grass valley

User's Guide

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Software v14.0

MCP 400

Master Control Panel

Declaration of Conformity

We, Grass Valley Nederland B.V., Kapittelweg 10, 4827 HG Breda, The Netherlands, declare under our sole responsibility that this product is in compliance with the following standards:

- EN60065 : Safety

- EN55103-1: EMC (Emission)

- EN55103-2: EMC (Immunity)

following the provisions of:

a. the Low Voltage directive 2006/95/EC
b. the EMC directive 2004/108/EC

FCC Class A Statement

This product generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause interference to radio communications.

It has been tested and found to comply with the limits for a class A digital device pursuant to part 15 of the FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this product in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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Website

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www.grassvalley.com

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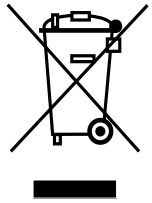


Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive and in the United States from the Environmental Protection Agency, individual state or local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight, however you are responsible for the removal of the equipment from your facility and packing the equipment ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the US and Canada please call 800-547-8949 or 530-478-4148. Ask to be connected to the EH&S Department. In addition, information concerning Grass Valley's environmental policy can be found at:

www.grassvalley.com/about/environmental-policy

Important information

Read this information carefully before installing this equipment and retain them for future reference. Read and comply with the warning and caution notices that appear in the manual. Any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety Summary

This informaton is intended as a guide for trained and qualified personnel who are aware of the dangers involved in handling potentially hazardous electrical/electronic equipment. It is not intended to contain a complete list of all safety precautions which should be observed by personnel in using this or other electronic equipment.

During installation and operation of this equipment, local building safety and fire protection standards must be observed. Before connecting the equipment to the power supply of the installation, the proper functioning of the protective earth lead of the installation needs to be verified.

Whenever it is likely that safe operation is impaired, the apparatus must be made inoperative and secured against any unintended operation. The appropriate servicing authority must then be informed.

Warnings

Warnings indicate danger that requires correct procedures or practices to prevent death or injury to personnel.

- Do not modify this equipment;
- Installation of this equipment must only be performed by qualified personnel;
- Do not use any accessories other than those recommended by the manufacturer;
- In case of an emergency ensure that the power is disconnected;
- Mount equipment so that power lead can be accessed to disconnect power;
- To prevent fire or shock hazard, do not expose the unit to rain or moisture;
- There are no user servicable parts inside. Refer servicing to qualified personnel only or contact your local Grass Valley representative.

Cautions

Cautions indicate procedures or practices that should be followed to prevent damage or destruction to equipment or property.

- Do not subject the unit to severe shocks or vibration;
- Do not expose the unit to extremes of temperature;
- To prevent risk of overheating, ventilate the product correctly.

Chapter 1

Introduction

1.1 Application

The MCP 400 Master Control Panel allows you to control up to 99 Grass Valley camera systems. The compact and ergonomic MCP 400 operates within a standard Ethernet-based camera control network using TCP/IP as its communication protocol.

The MCP 400 can set up and control cameras in real-time and can carry out network configuration and diagnostics. A comprehensive menu system can be accessed via a touch screen.

The user interface is designed for convenience, with menu accessible functions for detailed setup and a clear display of current values. The rotary controls of the unit enable the values of selected functions to be easily and quickly set.

The MCP 400 not only controls all camera functions, it can also be used to change the menu settings of all Grass Valley Base Stations. Extensive setup functions for the MCP 400 itself, the camera and Base Station are available.

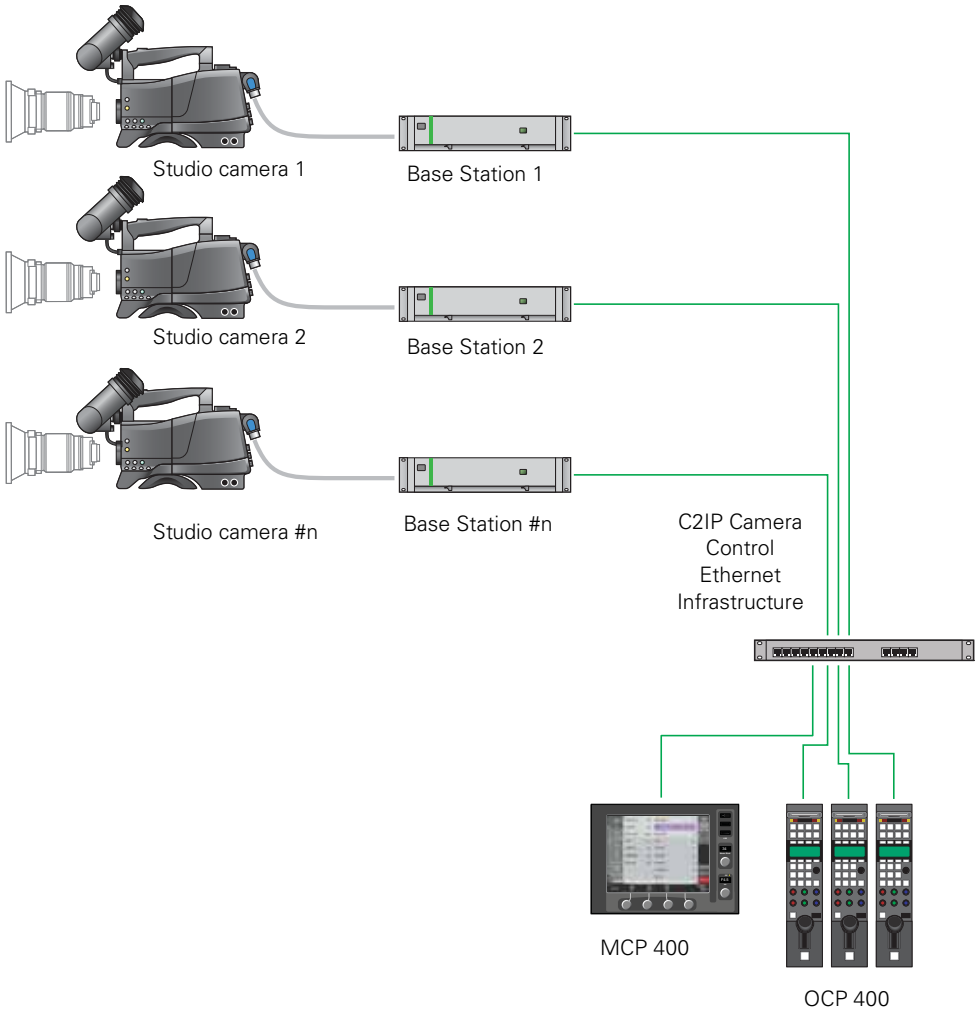
The MCP 400 can control many different types of camera. This user's guide includes sample menu functions. Depending on the type of camera to which the MCP 400 is connected, not all functions may be available. The values available are also camera and configuration dependent.

1.2 Features

- IP connectivity - standard IEEE 802.3 10/100 Mb Ethernet;
- Uses off-the-shelf IT-network infrastructure;
- Remote diagnostics;
- Allows for easy software upgrades;
- Improved ergonomics and large flexibility;
- Comfortable, slimline and clean design;
- Hard style buttons;
- Menu display for detailed setup.

1.3 Configuration

Typically, a single MCP 400 controls an entire C2IP camera network. The IP address and other options for the Ethernet connection can be set up in the MCP setup menu.



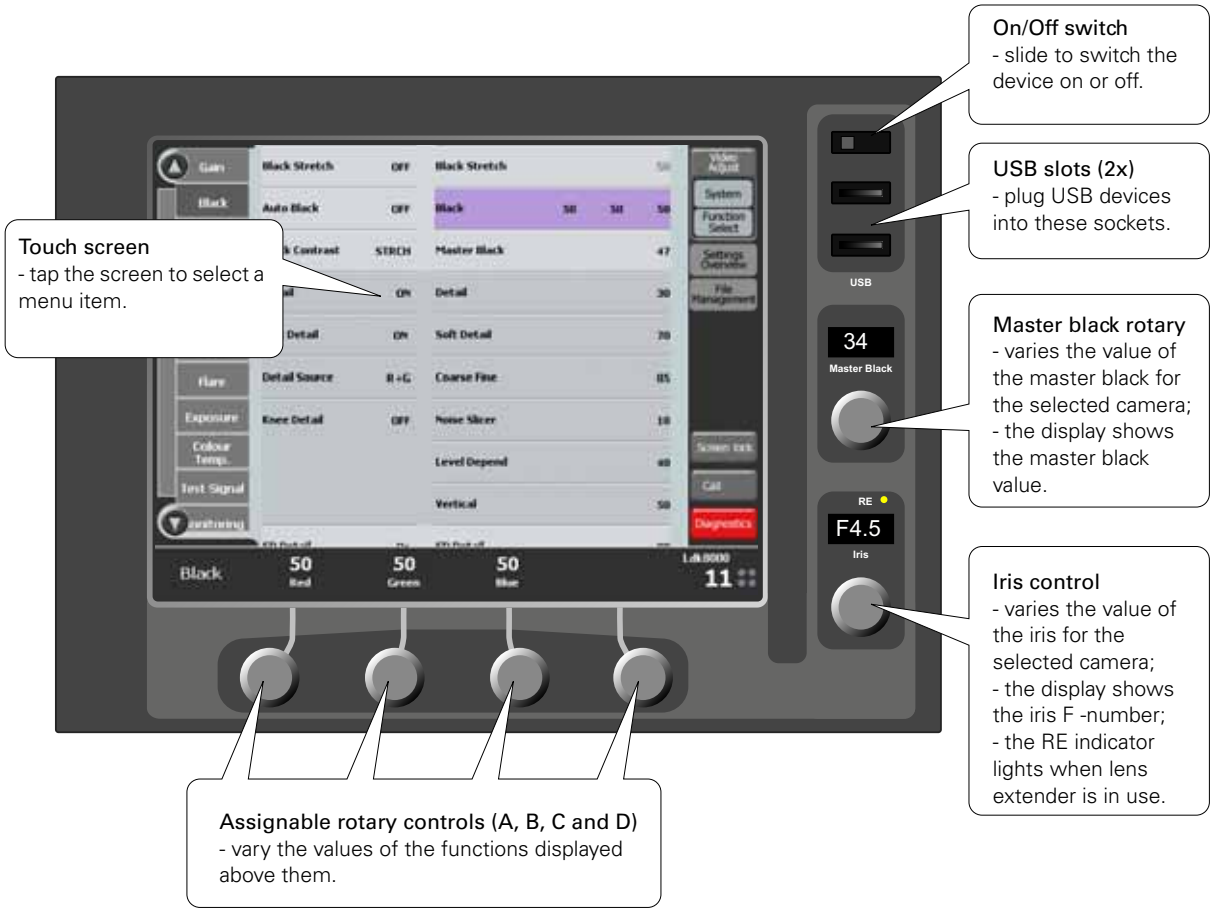
Note

When an MCP 400 is present in a C2IP network, up to three more Operational Control Panels (OCPs) can be connected to the same camera.

1.4 Location of controls

1.4.1 Front panel

The front panel consists of a touch screen that displays and enables access to the menu system. Four assignable rotary controls at the bottom of the panel control the values of the functions displayed across the bottom of the screen.



1.4.2 Touch screen

After startup the menu appears on the screen. Tap an item on the screen with your finger to select it.

1.4.3 On/Off switch

To switch on the MCP 400, slide the on/off switch to the right. Wait for the system to initialize and to detect network devices.

1.4.4 USB slots (2x)

Plug USB devices such as USB Flash Drives into these sockets and use them to store camera settings from any camera connected to the control network.

1.4.5 Master black rotary

This control provides quick access to the master black adjustment forthe selected camera. The display shows the current master black value.

1.4.6 Iris control

Use this control to change the value of the iris for the selected camera. The display shows the current iris F -number. The RE indicator lights when a lens range extender is in use.

1.4.7 Assignable rotary controls (A, B, C and D)

Turn an assigned rotary control to change the value of the function associated with it on the display. The function selected for adjustment and its value is shown in the menu display and the relevant indicators light.

The lower Red, Green and Blue assignable rotary controls vary either:

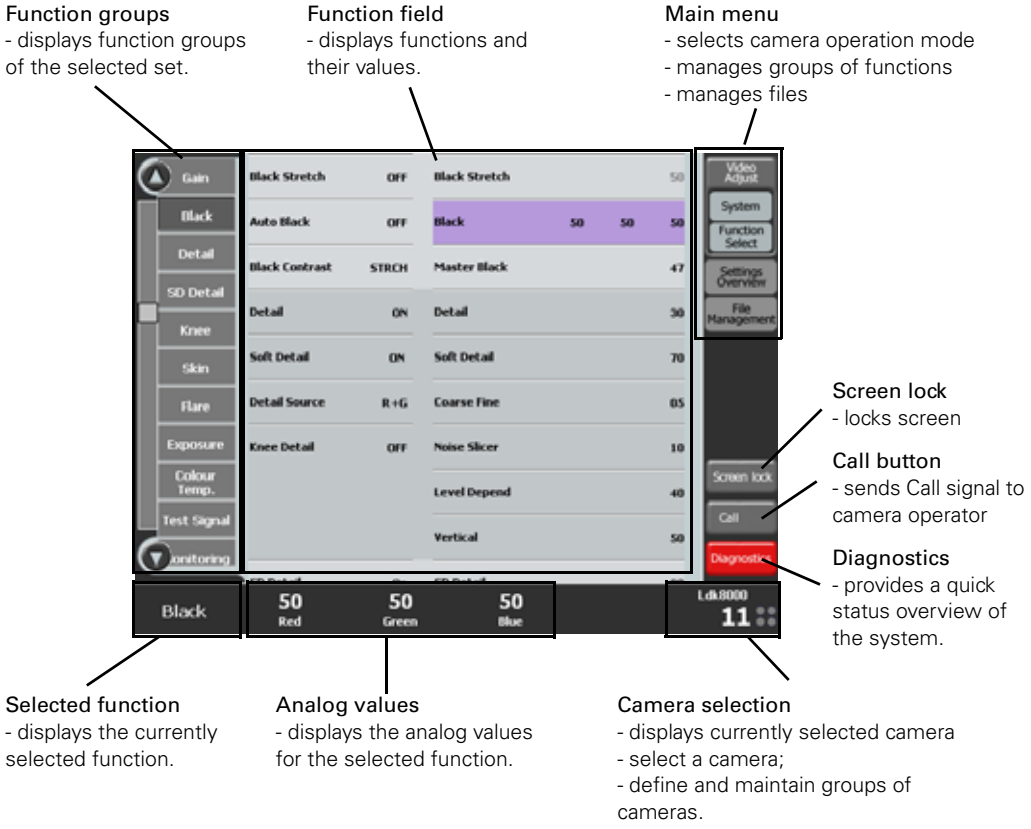
- the black levels of the red, green and blue signals individually,
- the flare levels of the red, green and blue signals individually, or
- the skin detail colour width.

The function selected for adjustment and its value are shown in the menu display and the relevant indicators light. Black level or Flare can be set as default functions.

1.5 Screen layout

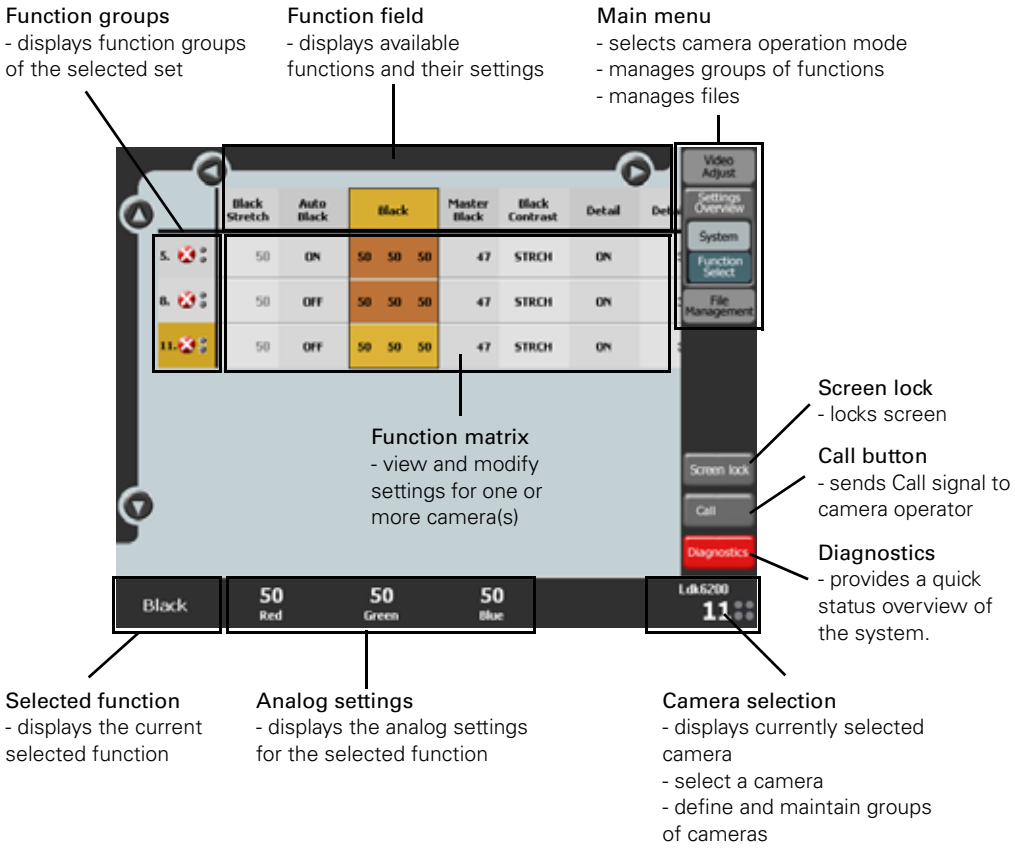
1.5.1 Single camera mode

The single camera mode can be used to control one specific camera in the system. At the top right of the screen, tap **Video Adjust** in the main menu to switch to single camera mode.



1.5.2 Multiple camera mode

The multiple camera mode can be used to control more than one camera at the same time. At the top right of the screen, tap **Settings Overview** in the main menu to switch to multiple camera mode.



Chapter 2

Setup

2.1 Installation

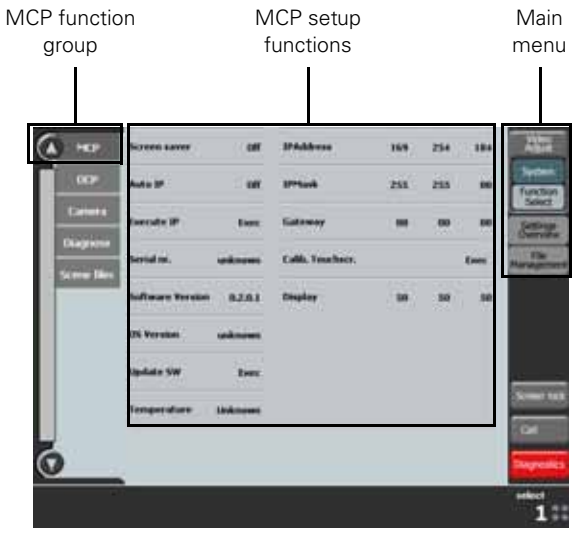
1. Connect a power supply unit to the power input connector of the MCP 400.
2. Connect the Ethernet cable from the camera control (C2IP) network to the Ethernet connector of the MCP 400.
3. Switch on the unit by sliding the On/Off switch to the right.

☞ Note

It is recommended to use Grass Valley's LDK 5903 power supply unit with the MCP 400.

2.2 Setup MCP screen

1. Tap the **Video Adjust** button in the main menu to enter the single camera mode.
2. Tap the **System** button in the menu. A group of functions appears at the left.
3. Tap the MCP function group. The MCP setup functions are shown.



2.2.1 Screen saver

The MCP 400 comes with a screen saver option for your desktop convenience:

Screen saver: switches screen saver On or Off.

Screen save time: select and use Rotary Control (C) to select the idle time in minutes before the screen saver pops up.

Screen saver file: when screen saver is On select one of the available screen saver files from the drop down list.

2.2.2 Touchscreen calibration

When the MCP 400 leaves the factory its touch screen is calibrated for accurate navigation. However it may need calibration if the navigation becomes less accurate. Tap **Exec** or **Ready** to run the calibration procedure.

1. A dialog box opens to confirm the start of the calibration procedure. Tap **OK** to continue or **Cancel** to abort the procedure.
2. A new dialog box opens. Tap **Run** on the first tab at the top of the dialog box. Leave all other settings unchanged.
3. The calibration procedure asks you to tap the screen at several points indicated by red circles. Press gently on the centre of the circles.
4. After the procedure is executed you will be asked for a confirmation. Tap **OK** to return to the dialog box. Tap **OK** again to close the dialog box.
5. Switch to another item in the main menu (e.g. **Video Adjust**) to store the calibration values.

2.2.3 IP settings

By default the Auto IP mode is turned on but if you want to change the IP parameters turn Auto IP mode off.

IP Address

Sets the IP Address used by the MCP 400 by selecting four numbers from 0 to 255 using the rotary controls at the bottom of the screen.

IP Mask

Sets the IP (Subnet) Mask used by the MCP 400 by selecting four numbers from 0 to 255 using the rotary controls at the bottom of the screen.

Gateway

Sets the default Gateway IP address used by the MCP 400 by selecting four numbers from 0 to 255 using the rotary controls at the bottom of the screen.

Execute IP

Runs a procedure to establish the IP settings of the MCP 400. This function should always be executed after changing Auto IP or manual IP settings.

☞ Note

After changing Auto IP or manual IP settings you must run the Execute IP function to take the changes into effect.

Contact your network administrator for more information about Ethernet networking and IP settings.

2.2.4 Display

Adjust brightness, contrast and gamma curve of the MCP 400 display using the rotary controls A,B and C.

2.2.5 Serial number

Displays the serial number of the MCP 400.

2.2.6 Software version

Displays the software version of the MCP 400.

2.2.7 OS version

Displays the operation system version of the MCP 400.

2.2.8 Update SW

This function starts the automatic software update procedure:

1. Insert a standard USB Flash Drive stick in a free USB slot of the MCP 400. The software update file must be stored in the root directory of the memory stick.
2. Tap **Exec** on the Update SW function and wait until the update procedure is executed.
3. The MCP 400 reboots and starts up again with the new software.

☞ Note

Contact your local Grass Valley representative for more information about requiring and updating software.

Some large capacity USB Flash Drives are reported to have reduced speed performance when used with the MCP 400. When this situation occurs, try to use a different capacity or brand of USB Flash Drive.

2.2.9 Temperature

Displays the current temperature in the unit in degrees Celsius.

Chapter 3

Operation

3.1 Operating a single camera

3.1.1 Single camera mode

To switch to single camera mode tap on the **Video Adjust** button in the main menu. The main menu opens and three buttons are shown, one of which is the **Video Adjust** button, the other two are **System** and **Function Select**.

3.1.2 Function sets

Each of the three buttons selects a set of function groups that are displayed at the left side of the screen. If the selected set contains more groups than will fit on the screen use the round scroll buttons on the top and bottom to scroll through the groups.

Video Adjust set

Contains all main video function groups. Note that the available groups depend on your camera type and version.

System set

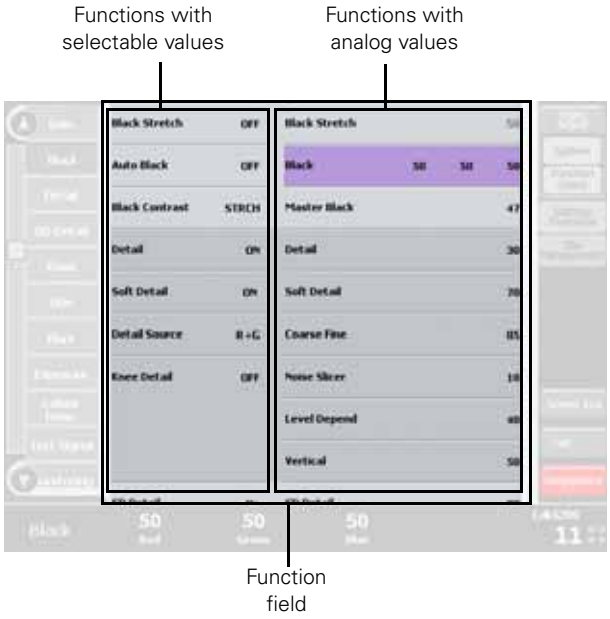
Contains all system function groups including setup functions for the MCP 400 and camera, diagnostics and scene files.

Function Select set

A user programmable set of functions. When you tap this button a function select dialog will appear. For more information about defining your own set of function groups refer to "Selecting functions" on page 24.

3.1.3 Function field

The centre of the screen shows a part of the function field that holds all the functions and values of the selected function set. All functions in the function field are associated with the groups in left side menu.

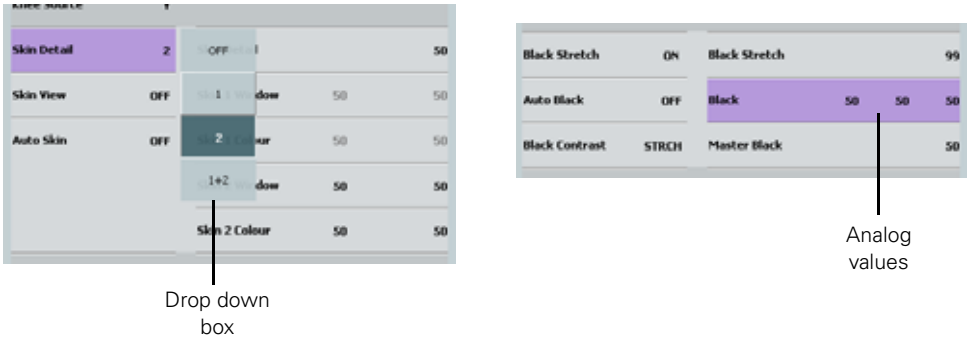


Note

The function field can be larger than the displayed area. Functions that are out of view can be accessed by selecting the groups at the left. The visible window will scroll up or down to the selected function group.

3.1.4 Changing values

Functions that have selectable values are at the left side of the function field while functions with analog values are at the right side.



Tap a value displayed next to a function to change it. If there are only two possible values, tapping the value toggles between the two values. If there are more than two values, a drop down list of values appears. Tap the value you want in the list.

If you select an analog function, the values to be changed are shown above the rotary controls at the bottom of the screen. Use the corresponding rotary control to change the value.

☞ Note

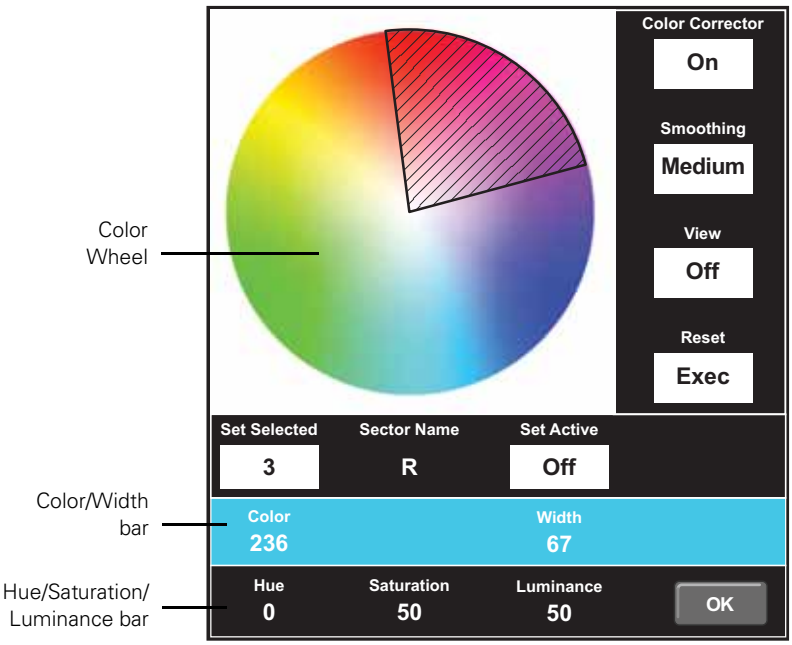
If an item is unavailable it is shaded. For example, if a switch function is turned off, its associated analog controls are shaded.

3.1.5 Color Corrector

For cameras equipped with a color corrector, an easy-to-use interface is available. Tap the Color Corrector button at the left side to show two items in the function field: Color Corrector On/Off and Color Corrector Config. Tap **Config** to open the Color Corrector window.

Tip

Use color correction to adjust hue, saturation and luminance of partial areas of the color spectrum of the image. Typical applications include live sports or news productions.



Carry out the following steps to set up the Color Corrector:

1. Tap **Color Corrector** at the top right of the screen.
2. Tap **Set Select** and select a color correction set.
3. Tap **Set Active** to activate (or de-activate) the selected set.
4. Tap the Color/Width bar. The bar will highlight in blue. Use the rotaries to select Color and Width to select an area on the color wheel. The color width can be varied between 22.5° and 360°.
5. To view the selected color area, tap **View**. Make sure to turn it off before going on air.
6. Tap the Hue/Saturation/Luminance bar. The bar will highlight in blue. Use the rotaries to change hue, saturation and luminance and the selected color area.
7. The transition between the corrected and uncorrected color area can be set to *sharp*, *medium* or *smooth* using the **Smoothing** setting.
8. Tap **OK** to close the window.

3.2 Operating multiple cameras

3.2.1 Multiple camera mode

To switch to the multiple camera mode tap on the **Settings Overview** button in the main menu. The menu opens and three buttons are shown, one of which is the **Settings Overview** button, the other two are **System** and **Function Select**.

3.2.2 Function sets

Each of the three buttons selects a set of functions that are displayed at top centre of the screen. If the selected set contains more functions than will fit on the screen use the round scroll buttons on the top and bottom to scroll through the functions.

Settings Overview set | System set | Function Select set

Settings Overview set

Contains all main video functions. Note that the available functions depend on your camera type and version.

System set

Contains all system function groups including setup functions for the MCP 400 and camera, diagnostics and scene files.

Function Select set

A user programmable set of functions. When you tap this button a function select dialog box is shown. For more information about defining your own set of function groups refer to "Selecting functions" on page 24.

3.2.3 Function matrix

The middle part of the screen shows (a part) of the function matrix that holds all functions and values within the selected function set.

☞ Note

The function matrix can be larger than the displayed area. Functions that are out of view can be accessed by scrolling through the functions using the scroll buttons at the top.

The number of cameras can be larger than will fit on the screen. Camera numbers that are out of view can be accessed by scrolling through the cameras using the scroll buttons at the top.

3.2.4 Changing values

Tap the value displayed next to a switch function to change it. If there are only two values, tapping the value toggles between the two values. If there are more than two values, a list of values appears. Tap the value you want in the list.

If you select an analog function, the values to be changed are shown above the rotary controls at the bottom of the screen.

☞ Note

If an item is unavailable it is shaded. For example, if a switch function is off, its associated analog controls are shaded.

3.2.5 Operating combined functions

The matrix function setup in the multiple camera mode makes it possible to combine a function and operate it for multiple cameras simultaneously.

Click on a function at the top of the matrix. If you have selected more than one camera the row of values underneath the function is selected:

	Gain	Gain	Variable Gain	Black Stretch	Black Stretch	Auto Black	
3.	+	50 60 50	6.0 dB	ON	99	OFF	50
11.	0	50 50 50	0.0 dB	OFF	50	OFF	50

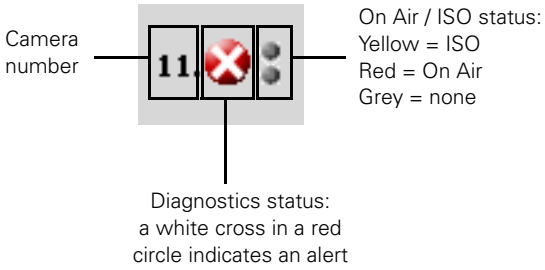
Click on one of the values in the row: this value will become the master value, the values of all other cameras will follow its settings:

	Gain	Gain	Variable Gain	Black Stretch	Black Stretch	Auto Black	
3.	+	50 60 50	6.0 dB	ON	99	OFF	50
11.	0	50 60 50	0.0 dB	OFF	50	OFF	50

Analog functions can be changed using the Rotary Controls at the bottom. Select or toggle functions will be set to the same value for all cameras.

3.2.6 Monitoring cameras

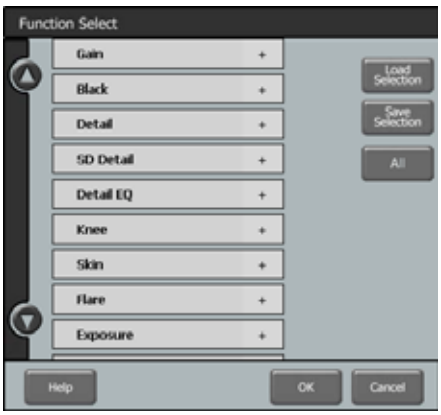
At the left side the cameras are listed with their number, diagnostic and On Air status. Tap the Diagnostics button at the right side of the screen to see detailed information.



3.3 Selecting functions

3.3.1 Opening the Function Select window

You can define your own set of functions by tapping the **Function Select** button (in single or the multiple camera mode). A selection window will open, showing a list of all functions that can be controlled by the MCP 400.

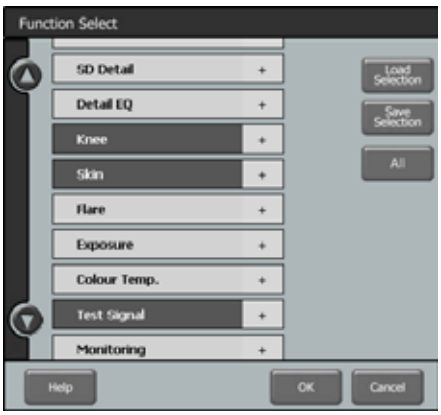


Note

When the function selection window opens the existing selection is discarded. Reload your selection by tapping the **Load Selection** button.

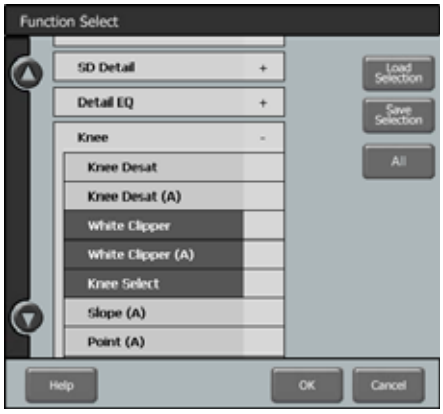
3.3.2 Selecting function groups

Make a selection of function groups by tapping the name of the group in the list. Use the scroll button to go through the entire list. Tapping a selected item again unselects that item.



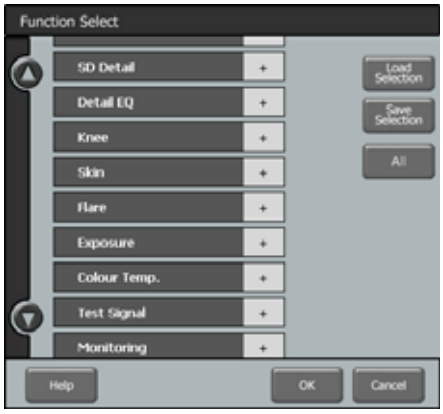
3.3.3 Selecting single functions

You can also select single functions within a group. Tap on the '+'-sign at the right side of an item to expand a group. Now you can select and unselect functions by tapping their names.



3.3.4 Selecting all functions

If you want to control all available functions tap the **All** button and the list of function groups will be selected.



When you are done selecting functions and groups tap the **Save Selection** button and then the **OK** button to close the window.

☞ Note

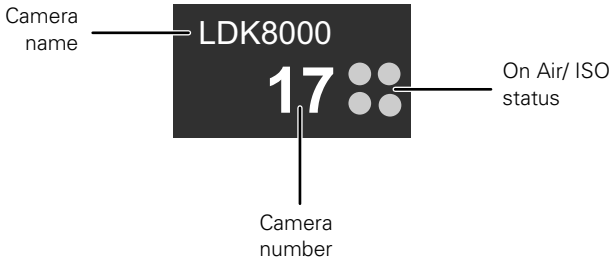
Always save your selection by tapping the **Save Selection** button.

After closing this window the **Function Select** button will be highlighted and your selection of functions is now active.

3.4 Selecting cameras

3.4.1 Information display

In the lower right corner of the screen information about the selected camera is shown:



Camera number

Logical system number of the current camera that is set in the base station.

Camera name

Name of the current camera.

On Air / ISO status

Normally grey, these four dots light up yellow when the camera has ISO status and they are red when the camera is On Air.

☞ Note

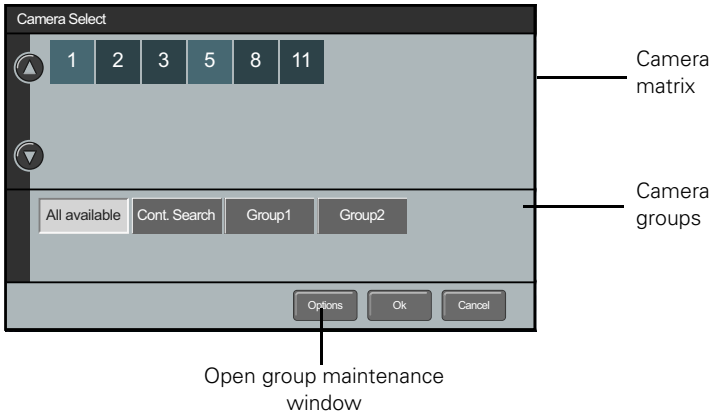
When no camera is selected, the message ‘select CAM’ is shown.

3.4.2 Selecting a camera (in single camera mode)

Tap anywhere in the lower right corner of the screen to open the camera selection window. Select a camera by tapping its number in the camera matrix. This camera will immediately be selected and the camera selection window closes.

3.4.3 Selecting cameras (in multi camera mode)

Tap anywhere in the lower right corner of the screen to open the camera selection window. You can now select one or more cameras or a pre-defined group of cameras.



The upper half of the window shows the numbers of the cameras within the selected group. The default group is the **All Available** group that contains all available cameras in the system. If you have defined your own groups they will be shown here. Learn more about managing groups in Section 3.5 on page 27.

- Tap a camera group and it will be immediately selected and the camera selection window closes, or:
- If a group was selected the camera selection window displays all cameras in that group. You can make a new selection from the cameras. Tap **Ok** to activate this selection.
- Tap **All Available** to show all cameras and make a selection by tapping camera numbers. When your are done, tap **Ok** to activate the selection.
- Tap **Cont Search** to keep the list of cameras being updated. The list of cameras is populated continuously.

3.5 Managing groups

To make studio control easy, especially with large numbers of cameras in a system, you can define and maintain groups of cameras. Tap **Options** in the camera selection window to open the groups management window.

3.5.1 Creating a new group

In the **Options** window tap **Create Group** to open a new window. A list of available cameras is shown. Select the cameras you want to add by tapping their numbers.

When you are done selecting cameras tap the **OK** button. Use the keyboard layout to enter a name for your new group. Tap the **OK** button to return to the **Options** window. Tap **Close** to return to the camera selection window. The new group has been added to the groups list.

3.5.2 Editing a group

To change the set of cameras in a group tap **Edit Group** in the **Options** window and a list of groups will be displayed. Tap the name of the group you want to edit.

A list of all available cameras is shown. Cameras that are already in the selected group are highlighted. Make a new selection of cameras by selecting or unselecting their numbers.

When you are done tap **Ok** to return to the **Options** window.

3.5.3 Renaming a group

To change the name of a group within a group tap **Rename Group** in the **Options** window and a list of existing groups will be displayed. Tap the name of the group you want to change and enter a new name in the keyboard window.

Tap **Ok** to return to the Options window.

3.5.4 Deleting a group

To delete a group of cameras tap **Delete Group** in the Options window. A list of groups will be displayed. Tap the name of the group you want to delete. The group will be deleted and the window closes.

3.6 Managing files

3.6.1 File management

The MCP 400 has an advanced file management system that enables the user to manage camera scene files. Usually these files are only available within the camera but with File Management they can be transferred to and from a USB Flash Drive that is inserted into the MCP 400.

☞ **Note**

Some large capacity USB Flash Drives are reported to have reduced speed performance when used with the MCP 400. When this situation occurs, try to use a different capacity or brand of USB Flash Drive.

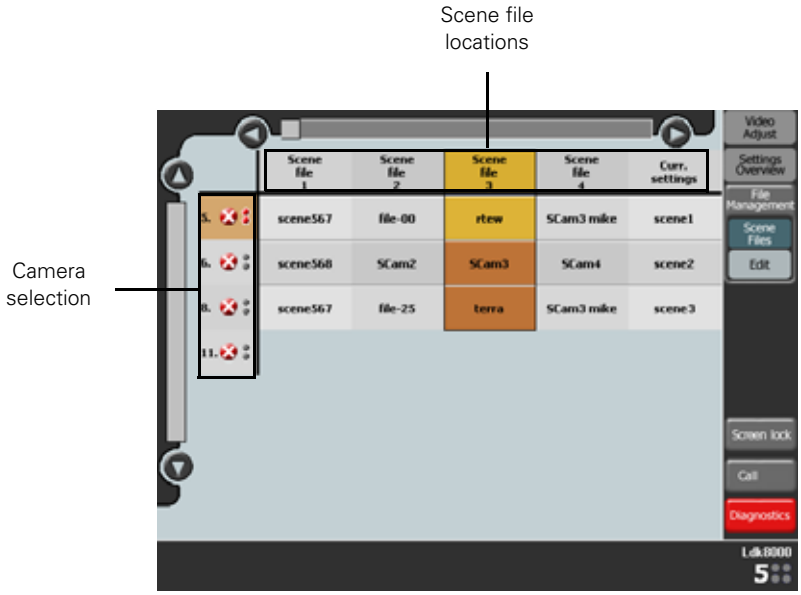
To access File Management tap the **File Management** button in the main menu. The menu opens and two submenus appear: the Scene files menu and the Edit menu.

Scene Files menu

Edit menu

3.6.2 Scene files menu

Scene files are sets of video functions with their values. A camera holds up to 4 scene files and 2 standard files (factory and customer type). The MCP 400 treats the camera's current settings as a (special) scene file.



Scene files are stored in scene file locations in the camera or on a USB Flash Drive that is connected to the MCP 400. When the scene files menu is activated, a matrix window is shown. At the top the names of all 7 scene file locations are displayed (scroll to see them all):

Scene file 1	Scene file 2	Scene file 3	Scene file 4	Curr. settings	Factory std.	Customer std.
scene567	file-00	rtew	SCam3 mike	scene1	Factory std.	Cust std.

Scene file location 1,2,3 and 4

Contain up to 4 scene files that can be recalled, stored or transported between the USB Flash Drive and the camera. Each file can have its own distinctive filename that provides information about the scene file or its contents.

Current settings location

Contains the current camera settings, represented as a file. Its name is copied from the latest recalled or restored scene File.

Factory standard file location

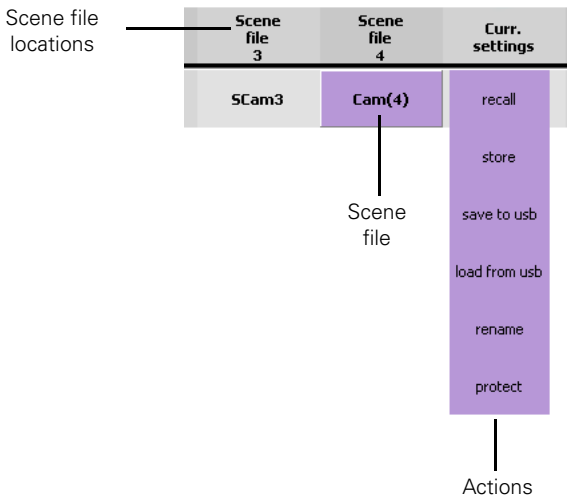
Contains the Factory Standard file that holds the factory default functions and values for the camera. This file is read only and cannot be changed.

Customer standard file location

Holds a Customer Standard File that can be used to reset the camera to your own default values. The Customer Standard File can be managed like any of the 4 scene files except that its name is always 'Cust. Std.' to indicate that it is a Standard File.

3.6.3 Scene file actions

When you click on a filename in the matrix a drop-down menu appears showing the actions that are available for that file:



The following table shows which actions are available for each file location:

	Scene files 1,2,3 and 4	Current settings	Factory standard	Customer standard
Recall	Yes	-	Yes	Yes
Store	Yes	-	-	Yes
Save to USB	Yes	Yes	Yes	Yes
Load from USB	Yes	Yes	-	Yes
Rename	Yes	-	-	-
Protect/Unprotect	Yes	-	-	Yes

Recall

Copies the selected scene file from its file location to the camera's current settings file.

☞ Note

It is not possible to recall a scene file while the camera is On Air. The message 'On Air!' is displayed.

Store

Copies the camera's current settings file into the selected scene file location. This action is not available when the location is protected.

☞ Note

The existing file stored in this location will be deleted.

Save to USB

Copies the scene file from this location to the MCP 400's USB Flash Drive.

Load from USB

Copies the scene file from the MCP 400's USB Flash Drive into this location. This action is not available when the location is protected.

Rename

Changes the name of the scene file in this location. This action is not available when the location is protected.

☞ Note

Files stored on the USB Flash Drive will not be renamed by this operation.

Protect/Unprotect

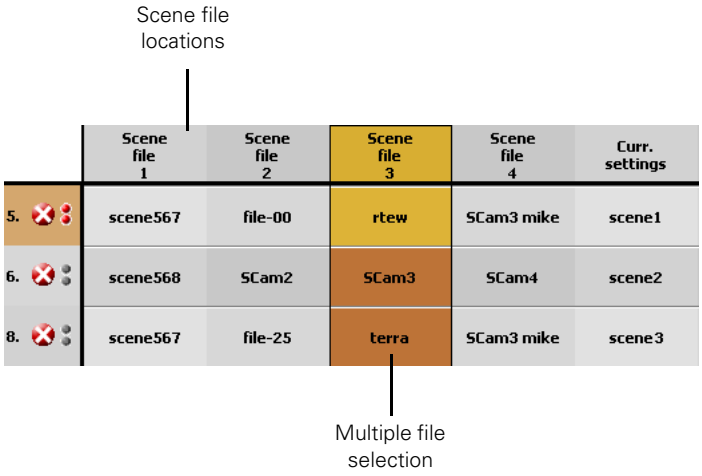
To prevent a file from being overwritten the location can be protected. This action toggles between protected and unprotected status.

☞ Note

After a camera software update all scene file locations are empty and the current settings file is restored to the factory default settings. You can only Store, Load from USB and Rename a scene file location.

3.6.4 Controlling multiple files

To set up a number of cameras simultaneously select a row of scene file locations at the top of the matrix. Tap one of the locations to open the action menu:



- Recall and Store are carried out for each selected camera individually.
- Save to USB only saves the scene file of the selected camera to the USB Flash Drive.
- Load from USB loads a single scene file from the USB Flash Drive into all scene file locations.

☞ Note

Be careful when loading a scene file into the current settings: all cameras that are not On Air will immediately take over the new settings.

- Rename is carried out sequentially for all selected scene files.
- Protect/Unprotected inverts the protection status of all scene files.

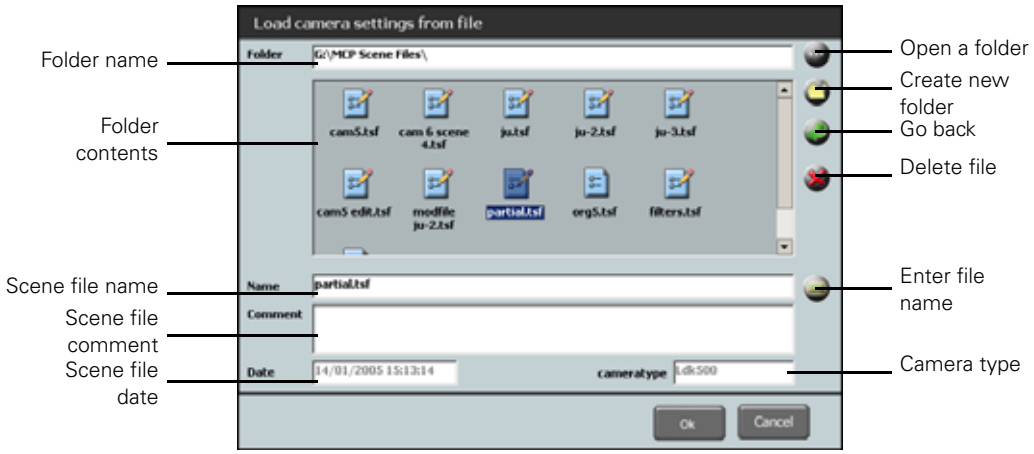
3.6.5 Editing files

The second option in the File Management menu is the Edit menu. It is used to filter functions from a scene file to build your own customized set of functions to load into the camera.

Proceed as follows:

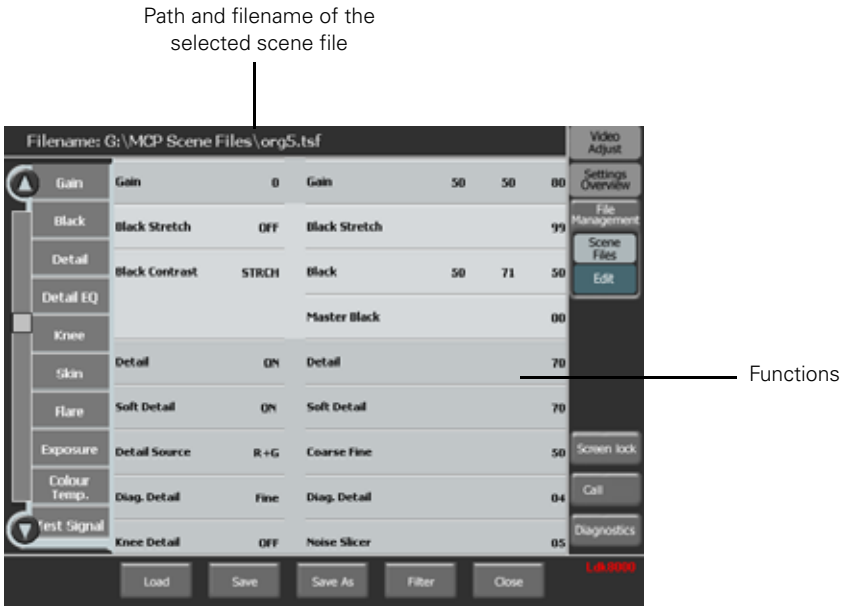
1. Tap the Edit menu in the File Management menu to open a new window. At the bottom there are four buttons: **Load**, **Save As**, **Filter** and **Close**.

2. Make sure a USB Flash Drive is inserted into the MCP 400. Tap the **Load** button to open the files window. The contents of the root folder of the USB Flash Drive is shown.



3. In the files window, select a scene file by tapping its icon.

4. Tap the **OK** button to load the scene file. The functions preview displays all functions that are in the scene file.



5. Tap the **Filter** button to open the Filter Menu. Select or unselect functions as described in "Selecting functions" on page 24.

6. Tap the **Save As** button to save your edited scene file to the USB Flash Drive. After saving the scene file the icon changes to:

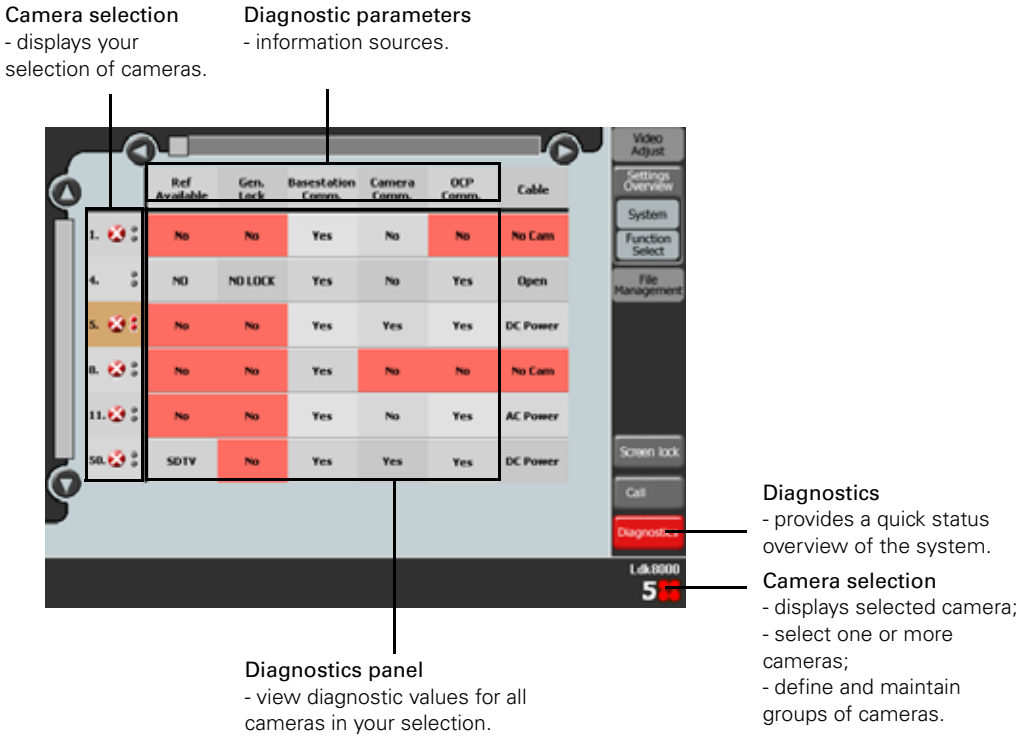
☞ **Note**

Edited scene files can only be used to load into the current settings file location.

3.7 Diagnostics

3.7.1 Diagnostics screen

This screen provides diagnostics for the camera system. The diagnostic parameters are at the top of the screen and the current values and messages are below.



3.7.2 Ref Available

Shows the video reference status at the Base Station reference input. Can be **SDTV**, **HDTV** or **No** (warning highlight).

3.7.3 Gen. Lock

Shows status of the Genlcok input of the Base Station. Can be **Yes**, **No Lock** or **No** (warning highlight).

3.7.4 Camera Comm.

Shows the communication status between the MCP 400 and the camera. Can be **Yes** or **No** (warning highlight).

3.7.5 Basestation Comm.

Shows the communication status between MCP 400 and the Base Station. Can be **Yes** or **No** (warning highlight).

3.7.6 OCP Comm.

Shows the communication status between an attached OCP 400 and the camera. Can be **Yes** or **No** (warning highlight).

3.7.7 Cable

Shows cable power status for Triax connections. Can be **Open**, **AC Power**, **DC Power** or **No Cam** (warning highlight).

3.7.8 C->BS FibCable

Shows cable quality for Fiber connections from Camera to Base Station. Also the attenuation in dBs is shown.

3.7.9 C->BS FibSignal

Shows signal quality for Fiber connections from Camera to Base Station.

3.7.10 BS->C FibCable

Shows cable quality for Fiber connections from Base Station to Camera. Also the attenuation in dBs is shown.

3.7.11 BS->C FibSignal

Shows signal quality for Fiber connections from Base Station to Camera. Also the attenuation in dBs is shown.

3.7.12 Cable Length

Triax cable length in % of the maximum cable length allowed.

3.7.13 C->BS TrSignal

Shows signal quality for Triax connections from Camera to Base Station.

3.7.14 BS->C TrSignal

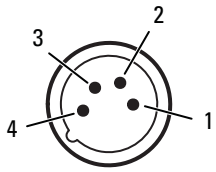
Shows signal quality for Triax connections from Base Station to Camera.

Chapter 4

Connectors

4.1 Power connectors

4.1.1 Power input connector (DC input)



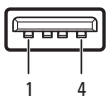
XLR 4-pin male connector

Pin	Description
1	GND
2	no connection
3	no connection
4	+12 VDC input (nom.) 4.5 A max

Caution
The input voltage must not exceed +17 VDC.

4.2 Signal connectors

4.2.1 USB connectors (3x)

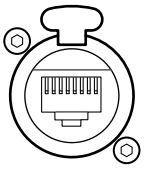


4-pin USB standard Type A male connector

Pin	Description
1	+5 VDC
2	(-) Data
3	(+) Data
4	GND

One USB socket is located at the back of the unit and two are located on the front panel.

4.2.2 Ethernet connector

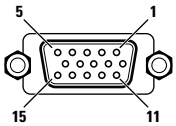


8-pin standard RJ-45 Ethernet connector

Pin	Description
1	TX+
2	TX-
3	RX+
4	no connection
5	no connection
6	RX-
7	no connection
8	no connection

Ethernet 10Base-T, 100Base-TX compliant with IEEE-802.3 (edition 2000)

4.2.3 VGA connector



15-pin Sub-D female standard VGA connector

Pin	Description
1	Red out
2	Green out
3	Blue out
4	no connection
5	GND
6	Red return
7	Green return
8	Blue return
9	Sense
10	GND
11	no connection
12	I^2C data
13	H_{sync}
14	V_{sync}
15	SCL

Standard VGA signal (RGB video signal plus H_{sync} and V_{sync})

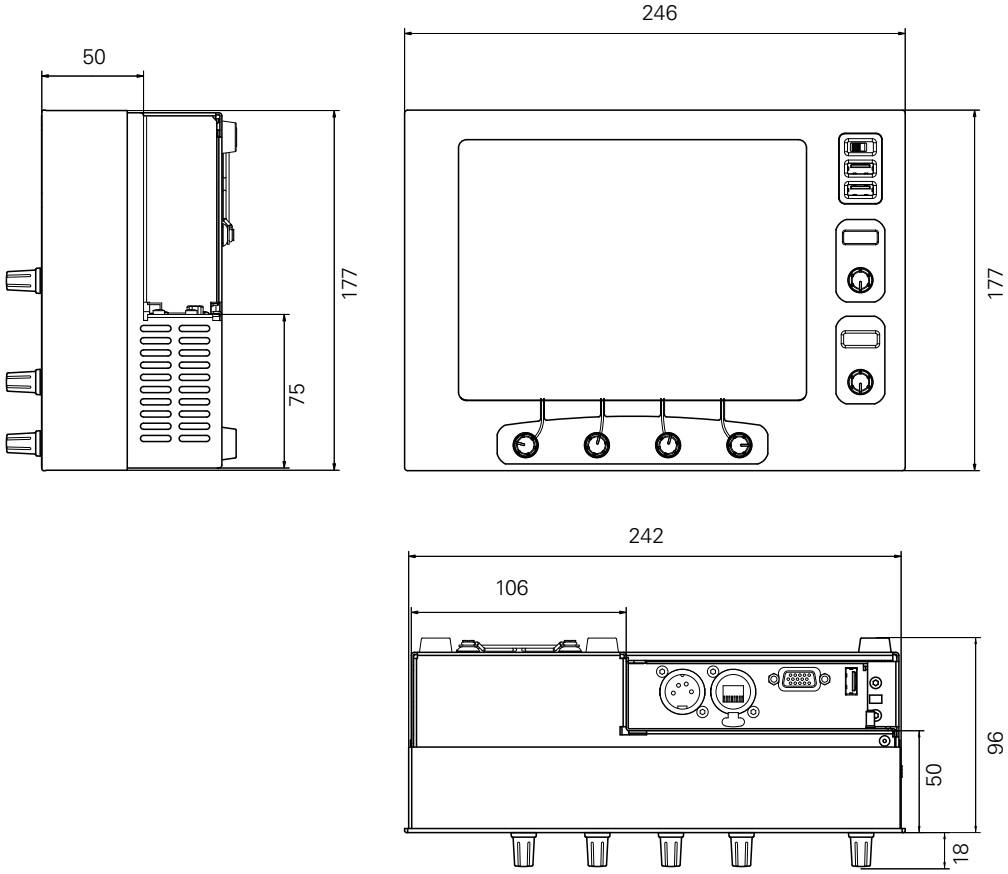
Chapter 5

Specifications

5.1 Specifications for MCP 400

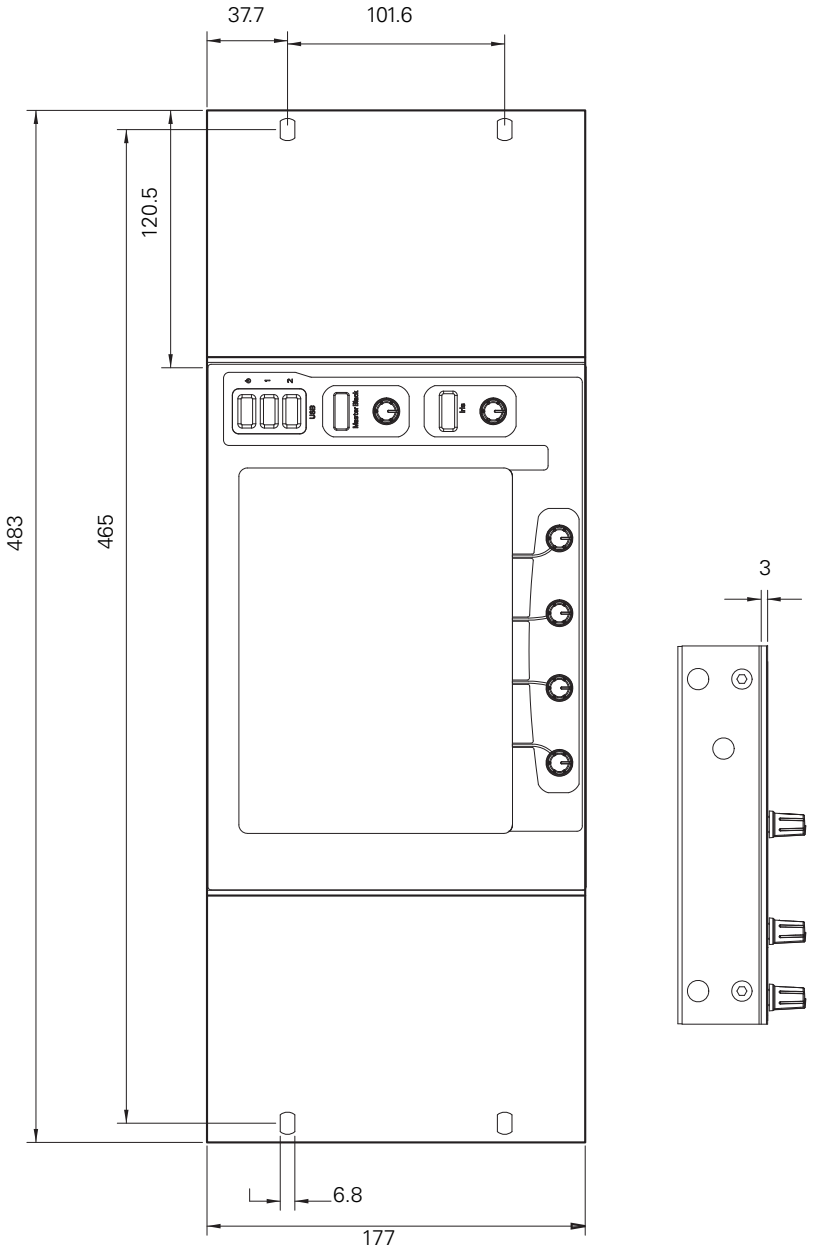
Item	Value
Dimensions (Height x Width x Depth)	177 x 246 x 85 mm (7.0 x 9.7 x 3.3 in)
Weight (approx.)	3.0 kg (6.6 lbs)
Operating temperatures	0 to +45° C (32 to 113° F)
Storage temperatures	-20 to +70° C (-4 to 158° F)
Power requirements	+12 VDC nom. (+11 VDC to + 17 VDC)
Power consumption	30 W max.
Ethernet connection	RJ-45 connector; 10Base-T, 100Base-TX compliant with IEEE-802.3
VGA output	RGB 0.7 Vpp (75 Ω) TTL compatible
USB connectors	3 x Standard USB rev. 1.10 compliant

5.2 Dimensions



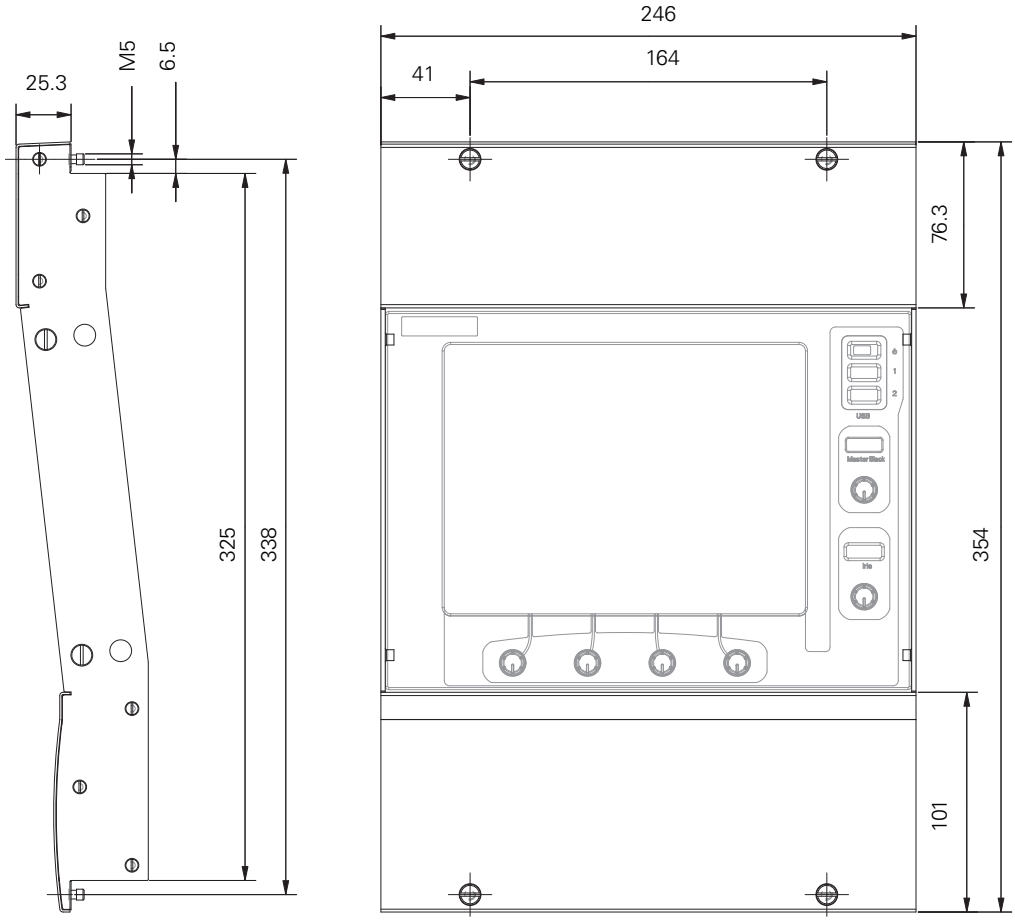
5.3 Rack mounting

To mount the MCP 400 in a 19-inch rack use the optionally available LDK 5230 19-inch mounting brackets.



5.4 Desktop mounting

To mount the MCP 400 into a desktop use the optionally available LDK 5235 Desktop mounting brackets.



Note

When mounting the MCP 400 using the desktop bracket, make sure that a distance of 96 mm (3.8 in) underneath the bracket is needed to ensure proper mounting.