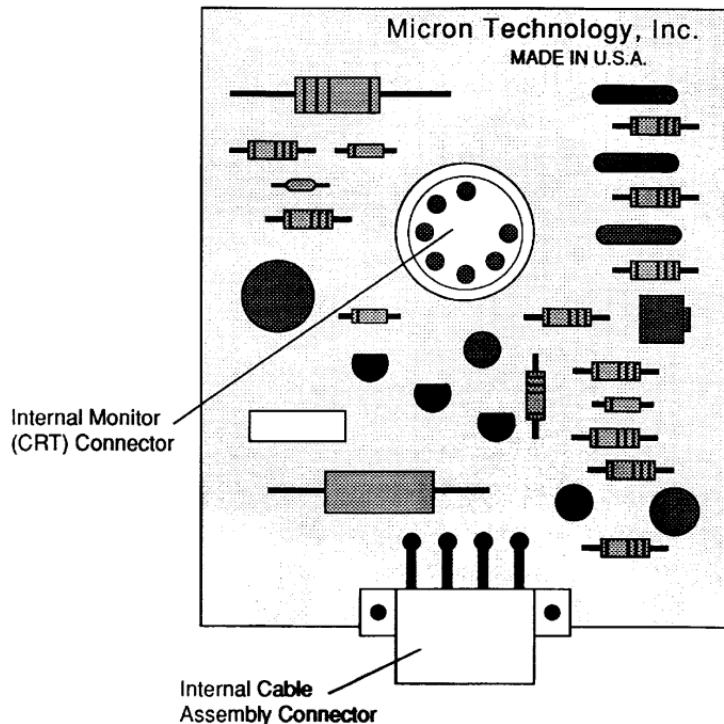


Figure 1-1
Micron Xceed Gray-Scale 30 Video Adapter

Chapter 2 Installing the Video Adapter

Protecting Against Static Electricity and High Voltage

Caution: Static electricity can damage components on the Xceed Color 30 video card (required for use with this video adapter) and in your computer. Do not touch the components on the video card—handle the card by its edges only. Before you handle the video card or touch the Macintosh system board, ground yourself by touching the metal cover of the SE/30 power supply. ***Use a static wrist strap during video card installation only. When working around high-voltage areas (while installing this video adapter), remove the wrist strap and all jewelry and work with one hand only.***

Opening Up Your SE/30

WARNING: Make sure that the power to all of your computer equipment is turned off. Leave the power cord to your SE/30 plugged in for five minutes before removing it and attempting to open your system.

NOTE: The Micron Xceed Gray-Scale 30 video adapter must be used in conjunction with the Xceed Color 30 video card. Please refer to the instructions in your Color 30 Installation Guide (Chapter Two) for opening your SE/30 case to gain access to the video display tube (CRT) and internal cabling. When you have opened the SE/30 case, be careful to observe the High Voltage areas as shown in Figure 2-1 of this installation guide.

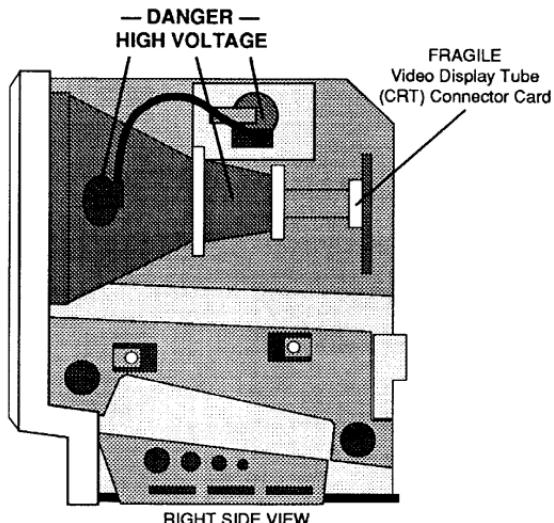


Figure 2-1: SE/30 Internal High Voltage Areas

Installing the Video Adapter in Your SE/30

Caution: Some of the hardware inside the SE/30 is very fragile and can easily be broken. As you follow these instructions to install the video adapter assembly, be particularly careful of the back of the video display tube (CRT) as shown in Figure 2-1. ***Do not "twist" or "rock" the CRT connector card while removing or installing it.*** We suggest that you wear safety glasses when working around the CRT.

Removing the Standard Video Adapter Assembly

Before you can install the Xceed Gray-Scale 30 adapter, you must remove the existing CRT connector card and associated cabling.

If you already have the Xceed Color 30 video card installed in the SE/30 PDS connector, the following instructions will be easier to perform if you remove it before continuing.

Follow the steps below to remove the CRT connector assembly.

1. Carefully unplug the existing CRT connector card from the back of the video display tube (CRT). When unplugged, the connector card will be suspended in place by a six-wire power cable plugged into "P2" on the SE/30 video display (CRT) driver board and a ground wire connected to the SE/30 CRT frame screw (See Figures 2-2 and 2-3).

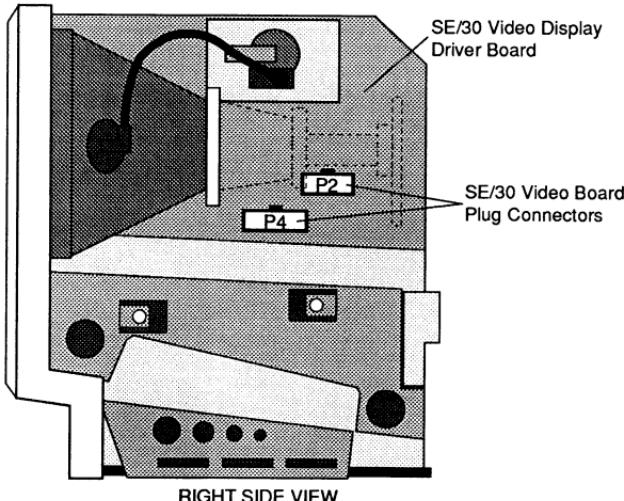


Figure 2-2
Location of Power Plugs on the Video Display Driver Board

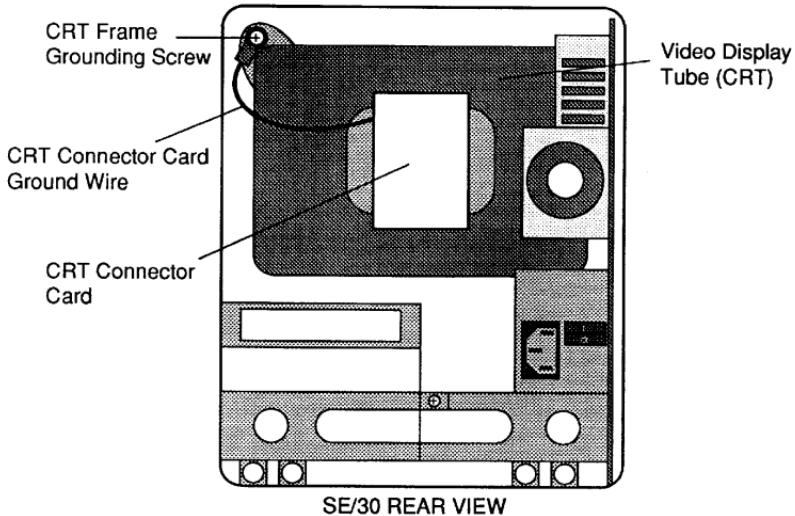


Figure 2-3
Removing the CRT Connector Ground Wire

2. Unplug the six-wire power cable from "P2" on the CRT driver board. You will need to press the locking tab on the top of the plug connector "down" and pull the cable plug straight "back" and "out" of the connector.
3. Use the "TORX T-15" access tool to remove the CRT frame screw connecting the ground wire from the CRT connector card to the SE/30 frame.

NOTE: Since the back of the display tube is very fragile and could easily be broken, be careful not to "bump" it during removal of the connector card.

You should now be able to remove and set aside the entire CRT connector card assembly.

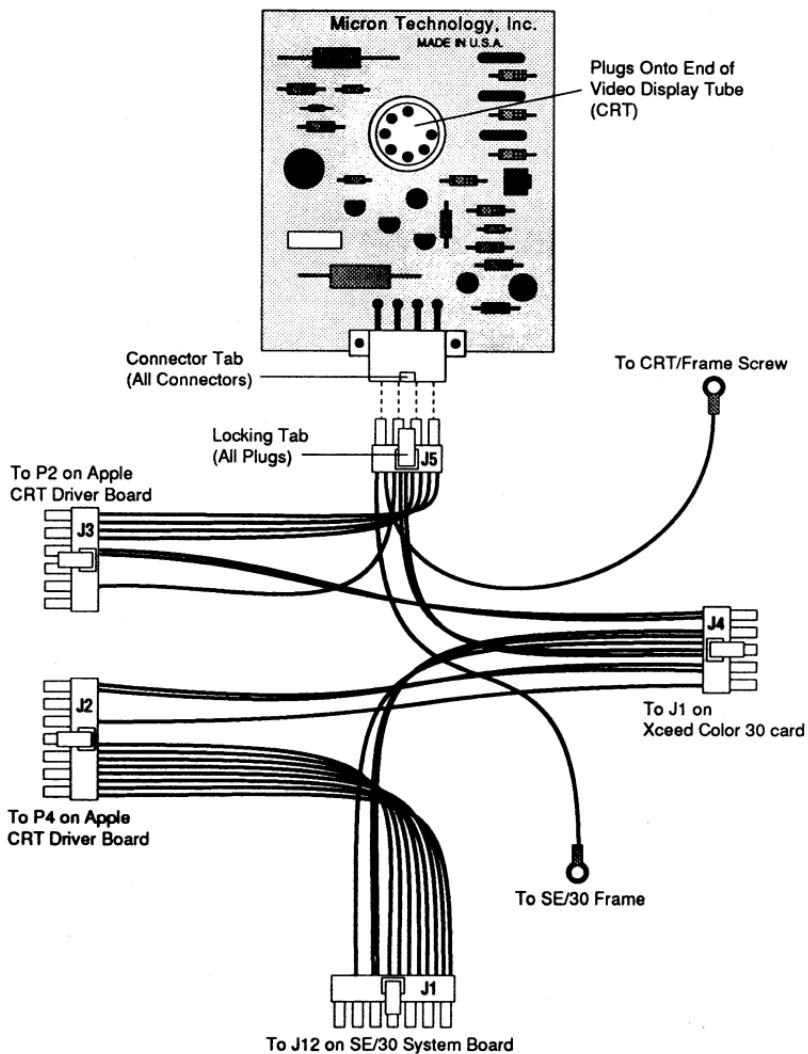


Figure 2-4
Xceed Gray-Scale 30 Video Adapter and Cable Assembly

Installing the Video Adapter in Your SE/30 (contd)

Installing the Gray-Scale 30 Video Adapter Assembly

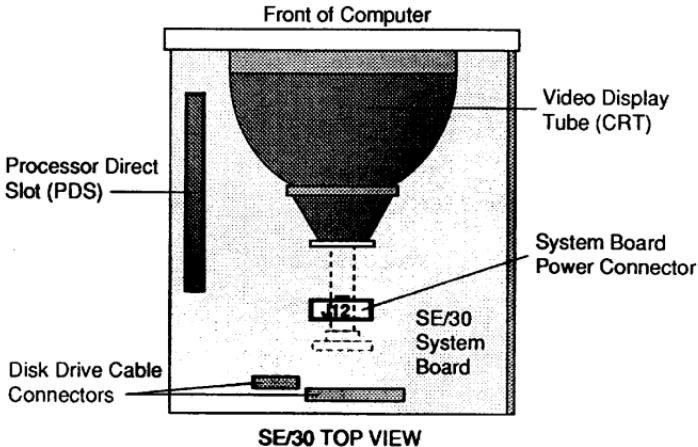
The Micron Xceed Gray-Scale 30 video adapter and cable assembly is shown in Figure 2-4. Note that the plugs on the cable assembly are all numbered (J1-J5) for easy reference. All the connectors have tabs and all the plugs have locking tabs providing for "one way only" installation.

Follow the steps below to install the Xceed Gray-Scale 30 video adapter and cable assembly:

1. Insert cable-assembly plug J1 into connector J12 located on the SE/30 system board as shown in Figure 2-5. Make sure the locking tab on the plug

"snaps" into place over the tab on the connector.

2. Insert cable-assembly plug J2 into connector P4 and cable assembly plug J3 into connector P2 (both) located on the SE/30 video display driver board as shown in Figure 2-2. Make sure the plugs "snap" into place correctly.
3. If the Xceed Color 30 video card has not been installed, install it at this time. Follow the instructions in your Xceed Color 30 manual.
4. Insert cable-assembly plug J4 into connector J1 located on the Xceed Color 30 video card. Refer to Figure 1-1 on page 1-3 of your Color 30 installation guide for the location of the Gray-Scale 30 connector. Make sure the locking tab on the plug "snaps" into place over the tab on the connector.



**Figure 2-5
Location of System Board Power Plug**

Installing the Video Adapter in Your SE/30 (contd)

5. Connect the two ground wires from the cable assembly shown in Figure 2-4 to their respective ground screws on the SE/30 frame as shown in Figure 2-6. You will need to completely remove the ground screws and reinsert them through the ground wire connector "loops" to insure a proper connection. *It is very important to connect these ground wires properly and securely since they can provide protection against serious electrical shocks.*

6. Insert cable-assembly plug J5 into the connector on the Gray-Scale 30 connector card and carefully plug the card straight-on to the connector pins located at the back end of the CRT as shown in Figure 2-6.

CAUTION: Do not use excessive pressure or force when plugging the Gray-Scale 30 connector card onto the video display tube (CRT). **Do not "twist" or "rock" the CRT connector card while installing it.**

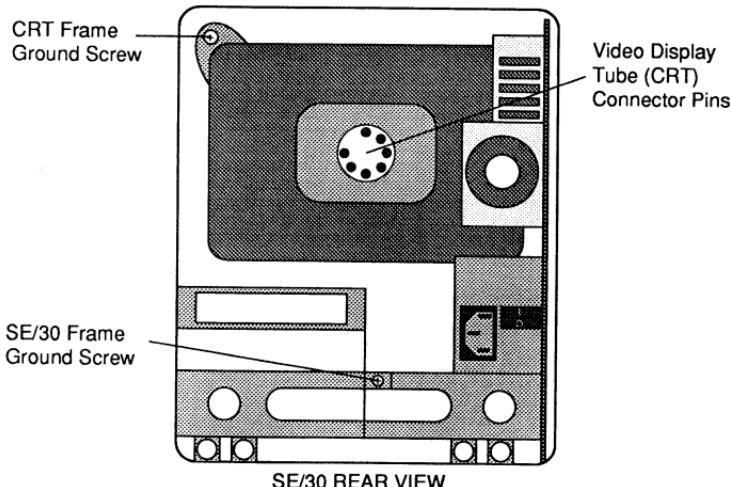


Figure 2-6
Location of Ground Screws and CRT Connector Pins

Reassembling Your SE/30

When you have successfully installed the video adapter and cable assembly, refer to the reassembly instructions in Chapter Two of your Xceed Color 30 video card installation guide.

Configuring Your SE/30 for Gray-Scale Operation

Chapter Three in your Color 30 video card installation guide explains how to configure your SE/30 for color operation. There is no difference in procedure when configuring your SE/30 for Gray-Scale operation. The SE/30 will automatically provide gray-scale options (for the internal 9" monitor) when there is no external monitor connected to the Color 30 video card. If there is an external monitor attached to the video card, the SE/30 internal monitor reverts to black and white operation only.

As per Micron Cust. SERV.

TO REMOVE muddiness

1. Use monitors Cont. Panel to select 256 GS
2. Adj. external Brightness to Full
3. Adj. internal cut-off pot to visual liking
4. Adj. pot on GS card, at back of CRT, to liking.



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