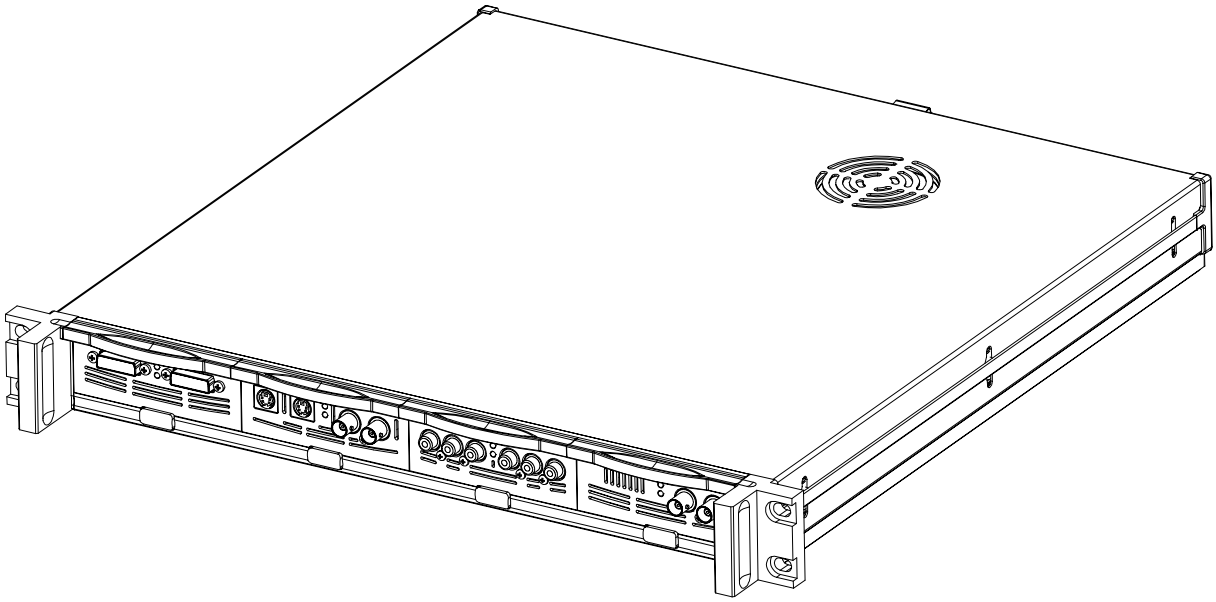
MEDIA



D320 DIGITIZER

R9850710

OWNER'S MANUAL

05112002 R5976388/03

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Federal Communication Commission (FCC Statement)

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user is encouraged to try to correct the interference by one or more of the following measures.

Introduction to the user :

If this equipment does cause interference to radio or television reception, the user may try to correct the interference by one or more of the following measures :

- Re-orientation of the receiving antenna for the radio or television.
- Relocate the equipment with respect to the receiver.
- Plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.
- Fasten cables connectors to the equipment by mounting screws.

The use of shielded cables is required to comply within the limits of Part 15 of FCC rules and EN55022.

Revision Sheet

To:

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From: _____

Date: _____

Please correct the following points in this documentation (**R5976388/03**):

page	wrong	correct

TABLE OF CONTENTS

1. SAFETY

1.1 Important Safety Instructions

Instructions:

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do NOT submerge fully or partly in water or other liquids.
- Clean only with materials or chemicals that are inert, nonabrasive, noncorrosive and non-marking. Consult the manufacturer for further advice should any doubts exist regarding any cleaning procedure.
- Do not block ventilation openings. Install in accordance with the manufacturers instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plugs/sockets. If the provided sockets / plugs are damaged then replacement of the defective parts must be undertaken immediately.
- Protect the power/data cords from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Replace damaged power/data cords immediately.
- Only use attachments/accessories specified by the manufacturer.
- Disconnect the power to this apparatus during lightning storms or provide suitable additional lightning protection. Unplug this apparatus when unused for long period of time.
- Refer all servicing to qualified service technicians/personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, the apparatus does not operate normally, or has been dropped.
- Use only with systems or peripherals specified by the manufacturer, or sold with the apparatus. Use caution during lifting/moving or transporting to avoid damage by possible tipping.

1.2 Important Warnings

Important Warnings:

- **Risk of electric shock:**

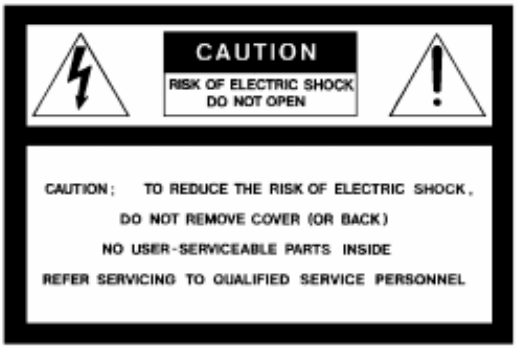

Image 1-1
Risk of electrical shock

Risk of electric shock. Do not open. To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.
The lightning flash with an arrowhead within a triangle is intended to tell the user that parts inside this product may cause a risk of electrical shock to persons.
The exclamation point within a triangle is intended to tell the user that important operating and/or servicing instructions are included in the technical documentation for this equipment.

- **Maximum ambient temperature:**
  The maximum recommended ambient temperature for this equipment is 40 °C.
- **Flammable materials:**
  Keep flammable materials away from the installation (such as curtains). A lot of energy is transferred into heat. The installation should be such that the amount of air flow required for safe operation of the equipment is not compromised. Proper ventilation must be provided.
- **This equipment MUST be earthed:**
  In order to protect against risk of electric shock, the installation should be properly grounded. Defeating the purpose of the grounding type plug will expose you to the risk of electric shock. This apparatus must be grounded (earthed) via the supplied 3 conductor AC power cord. (If the supplied power cord is not the correct variant, consult your dealer.)
- **Power system:**
  It is recommended to use a TN-S power distribution system (a power distribution system with a separate neutral and grounding conductor) in order to avoid large ground currents loops due to voltage differences in the neutral conductor. The total electrical installation should be protected by an appropriate rated disconnect switch, circuit breakers and Ground Fault Current Interrupters. The installation shall be done according to the local electrical installation codes. In Europe special attention should be given to EN 60364, the standard for electrical installation of buildings. In Germany VDE 0100 should be adhered to.
- **Mains cords:**
  The power cords delivered with this system have special properties for safety. They are not user serviceable. If the power cords are damaged, replace only with new ones. Never try to repair a power cord.
- **Use of an extension cord:**
  If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- **Cabinet openings:**
  Never push objects of any kind into this product through cabinet slots as they may touch dangerous high voltage points or short out parts that could result in a risk of fire or electrical shock.
  Never spill liquid of any kind on the product. Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified service personnel before resuming operations.

2. INTRODUCTION

2.1 General functionality

Overview

The D320 allows you to control up to 4 sources on one display. Seamless switch from source to source or display sources together, overlay them, customize them. With analog and digital outputs which allow for the control of displays, as well as built-in-control software, the D320 gives you control over everything from basic set-up to configuration and advanced feature control.

2.2 Order info D320 Digitizer

Order info:

Article No.	Description
R9850710	D320 Digitizer

2.3 Technical summary

Summary

Type	Value
Input slots	4 input slots, front accessible, auto sensing and hot swappable
Compatibility	Barco Daylight Displays
Output	DVI-A, DVI-D, RGB
Scalability	Chaining for more inputs, stacking for more displays
Flexibility	User defined input
Scaler	4 input channels [Data-Video] fully independent scalable to desired output resolution
Z-order control	Instant modification of Z-order control, for each output window
Window Positioning	Intuitive positioning interface
Connectors	RS 232 [RJ 11] — Ethernet [RJ 45]
Effects	Anamorphic imaging, Chroma keying [per input], Alpha keying [per input], Z-order control, Windowing/ View ports
Ruggedness	IP 10
Dimensions D320	486 x 482 x 53 (W x D x H)
Dimensions D320 Input Units	41 x 181 x 103 (W x D x H)
Weight	± 7 kg
Operating Temperature	0 ºC <> 45 ºC
Power consumption	120 Watt max at 90–264 Volt (50–60 Hertz)
Stacking	Up to 64 units (for 64 different displays)
Chaining	Up to 64 units (for 256 inputs)

2.4 Dimensions of the D320 Digitizer

Dimensions

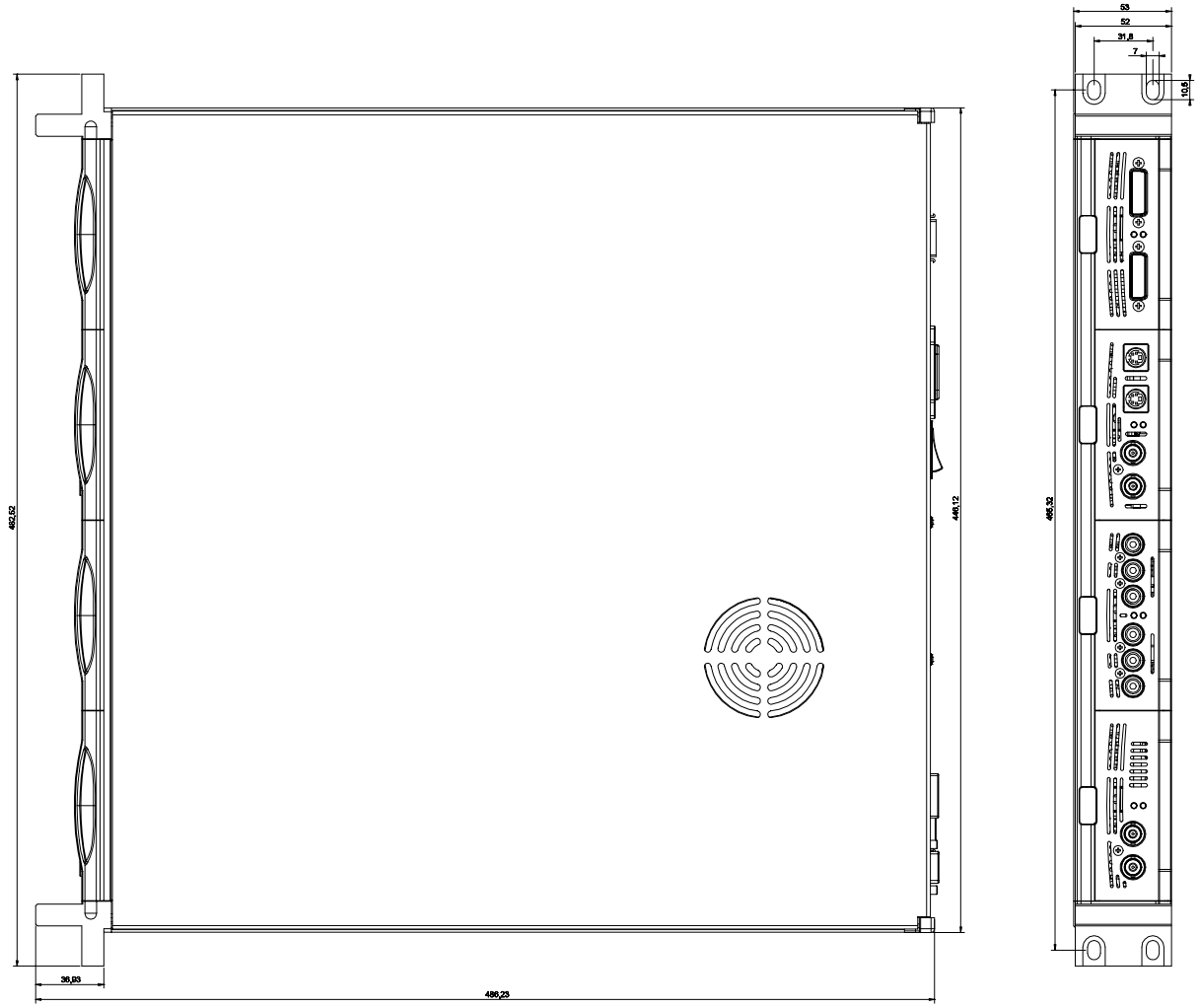

Image 2-1

3. PHYSICAL INSTALLATION

3.1 Installation requirements

Requirements

- The Digitizer should not be placed in a built-in installation or enclosure unless proper ventilation is provided.
- When using the unit in a multi-unit rack assembly or closed assembly, the ambient temperature inside the assembly may not exceed the maximum rated ambient temperature of the Digitizer. The installation should be such that the amount of air flow required for safe operation of the equipment in not compromised.
- When building in the Digitizer into a rack with cover door, be aware that a space of 8,5 cm is needed between the indicated reference and the cover door. This space is needed to guide the input cables to the inputs.

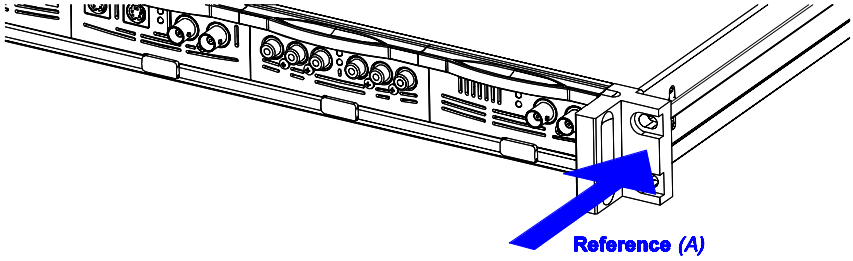

Image 3-1

A Reference

- The Digitizer will require that air flows freely in vent holes. Blocking these holes will greatly reduce the reliability of the unit and lead to the possibility of overheating.
- The Digitizer should operate from an AC power source. The Digitizer is equipped with Power Supply Autoranging from 90 to 264 volt (50–60 Hertz).
- When installed in a rack, the mounting should be such that no hazardous condition is achieved due to uneven mechanical loading.
- When the mains switch located on the back of the Digitizer is not accessible due to rack mounting, the socket outlet supplying the rack shall be installed near the equipment and be easily accessible or a readily accessible disconnect device shall be incorporated in the fixed wiring. When using a rack in an installation is advisable to log the serial number of the device and to activate the warranty figure by registering utilizing the included form.
- Do not place the Digitizer on an unstable cart, stand or table. The device may fall, causing serious damage to it.

3.2 Connections

Rear panel inputs/outputs

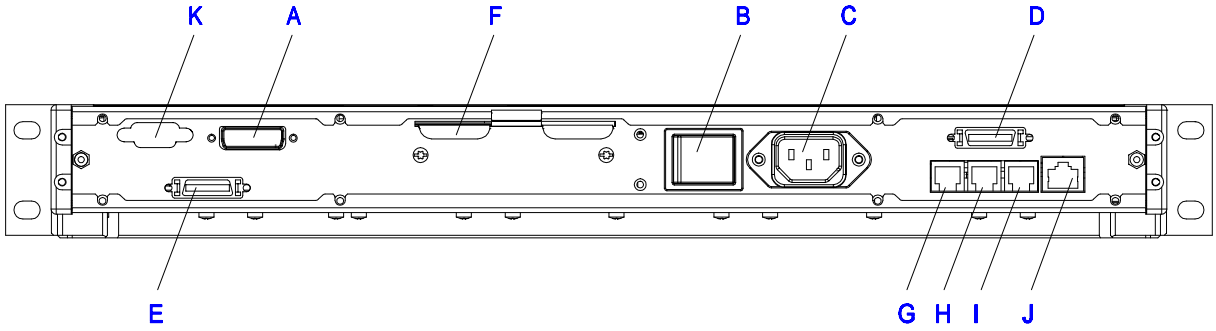

Image 3-2

A Led-wall out
B Power Switch
C Power input
D Loop in
E Loop out
F Retractable dust filter
G RS232 in
H Reserved
I RS232 out
J Ethernet LAN connector
K Monitor out

- **A : Led-wall out**
  - DVI.
  - Data output source to drive ILite / DLite display wall.
- **B : Power switch**
  - The power ON/OFF switch is provide on the rear side of the Digitizer.
    - Switch pressed to 1 = the unit starts.
    - Switch pressed to 0 = unit totally switched off.
- **C : Power input**
  - Autoranging from 90 to 260 VAC / 130 Watt.
- **D : Loop in**
  - From previous Digitizer.
  - Panel Link MDR26.
  - Used for chaining multiple digitizer to increase the number of usable input sources.
- **E : Loop out**
  - To next Digitizer.
  - Panel Link MDR26.
  - Used for chaining multiple digitizer to increase the number of usable input sources.
- **F : Retractable dust filter**
  - The fan intake grill of the Digitizer has a retractable dust filter. This filter can be retracted from the back of the unit. Check the filter for good functionality on a regular basis. Never allow this filter to become blocked up and never operate the unit without a good working air filter in place.
- **G : RS232 in**
  - Direct master.
  - RS232 input port for communication links with local PC.
- **H : Reserved communication port**
- **I : RS232 out**
  - RS232 output port for communication links from a PC or to other Digitizers in chain.
- **J : Ethernet LAN connector**
  - For future use.
- **K : Monitor out**
  - RGBHV (DD15)
    - Red (75 Ohm output impedance)
      - Default: 0,7 Vpp
      - Adjustable: 0,5 Vpp to 1,0 Vpp via user interface
    - Green (75 Ohm output impedance)
      - Default: 0,7 Vpp
      - Adjustable: 0,5 Vpp to 1,0 Vpp via user interface
    - Blue (75 Ohm output impedance)
      - Default: 0,7 Vpp
      - Adjustable: 0,5 Vpp to 1,0 Vpp via user interface
  - H (TTL output)
    - Set TTL-Level polarity via user interface.
  - V (TTL output)
    - Set TTL-Level polarity via user interface.

The “Led-wall out” connector is property to Barco LED walls. Do not connect to other devices than a Barco LED wall.

3.3 Removing and inserting a D320 input module

There is no need to switch off the D320 Digitizer to remove or insert an input module. The input modules are hot swappable.

How to remove an input module from the D320 Digitizer

1. Push in the release button underneath the input module which you want to remove. At the same time pull out the input module by the grip handle. (image 3-3)

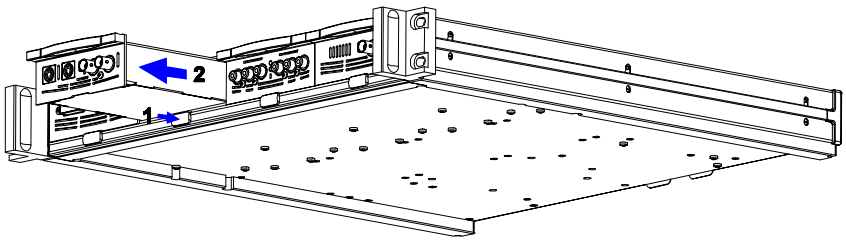

Image 3-3

How to insert an input module into the D320 Digitizer

1. Gently slide in the input module into a free input slot with the grip handle at the top.
2. Locking in the module by pushing the input module completely into the Digitizer until a definite click is audible.

4. INPUT MODULES

Overview

- DVI input module
- SDI input module
- HDSDI input module
- CVBS / S-VID input module
- YUV / RG(s)B input module
- RGB analog input module
- Dummy input module

4.1 DVI input module

Technical info:

- Computer generated graphical source.
- DVI data in (DVI-I connector).
- Maximum 162 Mbit/s transmission.
- Resolution from VGA to UXGA.
- DVI compliant.
- DVI loop through (DVI-I connector).
- Amber LED (upper LED on the front side) will be lit indicating module start up.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.

Image 4-1

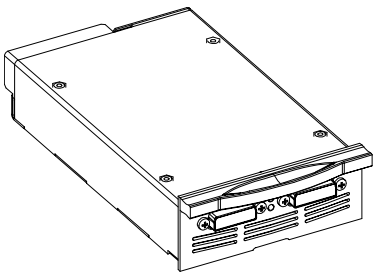
Image 4-2

Order info:

Article No.	Description
R9850960	D320 DVI input module

4.2 SDI input module

Technical info:

- SDI data in.
- SDI loop through.
- 270Mbit/s transmission (SMPTE 259M-C).
- 525/625 interlaced.
- Coax (75 Ohm).
- Amber LED (upper LED on the front side) will be lit indicating recognition of film, either continuous or intermittent film detection.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.

Image 4-3

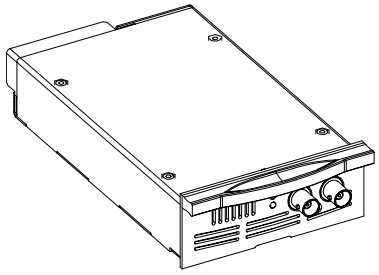
Image 4-4

Order info:

Article No.	Description
R9850970	D320 SDI input module

4.3 HDSDI input module

Technical info:

- HDSDI data in (SMPTE292M).
- HDSDI loop through (SMPTE292M).
- Coax (75 Ohm).
- Amber LED (upper LED on the front side) will be lit indicating recognition of film, either continuous or intermittent film detection.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.
- Supported HDSDI standards:
  - Progressive:
    - 1280x720/60/1:1/ (SMPTE 296M)
    - 1280x720/59.94/1:1/ (SMPTE 296M)
    - 1920x1080/30/1:1/ (SMPTE 274M)
    - 1920x1080/29.97/1:1/ (SMPTE 274M)
    - 1920x1080/25/1:1/ (SMPTE 274M)
    - 1920x1080/24/1:1/ (SMPTE 274M)
    - 1920x1080/23.98/1:1/ (SMPTE 274M)
  - Interlaced:
    - 1920x1035/60/2:1/ (SMPTE 260M)
    - 1920x1035/59.94/2:1/ (SMPTE 260M)
    - 1920x1080/60/2:1/ (SMPTE 274M)
    - 1920x1080/59.94/2:1/ (SMPTE 274M)
    - 1920x1080/50/2:1/ (SMPTE 274M)
    - 1920/1080/50/2:1 (1250)/ (SMPTE 295M)
    - 1920x1080/24/Segmented/ (SMPTE 274M)
    - 1920x1080//23.98/Segmented/ (SMPTE 274M)

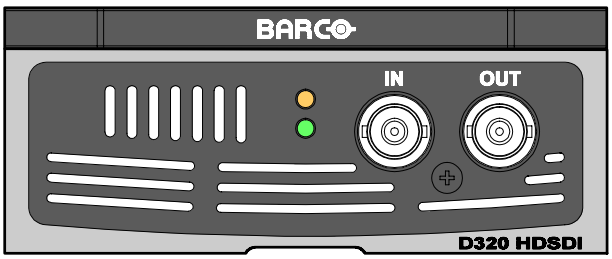

Image 4-5

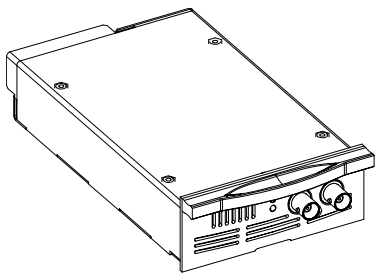
Image 4-6

Order info:

Article No.	Description
R9850980	D320 HDSDI input module

4.4 CVBS / S-VID input module

Technical info:

- Video (BNC)
  - CVBS : 1Vpp ±3dB (0,7V Video +0,3V Sync) 75 Ohm termination.
  - BNC loop through connector.
- S-Video (4 pins DIN)
  - Y : 1Vpp ±3dB (0,7V Video +0,3V Sync) 75 Ohm termination.
  - U/V : 0,7Vpp ±3dB 100% color base, 75 Ohm termination.
  - Chroma : Multi-Standard (PAL / SECAM / NTSC).
  - 4 pins DIN loop through connector.
- Amber LED (upper LED on the front side) will be lit indicating recognition of film, either continuous or intermittent film detection.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.

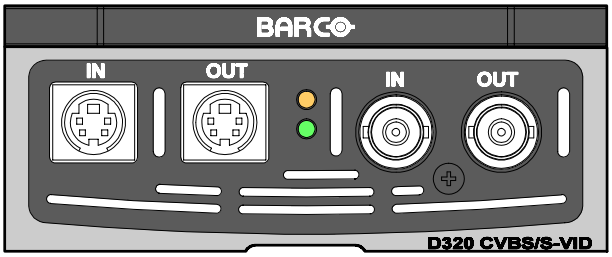

Image 4-7

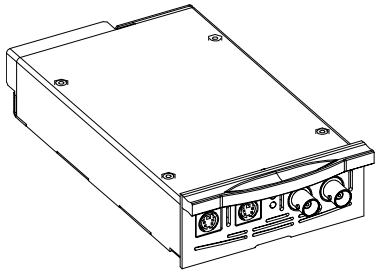
Image 4-8

Order info:

Article No.	Description
R9850920	D320 CVBS / S-VID input module

4.5 YUV / RG(s)B input module

Technical info:

- Component Video (BNC)
  - R-Y : 0,7Vpp ±3dB 75 Ohm termination.
  - Ys : 1Vpp ±3dB (0,7V Luma +0,3V Sync) 75 Ohm termination.
  - B-Y : 0,7Vpp ±3dB 75 Ohm termination.
- RG(s)B (BNC)
  - R : 0,7Vpp ±3dB 75 Ohm termination.
  - G(s) : 1Vpp ±3dB (0,7Vpp G + 0,3Vpp Sync) 75 Ohm termination.
  - B : 0,7Vpp ±3dB 75 Ohm termination.
- 3 BNC's loop through connectors.
- Amber LED (upper LED on the front side) will be lit indicating recognition of film, either continuous or intermittent film detection.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.

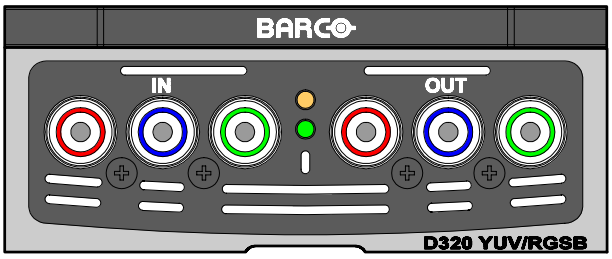

Image 4-9

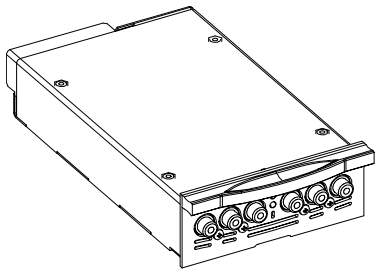

Image 4-10

Order info:

Article No.	Description
R9850940	D320 YUV / RG(s)B input module

4.6 RGB analog input module

Technical info:

- Sub D15 connector for input and loop through.
- R, G, B, Hsync, Vsync : 0 to 1 Vpp ±3dB 75 Ohm termination.
- Black level : 300mV.
- Sync-tip : 0V
- Resolution : SXGA and UXGA version available.
- Amber LED (upper LED on the front side) will be lit indicating recognition of film, either continuous or intermittent film detection.
- When placed in an input slot the green LED (lower LED on the front side) will be lit indicating that the system acknowledge the module.

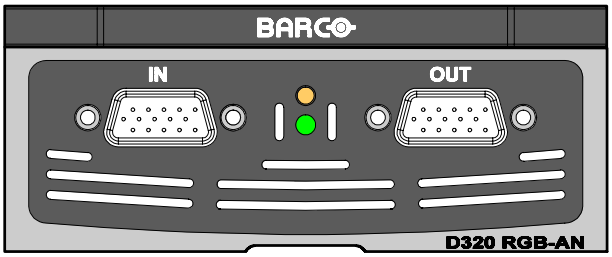

Image 4-11

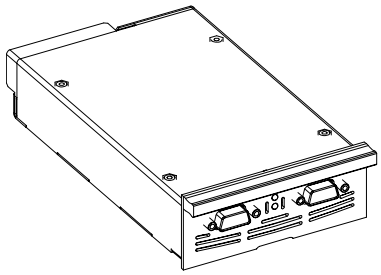

Image 4-12

Order info:

Article No.	Description
R9850950	D320 RGB analog SXGA input module
R9851710	D320 RGB analog UXGA input module

4.7 Dummy input module

Technical info

- Dimensions : 103 x 181 x 41(W x D x H)

Image 4-13

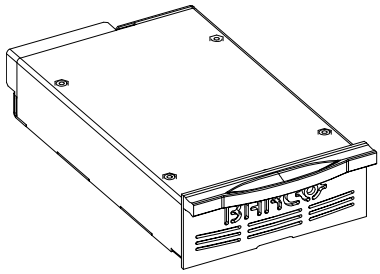

Image 4-14

Order info:

Article No.	Description
R9850930	D320 Dummy input module

5. CONTROL SOFTWARE

5.1 XLite toolset

General introduction

The XLite toolset is used to configure and control the digitizer from basic set-up to advanced features such as chroma keying, alpha blending or window positioning. Refer to the manual (R5976380) for more information about the XLite toolset.

5.2 Signam!cs

General introduction

Signam!cs software is an interface between PC and a street display. Set up as an easy-to-use website with logon password and ID, your "Signam!cs.com Account" allows you to control the key functionalities of the modules inside the Signam!cs workflow - Sign!cs Display, D320, Si4 + Si5. Stored on the Si5, the Signam!cs software interfaces with any display on any LAN, WAN and Internet based network. Refer to the Manual of Signam!cs (R5976422) for more information about Signam!cs.

6. MAINTENANCE

6.1 Cleaning the dust filter

The fan intake grill of the digitizer has a retractable dust filter which must be checked for good functionality on regular basis. Never allow this filter to become blocked up.

How to clean the dust filter

1. Softly press down the lid of the dust filter at the rear side of the digitizer and pull out the filter. (image 6-1)
2. Blow out all the dust from the filter and remove remaining dust with a dry cloth.
3. Place the clean dust filter back in the digitizer.

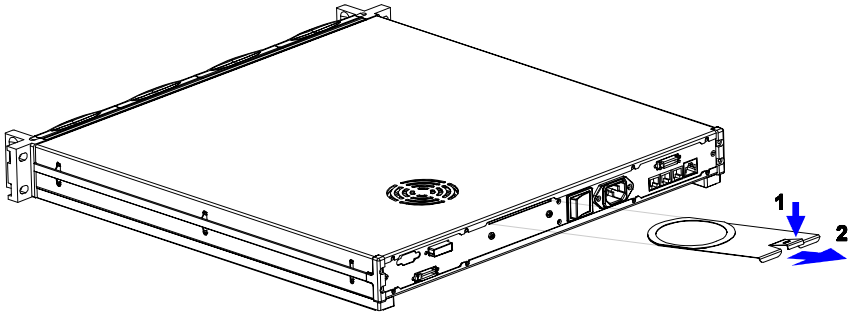

Image 6-1

6.2 Cleaning the cabinet

Do not use liquid cleaners or aerosol cleaners. Never use strong solvents, such as thinner or benzine, or abrasive cleaners, since these will damage the cabinet.

How to clean the cabinet

1. Unplug the digitizer from the wall outlet before cleaning.
2. Clean the cabinet with a damp cloth. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution.

To keep the cabinet looking brand-new, periodically clean it with a soft dry cloth.

7. OPTIONS

7.1 Overview

Order info:

Article No.	Description
R9851280	Stacking system D320 Digitizer
R9851290	Front plate for stacking D320
R9851510	Climate Control Case for using the D320 Digitizer outdoor

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