OBOLAND COMMUNICATIONS

VIEWPORT Monitors

Premium Active-Matrix LCD Video Screens

User Manual

Broadcast V-series:

8.4" Model v084a (525/625) 8.4" Model xv084a (525/625) 10.4" Model v104f (525/625) 12.1" Model v121c (525/625) 15.1" Model v150b (525/625) 15.1" Model v150bWVA (525/625)



Lake Forest, CA 92630 (800) 918-9090 (949) 465-9911 Fax: (949) 465-9944 www.bolandcom.com

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v084a Video Monitor

▶extra brite

VIEWPORT Specifications Video-Only Screens 8.4, 10.4", 12.1", and 15.0"

(All models have a rackmount option.)

Models:

Active Area (Diagonal): Video Modes: Scan: User Controls: Video Input Signals (nominal): Video Connectors:

Brightness, typical, 0°: Contrast Ratio, 0°: Window (Display Area): Protective Screen Cover: Light Source (standard): Pixel (RGB Trio) Arrangement: Pixel (RGB Trio) Pitch: Viewing Angle, contrast >10:1 : Response Time, max (t/t): **Optional Remote Controls:** DC Power: DC Connector (center +): AC Power: AC Connector: Cabinet (whd, less knobs): Mounting: Weight: Temperature, Operating: Temperature, Storage: Case Color: Case Material:

8.4" / 21.4 cm NTSC/PAL/SECAM (autoselect) 525/60, 625/50 Comp & Y/C Menu: Bri,Cnt,Col,Tnt... 1.0 Vpp, 75? BNCx2, (auto-term loop-thru) 4-pin DINx1 (Y/C S-video) 450 nts (cd/m²) 500:1 (high contrast) 6.728x5.047" / 171x128 mm Non-Glare, Washable 2 CCFL, 40,000+ hours 640 (1920) x 480, Stripe 0.089x3 x 0.267 mm ±55°H; +40°, -70°V 25/10 ms (typ. t/t,) (fast) Infrared (IR) or RS-232 12 volts (10.0~15.0 V), 16 watts XLR-4 Female (1=qnd, 4=+12) 90-264 VAC, 50/60 Hz IEC-320 Male 8.400" x 6.757" x 2.00" 1/4-20, 10-32x4 / 4 RU 3.15 lbs / 1.43 kg (per screen) 0 ~+60° C -20 ~+70° C Textured Semi-Gloss Black Aircraft Aluminum

xv084a Hi-Res Video Monitor ▶extra brite

(also for xv084ax2 Twin) 8.4" / 21.4 cm

NTSC/PAL/SECAM (autoselect) 525/60, 625/50 Comp & Y/C Menu: Bri,Cnt,Col,Tnt... 1.0 Vpp, 75? BNC (auto-term loop-thru) 4-pin DINx1 (Y/C S-video) 400 nts (cd/m²) 400:1 (high contrast) 6.728x5.047" / 171x128 mm n/a 4 CCFL, 40,000+ hours 1024 (30720) x 768, Stripe 0.0555x3 x 0.1665 mm ±85°H; ±85°V 12/13 ms (typ. t/t,) (fast) Infrared (IR) or RS-232 12 volts (11.4!14.4 V), 16 watts XLR-4 Female (1=qnd, 4=+12) 90-264 VAC, 50/60 Hz IEC-320 Male 8.174" x 6.757" x 2.10" 10-32x4 / 4 RU if RackMt 3.15 lbs / 1.43 kg (per screen) 0 ~+60° C -20 ~+70° C Textured Semi-Gloss Black Aircraft Aluminum

v104f Video Monitor ▶extra brite

10.4" / 26.42 cm NTSC/PAL/SECAM (autoselect) 525/60, 625/50 Comp & Y/C Menu: Bri,Cnt,Col,Tnt... 1.0 Vpp, 75? BNCx2, (auto-term loop-thru) 4-pin DINx1 (Y/C S-video) 400 nts (cd/m²) 400:1 (high contrast) 8.31x6.24" / 211x159 mm Non-Glare, Washable 2 CCFL, 40,000+ hours 640 (1920) x 480, Stripe 0.110x3 x 0.330 mm ±60°H; +40°, -50°V 20/5 ms (typ. t/t,) (fast) Infrared (IR) or RS-232 12 volts (11.4~14.4 V), 11 watts XLR-4 Female (1=qnd, 4=+12) 90-264 VAC, 50/60 Hz IEC-320 Male 9.95 x 7.90 x 1.80" 1/4-20, 10-32x4 / 5 RU 3.4 lbs / 1.53 kg 0 ~+65° C, 10,000 ft/3,000 m -20 ~+80° C, 50,000ft/15,000m Textured Semi-Gloss Black Aircraft Aluminum

v121c Video Monitor ▶brite

12.1" Composite, S-Video NTSC/PAL/SECAM (autoselect) 525/60, 625/50 Comp & Y/C Menu: Bri,Cnt,Col,Tnt... 1.0 Vpp, 75? BNCx2, (auto-term loop-thru) 4-pin DINx1 (Y/C S-video) 300 nts (cd/m²) 200:1 9.69 x 7.26" / 246x184 mm Non-Glare Glass washable 2 CCFL, 50,000+ hours 800 (2400) x 600, Stripe 0.308 x 0.308 mm ± 55°H; +40°, -45°V 20/35 ms Infrared (IR) or RS-232 12 volts (10.0~15.0 V), 19 watts XLR-4 Female (1=qnd, 4=+12) 90-264 VAC, 50/60 Hz IEC-320 Male 11.3 x 9.4 x 1.7" 1/4-20, 10-32x4 / 6 RU 4.25 lbs / 1.93 kg 0 ~ +50°C -20 ~ +60°C **Textured Black Semi-Gloss** Aircraft Aluminum

v150b/v150bWVA Video Monitor

▶extra brite, wide angle

15.0" Composite, S-Video NTSC/PAL/SECAM (autoselect) 525/60, 625/50 Comp & Y/C Menu: Bri,Cnt,Col,Tnt... 1.0 Vpp, 75? BNC, (auto-term loop-thru) 4-pin DINx1 (Y/C S-video) 450/450 nts (cd/m²) 400:1/500:1 (high contrast) 11.97 x 8.89" / 304x226 mm Non-Glare / n/a 4/6 CCFL, 50,000+ hours 1024 (3072) x 768 0.300x0.300 mm, 16.7M Colors ±70°H:+60°-65°V/±88°H&V 12/12 ms (high speed) (wht to blk) Infrared (IR) or RS-232 12 volts (10.0 ~ 15.0 V),30/36 watts XLR-4 Female (1=qnd, 4=+12) 90-264 VAC, 50/60 Hz IEC-320 Male 14.30 x 11.25 x 1.95" 1/4-20, 10-32x4 / 7 RU 6.4 lbs / 2.9 kg 0 ~ +50°C, ?10,000 ft/300 m -20 ~ +60°C, ?40,000 ft/12000m **Textured Black Semi-Gloss** Aircraft Aluminum

(Specifications are subject to change without notice.) 12.03.05



model v150

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I description

overview

The BOLAND Combi *VIEWPORTS* are high performance LCD video displays for computer and motion video display. Incorporating <u>Active Matrix Thin Film</u> <u>Transistor (AMTFT)</u> drive technology, these display panels are completely selfcontained for replacing CRT-type monitors. Active Matrix means no LCD lag or smear on moving video pictures. Operating in NTSC/PAL composite and Y/C video modes, the monitors are compatible with CRTs, but may be installed anywhere, including compact, space-saving places at low power. The display quality is excellent for both natural and graphic video. The monitors come with integral non-glare glass screens, and compliment the 4" and up to 30" *VIEWPORT* family of LCD Video and Computer monitors. All offer the size, brightness and clarity necessary for extended daily use.

• features

Compact, Mounts Anywhere Light Weight Rugged Low Power, Instant On Transportable Plug & Pin-compatible to CRT displays High Contrast Built-in Speakers (option)



Model v150b Video Monitor

customer support

Boland provides a full range of support from sales through installation and use of our products. We are here to help. Our office hours are extended, in the Pacific time zone (GMT+8 in winter, +7 summer). To reach us:

BOLAND COMMUNICATIONS

(949) 465-9911, or (800) 918-9090, (949) 465-9944 [fax] or: techsupport@bolandcom.com

2 installation

supplied items

Supplied with your standard-model LCD Monitor is a desk-top 12 volt regulated power supply/power cord or mating DC plug (aviation), and this instruction manual. Available options may include: 9-36 VDC power, SD/HD SDI, high brightness (1850 nts), remote Controls (RS-232, IR), VESA or rack mounts, and desk stands.

• handling

A *VIEWPORT* display is rugged. As a precaution though, please consider the following general characteristics of AMTFT LCDs. These are not defects or malfunctions:

Please handle the panel with care. Since the panel is made of glass, sharp blows to the screen, failure after dropping onto a hard surface, etc., are not covered by the warranty.

High voltages are present inside the cabinet for the fluorescent lighting. There are no fuses or other user-serviceable parts inside. Do not remove any screws or disassemble the cabinet to stay safe and to retain the warranty.

Use only factory-specified power supplies for powering the panel.

A wet, condensing atmosphere (dew or fog) should be avoided. If you require routine operation in these conditions, please consult the factory (optional cabinets are available).

Note the normal operating and storage temperatures in the specification. Do not place the unit in the sun, as the black cabinet absorbs much heat. Extreme temperatures, just as uncomfortable for people, will cause degraded performance or permanent LCD damage. Extended temperature models are available. Please also take care to avoid electrostatic discharges.

When a panel is not installed, place it in its packing material or place it *face down* on a smooth table.

After several thousand hours of operation, the special internal fluorescent lamps will eventually taper in their brightness. Please consult the factory for replacement.

Over long periods of time, some changes in luminance uniformity or small dots may become visible, depending on image content.

Avoid fixed video patterns for extended periods of time. Some image retention may occur. If possible, use an interesting screen saver or black.

Please handle cables and connectors with care. Please replace worn cables with standard, locally-available parts (see power supply substitution caution).

Note that although the screen is glass, it is still somewhat sensitive to scratching. Please clean the screen with a *soft* cloth *slightly dampened* with water or, if necessary, Winde[®] or 409[®] household cleaners.

system requirements

Video Series monitors operate on DC or AC power and come with a universal AC power supply. Signal inputs are composite video signal into a BNC, or S-Video (Y/C) into a 4-pin mini-DIN (or "S") connector.

Monitors will display 525 and 625 NTSC, PAL, or SECAM standard video signals at a nominal 1.0 Vpp (terminated). Dual (loop-thru) BNC connectors with automatic termination (75 Ω) is used on the 12" and 15" models. (The "C" component of the Y/C signal is 0.7 Vpp nominal.)

Other Boland monitor models are also available for displaying PC signals, and have many significant features, such as built-in scalers, all TV standards included, scan reverse, aspect ratio adjust, digital, HDTV connections, and many more.

physical mounting

When mounting the panel on a flat surface, allow clearance for any connection cords on the rear. In the corners on the backside of cabinets are 10-32 threaded inserts for accepting mounting screws. Use ½" long pan head screws, or you may use any other length 10-32 screws to accommodate mounting surface depth requirements, but the screw may not penetrate the panel cabinet by more than 3/4" (0.75") *maximum*, or the monitor may be damaged. Also, a ¼-20 threaded socket is on the bottom side.

The LCD monitor cabinets dissipates only a few watts (see *specifications*), so no special cooling or ventilation is required The mounting location may usually be completely enclosed. But avoid any mounting situations or other nearby heat or environmental heat sources that may cause the monitor's operating location to exceed 122°F/50°C.

• connections (see photo, page 5)

VIEWPORT LCD monitors connect like CRT-type monitors. The connections are video and power:

Power Connection

Insert the barrel or XLR plug from the power supply into the 2.5 mm jack on the back of the panel. The AC side of the power supply will accept 100-240 VAC, 50/60 Hz (universal power cord).

Video Connections

 $V_{IEWPORTS}$ have a four-pin mini-DIN jack for S-Video. Composite is input at BNC connectors. A single BNC connector is used on the 10". Loopthru BNC connectors are used on the 12" & 15" (automatic 75 Ω termination.)



Monitor Backside, Connector Well Area, 15.1" Monitor. (Picture also shows VGA connector used on some models)

3 Operation

Your *VIEWPORT* Monitor's On-Screen menu provides for normal opertional adjustments. These user adjustments are stored/memorized separately for Composite, and Y/C S-Video, and again separately for each in both NTSC and PAL modes. For video operation, set the Brightness to just be able to see the **blackest** portions of the video image, the Contrast to bring the **whitest** areas of an image to just less wash-out, and Color and Tint (for NTSC) for pleasing flesh tones.

Push the menu button to bring up the menu and to step down through the list. Starting on the subsequent pages are all the menu choices and a description of each step.

The use of each button is listed on the next page.



Controls and Connections

Monitor Front Side:

1 U Power On/Off

When power is applied, the monitor will come on. This button then turns the monitor on and off.

2 Menu On/Off

This button is used to bring up the controls menu. It will also clear the menu from the screen, saving the new settings chosen.

3 ▼ Select Down / Contrast -

Advance down the menu list with this button.

Without pushing the $M \in N \cup$ button first, this button is direct access (1) to reduce Contrast.

4 A Select Up / Contrast + This is used to move up through the

This is used to move up through the menu list.

Without pushing the $M \in N \cup$ button first, this button is direct access (1) to increase Contrast.

5 • Decrement / Input Select

Use to reduce (-) the amount of the highlighted item. For some items, this selects 'No' or 'Off'.

Without pushing the $M \in N \cup$ button first, this button is direct access (2) to select PC display.

6 ► Increment (Enter) / InSelect

Pushing this button increases (+) the amount of the chosen item. For some types of items, the button will chose 'Yes' or 'Accept'.

Without pushing the MENU button first, this button is direct access (2) to select the available Video input (either **comp** or **S**-, depending upon the other menu choice and presence of either signal).

7 Panel LED

The status LED has four indications: Dark- No Power, Red- Start or No Signal, and Green- Normal operation.

Monitor Back Side:

1 Input Connector Well, Power

(Recessed wiring location for all cables) Place the plug from the world-wide AC power supply (included) into the DC 12V connector. Input power to the monitor from any other "12 volts" DC source within the specifications (see the last page table for details).

2 Input Video BNC and Y/C Connectors

Attach the video cord(s) from cameras, VCRs, PC or other sources to the BNC or Y/C (S-Video) connectors.

3 **Optional** Audio and Speaker(s)

Audio inputs are high impedance. On the 10.4" the two white RCA jacks are connected together; they will add twoplug stereo together for monaural. For the 12.1" and 15.1", jacks are left (white) and right (red). Inserting only a single plug will feed both speakers.

4 Mounting Keyholes (optional)

You may hang monitors on a screw head or nail head on a wall. Do not insert the screw's head deeper than 1/4" (6 mm).

5 Threaded Mounting Sockets

The corner threaded sockets are for mounting the monitor. You may mount monitors in any orientation. The screws must not insert deeper than ¼" (6 mm). The threads are 10-32.

6 ¹/₄-20 Threaded Mounting Socket

For flexibility in mounting, you may use this bottom-side threaded socket for locating the monitor on a tripod (like an SLR or video camera, or other CCTV mounting arm or device). Do not insert the screw head deeper than 3/8" (8 mm). Not recommended for use in vehicles.

OSD Functions

1 A	Brightness and Contrast :							
	Brightness Increase/decrease brightness in the blackest areas of the picture							
	Contrast							
	Color Temperature : 9500K / 8000K / 6500K / 5000K (8000 is the Normal setting.)							
4	Adjust the "warmth" of the displayed image. The higher the temperature, the "bluer" the image looks like. The lower the temperature, the warmer (more reddish) the image looks like.							
	Video Adjustment :							
	Color: adjust video color level							
	Tint: adjust video tint level							
	Sharpness: adjust video image sharpness level							
HTSE	Video System : Select video system and input signals							
PAL	AUTO : automatic detection of NTSC and PAL system and SECAM system							
	NTSC / NTSC 4.43 : manual select NTSC system PAL / PAL M : manual select PAL system							
	SECAM : manual select SECAM system							
+	Position :							
***	Image up/down : Use ^/down to move the image vertically							
	Image left/right : Use to move the image horizontally							
	Language : Select OSD menu language display							
	1. English							
	2. Danish 3. Chinese (Simplified)							
	Video source : Select the input video signal							
	Composite Video / S-Video							
-r-1	Volume :							
T 🛟 I								
	Adjust the audio volume level (functions only if the audio option installed)							
	Utilities :							
To								
	User Setting : User Timeout : adjust the OSD menu timeout period in steps of 5 seconds, from 5 minimum up to 50 seconds maximum (5 or 10 is Normal).							
	DPMS (Desktop power management system) : Diable / Enable (Enable is Normal) Disable : The panel backlight always on when no video input.							
	Enable : The panel backlight will turn off when no video input.							
	Display Input : Disable /Enable the input source name on screen (Enable is Normal) Auto Source Select : Off - Disable auto source select function (video signal seeking).							
	(High is Normal) Low - Auto source select enabled (seek) ONLY at power up. High - Auto source select ALWAYS enabled (will seek upon loss).							
	Gamma : 1.0 / 1.6 / 2.2 (1.0 is Normal)							
	OSD Setting : OSD Horz Position :							
	OSD Vert Position : move the OSD menu vertically							
	OSD Background : Translucent / Opaque							
	Direct Access #1: Define the hot key function ("<" and ">") for one of the following adjustments : Brightness / Contrast / Volume / Video Source* (Source is Normal)							
	Direct Access #2: Define the hot key function ("^" and "down") for one of the following adjustments : Brightness / Contrast / Volume/ Video Source (Contrast is Normal)							
	Load Factory Defaults : Recall factory default settings. (Emergency only)							
	* By pressing the hot key, the source is in sequence of Composite Video/S-Video.							
-5	Exit menu							

The OSD settings chosen will be stored in memory. The OSD menu can be cleared from the screen by moving the selection bar to the EXIT icon, and pressing the > button. Otherwise it will automatically clear after a few seconds (time-out period) of non-use.

Nominal Settings v084a, xv084a, v104f, v121c, v150b, WVA 09.15.05

lcon	Parameter		NTSC Composite			NTSC S-Video		PAL/SECAM Composite			
Brite / Contrast	Brightness			50			50			50	
			10.4"	12"	15"	10.4"	12"	15"	10.4"	12"	15
	Contrast		50	30	50	50	30	50	50	30	50
Color Temperature	(list)		8000			8000			8000		
Video Adjust	Color	40			40			40			
	Tint	0			0			0			
	Sharpness	3			3			3			
Video System	(list)		Auto			Auto			Auto		
Position	(arrow keys)		(Auto: default)			(Auto: default)			(Auto: default)		
Language	(list)		English			English			English		
Input Select	(list)		Composite Video			S-Video			Composite Video		
Volume (optional)	(value) User Setting		0		0		0				
Utilities		10			10			10			
		Display Input		Enable			Enable	9		Enable	
		DPMS		Enable			Enable	•		Enable	
		Auto Source Select		High			High			High	
		Gamma		1.0			1.0			1.0	
	OSD Setting	OSD Horz Position		100			100			100	
		OSD Vert Position		100			100			100	
		Background	Tr	ansluce	nt	Tr	ansluce	ent	Т	ransluce	ent
	Direct Access	#1 (list)	Vid	eo Sou	rce	Vid	leo Sou	irce	Vic	leo Sou	rce
	Direct Access	#2 (list)	(Contras	t	(Contras	st		Contras	t
	Load Defaults	(yes/no)	Do	n't Lo	ad	Do	n't Lo	bad	Do	on't Lo	bad
Exit	(yes/no)			h ">" to I to coni			h ">" to ı to con			sh ">" to u to con	

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4 Maintenance

A *VIEWPORT* display requires no regular/periodic maintenance.

Cleaning

The standare cabinet finish is semigloss black paint over aircraft aluminum, or the aluminium cabinet itself is mil-spec black-dye anodized. The front screens are frosted glass. A damp (not dripping) cleaning cloth with a small amount of spray cleaner (such as 409[®], or Windex[®]) may be used to remove dust or fingerprints. You will not want to have enough moisture on the outside of the cabinet that liquid would run inside through the cracks.

Factory Service

After about fifty thousand hours of service (as long as 10 years, even if used often, depending on the Boland model), it may be possible to notice the screen brightness start to fall to half or less of its original level. Or, the internal fluorescent lamps may not come on at all, or stay on properly, especially when the temperature is cold. In these cases, the full brightness may be restored by replacing the special type of internal fluorescent lamps. This requires extreme care in a very clean environment. Please contact BOLAND COMMUNICATIONS for factory replacement.

Warranty

VIEWPORT Video Displays are warranted for two years against defects in materials or workmanship (see the *Warranty Agreement*, page 10).

Consequential damages are not covered. Units requiring attention will

need to be returned to the factory for correction. Telephone for a tracking/RA number before shipping. Units will be returned freight pre-paid. Warranty correction is at best an inconvenience, so every reasonable effort will be made by BOLAND to smooth the process.

BOLAND COMMUNICATIONS WARRANTY AGREEMENT

All products, including hardware, software, firmware, and documentation are subject to the terms below. Opening the monitor cabinet in any manner for any purpose voids the warranty.

 Boland Communications (Boland) warrants the VIEWPORT LCD Monitors and their accessories are provided to be free from defects under normal use. Parts are covered for a period of two (2) years and Labor is covered for one (1) year from the date of delivery to you.

The Pro Series of monitors carries a separate term of **one (1) year** Parts and Labor warranty.

All monitors with a serial number less than 009001, manufactured before April 2005, carry their original **one year warranty**.

- 2. In the event of a repair under this warranty, Boland's sole obligation is to replace or repair, at Boland's option, any Product free of charge. Any replaced parts shall become Boland's property.
- 3. Warranty claims must be made during the warranty period and within seven (7) days of the observation of the defect, accompanied by any necessary evidence satisfactory to Boland. Prior to returning any Product to Boland, you **must** obtain a Return Authorization (RA) Tracking Number and receive shipping instructions from Boland. Shipments without an RA are subject to refusal at Boland dock. All Products returned to Boland contain glass and shall be adequately packed (200 lb. corrugated carton and 2" foam on all six sides of product, minimum) and shipped with freight and insurance sender-prepaid or the warranty coverage **will be void** and are subject to return unrepaired. Boland will return all repaired units in double carton and cushion packaging via pre-paid UPS Ground, Insured. Customer may provide own shipping number or arrange upgrade for faster return.
- 4. Except as stated above, there is NO OTHER WARRANTY, REPRESENTATION, OR CONDITION REGARDING BOLAND'S PRODUCTS, SERVICES OR PERFORMANCE, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- 5. Boland is not responsible for any delays beyond its control, and where possible will advise of any such delays. Boland's entire liability for damages to you or any other party for any cause whatsoever, whether in contract or in tort, including negligence, shall not exceed the price you paid for the unit of Product that is the subject matter of the dispute. In no event will Boland be liable for any damages caused by your failure to perform your obligations, or for any loss of data, profits, savings, or any other consequential and incidental damages, even if Boland has been advised of the possibility of damages, or for any claims by you based on any third-party claim.