PANORAMA dtv
DIGITAL VIDEO SOLUTIONS

AVMFlex Series

1U Audio/Video Monitor

Two Selectable Stereo Analog Audio Inputs on XLRs, Two Selectable CVBS Video Inputs and Loop-Through Outputs on BNCs, Analog Audio Output of Selected Source on two XLRs, Two 10-Segment Bargraph Level Meters, Phase Indication LED, and Video Display Module Mounted on Flexible Gooseneck

Document P/N 821608 Rev. A

User Manual

CONTENTS

Important Safety Instructions

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat source such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched, particularly at plugs convenience receptacles and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15) Do not expose this apparatus to rain or moisture.
16) The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

CAUTION!

In products featuring an audio amplifier and speakers, the surface at the side of the unit, where the audio amplifier heat sink is internally attached, may get very hot after extended operation. When operating the unit excercise caution when touching this surface and ensure that external materials which may be adversely affected by heat are not in contact with it. There is a Hot Surface label (see diagram) attached to the aforementioned surface of the product.

Introduction

Congratulations on your selection of a PANORAMAdtv product. We are confident it represents the best performance and value available, and we guarantee your satisfaction with it.

If you have questions or comments you may contact us at:

Wohler Technologies, Inc.
31055 Huntwood Avenue
Hayward, CA 94544
Phone: **(510) 870-0810** Fax: **(510) 870-0811**
US Toll-Free: **1-888-596-4537**
www.panoramadtv.com **sales@panoramadtv.com**

Section 1

General Features and Specifications

Description

Features

Applications

Specifications

Model Configurations and Naming Convention

VPOD Gooseneck Length adjustment

Installation

Unpacking

Unpack the **AVMFlex Series** unit from the shipping container and inspect all articles for shipping damage. If you find any damage, notify the shipping carrier immediately for claims adjustments. Compare the shipping box contents to the packing slip. Contact a PANORAMAdtv sales representative if there are any unexplained shortages.

Heat Dissipation

Heat dissipated by the speaker amps is conducted directly to the left side of the chassis; no special considerations for cooling are necessary as long as the ambient temperature inside the rack area does not exceed approximately 60°C (140°F).

Sympathetic Vibration

Sympathetic vibration from other equipment (cables, etc.,) in the rack may be serious enough to interfere with the unit's sound quality out in the listening area. The use of thin card stock and/or felt or foam weather-stripping type materials between adjacent vibrating surfaces, or tying up loose cables, etc., may be required to stop vibrations external to the unit.

Audio Connections

Connection of the audio feeds is straightforward. Please refer to the system interconnect block diagrams on page **19** for clarification of the general signal paths into and out of the **AVMFlex Series** units.

Rack Mounting

The **AVMFlex Series** unit rack mounts in a standard EIA-310-D specification 19"/483mm rack and needs 1RU of space. Allow sufficient space at the unit rear for connector and cable clearance (approximately 4"/102 mm). The **AVMFlex Series** unit rack mounts from the front panel support rails. Rear support is not required.

Cable Recommendation

Recommended cable type for **analog video** signals is: **Belden 8281, Belden 1694A,** or equivalent.
Recommended cable type for **analog audio** signals is: **Belden 9451** or equivalent.

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AVMFlex Series

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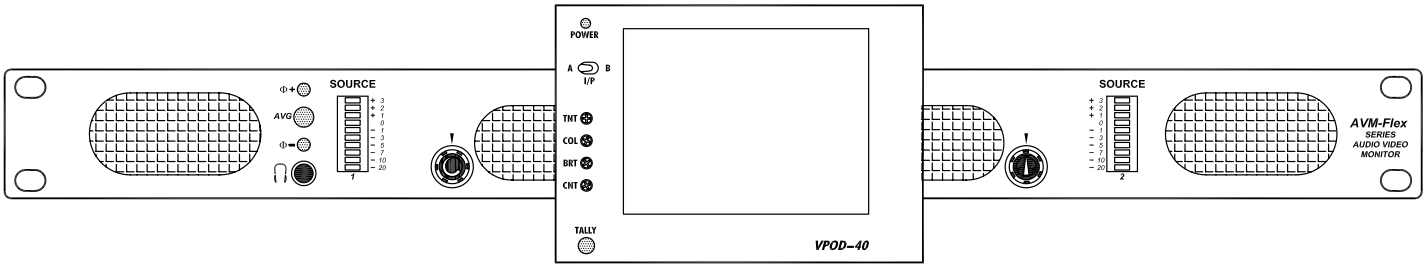


AVMFlex4-LP2S Front Panel

Description

The **AVMFlex Series** of audio/video monitors provides the capability to monitor CVBS video on a LCD display with full-fidelity stereo audio monitoring in a single rack space (1U). The **AVMFlex Series** models feature a **VPOD** LCD video display module mounted to the front panel via a flexible gooseneck allowing for extensive control of the viewing angle.

All models in the **AVMFlex Series** contain four high performance speakers driven by three power amplifiers: two amplifier/driver combinations handle midrange and high frequency information in stereo, while the third center channel reproduces information below the 500 Hz crossover point. Output limiter circuits are incorporated to protect the speakers.

The **VPOD LCD Video Display** is available in 4", 5.6", 5.8" (16:9), 6.8", and 7" (16:9) LCD sizes and features controls for color, tint/hue (NTSC only), contrast, and brightness. The display also has a power LED of its own and a bi-color (red/green) tally indication LED.

All **AVMFlex Series** models come equipped with two 10-segment tri-color (red/amber/green) LED bargraph display level meters, separate volume and balance controls, a power indication LED, headphone output, and a unique LED display, which visually shows phase (polarity) relationships of the signals selected for monitoring. Extensive magnetic shielding allows placement immediately adjacent to video monitors with no color impurities.

The **AVMFlex Series** rear panel is configured with two balanced (stereo) **Analog** inputs (**IN A** and **IN B**) on female XLR connectors and two CVBS video inputs (**CVBS A** and **CVBS B**), with loop-through outputs, on female BNC connectors. The audio and video inputs are relayed so that selecting either the **A** or **B** *video* source on the **VPOD** video display module will also select the associated **A** or **B** *audio* source. Two male XLR connectors are provided to output a balanced **Analog** audio signal of the selected audio source. A DB-25 connector is also provided for tally connections.

Features

- Relatively large LCD video display in a space-saving 1U rack size
- Choice of 4", 5.6", 5.8" (16:9), 6.8", or 7" (16:9) LCD video display sizes
- Flexible gooseneck mounting of video display allows adjustable viewing angle in all directions
- Two selectable CVBS video inputs and loop-through outputs on BNC connectors with selectable termination
- VPOD LCD video display modules feature:
  - *A/B switch for selection of one of two relayed CVBS video and analog audio inputs
  - *Adjustment for color, tint/hue (NTSC only), contrast, and brightness
  - *Dual color (red/green) talley indication LED
  - *Power indication LED
- NTSC/PAL format auto-sensing
- Bi-amp sum amplification through high/mid and woofer speakers
- DB-25 connector on rear panel provided for tally connections
- Two selectable analog audio stereo inputs on balanced 3-pin XLR connectors
- Balanced analog ouput of selected audio source on two 3-pin XLR connectors
- Two 10-segment tri-color (green/amber/red) LED bargraph display audio level meters
- Phase indication LEDs for selected audio source
- 98 dB SPL at two feet
- Excellent high frequency response for positive detection of background whine and noise
- Thorough magnetic shielding for placement next to video monitors
- Separate volume and balance controls
- Headphone output

Applications

The **AVMFlex Series** is ideally suited for use in VTR bays, mobile production vehicles, teleconferencing installations, multimedia systems, satellite link and cable TV facilities, and on-air radio studios. Designed and manufactured in the U.S., the **AVMFlex Series** is backed by a strong warranty and a satisfaction guaranteed return policy.

AVMFlex General Specifications

Audio Inputs:	Analog, x2 Pair 3-Pin XLR-F
Audio Input Impedance:	>40k Ω, balanced
Audio Outputs:	x2 XLR-M balanced (selected source)
Peak Acoustic Output @2 feet:	98dB SPL
Frequency Response (1/6 Octave):	80 Hz to 20 Hz (+/- 5 dB) (-10 dB @ 50 Hz, 22 kHz)
Power Output:	RMS each side = 5W, 7W peak RMS dual woofer = 11W, 16W peak
Electrical Distortion:	<0.15% @ any level below input threshold
Hum and Noise:	Better than -68 dB below full output
Video Input Format:	CVBS (Composite Analog) video
Video Input Connectors:	2x BNC inputs

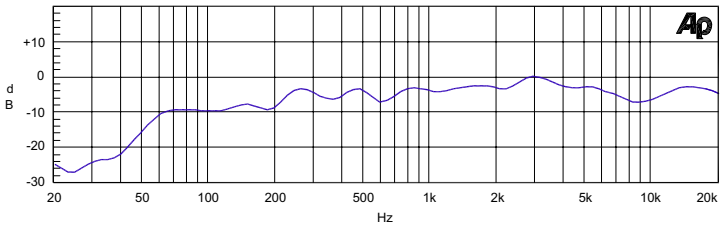
Video Input Termination:	75 Ω (Ohm), selectable
Video Output Connectors:	2x BNC (passive loop-through)
Video Display Modes:	NTSC/PAL autosensing
Video Display Type:	Active Matrix TFT-LCD
Video Picture Controls:	Brightness, contrast, color, and tint (NTSC only)
Video Color Configuration:	RGB delta
Magnetic Shielding:	<1 gauss any adjacent surface
Power Supply:	Internal 100 to 240 VAC, 50-60 Hz
Dimension (h x w x d) (chassis only):	1.75 x 19 x 10 inches 44.5x 483 x 254 mm
Weight (chassis only):	9.5 lbs. (4.3 kg) w/ 6.8 VPOD

VPOD LCD Video Display Specifications

VPOD Video Specs:	VPOD4	VPOD56	VPOD58W	VPOD6	VPOD7W
Screen Size (diagonal inches):	**4"**	**5.6"**	**5.8"**	**6.8"**	**7"**
Active Area (H x V, mm):	82.1 x 61.8	113.3 x 84.7	127.2 x 71.84	138.2 x 103.4	154.1 x 88.6
LCD Aspect Ratio:	4:3	4:3	16:9	4:3	16:9
Resolution (dots x lines):	480 x 234	960 x 234	1200 x 234	1152 x 234	1440 x 234
Dot Pitch (mm):	0.171 x 0.264	0.118 x 0.362	0.106 x 0.307	0.120 x 0.442	0.107 x 0.370
Contrast Ratio:	150 : 1	150 : 1	150 : 1	150 : 1	150 : 1
Brightness (NITs):	250	300	400	300	400
Viewing Angle (top/bottom/left/right):	10°/ 30°/ 45°/ 45°	10°/ 30°/ 45°/ 45°	30°/ 60°/ 60°/ 60°	10°/ 30°/ 45°/ 45°	60°/ 30°/ 60°/ 60°
Weight (VPOD module w/mount):	0.9 lbs.	1 lbs.	1.25 lbs.	1.3 lbs.	1.4 lbs.
Power Consumption (Watts, VPOD):	3 W	7 W	7W	8W	10W
Height x Width x Depth (inches):	**3.45** x **4.92** x **1.1**	**4.15** x **6.4** x **1.22**	**4.23** x **6.4** x **1.22**	**5.18** x **7.5** x **1.22**	**4.93** x **7.4** x **1.22**

Audio Response

Typical 1/6 Octave Audio Response Curve

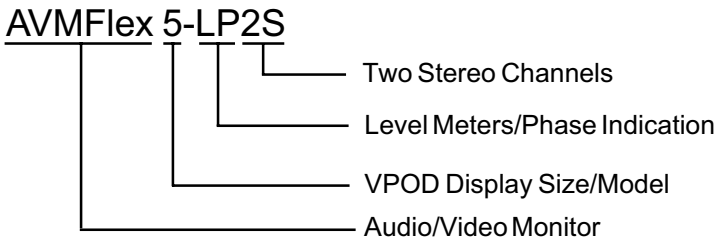


0 dbu ref. 0.775V RMS. Features and specifications subject to improvement without notice.

Model Configurations and Naming Convention

The only difference between the various models of AVMFlex is the size of the LCD video display used in the specified **VPOD** LCD display module. The chart below lists the model and display sizes. The diagram to the right defines the model naming convention.

Model	VPOD Model	Display Size
AVMFlex4-LP2S	VPOD4	4"
AVMFlex5-LP2S	VPOD5	5.6"
AVMFlex5W-LP2S	VPOD5W	5.8" (16x9)
AVMFlex6-LP2S	VPOD6	6.8"
AVMFlex7-LP2S	VPOD7	7" (16 x 9)



VPOD Gooseneck Length Adjustment

The **VPOD** LCD display module may be adjusted for two lengths (1.3" and 2.25") by changing the location of two screws on the bottom of the chassis which are lined up with the **VPOD** module. To change the length:

1) Locate the adjustment holes on the bottom of the main chassis that correspond with the **VPOD** module.

2) Remove the two (2) installed screws and set aside for later use.

3) Carefully pull or push the **VPOD** module until the two holes of the internal gooseneck mount line up with the appropriate two holes in the chassis bottom. Ensure that the LCD display screen is not touched or otherwise damaged during this operation.

4) Reinstall the two screws removed in step 2 into the new position.

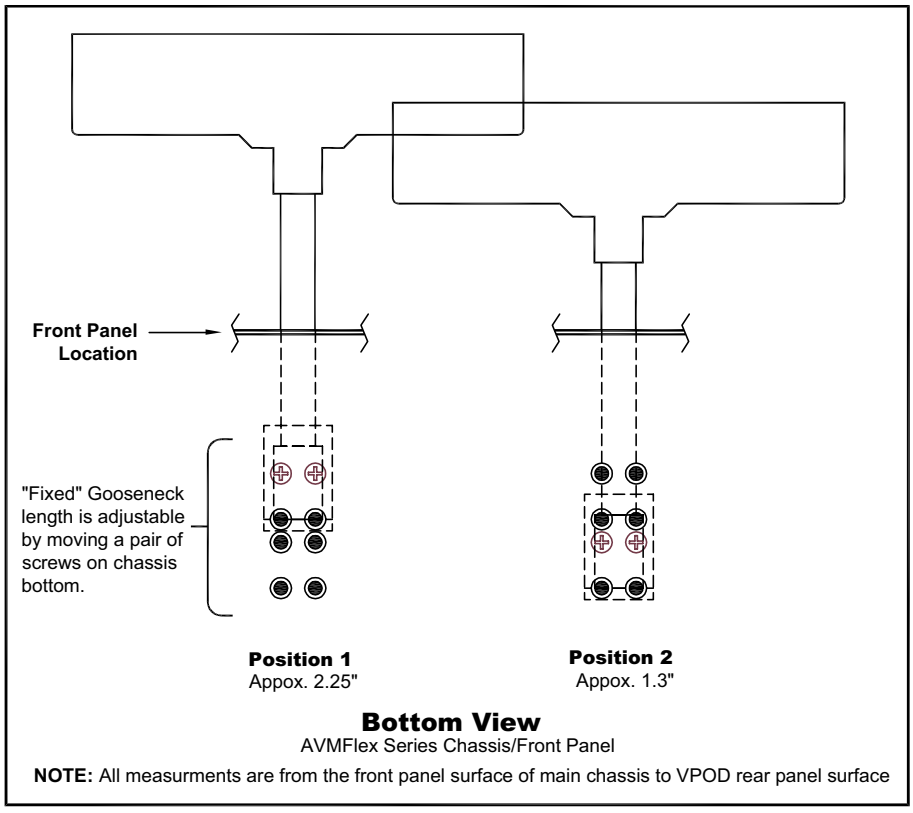


Figure-3d: VPOD Gooseneck Length Adjustment

CAUTION: Do NOT rotate (twist) the VPOD module around the gooseneck axis; the torque may damage the gooseneck and/or internal wiring. Also, avoid touching the LCD video screen itself with the fingers or other objects.

Section 2

Operation

Front Panel Features

Rear Panel Features

VPOD-5W On-Screen Display Controls

Audio Amplifier and Speaker Configuration

Balance Control Characteristics

Front Panel Features

Please refer to **Figure-2a** on the facing page to familiarize yourself with the front panel features of the **AVMFlex Series** unit. The following sections describe these functions and are referenced, by number, to **Figure-2a**.

1 Speakers

The internal speaker system is comprised of two mid-range tweeter speakers (left and right) and two woofer speakers (left and right). The two mid-range speakers reproduce only the mid and high frequencies, while the two woofer speakers *monaurally* reproduce the low frequencies.

2 Headphone Output Jack

Select the headphone audio sources as you would for the internal speakers. When you plug in headphones, the speakers will *mute*. This jack accepts a standard 1/4" phone type stereo plug.

3 Phase Indication LEDs

These three LEDs offer instant visual verification of phase (polarity) conditions in the pair of channels selected for monitoring in the Left/Right channel speakers. The two smaller top and bottom LEDs, labeled **Φ+** and **Φ-**, show instantaneous phase relationships in the signal, while the larger middle LED, labeled **AVG**, indicates the *average* phase condition. The top **Φ+** LED glows (or blinks) GREEN when signals are *in-phase*. The bottom **Φ-** LED glows (or blinks) AMBER for *out-of-phase* signals. The middle **AVG** LED indicates the *average* phase condition by glowing GREEN for *in-phase* conditions, or RED for *out-of-phase* conditions. In general, it is sufficient to regard the **AVG** LED (average phase condition) as adequate for proper phase monitoring. While it is normal for stereo signals to contain some intermittant instantaneous out-of-phase and in-phase conditions (**Φ+** and **Φ-** small LEDs), a steady red glow of the **AVG** LED almost always indicates an out-of-phase alarm condition.

4 Audio Level Meters

Audio levels are visually displayed via these two 10-segment, tri-color (RED, AMBER, GREEN) LED bargraph display level meters. **Bargraph 1** monitors **Channel A** (left) while **Bargraph 2** monitors **Channel B** (right). These meters are able to display signal levels using either **PPM** or **VU** standards as selected via a DIP switch module accessible by removing the top cover of the unit. See page **19** for specifications and settings of these meters.

5 Volume Control

This controls the loudness of the audio reproduced by the internal speakers or connected headphone. Clock-wise rotation of this control increases the loudness of the monitored audio in both channels **1** and **2**.

6 VPOD LCD Video Display Module

Video signals entering the **AVMFlex Series** unit are monitored through the **VPOD** LCD video display. The **VPOD** module is attached to the front panel by a length of flexible gooseneck tubing allowing angle viewing adjustment in all directions. One of five sizes of LCD display screens may be specified, including **4**", **5.6**", **5.8**" (16:9), **6.8**", and **7**" (16:9) LCD display sizes.

See page **10** for complete information on the use and control of the **VPOD** LCD video display module.

7 Balance Control

This pans the volume balance between the left and right speakers. If the balance is adjusted hard left or hard right, a slight left/right channel mix is retained (only in low bass frequencies) so that phase discrepancies can be audibly discerned.

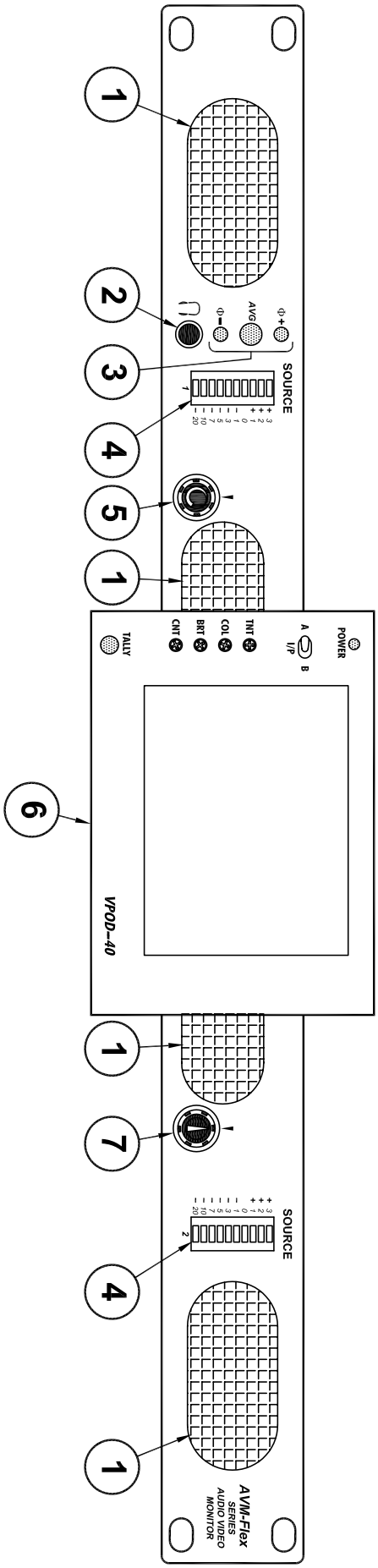


Figure-2a: Front Panel Features

Front Panel Features

Please refer to **Figure-2b** on the facing page to familiarize yourself with the front panel features of the **VPOD** LCD display modules that can be specified for the **AVMFlex Series** units. The following sections describe these features and are referenced, by number, to **Figure-2b**. The **AVMFlex** 1U front panel, to which these displays are installed, is described and illustrated on pages **8** and **9**.

VPOD - LCD Video Display Modules

Each **VPOD** LCD video display module houses the **LCD Video Display Screen**, **Display Controls**, **A/B Input Select Switch**, **Tally Indication LED**, and **Power Indication LED**. Each **VPOD** module is attached to the **AVMFlex** front panel by a length of flexible gooseneck tubing. **AVMFlex Series** units are manufactured with a **VPOD** module permanently attached to the front panel. Five sizes of LCD display screens are available for the **AVMFlex Series**; **4"**, **5.6"**, **5.8"** (16:9), **6.8"**, and **7"** (16:9).

The **VPOD** module may be adjusted for viewing angle independant of the fixed position of the main chassis. There is about a +/- 60 degree field of movement of the **VPOD** module from the vertical *and* horizontal plane of the front panel. When adjusting the angle of the video screen, grasp the **VPOD** module at the right/left or top/bottom sides. Care should be taken *not* to touch the LCD video screen itself with the fingers or other objects.

CAUTION: Do NOT rotate (twist) the VPOD module around the gooseneck axis; the torque may damage the gooseneck and/or internal wiring. Also, avoid touching the LCD video screen itself with the fingers or other objects.

NOTE: The **5.8" VPOD** (**VPOD58W**), unlike the other **VPOD** models, features ***on-screen*** controls. See page **14** for descriptions of these controls and their use.

1 Tally Indication LED

This tri-color LED can glow RED, GREEN, or YELLOW to indicate tally status associated with the video signal displayed. Refer to page **18** for tally connection details.

2 Display Controls

The displayed video image for each **VPOD** LCD display module may be separately adjusted using these four image controls:

- **TNT** = **Tint**; adjust for desired image color hue (NTSC only).
- **COL** = **Color** Saturation; adjust for desired amount of image color saturation.
- **BRT** = **Brightness**; adjust for desired screen brightness.
- **CNT** = **Contrast**; adjust for desired image scene, dark-to-bright contrast.

3 LCD Video Display

Selected video sources are displayed here. Screen image parameters are adjustable by four manual controls (Item **2**). See page **5** for LCD display specifications.

4 A/B Input Select Switch

This switch selects between the two **CVBS** video sources (**CVBS A** and **CVBS B**) and between the two audio sources (**BALANCED IN A** and **BALANCED IN B**). The video and audio inputs are relayed to switch together. The **A/B Input Select Switch** selects the source signals according to the following switch positions:

- **Position "A"**: **CVBS IN A** video input and **BALANCED IN A** audio inputs.
- **Position "B"**: **CVBS IN B** video input and **BALANCED IN B** audio inputs.

5 Power Indication LED

This LED glows GREEN to indicate the unit is connected to mains power and an operation voltage is present.

6 VPOD5W On-Screen Display Controls (AVMFlex5W-LP2S Only)

Display controls for the **5.8" VPOD** (**VPOD5W**) are set via these three buttons. Parameters are manipulated as described on page **14**.

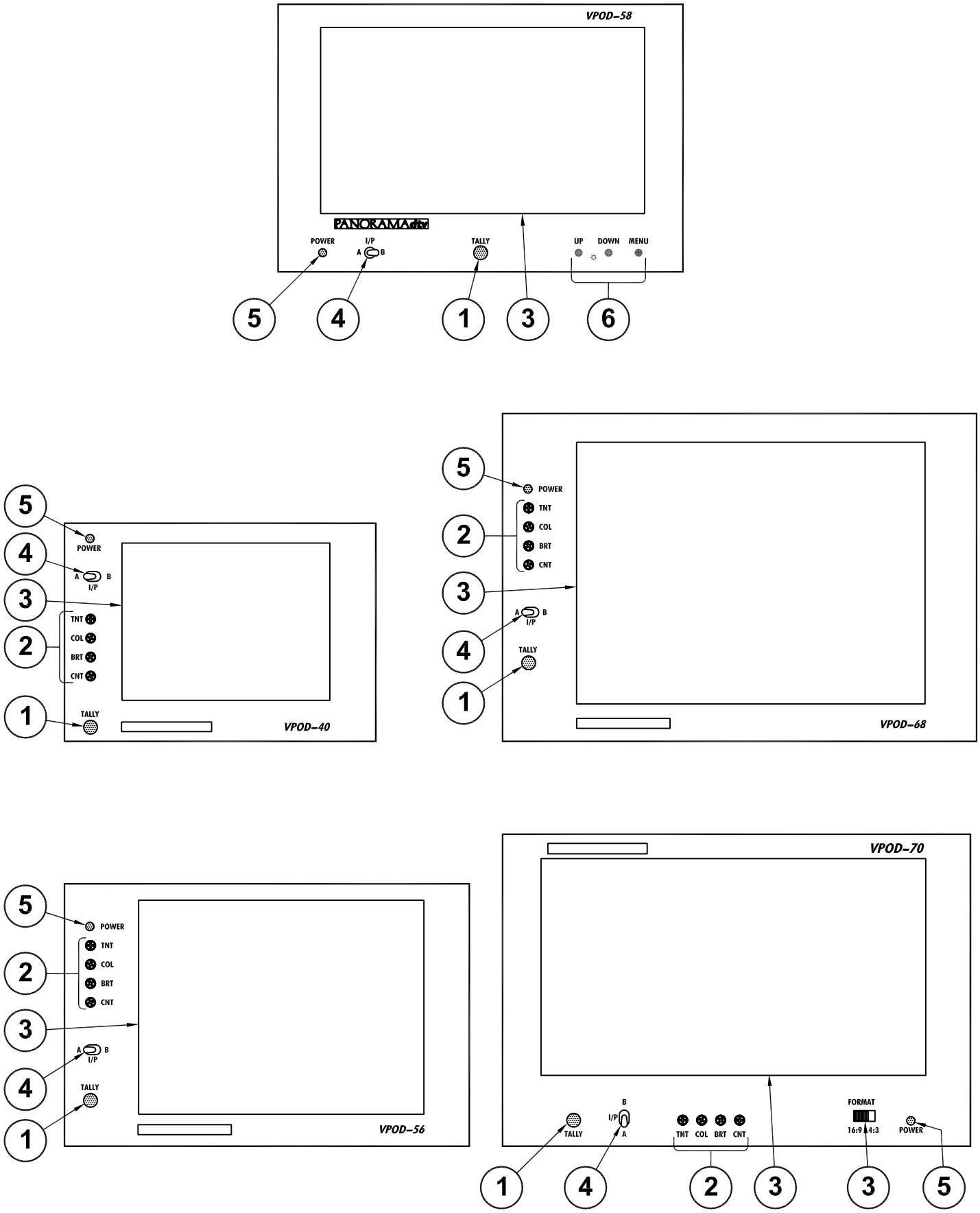


Figure-2b: Front Panel Features

Rear Panel Features

Please refer to **Figure-2c** on the facing page to familiarize yourself with the rear panel features of the **AVMFlex Series** units. The following sections describe these features and are referenced, by letter, to **Figure-2c**.

A Power - IEC-320 Connector

Attach the supplied standard IEC-320 power cord between this connector and mains power (100 - 250VAC, 50/60 Hz). The front panel **Power LED** (**Item 5**, page **10**) will glow GREEN to indicate operating voltages are present.

B CVBS Video Input and Loop-Through Output Connectors

Each of these two female BNC connectors (**CVBS A, IN** and **CVBS B, IN**) accept standard **CVBS** (Composite Analog) video signals and are configured for 75 Ω impedance connections. Note that video input selection is relayed to the audio input selection. See **Item 4**, page **10** for more information about source selection.

Each of the two **LOOP** output connectors (**CVBS A** and **CVBS B**) provide passive signal-through connections from the associated **CVBS IN** connector to down-stream equipment. See **Item C** for information about setting the termination for these connectors. Note that these outputs function even if power to the **AVMFlex** unit is turned **OFF**.

C CVBS Input Temination Select Switch

Each switch in this two-section DIP module is used to set the termination characteristics for the **CVBS** input connector next to it. If a CVBS **LOOP** connector is connected to downstream equipment, set the appropriate switch to the UP position (**UNTERMINATE**). If *no* downstream equipment is connected, then set to the DOWN position (**TERMINATE**).

D Tally Connector

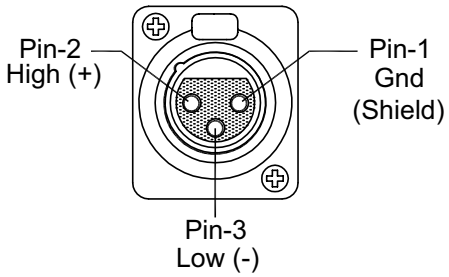
This 25 pin sub-miniature female "D" connector allows you to tally the **Tally Indication LED** (**Item 1**, page **10**). Connection details are described on page **18**.

E Audio Stereo Input Connectors (A and B)

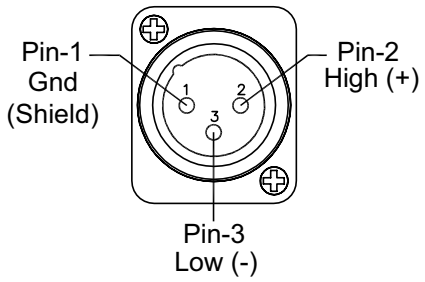
These female XLR connectors accept standard **Analog** audio signals and are configured for 40K Ω impedance connections. **Left** and **Right** inputs are provided in each of the two input sections (**BALANCED IN A** and **BALANCED IN B**). Note that audio input selection is relayed to the video input selection. See **Item 4**, page **10** for more information about source selection. See the diagram under **Item F** for pinout information for these connectors.

F Balanced Audio Output Connectors (Left and Right)

These two male 3-pin XLR connectors are analog outputs of the source as selected for the left and right speakers. See the diagram below for pinout information for these connectors.



Female XLR Pinout



Male XLR Pinout

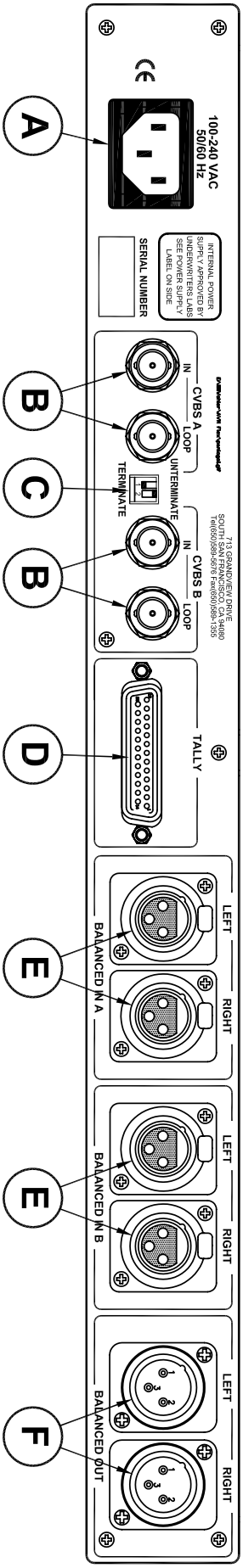


Figure-2c: Rear Panel Features

VPOD5W On-Screen Display Controls (AVMFlex5W-LP2S Only)

Display controls for the **5.8" VPOD** (**VPOD5W**) are set via the three buttons on the VPOD front panel (See **Item 6**, page **10**). Parameters are manipulated as described below:

BRIGHTNESS

Press the **UP** and **DOWN** buttons directly to increase and decrease the LCD display **BRIGHTNESS**. The image below will be displayed on-screen while adjusting to indicate the level.

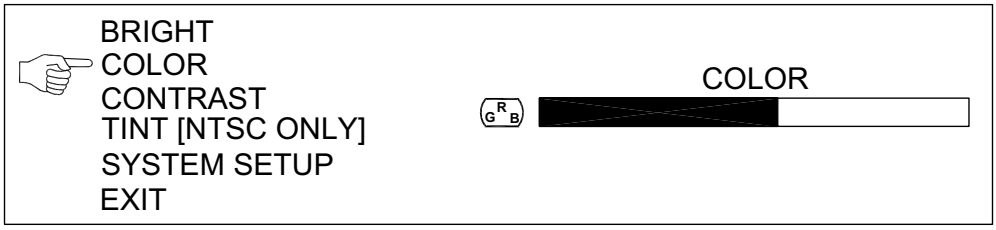
COLOR / CONTRAST / TINT

1) Press the **MENU** button to access the **Main Menu** onscreen.
2) Press the **UP** and **DOWN** buttons to *scroll* through the options.
3) Press the **MENU** button to *select* the chosen parameter for adjustment.
4) Press the **UP** and **DOWN** buttons to *adjust* the level.
5) Press the **MENU** button to *return* to the **Main Menu**.
6) To *exit* the menu, use the **UP** and **DOWN** buttons to select **EXIT** and then press **MENU.**

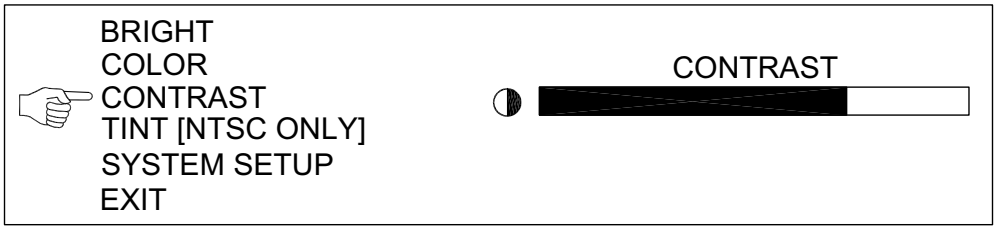
NOTE: The **TINT** parameter is applicable ONLY when monitoring **NTSC** video source signals.

The onscreen menu and pamameters for **COLOR**, **CONTRAST**, and **TINT** controls are shown below:

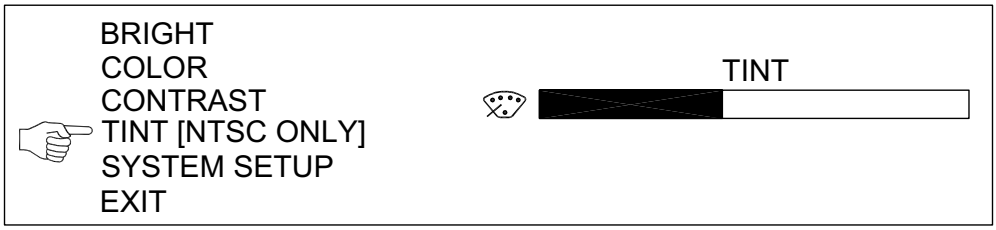
COLOR
Adjustment:



CONTRAST
Adjustment:



TINT
Adjustment:



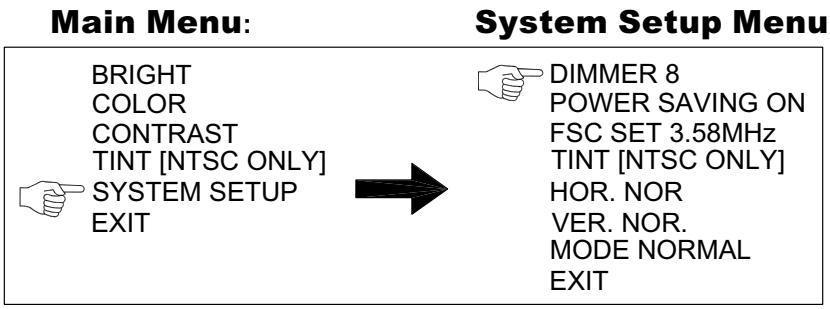
(Continued)

VPOD5W On-Screen Display Controls (AVMFlex5W-LP2S Only)

(Continued)

SYSTEM SETUP

To enter the **System Setup** submenu, choose **SYSTEM SETUP** in the **Main Menu**, and press the **MENU** button.



Use the **UP** and **DOWN** buttons to select **System Setup** option as shown below.

DIMMER 8

1) Press **MENU** button to select **DIMMER 8** option.
2) Press **Up** and **DOWN** buttons to select **Dimmer** level from **0** to **8**.
3) Press **MENU** to activate selection.

POWER SAVING ON

1) Press **MENU** button to select **POWER SAVING ON** option.
2) Press **Up** and **DOWN** buttons to select **POWER SAVING ON** or **POWER SAVING OFF.**
3) Press **MENU** to activate selection.

When the display is set up with **Power Saving Mode ON**, power will automatically turn off after 6 seconds if there is no video signal entering the display. Power will automatically turn as soon as a video signal is detected.

FSC SET 3.5MHz

1) Press **MENU** button to select **FSC SET 3.5MHz** (**Frequency Subcarrier**) option.
2) Press **Up** and **DOWN** buttons to select **FSC SET 3.58MHz** or **FSC SET 4.43MHz.**
3) Press **MENU** to activate selection.

This option will force the **Frequency Subcarrier** of the display at **3.58MHz** or **4.43 MHz**.

HOR. NOR.

1) Press **MENU** button to select **HOR. NOR.** (**Horizontal Reverse Image**) option.
2) Press **Up** and **DOWN** buttons to reverse the image *horizontally*.
3) Press **MENU** to activate selection.

VER. NOR.

1) Press **MENU** button to select **VER. NOR.** (**Vertical Reverse Image**) option.
2) Press **Up** and **DOWN** buttons to reverse the image *vertically*.
3) Press **MENU** to activate selection.

MODE NORMAL

1) Press **MENU** button to select **MODE NORMAL** option.
2) Press **Up** and **DOWN** buttons to select NORMAL, ZOOM1, or FULL.
3) Press **MENU** to activate selection.

NORMAL mode will display images in original aspect ratio of source (example: 4:3 ratio displayed undistorted in 16:9 screen with blank space on either side). **ZOOM1** mode zooms into center area of display. **FULL** mode forces aspect ratio of source to conform to 16:9 aspect ratio (example: 4:3 ratio displayed in 16:9 screen stretched [distorted] to fill entire display).

EXIT

Press **MENU** button to select **EXIT** option, press **MENU** button again to return to **Main Menu**.

Audio Amplifier and Speaker Configuration

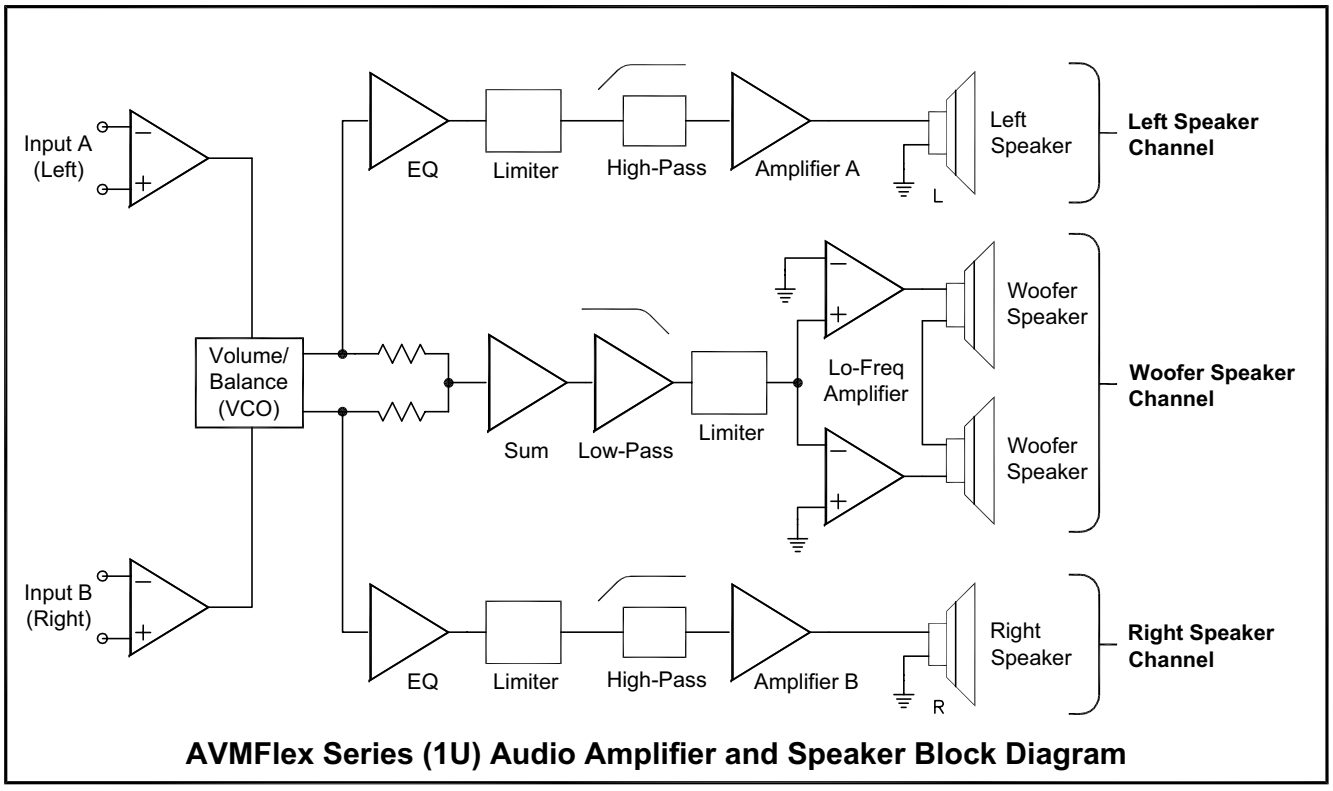
General Description

All **AVMFlex Series** modals contain high performance transducers (speakers) driven by three power amplifiers; two amplifier/driver combinations handle midrange and high frequency information in the left and right (stereo) speaker channels, while the third amplifier channel sums the left and right channel information *below* the 500 Hz crossover point in the woofer (bass) speaker(s). Note that the woofer channel is NOT a dedicated **LFE** or **Center** channel.

Speaker Configuration

The 1U rack size **AVMFlex Series** products are configured with two speakers (left and right) to reproduce mid- and high-range audio frequencies (in stereo), but feature *two* woofer speakers to reproduce the summed (combined) *low-range* audio frequencies from the left and right speaker input channels. It should be noted that both woofer speakers, which are wired in series, are driven from *one* woofer speaker channel, and are NOT stereo.

See the simplified diagram below for a block diagram of the **AVMFlex Series** audio amplifier/speaker configuration.



AVMFlex Series (1U) Audio Amplifier and Speaker Block Diagram

Balance Control Characteristics

The balance control attenuates the signal from the source, so that the left and right bass frequencies (summed together and reproduced in the woofer channel) will also respond to the balance control.

Example:

If an audio signal of a voice speaking English is fed to the "A" (left) input and a voice speaking Spanish is fed to the "B" (right) input, then the left speaker channel will reproduce the mid-range and high-range frequencies of the English speaking voice, the right speaker channel will reproduce the mid-range and high-range frequencies of the Spanish speaking voice, and the woofer speaker channel will reproduce the summed (combined) low-range frequencies of *both* voices.

If the balance control is *panned to the left*, then the Spanish speaking voice in the right speaker channel will diminish in volume, the Spanish speaking voice in the woofer speaker channel will also diminish, and the English speaking voice in both the right speaker channel and woofer speaker channel will increase slightly (to maintain overall output level). The converse is true if the balance control is panned to the right.

See the simplified diagram above for placement of the balance control in the audio amplifier circuit.

Section 3

Technical Information

Tally Control Connector Wiring

Level Meter Specifications

Level Meter Settings

AVMFlex Series Interconnect Block Diagram

Tally Control Connector Wiring

A front panel dual-color **Tally Indication LED** (**Item 1**, page **10**) is associated with the **VPOD** LCD display module. Interface is provided to the LED via the **Tally Control Connector** (**Item D**, page **12**) located on the rear panel of the main chassis. The **Tally Indicator LED** is capable of displaying three colors; RED, GREEN, and YELLOW. Illuminating the RED or GREEN LED separately will result in that tally color. Illuminate the RED and GREEN LEDs simultaneously to achieve a YELLOW tally indication in the LED. For **Tally Control Connector** pinout functions, see **Figure-3a** below.

Two examples of tally connection configurations are shown in **Figure-3b**, below. You can operate the **Tally Indication LED** by numerous methods. The two tutorial examples showing isolated and non-isolated activation are illustrated to show basic operation. Although switches are employed in these examples, the LEDs interface with TTL levels. You can design illumination circuits as shown, by using TTL buffers, or by using transistors as switches.

Isolated

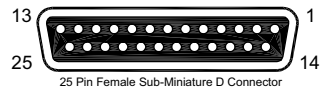
Operating the **Tally Indication LED** in an isolated configuration requires an external (customer provided) power supply and tally system. If your facility currently has a tally system with companion power source, use this method to integrate the **AVMFlex Series** tally with your existing tally matrix.

NOTE: Ensure the LED power supply provides **+5** to **+12VDC**.

Non-Isolated

Operating the **Tally Indication LED** in the non-isolated configuration uses the **AVMFlex Series** internal power supply to provide the tally LED voltage. Connect your tally closures to the respective **AVMFlex** tally connections as shown in **Figure-3b,** below.

AVMFlex Series Tally Connector Pin Functions



25 Pin Female Sub-Miniature D Connector

PIN #	FUNCTION
1	**+12VDC** (Current Limited)
2	**RED** Anode
3	**GREEN** Anode
4	N/C
5	N/C
6	N/C
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	N/C
14	Chassis Ground
15	**R/G** Common Cathode
16	Chassis Ground
17	Chassis Ground
18	N/C
19	Chassis Ground
20	Chassis Ground
21	N/C
22	Chassis Ground
23	Chassis Ground
24	N/C
25	Chassis Ground

Figure-3a

AVMFlex Series Tally Circuit Examples

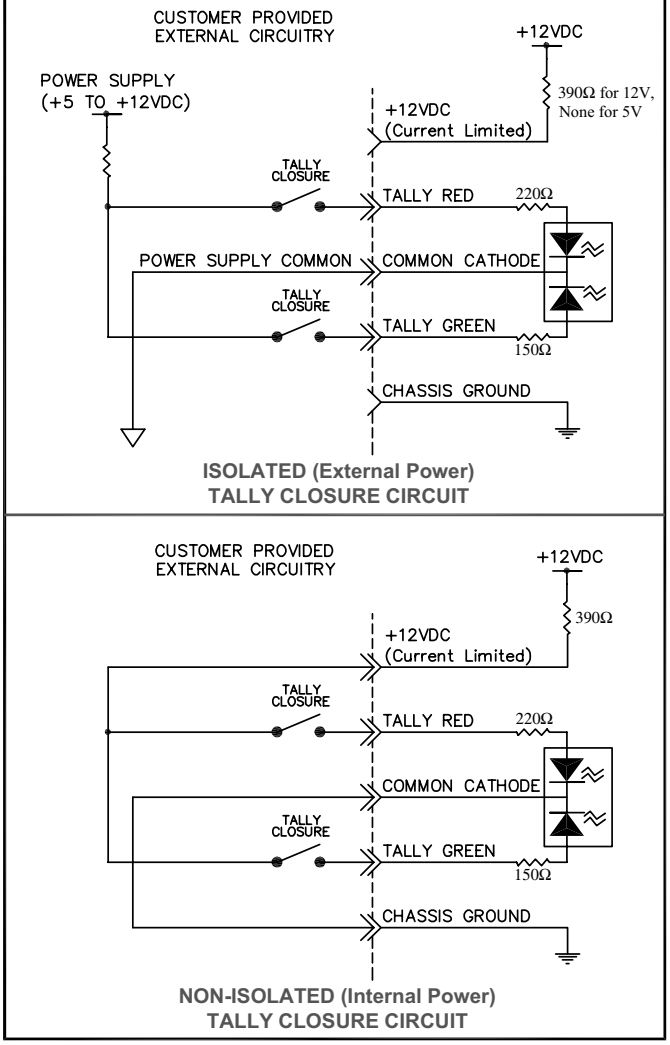


Figure-3b

Level Meter Specifications

Level Calibration:	-6, 0, +4, +8 dBv, Selectable
Frequency Response:	20 Hz to 18 kHz (±0.5 dB)
Level Meter Type:	10-segment LED Bargraph Display
LED Colors:	Tricolor (red, amber, green)
Metering Range:	23 dB
Display Mode (Ballistics):	VU or PPM, Selectable
VU Characteristics:	
Rise Time =	300 millisecond to 99 % of full indication
Decay Time =	300 millisecond
PPM Characteristics:	
Attack Time =	10 milliseconds
Decay Time =	2 seconds, 0 to -20 dB
Bargraph Length:	2.00" (50.8 mm)
LED Segment Size:	0.152" x 0.305" (3.56 x 7.75 mm)
LED Segment Pitch:	0.20" (5.08 mm)
Segment Brightness, (I f = 20 mA):	5.5 mcd
Segment Brightness, Uniformity:	<8% difference between segments
Adjacent Segment "Off" Brightness:	<1% of brightness of active segment
Peak Emission Wavelength:	green: 570 nm red: 630 nm

Level Meter Settings

Level Meter DIP Switch Location

Two DIP switch modules allow the user to set the level meter parameters independently for each of the two bargraph displays. These DIP switches are accessible by removing the top cover of the unit and are located on two PCBs installed at right angles to the front panel where the level meters are installed. The DIP switches face upwards for easy adjustment.

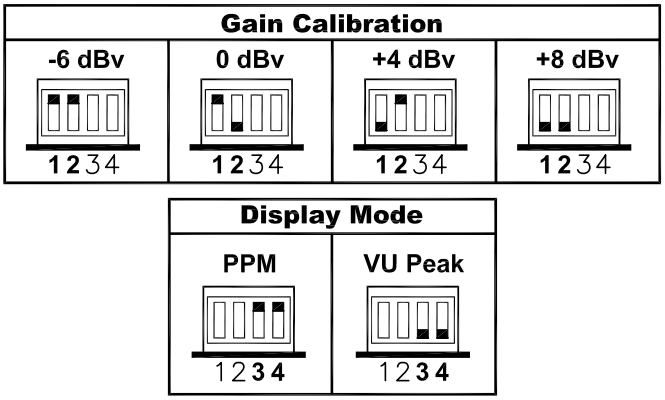
There are four sections (**1**, **2**, **3**, **4**) on each DIP switch module. The first two sections (**1** and **2**) are for setting the **Meter Input Gain Calibration** and the second two sections (**3** and **4**) are for setting the **Bargraph Display Mode**.

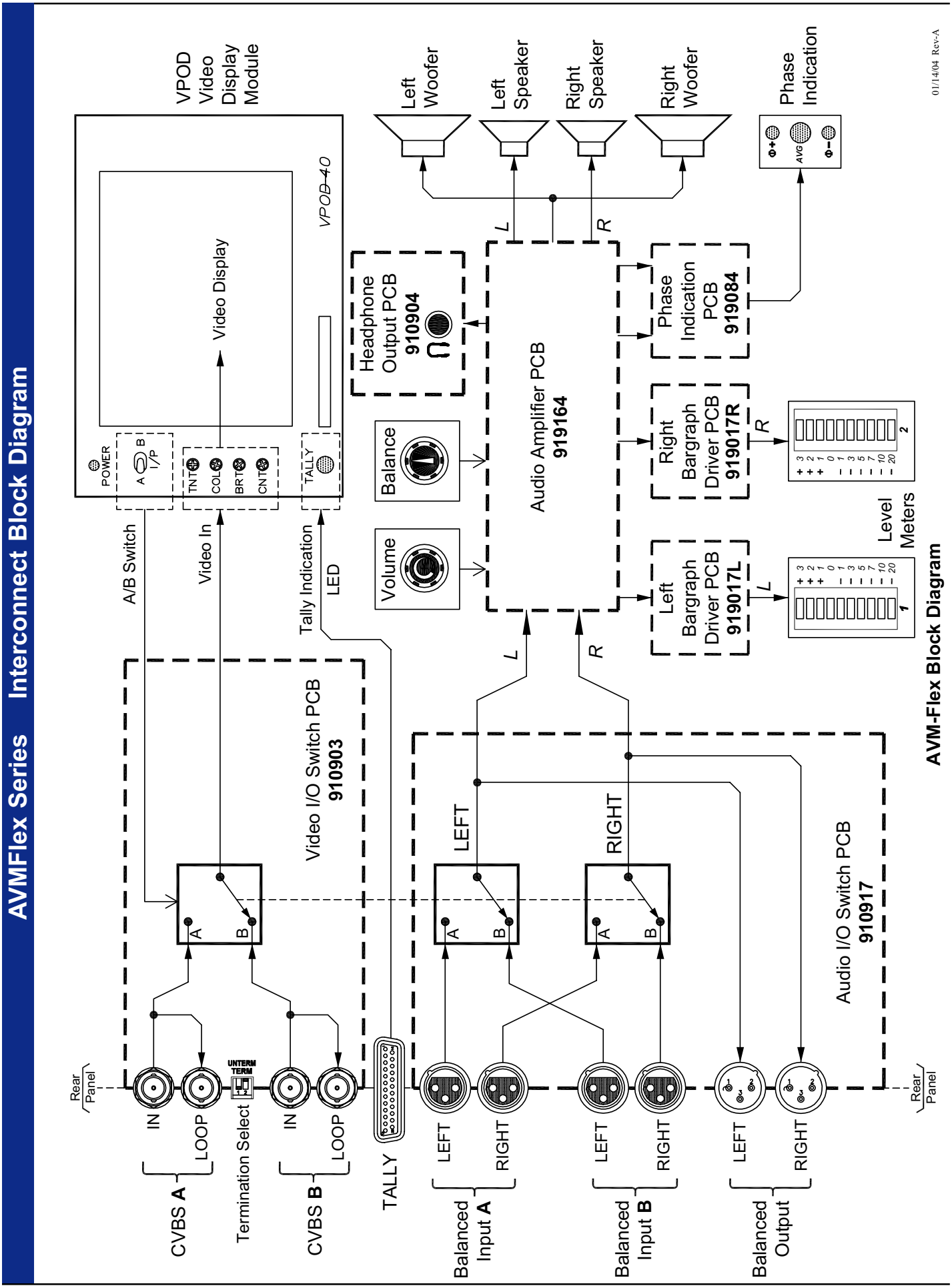
Meter Input Gain Calibration Settings

DIP switch sections **1** and **2** set the **Meter Input Gain Calibration**, which determines the level of the input signal that will result in a "0" reading on the meter bargraphs. The factory setting is +4 dBv, but can instead be set for -6 dBv, 0 dBv, or +8 dBv by the user. See the diagram below for settings.

Bargraph Display Modes

DIP switch sections **3** and **4** determine how peak levels are displayed (**Display Mode**) and select either the **PPM mode** or an auto-reset **VU Peak mode** (NOT the PPM value!). The **PPM mode** exhibits an attack time of 10 milliseconds and a decay time of 2 seconds from 0 to -20 dB. The **VU mode** exhibits a 300 millisecond rise to 99% of full indication and a decay of 300 milliseconds. The factory setting is **VU mode**. See the diagram below for settings.





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