SIEMENS

SIMATIC

VS 710

Quick Reference Guide

A5E00032597-02
Edition 11/2001

Disclaimer of Liability

We have checked the contents of this manual for agreement with the hardware and software described. Since deviations cannot be entirely ruled out, we cannot guarantee full agreement. However, the data in this Quick Reference Guide are reviewed regularly and any necessary corrections included in subseqeuent editions. Suggestions for improvement are welcome.

Technical data subject to change.

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Contents

1 Product Overview

SIMATIC VS 710 is a highly compact stand-alone image processing system in which the camera, computer, and peripherals are integrated in a single unit.

SIMATIC VS 710 has the following advantages to offer users who require an all-in-one image processing system for inspection, monitoring of production, and parts identification:

- Top-quality image representation and resolution for static and moving images
- High clock speed for networked decentralized automation solutions
- Continuous remote parts inspection
- Video image can be shown on SVGA monitors
- Digital I/O to programmable controller
- PROFIBUS DP slave functionality with a transmission speed of up to 12 Mbps
- Can be configured by host PC via a serial port or PROFIBUS DP
- Flexible configuration to accommodate new inspection criteria
- ProVision system software is easy to configure, user-friendly and also offers complete functionality for inspection and recognition applications.

1.1 Applications

SIMATIC VS 710 is suitable for use in all areas, including the electrical, engineering, electronics, automobile, pharmaceuticals, cosmetics, food, and packaging industries. The system has a wide range of applications in product monitoring, quality control, and parts identification.

1.2 Contents of the Consignment

VS 710 is available in two versions. The versions differ only in what is included along with the basic product.

VS 710 OEM	VS 710
6GF1710-2AA	6GF1710-3AA
Configurable using customized C/C++ programs	Configurable using ProVision 6GF8007-1AA0 software package and higher

VS 710 Package

- VS 710 basic unit with ProVision-run-time software
- Tool diskette 1 with MS-DOS 6.22 [1])
- Standard software licence agreement
- Mounting bracket and two M4 fixing screws
- 2 Ferrite sleeves
- This hardware manual
- Product Information bulletin

VS 710 OEM Package:

- VS 710 OEM basic unit
- Tool diskette 1 with MS-DOS 6.2.2 [1])
- Standard software licence agreement
- 2 Ferrite sleeves
- Product Information bulletin

1) The package does not include a complete DOS version.

1.3 Accessories

Accessory	Order Number
RS232 cable (zero modem cable)	6ES7901-1BF00-0XA0
Power supply cable	6GF9002-1CA
Digital I/O cable	6GF9002-1CB
DP cable (PROFIBUS line)	6XV1830-0EH10
PROFIBUS connector	6ES7972-0BA40-0XA0 (without PG socket) 6ES7972-0BB40-0XA0 (with PG socket)

Note

The accessories listed in the above table are not supplied with the device and must be ordered separately.

Standard accessories are listed in catalog ST70 and ST50.

2 VS 710 Hardware

2.1 Hardware Components

VS 710 is made up of the following hardware components:

- Metal casing (dimensions: 65x80x130, color: black) with multiple mounting options. All ports for communication located on the back panel of the casing.
- C-mount standard lens socket.
- High-resolution CCD chip (782x582) with square pixels, pixel identical scanning, offset setting.
  used CCD-Chip size: 6.5 mm (H) x 4.8 mm (V)
- Restart-reset, full frame shutter with an exposure range of 1/50 - 1/10000s, half-image and full-image modes.
- Parameter assignment for image formats up to 768x512.
- 100 MHz 80486 CPU (AMD) with direct image buffer access
- 16 Mbyte main memory DRAM module (SO-DIMM)
- 16 Mbyte IDE flashdisk (see Section 2.9)
- 256 Kbyte flash EPROM as BIOS memory
- 2 Mbyte image buffer

2.2 Mounting the VS 710

The VS 710 can be mounted in many different ways, making it highly versatile and convenient to use.

A number of fixtures (1/4” support socket, M4 screw threads) for mounting attachments are located on the underside of the metal casing.

Choose whichever mounting option best suits your needs:

- Directly onto the casing using the M4 screw threads
- To the support socket on the casing
- Using the mounting bracket supplied (not included in the VS 710 OEM package)

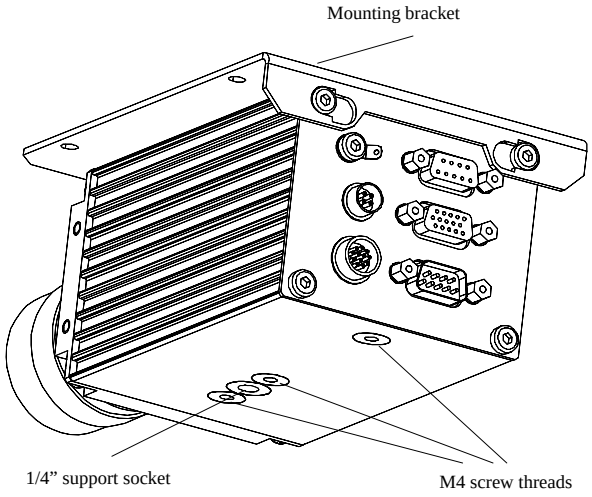

Figure 1 Mounting Fixtures on the VS 710

Dimensions, Mounting Fixtures

The dimensions are dependent on the type of mounting (with or without a mounting bracket attached).

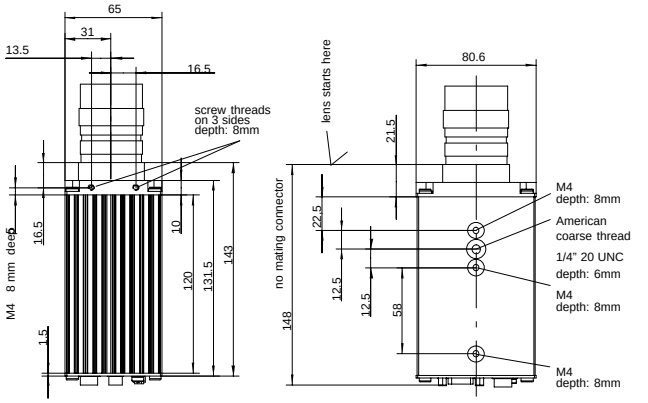

Figure 2 Dimensions with No Mounting Bracket Attached

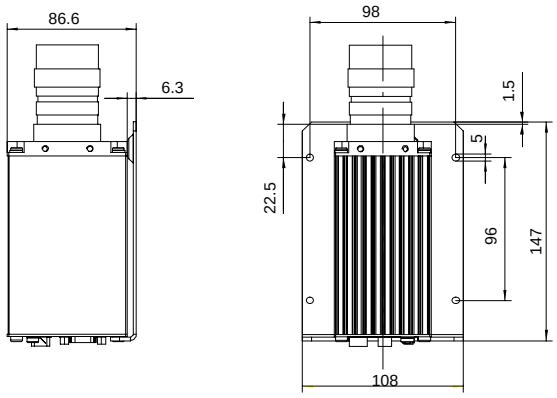

Figure 3 Dimensions with a Mounting Bracket Attached (Side Mounting)

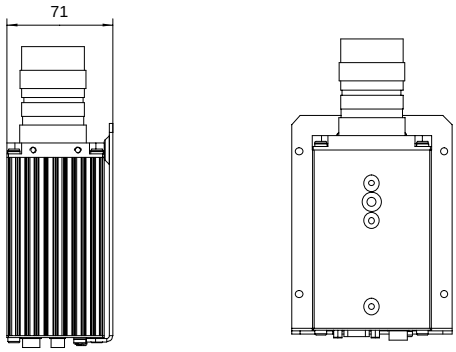

Figure 4 Dimensions with a Mounting Bracket Attached (Top Mounting)

Mounting Bracket

The mounting bracket snaps into place on top of the back panel and is screwed tight on the front panel, leaving the other three sides of the casing free for other mounting alternatives.

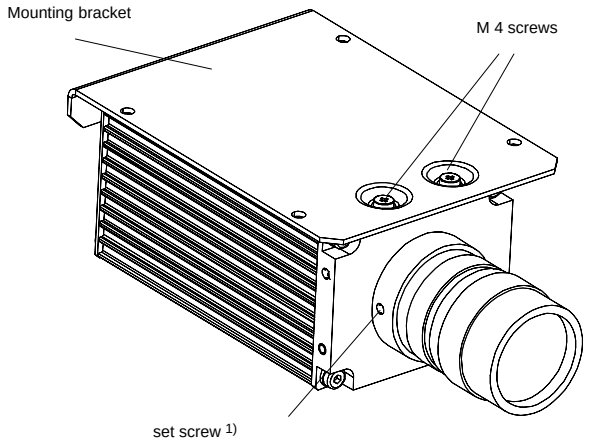

Figure 5 VS 710 with Mounting Bracket Attached

Lens Socket

The lens socket fits all commercial C-mount standard lenses.

1) **Note:** the set screw on the lens socket is meant for factory settings only. A readjustment of the lens position is not allowed.

2.3 Hardware Interfaces

The SIMATIC VS 710 has ports on the back panel for connecting up peripherals (DP PROFIBUS, VGA, RS232, digital I/O) and the 24 volt power supply. A terminal screw is in place for grounding.

The VS 710 has five interface ports.

- Round 4-pin plug for power supply (24 V, 500 mA) with a voltage range of 20.4 to 28.8 V
- Round 12-pin plug with two 24-volt digital input points (including two interrupt controllers), and four 24-volt digital optocoupler output points (including a flash controller)
- 9-pin subminiature D connector PROFIBUS DP interface with a data transmission rate of up to 12 Mbps.
- 3-row 15-pin subminiature D connector (SVGA monitor port)
- 9-pin subminiature D connector, RS232 interface, with a data transmission rate of up to 115 Kbps.

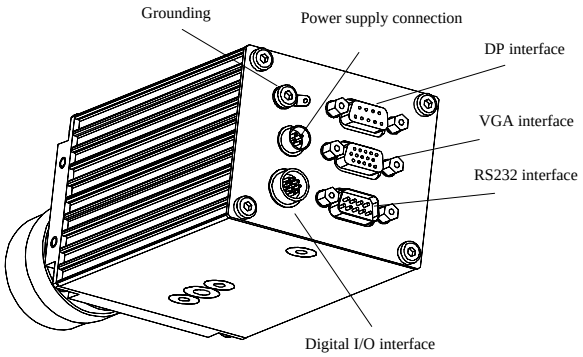

Figure 6 Hardware Interfaces

2.4 Power Supply - Connector Pinout

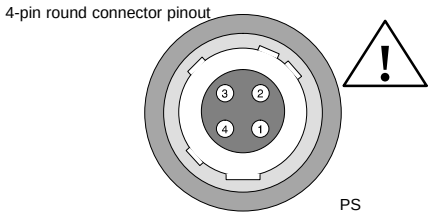

Figure 7 Power Supply - Connector Pinout

Note

The pin numbers are as seen on the rear casing with the unit in an upright position.

Warning

V_N = 24 VDC / 500 mA

(Voltage range: 20.4 to 28.8 volts)

The power supply connector has the following pinout:

Pin	Signal
1	24 volts
2	24 volts
3	Ground
4	Ground

Maximum current per pin = 1 A.

The connector acts as a means of isolation from the 24-volt power supply.

24 VDC Power Supply

The entire supply must come from a 24 VDC safety extra-low voltage (SELV) (operating voltage, load voltage, relay supply, etc.).

Warning

Personal injury or property damage can result.

If you do not connect the 24 VDC power supply to the VS 710 correctly, components of your programmable logic controller may be damaged and there is a risk of personal injury.

The DC load power supply must fulfill the following requirements:

Only extra-low voltage (DC $\leq$ 60 V) which is isolated from the supply may be used as the load current power supply. The protective separation can be achieved in accordance with the requirements set out in VDE 0100 Part 410 / HD 384-4-41 / IEC 364-4-41 (as functional extra-low voltage with protective separation), or VDE 0805 / EN 60950 / IEC 950 (as safety extra-low voltage (SELV)), or VDE 0106 Part 101.

2.5 Digital Input / Output - Connector Pinout

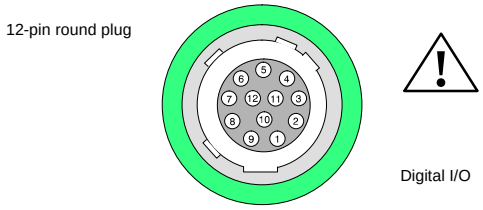

Figure 8 Digital Input / Output - Interface

Pin	Signal	Pin
1	24 volts	L+
2	Ground 24 volts	M
3	Digital output point 0	DO 0
4	Digital output point 1	DO 1
5	Digital output point 2	DO 2
6	Digital output point 3 [1)]	DO 3
7	Digital input point 0 [2)]	DI 0
8	Not assigned	
9	Not assigned	
10	24 volts	L+
11	Ground 24 volts	M
12	Digital input point 1 [2)]	DI 1

[1] Simultaneous flash signal under ProVision

[2] Triggering interrupt

- Maximum cable length 10 m, shielded
- 2 input points, optically isolated. All input points are referenced to a common ground. Rated voltage: DC 24V
- 4 output points, optically isolated. All output points are referenced to a common ground. Output current: 0.5 A. Rated load voltage DC 24 V
- Maximum current per pin = 1 A.

Warning
DI and D0 are galvanically coupled by ground pins 2 and 11.
DI 2x 24 VDC
DO 4x 24 VDC/0.5 A, P.D./RES, 5 W tungsten

Wiring Diagram (Digital Input Points)

Pin	
1	L+
2	M
3	DO 0
4	DO 1
5	DO 2
6	DO 3
7	DI 0
8	
9	
10	L+
11	M
12	DI 1

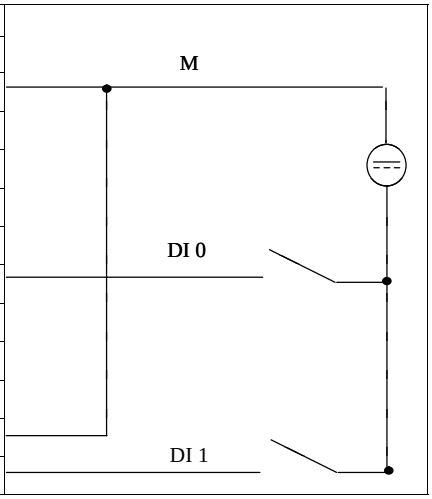

Figure 9 Connection Diagram Showing Digital Input Points

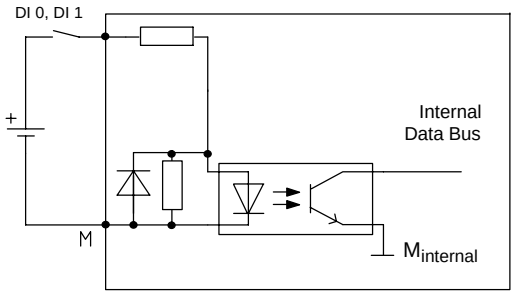

Figure 10 Basic Circuit Diagram Showing Digital Input Points

Wiring Diagram (Digital Output Points)

Pin	
1	L+
2	M
3	DO 0
4	DO 1
5	DO 2
6	DO 3
7	DI 0
8	
9	
10	L+
11	M
12	DI 1

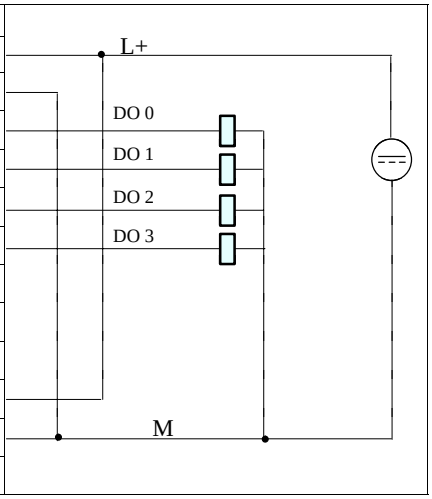

Figure 11 Connection Diagram Showing Digital Output Points

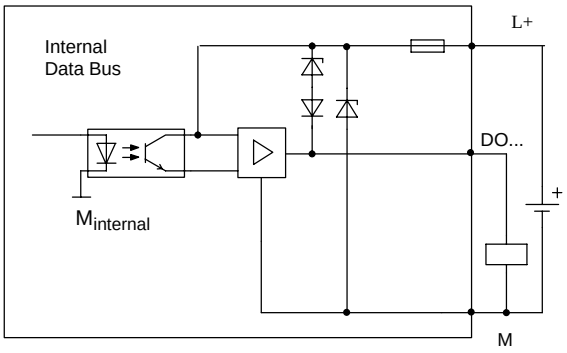

Figure 12 Basic Circuit Diagram Showing Digital Output Points

2.6 DP Connector Pinout

9-pin subminiature D connector

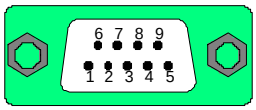

Figure 13 DP Interface

Pin	Signal	Function	Input/Output
1	Not assigned	-	-
2	Not assigned	-	-
3	LTG_B	Signal line B	Input/output
4	RTSAS	Request to send (PLC) [1])	Output
5	$M5_{ext}$	GND (isolated) [2])	Output
6	$P5_{ext}$	+5V (isolated) [3])	Output
7	Not assigned		
8	LTG_A	Signal line A	Output
9	Not assigned	-	-
Shield		On connector casing	

[1]) Control signal for received data flow
The control is "1" active when the programmable controller is sending
[2]) 0 V line of the 5 V power supply
[3]) $P5_{ext}$ power supply (+5 V) of the 5 V power supply (powers bus terminator)

The DP interface operates on the slave principle and is designed as a floating interface. It has a maximum data transfer rate of 12 Mbps.

When using a point-to-point connection with a transmission rate of 12 Mbps, a line length of 100 m may be used.

2.7 VGA Connector Pinout

You can connect a monitor to your VS 710 using the VGA socket connector. The VGA socket connector has the following pinout:

15-pin subminiature D connector

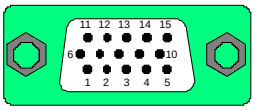

Figure 14 VGA Socket Connector

Pin	Signal
1	Red
2	Green
3	Blue
4	Not assigned
5	Digital ground
6	Digital ground
7	Digital ground
8	Digital ground
9	Not assigned
10	Digital ground
11	Not assigned
12	Not assigned
13	Horizontal sync
14	Vertical sync
15	Not assigned
Shield	On connector casing

Note

Connect your VGA monitor with the standard VGA cable.

The distance between monitor and VS 710 should not exceed 2.5 m.

2.8 RS232 Connector Pinout

Use the RS232 interface to connect the VS 710 to your programming device / PC. The RS232 connector on the VS 710 is a shielded 9-pin subminiature D connector.

The RS232 connector has the following pinout:

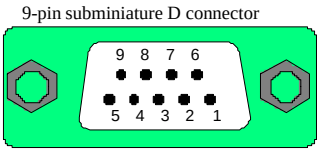

Figure 15 RS232 Connector

Pin	Signal
1	DCD (data carrier detect)
2	RXD (receive data)
3	TXD (transmit data)
4	DTR (data terminal ready)
5	Ground
6	DSR (data set ready)
7	RTS (request to send)
8	CTS (clear to send)
9	RI (ring indicator)
Shield	On connector casing

The serial port is a fully-fledged RS232 interface. The ground pin is referenced to the internal ground. The interface is configured as a COM1 port and can be addressed as such. The maximum line length is 10 m with a transmission rate of 115 Kbps.

Remote Keyboard and Remote Floppy via RS232

You can connect a host PC with a keyboard and diskette drive (floppy) to the RS232 interface using a serial port cable (zero modem cable). The Phoenix® BIOS sets up a connection through this interface so that the host keyboard and host diskette drive (read only) can be used as if they were directly connected to the VS 710.

Note

You can use HOSTKEY to set up the connection with the host PC (see Section 4.1).

2.9 IDE Flashdisk

The VS 710 enables you to use solid-state memory like a hard disk drive. This “flashdisk” solid-state memory can be used to boot MS-DOS and store application programs.

Note

The deleting and programming cycles per logical sector of the IDE flashdisk are limited to 300,000 cycles due to physical properties.

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3 Connecting the VS 710

3.1 Safety Recommendations

Qualified Personnel

Only **qualified personnel** should be allowed to install and work on this equipment. Qualified persons in the context of this Quick Reference Guide are defined as persons who are authorized to commission, to ground, and to tag equipment, systems, and circuits in accordance with established safety standards and regulations.

Correct Usage

Note the following:

Warning

This device may only be used for the applications described in the catalog or the technical description, and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens.

This product can only function properly and safely if it is transported, stored, set up, and installed correctly, and operated and maintained as recommended.

Cleaning the Unit

To clean the unit, use a soft cotton cloth and a mild, non-abrasive detergent. Do not allow cleaning fluid or any other liquid to get inside the casing.

Note

The CCD sensor orifice must always be closed, either by the lens mounted on top or by applying the dust cap supplied along with the product.

This precaution is necessary to avoid damaging the sensitive sensor surface.

3.2 System Environment

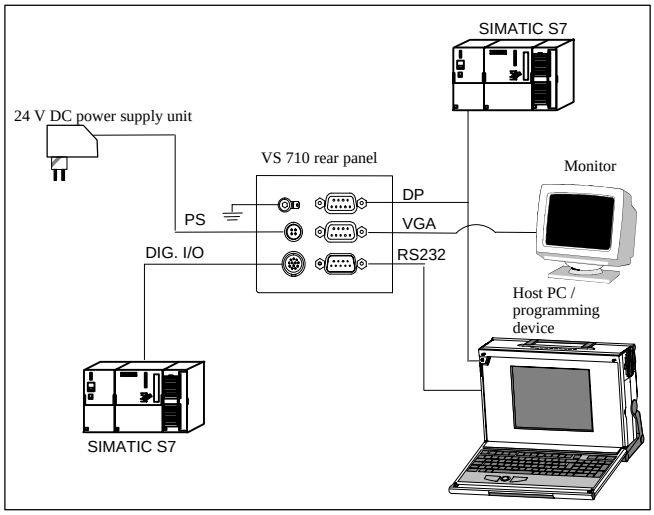

Figure 16 System Environment

The VS 710 operates in two basic modes:

1. Configure mode
   The VS 710 is connected to a programming device / PC via RS232 or PROFIBUS DP and is supplied with user programs and configuring data.

2. Productive mode
   The VS 710 is in the target operating mode and receives jobs (or delivers processed data) through digital I/O, RS232, and PROFIBUS-DP interfaces. It communicates with actuators / sensors, control PCs, and PROFIBUS-DP master systems.

3.3 Connection Options

Function in Configure Mode

Connection via:	VS 710 (with ProVision)	VS 710 OEM
RS232 interface	Yes	Yes (with Hostkey)
DP interface	Yes *	No
Digital I/O	Yes	No

Function in Productive Mode

Connection via:	VS 710 (with ProVision)	VS 710 OEM **
RS232 interface	Yes	Yes
DP interface	Yes	Yes
Digital I/O	Yes	Yes

* as of ProVision V2.0

** A suitable user program is required.

4 Interactive Operation

4.1 Keyboard and Floppy Emulation

The VS 710 can be temporarily linked with the keyboard and diskette drive of a separate PC / programming device (host PC) for operator control of the VS 710. For this you need an RS232 connection, the emulation program HOSTKEY.COM, and a VGA monitor connected to the VS 710. HOSTKEY is started on DOS from Tool Diskette 1 on the host PC. Once emulation has been started up, the interaction switches from the host PC to the VS 710 (specifically, to the monitor). Tool diskette 1 can now be removed and replaced by another diskette.

4.2 HOSTKEY Program

HOSTKEY emulates floppy diskette drive A: and the host PC keyboard as components of the VS 710. For this you need a functioning serial connection, and HOSTKEY must be activated before rebooting the VS 710. The program is supplied on a diskette along with the product and is started from the host PC.

The VS 710 monitor takes over the function of operator monitor once the connection has been established.

1. Insert the HOSTKEY diskette in the diskette drive of the host PC, having connected the host PC via the RS232 interface.
2. Start HOSTKEY from diskette drive A: at DOS level or from the DOS box under Windows 95/98.

Note

You can also start HOSTKEY indirectly using the REMOTE.BAT program. Before HOSTKEY starts using the maximum transmission rate, you will explicitly be asked for a specific interface.

Note

The **HOSTKEY.COM** file is only to be run under the Windows 95, Windows 98 and Windows ME operating systems.

The **HSTKEYNT.EXE** file is only to be run under the Windows NT and Windows 2000 operating systems.

Setup Options

You can call HOSTKEY in a number of ways, as the following table shows.

Syntax:
HOSTKEY [/?] [/Cx] [/Sxx] [/NOF] [/V]

Option	Explanation
/?	This screen
/C1	COM1
/C2	COM2
/S96	9600 bps
/S192	19200 bps
/S384	38400 bps
/S576	57600 bps
/S1152	115200 bps
/NOF	Do not check for floppy disk when loading HOSTKEY
/V	Verbose mode, display HOSTKEY messages
Call without specifying parameters	Activates the COM1 interface with a rate of 115.2 Kbps

Operator Input to HOSTKEY

Once emulation has been started, key commands go to the VS 710.

Exceptions are:

– CTRL-X Aborts HOSTKEY

– CTRL-Alt-F10 Reboots the VS 710

4.3 Operating DOS 6.22 and SETUP

The following steps will take you to the VS 710 operator level you require:

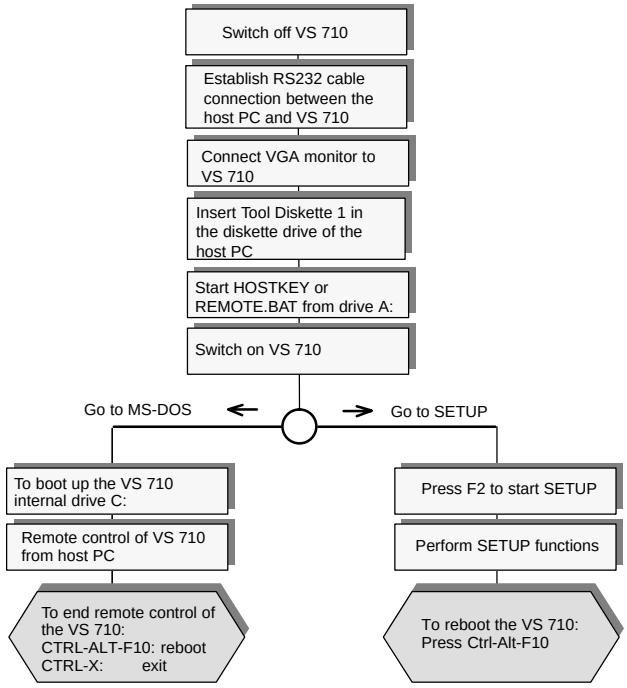

Figure 17 Using HOSTKEY to Operate the VS 710

Note

- To avoid taking up too much memory, only a minimal subset of DOS 6.22 is loaded on the VS 710. Other DOS utilities are available on Tool Diskette 1.
- You cannot copy files from VS 710 back onto a diskette while emulation is in progress. To do so, try starting INTERSVR.EXE from a suitable AUTOEXEC.BAT (startup file).
- Time and date settings are lost if the VS 710 is de-energized; for example, if the power supply fails or if you pull the plug. Backups are not made.

4.4 Installing older ProVision versions on Your VS 710

To install or update the ProVision Runtime System (<V2.1), proceed as indicated below. Use 1.44 Mbyte diskettes that have been loaded with the relevant files, for example as described in ProVision Setup (see ProVision Product Information for further details).

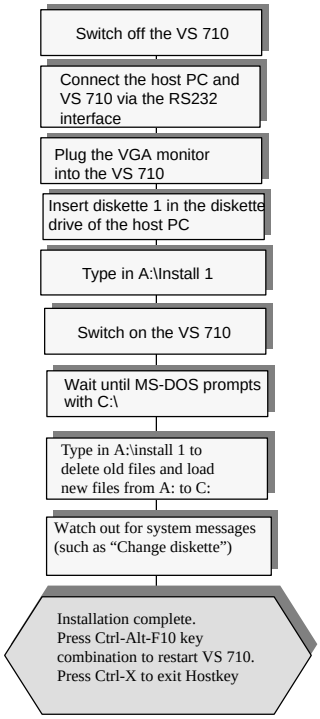

Figure 18 Installing ProVision

The VS 710 must be reset in order to restart it. The remote connection must be disconnected on startup, either by removing the RS232 connection or by exiting HOSTKEY. If the connection is not disconnected, ProVision does not restart and VS 710 returns to the installation mode.

5 Technical Specifications

This table contains the complete technical specifications for the VS 710.

5.1 General Specifications

Characteristic	**Technical Specifications**
VS 710	
Order Number	SIMATIC VS 710: 6GF 1710-3AA SIMATIC VS 710 (OEM): 6GF 1710-2AA
Dimensions	65 x 80 x 130 mm (W x H x D) with no mounting bracket attached
Weight	Approx. 0.750 kg (without lens)
Interfaces to S7/M7/C7 to PC	 RS485 (12 Mbps) RS232 (115 Kbps)
Power Supply	
Supply voltage (V_N)	24 VDC; (20.4 to 28.8 VDC, safety extra low voltage, SELV). The VS 710 has no integrated protection against high-energy surge pulses in the µs range (surge pulse). See EMC for external measures.
• Input voltage protected against polarity reversal	Yes
• Voltage interruption (can be jumpered)	≥ 20 ms
Current consumption (I_N)	I=480 mA (typ)/600 mA (max.)
Starting current	I_1 max. 10 A; 1 ms

Characteristic	Technical Specifications
Load Current Power Supply	
Supply voltage (V_N)	24 VDC; (20.4 to 28.8 VDC, safety extra-low voltage, SELV). The VS 710 has no integrated protection against high-energy surge pulses in the µs range (surge pulse). See EMC for external measures.
• Input voltage protected against polarity reversal	Yes
Protection class	IP40
Safety Requirements According to	IEC 1131-2 ≙EN 61131-2
Electromagnetic Compatibility (EMC)	
Emitted interference	
Limit value class	B according to EN55022 ≙CISPR 22
Conducted interference on direct voltage supply lines	±2 kV (according to IEC 1000-4-4; burst) ±1 kV (according to IEC 1000-4-5; µs pulse / line to line)* ±2 kV (according to IEC 1000-4-5; µs pulse / line to ground)* * With protective element lightning conductor KT type AD 24 V from the Dehn company.
Noise immunity on signal lines	±2 kV (according to IEC 1000-4-4; burst) ±2 kV (according to IEC 1000-4-5; µs pulse / line to ground)
Noise immunity against discharge of static electricity	±6 kV, discharge on contact (according to IEC 1000-4-2; ESD) ±8 kV, atmospheric discharge (according to IEC 1000-4-2; ESD)
Immunity to high-frequency radiation	10 V With 80% amplitude modulation with 1 kHz, 10 kHz - 80 MHz (according to IEC 1000-4-6) 10 V/m With 80% amplitude modulation with 1 kHz, 80 kHz - 1 GHz (according to IEC 1000-4-3) 10 V/m Pulse-modulated 50 % IED with 900 MHz (according to EN 50 204)

Characteristic	Technical Specifications
Climatic Conditions	
Temperature • Operation • Storage/transport	Tested according to IEC 68-2-1, IEC 68-2-2 ± 0 °C to + 50 °C Rate of temperature change max. 10 °C/h -20 °C to +70 °C Rate of temperature change max. 20 °C/h
Relative humidity • Operation • Storage/transport	Tested according to IEC 68-2-3 5% to 95% at 25°C (no condensation) 5% to 95% at 25°C (no condensation)
Atmospheric pressure • Operation • Storage/transport	1080-795 hPa (≙1000 m to +2000 m) 1080-660 hPa (≙1000 m to +3500 m)
Mechanical Environmental Conditions (without lens)	
Vibration • Operation • Storage/transport	Tested according to IEC 68-2-6 10 to 58 Hz, amplitude 0.075 mm 58 to 500 Hz, acceleration 9.8 m/s^2 5 to 9 Hz, amplitude 3.5 mm 9 to 500 Hz, acceleration 9.8 m/s^2
Shock • Operation • Storage/transport	Tested according to IEC 68-2-27/29 Semi-sinusoidal: 100 m/s^2 (10 g), 16ms, 100 shocks Semi-sinusoidal: 700 m/s^2 (70 g), 6ms, 3 shocks Semi-sinusoidal: 250 m/s^2 (25 g), 6ms, 1000 shocks

Note

The absolute brightness values of the image may vary slightly, depending on the physical properties of the CCD chip and the temperature range.

5.2 Digital I/O Interface

Characteristic	Technical Specifications
Module-Specific Data	
Number of inputs	2
Number of outputs	4
Line length, shielded	10 m
Current, Voltages, Potentials	
Rated voltage Load current supply L+	24 VDC
Permitted rated voltage Load current supply L+	20.4 V to 28.8 V
Current consumption L+	Depends on assignment
Number of simultaneously controllable inputs	2
Number of simultaneously controllable outputs	4
Isolation	Yes (optocoupler)
Permitted potential differences • Between M connections • Between input (M connection) and central grounding point • Isolation tested with	500 VDC
Interrupt	
Interrupt	Digital inputs 0 and 1 have interrupt capability

Characteristic	Technical Specifications
Data for Selecting a Sensor	
Input voltage • Rated value • With signal “1” • With signal “0”	 24 VDC From 11 to 30 V -3 V to +5 V
Input current • With signal “1”	 From 4 mA to 8 mA
Input delay time	10 µs
Data for Selecting an Actuator	
Output voltage • With signal “1” • With signal “0”	 L+-1.5 v Max. 3 V
Output current • With signal “1” rated value permitted range • With signal “0” (residual current)	 0.5 A From 5 mA to 0.6 A Max. 0.1 mA
Load on lamps	Max. 5 W
Parallel connection of 2 outputs	No
Maximum operating frequency: • With ohmic load/lamp load • With inductive load	 500 Hz 2.0 Hz at 0.5 A
Switching delay	Max. 400 µs
Limit (internal) of voltage induced on circuit interruption	L+-39 V
Short-circuit protection at output	Electronic

6 Certification

6.1 Certification for the USA and Canada

UL/CSA Certification

Important for USA and Canada:

	Symbols on the device like those shown below mean that approval has been issued as indicated:
	Underwriters Laboratories (UL) in accordance with Standard UL 508
C 	Underwriters Laboratories (UL) in accordance with Canadian Standard C22.2 No. 142
	UL Recognition Mark
	Canadian Standard Association (CSA) in accordance with Standard C22.2 No. 950 or C22.2 No. 142
 APPROVED	FM approval in accordance with Factory Mutual Approval Standard Class Number 3611, 3600, 3810 Class I, Division 2, Group A, B, C, D.

FM Approval

FM Approval pursuant to Factory Mutual Approval Standard Class Number 3611, Class I, Division 2, Group A, B, C, D.

Warning

Personal injury or property damage can result.

Unless the location is known to be non-hazardous, do not connect or disconnect (plugs, fuses, switches, etc) while the unit is in operation as physical injury and damage to property may result.

Do not connect or disconnect live circuits unless the location is known to be non-hazardous.

Warning

WARNING - DO NOT DISCONNECT WHILE CIRCUIT IS LIVE

UNLESS LOCATION IS KNOWN TO BE NON-HAZARDOUS

6.2 Certification for Europe

EMC Guidelines

The following applies to the SIMATIC product described in this Quick Reference Guide:

CE

This product fulfills the requirements for the EC directive 89/336/EEC on “electromagnetic compatibility” and the following fields of application apply according to this EC symbol:

Field of Application	Requirement for	
	Emitted Interference	Immunity to Interference
Residential, commercial and light industry	EN 50081-1: 1992	EN 50082-1: 1992
Industry	EN 50081-2: 1993	EN 50082-2: 1995

Declaration of Conformity

In accordance with Section 10 (2) of the above EU Directive, the EU Declaration of Conformity and related documents will be held available for inspection by the competent authorities at:

Siemens Aktiengesellschaft
Bereich Automatisierungs- und Antriebstechnik
A&D AS RD 4
Postfach 1963
D-92209 Amberg
Germany

Observing the Setup Guidelines

The setup guidelines and notes on safety given in the documentation must be observed during startup and when operating the device.