sensor **1642**. In addition, if the user wants to see the image on the microdisplay **1638** or view a previously taken picture stored in memory, the second mirror **1634** is flipped horizontally, as viewed in **FIG. 16H** in phantom, so the microdisplay **1638** can be seen through the lens **1644** of the viewfinder **1646**.

[**0231**] An alternative embodiment is shown in **FIG. 16I**. In this embodiment the viewfinder **1646** uses a separate second lens **1648** from that of the lens **1654** of the image sensor **1656** and a single mirror **1650**. With the mirror **1650** in the position shown, the mirror **1650** allows the user to see the image of the microdisplay **1638** through the lens **1644** of the viewfinder **1646**. With the mirror **1650** flipped down as seen in phantom, the user sees the view to be photograph through the second lens **1648**. If the mirror **1650** is a half mirror, the user can see both the microdisplay **1638** and the view through the second lens **1648**. A shutter **1652** interposed between the second lens **1648** and the mirror **1650** allows selection of viewing the through of either the second lens **1648** or microdisplay **1638** when a half mirror **1650** is used.

[**0232**] A digital camera/card reader **1660** is illustrated in **FIGS. 16J and 16K**. The digital camera/card reader **1660** has a microdisplay **1662** with a viewing lens **1664** and a image sensor **1666**, such as the Intel VL5426S002, with a lens **1668** and an interposed shutter **1670**. Note that an electronic shutter can also be used. A backlight **1672** for the microdisplay **1662** is interposed between the microdisplay **1662** and the image sensor **1666**.

[**0233**] The digital camera/card reader **1660** has a slot **1674** for receiving a memory card which can store or already contain images viewable on the microdisplay **1662**. A focus knob **1678** for the display is located on the optical engine **1680** of the microdisplay **1662**. A shutter release button **1682** and an image select button **1684** are also shown.

[**0234**] A detachable battery pack **1686** and the housing **1688** for the circuit **1690**, illustrated in broken line, which underlie the battery **1686**, create a handle for holding the digital camera/card reader **1660**.

[**0235**] Another preferred embodiment of the invention relates to a card reader system. Such a system **700** is illustrated in connection with FIGS. **17A-17C** and includes a housing **705** with a port or aperture **712** for insertion of a card **730**, a display system **706** for presenting information to the user, a card reader **734**, a control circuit **736**, and a control panel **715** that controls reader operation. The display system **706** can include the color sequential display module as described previously herein.

[**0236**] The card **730** being read by the reader can be a so-called "Smart Card" or a PCMCIA card. Smart cards are commercially available and can include elements **738** such as a memory for storing data, a controller, a power source, and a coil antenna **732** to interface with the reader, all mounted on a piece of plastic. This type of card can be used to store personal financial information, personal medical history, insurance information, and/or many other types of data useful to the card user. More details regarding such cards can be found in U.S. Ser. No. 08/680,210 filed on Jul. 11, 1996, the entire contents of which is incorporated herein by reference. Alternatively, the card **730** can be a PCMCIA card such as a modem including a wireless receiver or data storage card.

[**0237**] The user is often interested in displaying information contained on the card and in controlling access to this information. The card reader of the present invention is used to provide access to this information by displaying selected information stored on the card. As shown in **FIG. 17A**, the reader housing **705** has a viewing window **702** and a slot or aperture **712** for insertion of at least that portion of the card containing the interface **732** to permit reading of information stored in card memory. The user manipulates control elements or buttons on a control panel **715** of the reader housing **705** to operate the system. The elements can include an on/off switch **708** and a four way element **710** to scroll the display up, down, left or right. An internal battery **720** provides power for all reader functions.

[**0238**] In an alternate embodiment of the invention, the reader **700** can also include an imaging device **718**, including a CMOS or CCD imaging circuit **722** and imaging optics **724**. Button **714** can operate the cameras **718** and select button **716** allows the user to select from a menu of reader **700** operations.

[**0239**] As shown in **FIG. 17B**, another preferred embodiment provides for detaching the display **706** and or the camera **718** from the housing **705**. Either detachable element can be electrically connected to the housing **705** with a cable **726** from a socket **728** of either element **706, 718**. The reader **734** is positioned in the housing **705** to be adjacent to the antenna **732** on the card **730** or can be any other suitable interface such as a magnetic strip reader.

[**0240**] A schematic circuit diagram for a card reader system is illustrated in **FIG. 18**. The circuit includes an interface **752** that connects with the card being read, a controller **754** having a memory, a user control panel **756**, a microdisplay circuit **758**, as described previously herein, and a display **755**. The interface **752** can be for cards with contacts or for contactless cards. A battery **757** provides power to the reader. The controller **754** and interface **752** and other physical characteristics of the card reader are preferably configured to comply with the guidelines set forth in the International organization for Standardization (ISO) and the American National Standards Institute (ANSI) standards which are available from ANSI at 11 West 42nd Street, New York, N.Y. 10036. These standards, including ISO/IEC 7816-1 through 7816-7, and the amendments thereof, are incorporated herein by reference in their entirety.

[**0241**] As illustrated in **FIG. 19A**, the card reader **750** can be connected by wireless modem, telephone or other cable link **764** to an interface **760** such as a personal computer (PC) card to a general purpose computer **762**.

[**0242**] Another embodiment of the card reader system **766** is illustrated in **FIG. 19B**. The system includes a housing **768** with a port or aperture **770**, shown in hidden line, for insertion of the card **730**, or at least that portion of the card that contains the interface, a display system **772** for presenting information to the user, and a control panel **774** that controls reader operation. Similar to the previous embodiment, the system **766** has a card reader, a control circuit, and a internal battery as described previously. The display system **772** can include the color sequential display module as described previously herein and is shown in actual size.

[**0243**] As shown in **FIG. 19B**, the reader housing **768** has a viewing window **776**. The user manipulates control ele-