

Cameo SV Quick Start Guide.

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Introduction:

Cameo was designed to enable nonlinear edit systems to interface into the rest of the video facility as easily as possible. With Cameo, stand-alone mixers, midi control boxes, digital audio distribution amplifiers, and midi to RS422 converters are all not necessary. This booklet has been written to quickly train the user to install and operate the Cameo SV digital audio mixer. If you don't like to read long manuals don't worry as we have only included the information necessary to evaluate and operate the unit.

Installation:

To start using Cameo, a reference connection must be made. The Cameo must be externally referenced to an AES audio source. There are two choices for doing this. Cameo has an external reference input, which appears on the same pins on both of the two digital audio input connectors. Cameo can also be set to reference its digital inputs 9 and 10. In an edit situation it is not recommended that Cameo run off of internal crystal reference. The selected reference input is controlled in the input menu, which is accessed under the setup key. Connect the supplied Microsoft mouse to the mouse connector located on the right side of the Cameo mixer. Connect the DC power supply to the four-pin XLR connector on the rear of Cameo. Connect the display cable to the DB 25 connector on the rear of Cameo labeled "DISPLAY". Connect the other side to the DB 25 connector on the display box. Now the Cameo mixer power supply can be connected to 120 or 240 vac. Cameo has no power off switch. The unit is designed to operate 24 hours a day. Powering down is acceptable, as all memory is battery backed up.

Inputs/outputs:

Cameo has 32 inputs. Channels 1 to 8 are always analog. Channels 9 to 24 are always digital. All outputs are available as both analog and digital. Eight mix outputs are available as well as six monitor outputs. The level of the six monitor outputs is controlled by the monitor level adjustment on the Cameo control panel. This adjustment does not affect the AES monitor outputs. These outputs can be used to feed digital audio monitoring scopes. Of the six monitor outputs it is only necessary to connect monitor outputs one and two to monitor speakers. In a surround environment, all six outputs may be connected. Please refer to the connector pin out chart to wire all inputs and outputs.

All of Cameos AES inputs and outputs are 110 ohm balanced. If connection to 75-ohm coax is required, Zaxcom can supply a 16 BNC converter panel. Or standard Dats adapters can be used. Please contact the factory for details.

In a surround system mix and monitor buses should be assigned as follows.

Mix/mon 1 = front left
Mix/mon 2 = front right
Mix/mon 3 = front center
Mix/mon 4 = sub
Mix/mon 5 = rear left
Mix/mon 6 = rear right

If a non-linear edit system with midi control of its internal mixer is part of the system, connect the midi control pins on the Cameo to the designated connections on the nonlinear system. Please consult the manual of the nonlinear edit system for connection information. When utilizing a NT/PC system direct connection can usually be accomplished. When connecting to a Macintosh based system, a RS422 to Midi interface is usually required.

Basic operation:

The Cameo control interface has been setup so that each function can be accessed in most cases either by pressing buttons on the Cameo control panel or by utilizing the mouse. Pressing the right mouse button from the home menu will go to a menu that will duplicate the function keys on the Cameo control panel. Different menus can then be selected and accessed by pressing the left mouse button.

The overall function of the left mouse button is to select functions that are currently pointed to on the Cameo display. The right mouse button is used to access the Cameo function menu as well as to return from selected menus to the Cameo main operating menu.

Set up:

When Cameo is installed, it is important to setup the 32 channels to correspond to the connections from different audio sources to the input of Cameo. This will enable Cameo to correctly monitor different audio sources as well as correctly selecting input channels for use on Cameo's faders. To select the physical/logical setup menu, press the setup key on the Cameo control panel. Then select the physical/logical [F1] key in the setup menu. Using the mouse, each of the 32 physical inputs can now be associated with a logical group of channels, which form a physical input source. A logical source can have from one to eight channels associated with it, use the mouse to select inputs. Click on any one of the 32 inputs in the input selector section of the menu. Then click on the source designator and source channel that the Cameo is connected to. Do this for each of the 32 channels in Cameo. Be sure to check channels, which are not in use for duplicate entries. If duplicate entries exist, incorrect channels may be selected for monitoring or fader control. Set these channels to unused designations to avoid conflicts.

Re-select the setup menu then select input control [F3]. This menu is utilized to adjust all eight analog sources to a proper input level on Cameo. Input tone to Cameo on each of the connected analog sources. Use the mouse to select inputs 1 to 8 and then use the soft knob to trim the input level to 0 dB. The input gain numbers are simply a relative indication of input adjustment. Each increment is equal to approximately one-half of a dB. Check to see if a digital input is connected to a source that is not locked to the same reference as the Cameo. Enable the sample rate converter on that channel pair by clicking on the channel pair in the sample rate converter section of the input menu. Also, in the input menu, select a proper reference for Cameo. Clicking on the reference box in the menu will toggle through the three selections. Set up is now complete.

Operation:

Basic Cameo operation involves monitor selection, bus selection, and fader selection.

Monitor selection:

Clicking on the word monitor in the Cameo home menu can access monitor selection, or by pressing the monitor key on the Cameo control panel. Once accessed the monitor menu will allow for selection of monitoring each individual source or output monitor buses. If an input source is selected, it will be monitored in whenever bus configuration has been selected for it in the bus assign menu. If an input selection has not been assigned in the physical/logical menu then nothing will be monitored. When the source is monitored, the mute menu may be utilized to eliminate specific channels from being monitored. The current monitor selection will be displayed in the home menu just below the monitor box.

Bus selection:

To select a bus for channel output that channel must be currently assigned to a fader. To assign an input channel to a mix output bus, press a bus key on the control panel or select the bus menu to access selection to mix as well as monitor bus outputs. In the bus assign menu it is possible to assign an input channel to any output bus. Simply use the mouse to click on the corresponding input channel and output bus location. Clicking just to the right of the selection box will designate a pre-fader output condition. The pre fader condition is indicated by a capital P. Post fader is indicated by a --. In linear video editing it is common to designate the record machine as pre-fader. Otherwise designate channels as pre or post fader as necessary.

Fader selection:

To select a fader for inclusion on the control panel click on the word faders in the Cameo home menu or press the fader button on the control panel. Now select the logical group of faders to assign to the Cameo control panel. When a group of channels is assigned. The existing channels will be pushed to the right side of the Cameo control panel. If it is desired to lock down a channel to a fader so that it does not change from its current location. A selection in the home menu designated by "FTL" will freeze the current input to that fader. Any combination of inputs can be routed to the eight faders. Selecting the midi remote will designate fader control of any midi device connected to Cameo. In the fader control menu there are four selections labeled "bank one" to "bank four". These selections will assign each of the 32 inputs to the Cameo faders in groups of eight. This is a quick way to look at each of the 32 input channels regardless of what logical source they are assigned to.

Fader operation:

When a channel is removed from the fader it will retain the last fader level and parameters assigned to it. When reassigned to a physical fader the level of the channel will not change until the physical fader is adjusted and the electrical position of the physical fader moves past current position of the channel assigned to the fader. When a fader is controlling a midi channel its electrical position is output to the MIDI device when the electrical pointer of the fader is moved. The midi controlled device has the ability to move the electrical pointer on the Cameo as it would a motorized fader. This type of operation is ideal for remote mixing inside a nonlinear edit system. Please note that not all non linear edit systems. Support this interface. The Cameo midi interface emulates A JL Cooper MCS3000X. The four character LED display located directly above each fader (except the master) will indicate the current channel assigned to the fader. The signal presence LED located at the top of the fader strip indicates signal presence on that channel. A level of approximately -30 dB or above will illuminate the LED.

Fader limits:

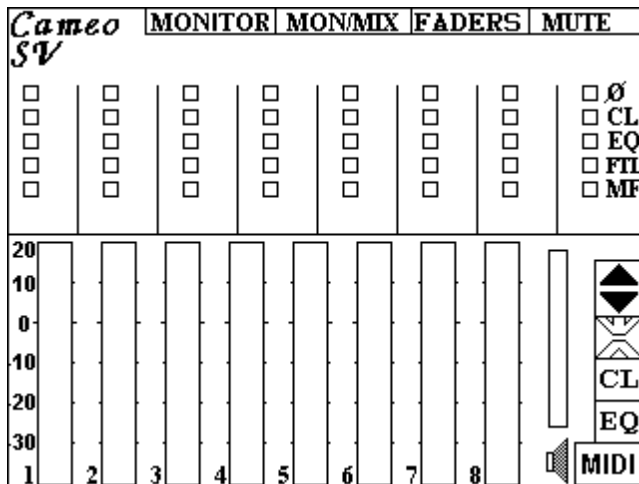
To access the fader limit menus enter the fader control menu and then select high limit or low limit menus with the [F10] key. To set a limit move the physical fader to the desired limit point and then set the fader limit by pressing or clicking on the key in the fader limit menu. Once a limit has been established, the electrical fader pointer will not move beyond the limit even if the physical fader is pushed beyond that point. A fader limit may be cleared in the fader limit menu. It is important to realize that fader limits are assigned on a channel by channel basis. If a channel is moved from one fader to another its limits will move with it. When a fader limit is engaged a limit light will illuminate at the top or bottom of the fader pointer display.

Mute selection:

To select output buses to be muted click on the word mute in the home menu or press the mute key on the Cameo control panel. Each output bus can be individually muted in this menu. The bus number appearing under the word mute in the home menu will indicate busses that are muted.

Midi control:

Cameo has the ability to mix control of internal channels with control of external audio residing inside nonlinear edit systems. Use the fader control menu to select internal as well as external sources to control. In the home menu a selection labeled Midi located in the bottom right corner of the menu, will immediately select all eight faders for midi control. Clicking on this symbol when in midi mode will restore the control panel to the fader selections that were present before the mode was selected.



Home menu:

The home menu is utilized for basic Cameo operation. Eight mix bus meters are displayed in this menu. These meters correspond to Cameo's main eight mix buses. A level of 0db corresponds to -20 dB digital. A bar graph located directly above a speaker symbol shows the level of the analog monitor output. Five boxes located on the extreme right side of the screen select the following functions. The two arrows will allow the mouse to raise or lower the monitor volume.

The Zaxcom surround symbol will provide direct access to the surround metering menu. CL and EQ symbols provide direct access to the compressor and equalizer menus respectively. In the home menu, five selections are available on a channel by channel basis the selections are as follows.

Phase inversion:

If selected, the phase of the input channel will be inverted when assigned to any or all of the output buses.

Compressor:

If selected, the compressor on the selected channel will be enabled. The compressor for the selected channel will be in active until it is enabled in the home menu.

Equalizer:

If selected, the equalizer for the channel will be enabled. In the equalizer menu, all parameters may be adjusted, however the equalizer function will be active unless equalizer is selected in the home menu.

Full time live:

This function abbreviated "F T L" will lock down a channel to a fader. When a fader selection is made in the fader control menu. All channels not locked down will be pushed off to the right side of the Cameo control panel. Locking down a channel only freezes its position on Cameo mixer control surface all other channel parameters are active.

Master fader:

This function abbreviated M.F. will allow the Master fader to control the selected channels. When the Master fader is selected two options are available. A solid box will indicate that when the Master fader is a full upward position, the channels assigned to the Master fader will be at their full fader levels. A down arrow in the MF box indicates that individual channels will be off when the Master fader is a full upward position. This allows the Master fader to be used as a cross fader.

Please note that the Master fader will only effect channels that are currently assigned to faders. It is important that channels that are not currently assigned to faders be adjusted to the desired levels before the channels are removed from fader control.

Channel selection:

The current channel assigned to a fader is displayed in the home menu. Using the mouse to click on the channel name will select that channel for control when the equalizer or compressor menus are entered.

Monitor/mix:

Eight symbols located below the monitor/mix box in the home menu indicate the condition of the monitor section of the Cameo when controlled by a linear edit system. When the Cameo is used in a non linear edit system these symbols do not apply. A dash indicates normal monitoring an asterisk will indicate a preview switch to the mix bus.

Up/down arrows:

When clicking on these arrows in the home menu, the monitor volume will be raised or lower.

Equalizer Menu:

The equalizer menu is utilized to control the equalizer on individual channels. The mouse is utilized to select different parameters for adjustment. For example, use the mouse to click on one of the EQ level parameters then use the soft knob to adjust the parameter. The mouse is used to enable each of the four EQ functions individually. Notch 1, Notch 2, High pass and 3 band parametric filters can be individually enabled. Five equalizer memories are utilized to store favorite settings as well as copy those settings from one channel to another. Clicking on any of the five memories will recall that memory into the current channel. Clicking on the store box will illuminate an asterisk. Clicking on one of the five memory boxes will store the current settings into that memory. Please note that no EQ filters will be engaged unless the EQ is enabled in the home menu. Also note there is a limit to the number of channels that can be equalized and compressed at one time. Cameo will notify you at the time an effect is engaged if there is a processor overload condition. Approximately 16 channels can have EQ at any given time. An EQ may be set to unity by clicking on the unity box in the EQ menu.

Compressor:

The compressor menu is utilized to control the compressor on individual channels. The mouse is utilized to select different parameters for adjustment. For example, use the mouse to click on one of the compressor parameters then use the soft knob to adjust the parameter. Five compressor memories are utilized to store favorite settings as well as copy those settings from one channel to another. Clicking on any of the five memories will recall that memory into the current channel. Clicking on the store box will illuminate an asterisk. Clicking on one of the five memory boxes will store the current settings into that memory. Please note none of the compressors will be engaged unless the compressor box is enabled the in the home menu. Also note there is a limit to the number of channels that can be equalized and compressed at one time. Cameo will notify you at the time an effect is engaged if there is a processor overload condition. The eight meters in the compressor menu indicate the input channel level as well as the gain reduction for that channel. Each of the eight meters corresponds to each of the eight faders. Clicking on each fader number in the menu will select the corresponding channel for compressor control. The controlled channel is indicated by the channel name located at the top right hand corner of the compressor menu. At the bottom right hand corner of the compressor menu are two factory preset adjustments for the compressor as well as unity settings.

Delay:

Each of Cameo's inputs can be delayed by up to 2 video frames. To access the delay press or click on the effex key and then press or click on [F3]. Use the mouse to designate which channel to delay. The mouse or the soft knob will increment or decrement the delay value. Set all and clear all will set all eight channels to the same value.

Tone menu:

Select the tone key to output tone on any of the eight output busses. Pressing the tone key twice will instantly enable the tone output. When in the tone menu the channel ID function will output tone on each of the eight output buses while actively dropping the tone output on each bus in sequence. This is useful in identifying each of the eight bus channels in the transmission process. Each of the eight output buses may have been tone enabled individually when a study state output is selected.

Edit menu:

Select the edit key to enter the edit menu. This menu is utilized only during control from linear edit systems under ESAM control. This menu will show the current position of the mixer time line. As well as the current duration as downloaded from the edit system. Under non linear edit conditions this menu is not utilized.

Run key:

This button is utilized to run a time line that is loaded from a linear and it system under ESAM control. This key is not utilized in a non linear edit system environment.

Surround field display:

Click on the surround symbol in the home menu to enter the sound field display. This display will show that accurate calibrated representation of each of the six channels utilized in a surround system. Use the right mouse button to return to the home menu.

When all else fails or console defaults:

If a complete factory default restart a Cameo is desired. Press and hold the mute key while applying power to Cameo. This will clear all internal functions back to factory defaults. Warning: this should only be done as the last resort for clearing any Cameo difficulty.

Connector pinouts

AES input channels 9 to 20

| | PIN | Function |
|----|------------|----------|
| 13 | IN 9-10 + | |
| 25 | IN 9-10 - | |
| 12 | GND | |
| 24 | IN 11-12 + | |
| 11 | IN 11-12 - | |
| 23 | GND | |
| 10 | IN 13-14 + | |
| 22 | IN 13-14 - | |
| 9 | GND | |
| 21 | IN 15-16 + | |
| 8 | IN 15-16 - | |
| 20 | GND | |
| 7 | IN 17-18 + | |
| 19 | IN 17-18 - | |
| 6 | GND | |
| 18 | IN 19-20 + | |
| 5 | IN 19-20 - | |
| 17 | GND | |
| 4 | NC | |
| 16 | NC | |
| 3 | GND | |
| 15 | REF IN + | |
| 2 | REF IN - | |
| 14 | GND | |
| 1 | GND | |

AES input channels 21 to 32

| | PIN | Function |
|----|------------|----------|
| 13 | IN 21-22 + | |
| 25 | IN 21-22 - | |
| 12 | GND | |
| 24 | IN 23-24 + | |
| 11 | IN 23-24 - | |
| 23 | GND | |
| 10 | IN 25-26 + | |
| 22 | IN 25-26 - | |
| 9 | GND | |
| 21 | IN 27-28 + | |
| 8 | IN 27-28 - | |
| 20 | GND | |
| 7 | IN 29-30 + | |
| 19 | IN 29-30 - | |
| 6 | GND | |
| 18 | IN 31-32 + | |
| 5 | IN 31-32 - | |
| 17 | GND | |
| 4 | NC | |
| 16 | NC | |
| 3 | GND | |
| 15 | REF IN + | |
| 2 | REF IN - | |
| 14 | GND | |
| 1 | GND | |

AES outputs mix 1-8

Note Dual mix outputs

| PIN | Function |
|-----|-----------|
| 13 | OUT 1-2 + |
| 25 | OUT 1-2- |
| 12 | GND |
| 24 | OUT 3-4 + |
| 11 | OUT 3-4 - |
| 23 | GND |
| 10 | OUT 5-6 + |
| 22 | OUT 5-6 - |
| 9 | GND |
| 21 | OUT 7-8 + |
| 8 | OUT 7-8 - |
| 20 | GND |
| 7 | OUT 1-2 + |
| 19 | OUT 1-2 - |
| 6 | GND |
| 18 | OUT 3-4 + |
| 5 | OUT 3-4 - |
| 17 | GND |
| 4 | OUT 5-6 + |
| 16 | OUT 5-6 + |
| 3 | GND |
| 15 | OUT 7-8 + |
| 2 | OUT 7-8 - |
| 14 | GND |
| 1 | NC |

AES outputs monitor 1-6

Note Dual mix outputs

| PIN | Function |
|-----|-----------|
| 13 | OUT 1-2 + |
| 25 | OUT 1-2- |
| 12 | GND |
| 24 | OUT 3-4 + |
| 11 | OUT 3-4 - |
| 23 | GND |
| 10 | OUT 5-6 + |
| 22 | OUT 5-6 - |
| 9 | GND |
| 21 | NC |
| 8 | NC |
| 20 | GND |
| 7 | NC |
| 19 | NC |
| 6 | GND |
| 18 | NC |
| 5 | NC |
| 17 | GND |
| 4 | NC |
| 16 | NC |
| 3 | GND |
| 15 | NC |
| 2 | NC |
| 14 | GND |
| 1 | NC |

GPI I/O (MIDI I/O)

| PIN | Function |
|-----|-----------|
| 13 | GPI IN 4 |
| 25 | GND |
| 12 | GPI IN 3 |
| 24 | GND |
| 11 | GPI IN 2 |
| 23 | MIDI CLK |
| 10 | GPI IN 1 |
| 22 | GND |
| 9 | THRU+ |
| 21 | THRU- |
| 8 | +5V |
| 20 | MIDI TX+ |
| 7 | MIDI TX - |
| 19 | MIDI RX+ |
| 6 | MIDI RX- |
| 18 | GND |
| 5 | GND |
| 17 | RX+ |
| 4 | RX- |
| 16 | TX+ |
| 3 | TX- |
| 15 | GPI OUT 4 |
| 2 | GPI OUT 3 |
| 14 | GPI OUT 2 |
| 1 | GPI OUT 1 |

Analog in and out

| PIN | Function |
|-----|----------|
| 1 | LEFT+ |
| 6 | GND |
| 2 | LEFT- |
| 7 | NC |
| 3 | NC |
| 8 | NC |
| 4 | RIGHT+ |
| 9 | GND |
| 5 | RIGHT- |

Analog in 1 AND 2 ONLY

| PIN | Function |
|-----|----------|
| 1 | LEFT+ |
| 6 | GND |
| 2 | LEFT- |
| 7 | MIC + |
| 3 | NC |
| 8 | MIC - |
| 4 | RIGHT+ |
| 9 | GND |
| 5 | RIGHT- |

Cameo SV ESAM II Instructions:

Installation: Using the supplied RS422 cable. Connect Port 1 on the rear of the Cameo SV to the mixer control port on the back of the edit system.

Configure the Audio cross points in the edit system as follows.

VTRA = 1
VTRB = 2
VTRC = 3
VTRD = 4
VHS = 5
PC = 6
RTR = 7
NLE = 8
AUX1 = 9
REC = 10
CD = 11
DAT = 12

Under the Cameo SV "Setup" menu 3 selections for editing are available.

F9 Preread on: If selected the record VTR will be routed to the mix bus in a 1 to 1 bus configuration. This is necessary for preread editing. This function can be left on all the time however if the record machine is in the E-E mode, feedback may occur. F10 is used to disable the preread mode.

F11 Xpoint Table initialization.

This will initialize the xpoint table to the factory default. The edit system has the ability to change the table in the Cameo SV when machines are swapped on the edit system. Pressing this key will reset all xpoints to the default. (On Editware systems be sure the "A MIX SWAP" function is enabled. This will allow the xpoint tables of the mixer and the editor to stay in sync.)

Edit Menu:

F1 Auto fader: If enabled this will allow the Source selected by the edit system to be automatically placed on the Cameo SV faders. This makes the board very interactive with the current edit. If desired this function may be disabled.

F2 Source Monitor: This will select what is monitored when a Source key is pressed on the edit system. The choices are:

VTR Direct monitoring of the source
MIX2 Monitor the mix bus sending all 8 output busses to 2 speakers
MIX6 Monitor the mix busses independently on the 6 monitor busses
MONO Mono mix the 8 mix busses to the 6 monitor busses.