

Digital Video Recorders Quick Guide



BOSCH
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Bosch Digital Video Recorders		DVR1A	DVR1C	DVR4C	Divar	Divar MR	Divar XF	DiBoS Micro	DiBoS Rackmount	
System	Operating System	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Windows XP Embedded	Windows XP Embedded	
	Rack Mountable	No	No	No	Yes	Yes	Yes	Yes	Yes	
	SDK Available	No	No	No	Yes	No	Yes	Yes	Yes	
	Warranty	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	
Video	Input Channels	1	1	4	6, 9, 16	8, 16	Analog: 8, 16 IP: 8 (H.264)	Analog: 6, 12 IP: 8 (MPEG-4)	Analog: 6, 12, 18, 24, 30 IP: 16, 32 (MPEG-4)	
	Output Channels	1	1	1	2	2	2	2	2	
	Looping Video	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
	Composite Outs	1	1	1	2	2	2	2	2	
	VGA	No	No	No	No	1	2	1	1 (plus optional 2nd)	
Spot Monitor	No	No	No	Yes	1	1	2	2		
Audio	Input Channels	0	2	4	n/a	4, 8	8, 16	2, 4 (plus 8 from IP cameras)	2, 4, 6, 8, 10 (plus up to 32 from IP cameras)	
	Output Channels	0	2	4	n/a	1	2	1	1	
	Compression Type	n/a	ADPCM	ADPCM	n/a	ADPCM2	MPEG-2 Layer II	G.726	G.726	
	Sample Rate	n/a	8 KHz	8 KHz	n/a	8 KHz	32 KHz	32 KHz	32 KHz	
	Synchronous Audio	n/a	Yes	No	n/a	Yes	Yes	No	No	
	Associate Multiple Cameras to 1 Audio	n/a	n/a	No	n/a	Yes	No	Yes	Yes	
Alarms	Inputs	1	1	4	6, 9 or 16 (one per video channel)	8, 16	8, 16	12	32	
	Relay Outputs	1	1	4	4	4, 8	5	12	16	
	Call Up Pre-position on Dome Cameras	n/a	n/a	n/a	Yes	Yes	Yes	Yes	Yes	
	Increase Frame Rate on Alarm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
	Simultaneous normal and event recording	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
	Multiple Camera Linking on Alarm Event	n/a	n/a	Yes	No	No	No	Yes	Yes	
	Notification via e-mail	No	No	Yes	No	Yes	No	Yes	Yes	
	Notification to Remote PC	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
	Pre-alarm	Up to 220 Seconds	Up to 220 Seconds	Up to 30 Seconds	30 Seconds	Up to 60 Seconds	Up to 120 Seconds	Yes	Yes	
	Alarm Time	Unlimited	Unlimited	Up to 120 Seconds	Up to 60 Seconds	Up to 10 Minutes	Up to 120 Seconds	Yes	Yes	
	Motion Detection	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Recording	Compression	Video	M-JPEG	M-JPEG	MPEG-4	Wavelet	MPEG-4	H.264	MPEG-4, JPEG	MPEG-4, JPEG
		Software or Hardware	Hardware	Hardware	Hardware	Hardware	Hardware	Hardware	Video Hardware, Audio Software	
	Frame Rate (IPS)	PAL	50 IPS @ CIF	50 IPS @ CIF	100 IPS @ CIF	50 IPS @ 2CIF	400 IPS @ CIF	400 IPS @ 4CIF	75/150 @ CIF	75/150/225/300/375 @ CIF
		NTSC	60 IPS @ CIF	60 IPS @ CIF	120 IPS @ CIF	60 IPS @ 2CIF	480 IPS @ CIF	480 IPS @ 4CIF	90/180 @ CIF	90/180/270/360/450 @ CIF
	IPS per Camera	PAL	25 IPS @ CIF (Normal) 50 IPS @ CIF (Alarm)	25 IPS @ CIF (Normal) 50 IPS @ CIF (Alarm)	25 IPS @ CIF	6 Ch.: 8.3 IPS @ 2CIF 9 Ch.: 5.0 IPS @ 2CIF 16 Ch.: 3.1 IPS @ 2CIF	25 IPS @ CIF	25 IPS @ 4CIF	25 Per Camera Max 150 on a 12 Channel Unit @ CIF	25 Per Camera Max 375 on a 30 Channel Unit @ CIF
		NTSC	30 IPS @ CIF (Normal) 60 IPS @ CIF (Alarm)	30 IPS @ CIF (Normal) 60 IPS @ CIF (Alarm)	30 IPS @ CIF	6 Ch.: 10 IPS @ 2CIF 9 Ch.: 6.5 IPS @ 2CIF 16 Ch.: 3.75 IPS @ 2CIF	30 IPS @ CIF	30 IPS @ 4CIF	30 Per Camera Max 180 on a 12 Channel Unit @ CIF	30 Per Camera Max 450 on a 30 Channel Unit @ CIF
	Recorded Video Resolution	PAL	352 x 288	352 x 288	352 x 288	720 x 288	352 x 288/704 x 288/704 x 576	352 x 288/704 x 288/704 x 576	CIF/2CIF/4CIF Analog and IP Cameras	
		NTSC	352 x 240	352 x 240	352 x 240	720 x 240	352 x 240/704 x 240/704 x 480	352 x 240/704 x 240/704 x 480	CIF/2CIF/4CIF Analog and IP Cameras	
	Individual Camera Adjustment (IPS, Quality)	n/a	n/a	No	Yes	Yes	Yes	Yes	Yes	Yes
	Schedule Recording Modes	Daily/Weekday/Weekend/Specific Day			Day/Night/Weekend	Day/Night/Weekend/Specific Day	Day/Week/Specific Day	Weekday/Weeknight/Weekend Day/Weekend Night/32 Exception Days	Day/Night/Weekend/Holiday/Specific Day	
	HDD Overwrite Warning	No	No	Yes	No	Yes	No	Yes	Yes	Yes
	Recording Times	Best Quality/Highest Resolution, 3 IPS Continuous, 50% Motion, Very Busy Scene (Outdoor), No Audio	6 Days (80 GB) @ CIF	12 Days (160 GB) @ CIF	7 Days (80 GB) @ CIF 13 Days (160 GB) @ CIF 26 Days (320 GB) @ CIF 50 Days (600 GB) @ CIF	6 Ch.: 5 Days (320 GB) @ 2CIF 9 Ch.: 4 Days (320 GB) @ 2CIF 9 Ch.: 7 Days (600 GB) @ 2CIF 16 Ch.: 4 Days (600 GB) @ 2CIF 16 Ch.: 6 Days (1000 GB) @ 2CIF	8 Ch.: 9 Days (500 GB) @ 4CIF 8 Ch.: 18 Days (1000 GB) @ 4CIF 16 Ch.: 9 Days (1000 GB) @ 4CIF 16 Ch.: 18 Days (2000 GB) @ 4CIF	8 Ch.: 12 Days (500 GB) @ 4CIF 8 Ch.: 36 Days (1500 GB) @ 4CIF 16 Ch.: 6 Days (500 GB) @ 4CIF 16 Ch.: 18 Days (1500 GB) @ 4CIF 16 Ch.: 48 Days (3000 GB) @ 4CIF	6 Ch.: 10 Days (400 GB) @ 4CIF 12 Ch.: 5 Days (400 GB) @ 4CIF	6 Ch.: 19 Days (750 GB) @ 4CIF 12 Ch.: 10 Days (750 GB) @ 4CIF 18 Ch.: 9 Days (1000 GB) @ 4CIF 24 Ch.: 13 Days (1600 GB) @ 4CIF 30 Ch.: 10 Days (1600 GB) @ 4CIF
		Normal Quality/Standard Resolution, 3 IPS Continuous, 50% Motion, Very Busy Scene (Outdoor), No Audio	8 Days (160 GB) @ CIF	16 Days (160 GB) @ CIF	20 Days (80 GB) @ CIF 39 Days (160 GB) @ CIF 78 Days (320 GB) @ CIF 146 Days (600 GB) @ CIF	6 Ch.: 14 Days (320 GB) @ 2CIF 9 Ch.: 9 Days (320 GB) @ 2CIF 9 Ch.: 17 Days (600 GB) @ 2CIF 16 Ch.: 10 Days (600 GB) @ 2CIF 16 Ch.: 16 Days (1000 GB) @ 2CIF	8 Ch.: 36 Days (500 GB) @ CIF 8 Ch.: 72 Days (1000 GB) @ CIF 16 Ch.: 36 Days (1000 GB) @ CIF 16 Ch.: 72 Days (2000 GB) @ CIF	8 Ch.: 120 Days (500 GB) @ CIF 8 Ch.: 363 Days (1500 GB) @ CIF 16 Ch.: 60 Days (500 GB) @ CIF 16 Ch.: 181 Days (1500 GB) @ CIF 16 Ch.: 484 Days (3000 GB) @ CIF	6 Ch.: 45 Days (400 GB) @ CIF 12 Ch.: 22 Days (400 GB) @ CIF	6 Ch.: 86 Days (750 GB) @ CIF 12 Ch.: 43 Days (750 GB) @ CIF 18 Ch.: 38 Days (1000 GB) @ CIF 24 Ch.: 58 Days (1600 GB) @ CIF 30 Ch.: 46 Days (1600 GB) @ CIF

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Bosch Digital Video Recorders		DVR1A	DVR1C	DVR4C	Divar	Divar MR	Divar XF	DiBoS Micro	DiBoS Rackmount	
Storage	Internal HDD	80 GB	160 GB	80 - 160 - 320 - 600 GB	80 - 160 - 320 - 600 - 1000 GB	160 - 320 - 500 - 1000 - 2000 GB	250 - 500 - 1500 - 3000 - 4000 GB	250 - 500 GB	250 - 500 - 750 - 1000 - 2000 GB	
	Export	Supported Devices	Compact Flash	Compact Flash	USB 1.1	Internal CD/DVD Writer Remote Client	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	CD-RW, DVD, USB 2.0, Network Drive, SCSI	CD-RW, DVD, USB 2.0, Network Drive, SCSI
		Data Format	JPEG	JPEG	Native, AVI, or JPEG	Native File Format	Native File Format	Native File Format	Bosch, ASF	Bosch, ASF
	On-board RAID	Back-up Mode	Manual	Manual	Manual	Manual	Manual or Automatic	Manual	Manual or Automatic	Manual or Automatic
	Support SCSI Disk Array		No	No	No	No	No	Yes	No	No
	Max. SCSI Array Configuration		No	No	No	Yes, DVSA (Lite and Premium)	No	No	Yes, DVSA (Lite and Premium)	Yes, DVSA (Lite and Premium)
Search	Timeline Search Bar (Color Coded)	n/a	n/a	n/a	12 TB*	n/a	n/a	13.8 TB**	13.8 TB**	
	Search Mode	No	No	Yes on Remote Software	Yes on Remote Software	Yes	No	Yes	Yes	
	Smart Motion Search – Motion in specific area	Date/time, Events, or Recordings List	Date/time, Events, Motion, Text	Date/time, Camera Number, Events, Motion, Smart Motion Search	Date/time, Camera Number, Events, Motion, Bookmark, Smart Motion Search	Date/time, Camera Number, Events, Motion	Date/time, Camera Name, Events, Pre-Alarm, Motion, Smart Motion Search			
Display	Live Resolution	PAL	720 x 576	720 x 576	720 x 576	720 x 576	720 x 576	CIF/2CIF/4CIF Analog and IP Cameras	CIF/2CIF/4CIF Analog and IP Cameras	
	Resolution	NTSC	720 x 484	720 x 484	720 x 484	720 x 484	720 x 484	CIF/2CIF/4CIF Analog and IP Cameras	CIF/2CIF/4CIF Analog and IP Cameras	
	Screen Division (Multi-screen)		Full, 2x2, 3x3 (w/ Quad or Mux attached)	Full, 2x2, Sequence	Full, 2x2, 3x3, 4x4	Full, Sequence, 2x2, 3x3, 4x4, 5+1, 7+1	Full, Sequence, 2x2, 3x3, 4x4	Full, 2x2, 3x3, 4x4, 5x6	Full, 2x2, 3x3, 4x4, 5x6	
	Digital Zoom		No	No	No	Yes	No	Yes	Yes	
Security/User Management	Camera Lock-outs by User	No	No	No	Yes	Yes	No	Yes	Yes	
	User Levels	1	3	2	6	3	4	Unlimited	Unlimited	
	Add/Delete	No	No	No	Yes	Yes	Yes	Yes	Yes	
	Set Viewing Permissions	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
	Centralized User Management	n/a	No	No	No	No	No	Yes - LDAP	Yes - LDAP	
	Event Logging by User	No	No	No	No	No	No	Yes	Yes	
Data Integrity Check (Watermarking, etc.)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Remote Access	Network Connection	10BaseT Ethernet	10BaseT Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	
	Protocol	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP, UDP Tunneling	TCP/IP, UDP Tunneling	
	Web Browser Access	No	Yes	Yes	Yes	Yes	No	Yes	Yes	
	Simultaneous Accessible Users	n/a	4	5	6	5	5	20 with software; 5 with web browser		
	Remote PC Client	Resolution	n/a	n/a	720 x 576 (PAL) 720 x 484 (NTSC)	720 x 576 (PAL) 720 x 484 (NTSC)	352 x 288 (PAL) 352 x 240 (NTSC)	704 x 576 (PAL) 704 x 480 (NTSC)	CIF/2CIF/4CIF Analog and IP Cameras	
Other Features	Instant Playback	No	No	No	Yes	Yes	Yes	Yes	Yes	
	BillinX/Up-the-Coax Camera Control	No	No	No	Yes	No	No	Yes	Yes	
	Digital Zoom on Playback	No	No	No	Yes	No	Yes	Yes	Yes	
	PTZ Joystick Control	No	No	No	Yes	Yes	Yes	Yes - DiBoS/Bosch VMS	Yes - DiBoS/Bosch VMS	
ATM/POS Interface	No	No	No	Yes	No	No	No	No		
OPC Support	No	No	No	Yes	No	No	Yes	Yes		
Ordering Information	Part Numbers/Ordering Charts	DVR1A1081	DVR1C1161	DVR4C1081 (80 GB) DVR4C1161 (160 GB) DVR4C2161 (320 GB) DVR4C2301 (600 GB)	DVR-8K-016A (160 GB) DVR-16K-032A (320 GB) DVR-8L-016A (160 GB/DVD) DVR-8L-032A (320 GB/DVD) DVR-8L-050A (500 GB/DVD) DVR-8L-100A (1000 GB/DVD) DVR-16L-032A (320 GB/DVD) DVR-16L-050A (500 GB/DVD) DVR-16L-100A (1000 GB/DVD) DVR-16L-200A (2000 GB/DVD)	DHR-8K-016A (160 GB) DHR-16K-032A (320 GB) DHR-8L-016A (160 GB/DVD) DHR-8L-032A (320 GB/DVD) DHR-8L-050A (500 GB/DVD) DHR-1600A-300A (3000 GB) DHR-0800B-025A (250 GB/DVD) DHR-0800B-050A (500 GB/DVD) DHR-0800B-150A (1500 GB/DVD) DHR-0800B-300A (3000 GB/DVD) DHR-1600B-050A (500 GB/DVD) DHR-1600B-150A (1500 GB/DVD) DHR-1600B-300A (3000 GB/DVD) DHR-1600B-400A (4000 GB/DVD)	DHR-8K-025A (250 GB) DHR-8K-050A (500 GB) DHR-0800A-150A (1500 GB) DHR-1600A-025A (250 GB) DHR-1600A-050A (500 GB) DHR-1600A-150A (1500 GB) DHR-1600A-300A (3000 GB) DHR-0800B-025A (250 GB/DVD) DHR-0800B-050A (500 GB/DVD) DHR-0800B-150A (1500 GB/DVD) DHR-0800B-300A (3000 GB/DVD) DHR-1600B-050A (500 GB/DVD) DHR-1600B-150A (1500 GB/DVD) DHR-1600B-300A (3000 GB/DVD) DHR-1600B-400A (4000 GB/DVD)	Capacity (x10 GB) 08 16 30 50	Capacity (x10 GB) 025 050 075 100 200	

* Due to SCSI specifications, the daisy chaining of more than two Digital Video Storage Array subsystems (DVA-08K/DVA-16K) on a single Divar is NOT RECOMMENDED. Divar can address up to 6 SCSI IDs (7 for units without DVD writer) and a maximum of 2TB per ID (12TB with DVD writer or 14TB for units without a DVD writer) Stated capacities assume JBOD configuration 8% overhead on the HDDs.
 ** Due to SCSI specifications, the daisy chaining of more than three Digital Video Storage Array subsystems (DVA-08K/DVA-16K) on a single DiBoS is NOT RECOMMENDED. The maximum configuration is (2) DVA-16Ks or (1) DVA16K and (2) DVA08Ks daisy chained. Stated capacities assume JBOD configuration and 8% overhead on the HDDs.
 *** The "G" option (Divar with BillinX) is not available in North or South America.