

AM-32

In-picture audio meter

From the range of in-picture audio meters by Chromatec

User instructions



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Contents

INTRODUCTION	1
<i>Main features</i>	1
<i>Additional features</i>	2
THE AM-32 ON-SCREEN DISPLAY	3
<i>Bargraph meters</i>	3
ON-SCREEN ALARMS AND PHASE INDICATORS	4
OPERATION	5
NORMAL MODE	5
MENU MODE	6
CONTROL BUTTON SUMMARY	7
MENU COMMANDS	8
<i>Menu page 1 – general features</i>	8
<i>Menu Page 2 – Analogue Scales</i>	10
<i>Menu Page 3 – Digital Scales/Phase and Peak Hold Indicators</i>	11
<i>Menu Page 4 – Alarm Configuration</i>	12
<i>Menu Page 5 – Monitor Out/Phase Alarms/Data Ports</i>	13
<i>Menu Pages 6/7 – AES/EBU status pages</i>	15
<i>Menu Page 8 – System status and configuration</i>	16
INSTALLATION	18
SELECTING THE MAINS VOLTAGE	18
HEALTH AND SAFETY CONSIDERATIONS	19
<i>Disposal</i>	19
CONNECTOR I/O	20
<i>Audio input connector pinout</i>	21
USING THE AL-32 ALARM PANEL WITH THE AM-32	23
PROBLEM SOLVING	24
<i>Sample problems and their solutions</i>	24
SPECIFICATION	25

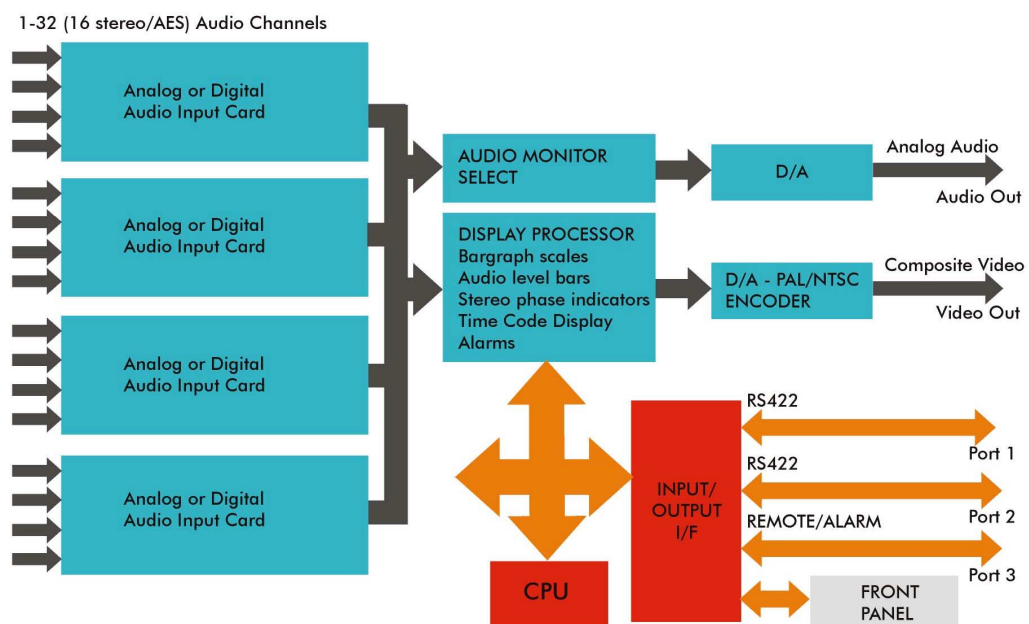
Introduction

The Chromatec AM-32 is a multi-channel in-picture audio meter and alarm system supplied as a 1U rack mounting frame.

It can display in-picture and dedicated on-screen multi-channel meters for displaying audio levels and phase. In addition, alarms presented as in-picture alerts, audible buzzers and external alarms are available for each channel. Monitored parameters include audio-loss, carrier-loss (when using AES/EBU inputs), over-level and sustained anti-phase between adjacent channel pairs.

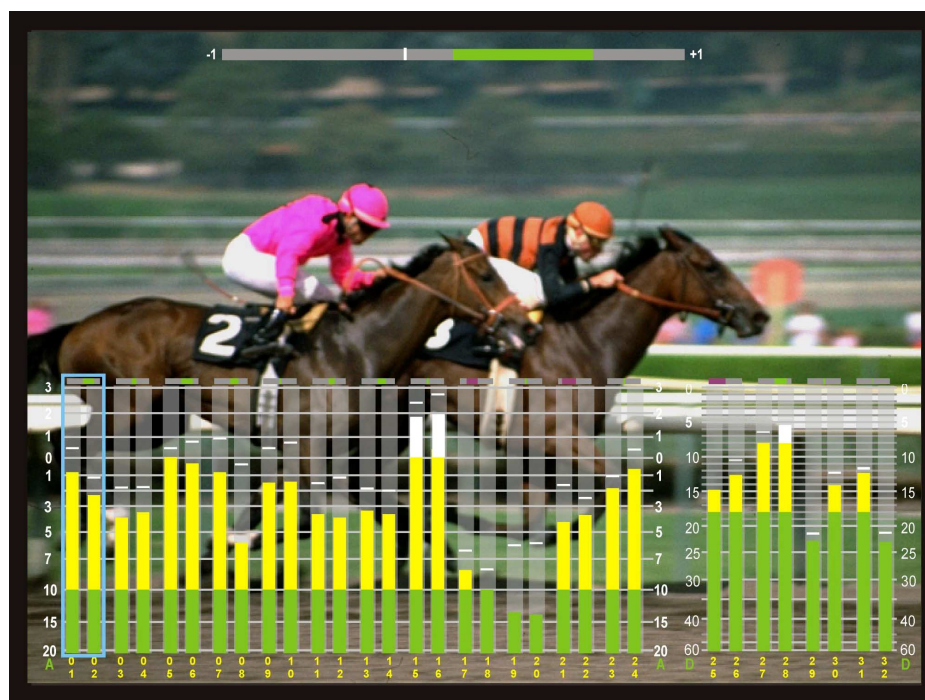
Main features

- Colour bargraphs may be full, half or quarter height with peak-hold and out of phase indicators superimposed (mixed) against a video or black background
- In-picture and external alarms for video/audio/carrier loss, over level & anti-phase
- Configurable for 8, 16, 24 and 32 channels by fitting 1, 2, 3 or 4 AES/EBU or analogue audio sub-modules
- Analogue audio monitor output switchable for easy selection of channel monitoring
- On-screen menu for unit configuration



The AM-32 In-Picture Audio Meter

The AM-32 In-Picture Audio Meter provides a single point of reference for both audio and video. Audio levels and status information are easily combined with a live video feed for total confidence monitoring.



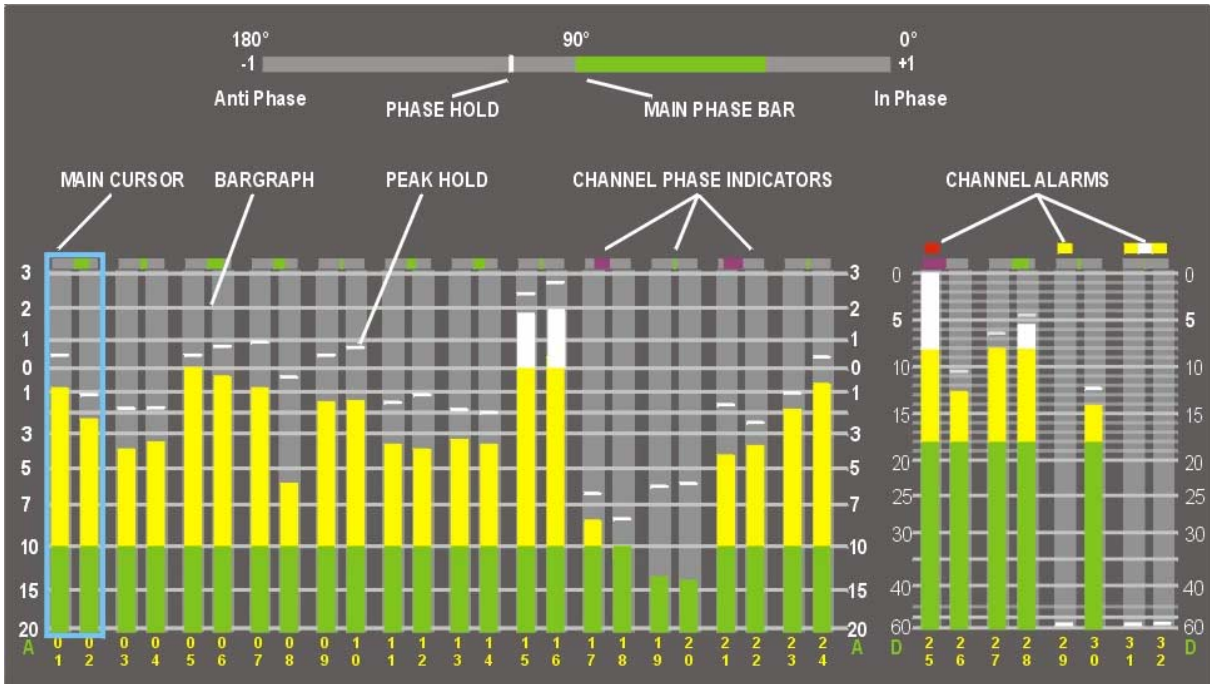
The AM-32 In-Picture Audio Meter

Additional features

- 5V TTL output for triggering external alarms
- Two units may be linked for 64 channel operation
- Three bargraph colour sections
- Keyboard socket for custom labels
- Two user pre-sets plus factory default
- Six standard meter systems & ballistics
- AES/EBU status information
- Data ports, alarms output and remote control connectors
- Optional LTC & VITC timecode reader
- Video test functions
- Composite video, auto PAL/NTSC with YUV (RGB) option
- Optional AL-32 remote alarms status indicator & re-set panel
- Optional Windows™ software for control, alarm monitoring, scheduling & data logging

The AM-32 on-screen display

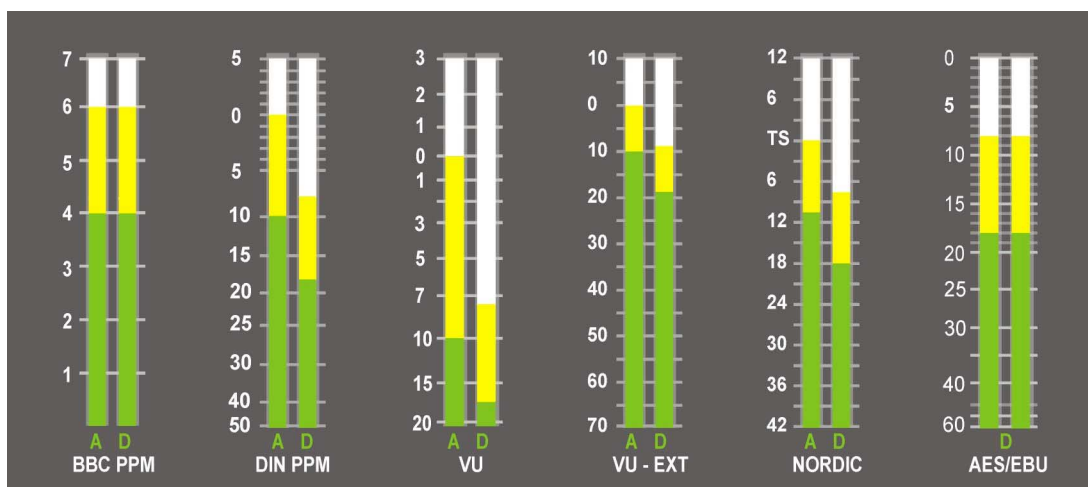
The AM-32 meter alarm display, available from the composite video output, provides a visual status display of all audio channels connected to the frame. It may be superimposed on video or set against an internally generated black background.



The AM-32 Meter/Alarm Display – default colours

Bargraph meters

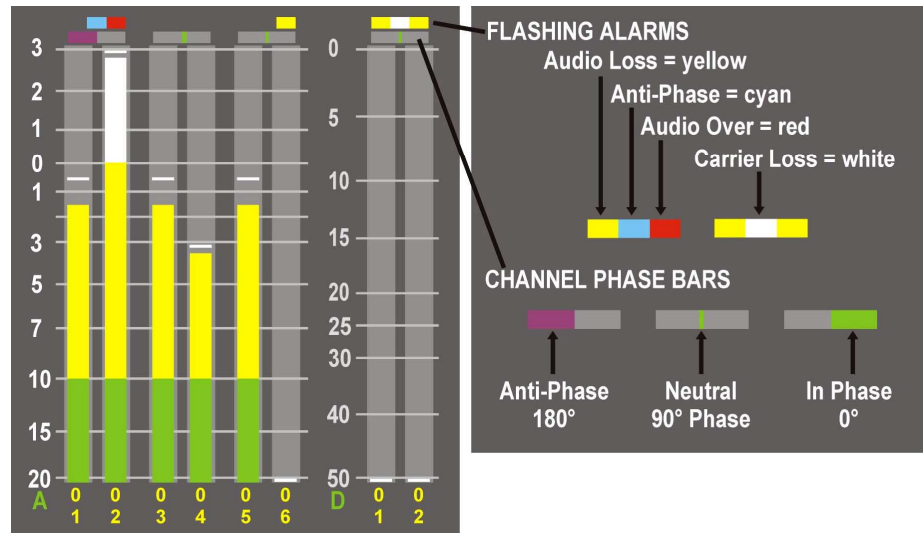
The following audio scales are supported:



Available AM-32 meter scales

Bargraph may be split into three different coloured sections, over-range, upper-range and lower-range. Analogue scales can be used for AES/EBU channels, but the default normal and upper range settings are re-scaled. The 'A' columns show analogue range assignments whilst 'D' columns show digital range assignments.

On-screen alarms and phase indicators



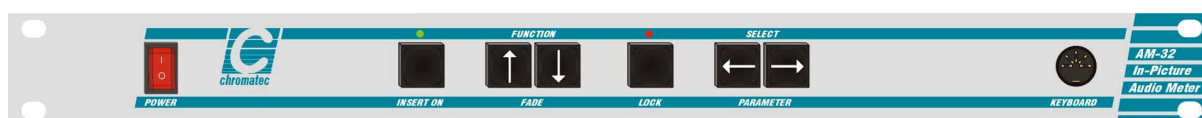
Alarm indicators

Flashing mini-alarms and mini-phase bars can be assigned to the bargraphs. Refer to configuration menu 3 to enable 'phase multi indicators' for the mini-phase bars and menu 4 to enable 'auto/reset indicators' for the flashing mini-alarms.

Operation

The front panel user interface consists of 6 buttons. LEDs above the Insert on and Lock buttons indicate status. The functions assigned to control buttons depend on the mode selected.

Normal or 'locked' mode is the normal operating mode. Configuration or 'menu' mode provides access to 8 configuration menus.



The AM-32 1U rack front control buttons, & status LEDs

Normal mode

In normal use, the configuration menu will be locked to prevent inadvertent operation and configuration menus are not available.

The main 'normal' mode controls are as follows:

- Insert On turns on-screen display ON or OFF
- Select Parameter buttons move channel-select cursor to select analogue monitor output
- Fade buttons alter the brightness of the on-screen bargraphs and alarms
- Lock button resets the peak hold indicators when pressed briefly
- Lock button enters 'menu' mode when held down for about three seconds

Note: The channel-select cursor may be assigned to select the channel driving the main phase indicator and/or the audio monitor output.

Menu mode

To enter menu mode from normal mode (with the red Lock LED off) hold the Lock button down for about 3 seconds. The configuration or 'menu' mode will be entered, on-screen menus will appear and the red Lock LED will illuminate. If the Lock button is held down again, any changed settings will be saved and the AM-32 will return to normal meter mode.

The menu mode will return to the last menu item visited provided the unit has not been reset or switched off since a configuration menu was last accessed.

The main 'menu' mode controls are as follows:


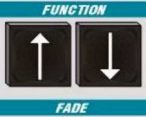
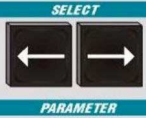





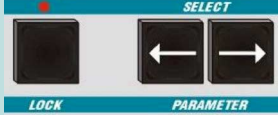
- Function scrolls menu cursor up and down to select function
- Select Parameter selects settings to apply to chosen parameter
- Insert On + Select Parameter selects extended settings in right hand column
- Lock button leaves 'menu' mode and saves settings when held down for about three seconds

The factory fitted options of analogue and/or digital audio input cards and timecode card are automatically detected and the configuration menus are updated accordingly.

Additional controls provided via button combinations are described in the next section.

Control button summary

The 6 menu buttons are assigned functions as follows:

Button		Normal mode	Menu mode
Insert On		Turns on-screen display ON or OFF. Green LED is lit when ON.	No Function
Fade /Function		Fades the brightness of the on-screen display	Scrolls cursor up and down menu to select function
Select Parameter		Moves on-screen cursor.	Selects settings to apply to parameter chosen with function buttons
Insert On + Select Parameter		No Function	Selects extended settings to apply to parameter chosen with function buttons
Insert On + Lock		No Function	Confirms action
Lock – pressed briefly		Resets bargraph peak-hold and main phase bar hold	No function
Lock – held down		Accesses configuration menus when held down for 3 seconds.	Saves settings and returns to normal mode
Insert On + Function		No function	Scrolls menu page by page
Lock + Select		Press Lock + both Select Parameter buttons to change TV standard	No function




Button functions

Note: Factory reset may be applied by holding down the Function/Fade buttons whilst performing a power cycle – see the Trouble Shooting for further details.

Menu Commands

The menu or configuration mode is entered by holding the Lock button down for three seconds. This will allow the eight configuration menus to be accessed.

Menu page 1 – general features

Page 1	1 st Parameter(s)	2 nd Parameter(s)
User Configuration Select	USER 1, USER 2, RESET USER 1, RESET USER 2, COPY 1 TO 2, COPY 2 TO 1	
Meter Operating Mode	Full, Half, Quarter, Linked	
Show Analogue Chans From/To	OFF, CHAN 1- 31	OFF, CHAN 2-32
Show Digital Chans From/To	OFF, CHAN 1- 31	OFF, CHAN 2-32
Bar Width	CHAN 1 – 32	Width 10 – 32 pixels
Bar Spacing	CHANS 1 – 2 to 31 - 32	Spacing 2 – 32 pixels
Bar Group Spacing	() Move group spacing horizontally	Mixed AES/Analogue only
Bar Groups Horiz Position	() Move display horizontally	
Bar Groups Vert Position	() Move display vertically	
Bar Labels	Numerical, Keyboard	On/Off
Bar Label Colour	Named colour	Sample colour
Bar Scales Colour	Named colour	Sample colour

User configuration

The AM-32 has two user memories, USER 1 and USER 2. Settings can be copied from one user to the other and further changes can be made before saving.

Applying 'Reset User 1' or 'Reset User 2' returns the settings of that user memory to the factory default. Factory defaults may also be applied by applying a Master Reset as explained in the Trouble Shooting chapter.

Any changes made are saved automatically when exiting the menu by briefly pressing the 'Lock' button, whichever User is selected.

Reset and Copy functions require the Lock and Insert On buttons to be pressed together as confirmation.

Meter operating mode

The bargraphs may be displayed in Quarter, Half, Normal (full height) or Linked mode. When in the Linked mode, two AM-32's may be used to display up to 64 channels on one television monitor in half height mode, channels 1-32 on the top half of the screen and channels 33-64 at the bottom. In this mode the second AM-32 acts as a slave and adopts all of the system settings from the first (master) AM-32. Connection is made via 'D' type connectors on the rear panels. These connectors are assigned from page 5 of the configuration menus.

Bar & spacing width

Each bargraph and the space between them may be individually adjusted for size. The actual size is displayed in pixels. Bar Group spacing adjustment only applies when the input card type is mixed, i.e. analogue and AES/EBU, thereby automatically generating two separate bar groups.

Bar Labels

In default mode channels are labelled numerically. If a keyboard is connected into the front of the unit, keyboard mode will be available. This allows customised labels up to five characters long to be entered. Alternatively, all labels may be switched off.

Menu Page 2 – Analogue Scales

Page 2	1 st Parameter(s)	2 nd Parameter(s)
Bar Colour Over Range	ALL CHANS, CHAN 1– 32	Colour sample
Bar Colour Upper Range	ALL CHANS, CHAN 1– 32	Colour sample
Bar Colour Lower Range	ALL CHANS, CHAN 1– 32	Colour sample
Bar Background Colour	ALL CHANS, CHAN 1– 32	Colour sample
Bar Group Background Colour	Named Colour	Colour sample
Bar Cursor Colour	Named Colour	Colour sample
Analogue Scales Select	BBC PPM, DIN PPM, NORDIC PPM, VU, VU EXTENDED	
Analogue Scales Position	BOTH SIDES, LEFT, RIGHT	ON/OFF
Analogue Upper-Range Point	ALL CHANS, CHAN 1– 32	-30dB to +12dB
Analogue Lower-Range Point	ALL CHANS, CHAN 1– 32	-30dB to +12dB
Analogue 0dB Ref - Coarse	0dBu to +11dBu	
Analogue 0dB Ref - Fine	-1.0dBu to +1dBu in 0.1dBu steps	

Ranges and colours

Each bargraph may be split into three different coloured sections, over-range, upper-range and lower-range. The colours and break-points chosen may be different for each bargraph if required. The bargraph background colour, which is always mixed with any video background, can also be individually specified for each bargraph.

Analogue scales

Standard scales and their corresponding ballistics may be selected. These may be positioned to the left, right or both sides of the relevant bargraphs. The bargraph may be split into three different coloured sections, over-range, upper-range and lower-range. If only one or two colours for each bargraph are preferred, then the upper and lower-range points may be set to an equal level or changed to the same colour.

Main cursor colour

The main cursor may be set to any of the available colours.

Menu Page 3 – Digital Scales/Phase and Peak Hold Indicators

Page 3	1 st Parameter(s)	2 nd Parameter(s)
Digital Scales Select	BBC PPM, DIN PPM, NORDIC PPM, VU, VU EXTENDED, AES/EBU	
Digital Scales Position	BOTH SIDES, LEFT, RIGHT	ON/OFF
Digital Upper-Range Point	ALL CHANS, CHAN 1– 32	-30dB to +12dB
Digital Lower-Range Point	ALL CHANS, CHAN 1– 32	-30dB to +12dB
Digital/Analogue Scale Ref	-30dB to 0dB = 0dB	
Phase Bar Enable	BAR+HOLD, BAR ONLY	ON/OFF
Phase Bar Assign	MAIN CURSOR, CHAN 1+2 to CHAN 31+32	
Phase Bar Position	(◆) Move display horizontally	
Phase Multi Indicators Enable	IN+OUT, OUT ONLY	ON/OFF
Phase Bar Colours	PHASE IN, PHASE OUT	Select Colour
Peak Hold Enable	0.5s, 1s, 3s, 10s, 30s, Inf	ON/OFF
Peak Hold Indicator Colour	Named Colour	Colour Sample

Digital Scales Select

The AES/EBU scale is designed for use with digital audio. Analogue scales can be used for AES/EBU channels, but the default normal and upper range settings are re-scaled. The 0dB scale reference may be set from 0dB to –30dB when any scale is used for digital audio.

Analogue and digital scale references

Analogue scales can be used for AES/EBU channels, but the default normal and upper range settings are re-scaled.

Phase Correlation Meters

The main phase bar may be assigned to any adjacent pair of audio channels by one of two methods. The main cursor may be used or the assignment can be fixed in this menu.

The main phase bar may be placed at the top or bottom of the screen and fine vertical positioning is provided.

An optional "hold" cursor may be switched on that will register if the stereo program or channels were at any stage out of phase. *The cursor may be reset at any time by briefly pressing the "Lock" button when in the normal operating mode.*

Additionally, small, individual phase indicators may be placed above each channel pair. These can operate as "mini" phase bars or be switched only to display an out-of-phase condition on the relevant pair of channels.

Peak hold indicators

Peak hold indicators are provided for all channels. The delay time before decay may be set according to requirements and includes an "infinite" setting which indicates the maximum level attained over any period of time until it is reset. This is carried out by briefly pressing the "Lock" button when in the normal operating mode.

Menu Page 4 – Alarm Configuration

Page 4	1 st Parameter(s)	2 nd Parameter(s)
Alarms Auto Reset/Indicators	OFF, 0s, 1s, 5s, 10s, 30s, 1min, 5mins, 10mins, 30mins, 1 to 12 hours	ON/OFF
Alarms Reset	REMOTE, CHAN 1+ 2 to CHAN 31+32, ALL CHANS, MAIN CURSOR	- - -
Alarm, Carrier Loss Enable	ALL CHANS, CHAN 1– 32	ON/OFF
Set Time	5s, 10 to 60s	
Alarm, Analog Over Level	ALL CHANS, CHAN 1– 32	ON/OFF
Set Level	0dB to 20dB	
Alarm, Digital Over Level	ALL CHANS, CHAN 1– 32	ON/OFF
Set Level	-20dB to 0db OR 1- 12 Samples	
Alarm, Audio Loss Enable	ALL CHANS, CHAN 1– 32	ON/OFF
Set Time	5s, 10 to 60s	
Set Threshold	-50db to 0dB	
Alarm, Video Loss Enable		OFF/ON

Alarms

There are alarms for audio-loss, video-loss carrier-loss (AES/EBU inputs only) over-level, and sustained anti-phase of adjacent channel pairs (menu 5).

On the AM-32 on-screen display an alarm condition is provided in the form of flashing coloured rectangles situated at the top of the respective bargraphs. Refer to the On-screen alarms and phase indicators *section* for further details.

AM-32 alarm indicators may be shown on screen or hidden. In hidden mode they may still be active and provide external indication of an alarm condition via the common 5V TTL alarm output via alarms out connector, Port 3. This signal may be used to trigger an external alarm device.

Individual alarms may be reset from the system menu or collectively via the reset function via alarms out connector, Port 3. *If the Main Cursor is assigned to the Alarm Reset function, individual resets may be carried out in the normal mode by selecting the relevant channel(s) with the main cursor and briefly pressing the "Lock" button.*

Menu Page 5 – Monitor Out/Phase Alarms/Data Ports

Page 5	1 st Parameter(s)	2 nd Parameter(s)
Alarm, Anti-Phase Enable	ALL CHANS, CHAN 1– 32	ON/OFF
Set Time	0.25s, 0.5s, 1s, 3s, 5s, 10s	
Set Threshold	ANY –VE, 45°+, 90°+	
Audio Monitor Assign	MAIN CURSOR, CHAN 1+2 to CHAN 31+32	
Audio Monitor Mode	STEREO, SUM, LEFT, RIGHT	
Timecode Reader	VITC, LTC	
Timecode Horizontal Position	(◆) Move display horizontally	
Timecode Vertical Position	(◆) Move display vertically	
Timecode Background Colour	Named Colour	Colour Sample
Timecode Numbers Colour	Named Colour	Colour Sample
Data Port 1 Assign	TO PC/AM32 (AL-32 if Port 2 used for Video Switch)	
Data Port 2 Assign	TO AL-32, Video SW	

Audio monitor assign

The audio channel sent to the audio monitor output can be assigned by the main cursor when in normal mode or set to a specific channel pair. The audio monitor mode may be set as stereo, sum (of the two channels), left or right channels on both outputs.

Balanced analogue audio outputs are provided whether the AM-32 is an AES/EBU or analogue version.

Timecode reader

The timecode reader will display VITC or LTC. Both screen position and colours may be user set.

Data ports

Data Port 1 may be assigned to connect the AM-32 to an optional AL-32 remote alarms status indicator and break-out box, to an AM-Series slave unit, a PC, or in order to link two AM-32 units together for 64 channel operation. Data Port 2 may also be assigned to connect the AM-32 to an optional AL-32 remote alarms status indicator and break-out box, to an AM-Series slave unit, a PC, or to a video switcher to enable automatic audio follow video monitoring.

Please refer to the 'Using the AL-32 alarm panel with the AM-32' section of the Installation chapter or the AL-32 User Guide for more information.

Menu Pages 6/7 – AES/EBU status pages

These status pages are only operative for AES/EBU inputs.

Page 6	1 st Parameter(s)	2 nd Parameter(s)
AES/EBU Oversamples Status – See Alarm, Digital Set Level	RESET	
CH 01-04 0000 0000 0000 0000		
CH 05-08 0000 0000 0000 0000		
CH 09-12 0000 0000 0000 0000		
CH 13-16 0000 0000 0000 0000		
CH 17-20 0000 0000 0000 0000		
CH 21-24 0000 0000 0000 0000		
CH 25-28 0000 0000 0000 0000		
CH 29-32 0000 0000 0000 0000		

Note: RESET will flash red to indicate that both Lock and Insert On must be pressed together to provide a reset.

Page 7	1 st Parameter(s)	2 nd Parameter(s)
AES/EBU Receivers Status		
PAIR 01-02: GOOD GOOD		
PAIR 03-04: GOOD GOOD		
PAIR 05-06: GOOD GOOD		
PAIR 07-08: GOOD GOOD		
PAIR 09-10: GOOD GOOD		
PAIR 11-12: GOOD GOOD		
PAIR 13-14: NO CARR NO CARR		
PAIR 15-16: NO CARR NO CARR		

Note: NO CARR is shown if no digital audio input is connected.

AES/EBU oversamples status page

The status shown for each channel pair is dependent on the number of oversamples permitted, as set on page 4 of the menu under "Alarm, Digital Over Enable - Set Level". The data displayed remains and is updated until reset in the menu or the unit is switched off.

AES/EBU status page

The status of all incoming AES/EBU feeds is displayed on this page.

Menu Page 8 – System status and configuration

Page 8	1 st Parameter(s)	2 nd Parameter(s)
Video Component Option	Installed/Not Installed	
Video Operating Mode	COMPOSITE, YUV, RGB	
Video Display	Auto, Internal, External	
Video Standard Internal	PAL, NTSC	
NTSC Pedestal	OFF, ON	
Video Source Select	Main Cursor, Video 1 – Video 16 (For use with external video switcher only)	
Video Test Functions	Off, Bars, Pulse, Circle	
Input Card A Type	ANALOG/DIGITAL	
Input Card A Type	ANALOG/DIGITAL	
Input Card A Type	ANALOG/DIGITAL	
Input Card A Type	ANALOG/DIGITAL	

Video component mode

When using the AM-32 in component video mode either YUV or RGB may be selected. When making this change it is necessary to view the unit in composite video mode so that the picture is not lost when the change is effected.

Video display

When "Internal" is selected, bargraphs are viewed on the AM-32's internal black generator. If video is not required or only audio channels need to be monitored then the unit would be used in this mode. "External" only allows the bargraphs to be viewed on incoming video. If

video is lost in this mode, the picture loses sync and it will not be possible to view the bargraphs until the video is reinstated. In the "Auto" mode, the bargraphs are normally viewed on incoming video. If video is lost the AM-32 will automatically switch to its internal black generator, allowing the operator to continue viewing the bargraphs. When video is reinstated, black automatically switches back to the incoming video.

Video source select

External video switching (in conjunction with a separate video switcher) may be carried out from the menu via Data Port 2, subject to suitable protocol being available. The same function may be carried out using the main cursor, effectively providing "video follow audio" facilities.

Video test functions

When entering this mode all other display parameters are disabled. Basic test patterns are provided including colour bars, 75% & 100% and a circle. Pressing the lock button for approximately 3seconds will reinstate the system menu where this function may be switched off.

Meter display adjustment

The whole bargraph display may be adjusted for vertical and horizontal position relative to the incoming video or internally generated black.

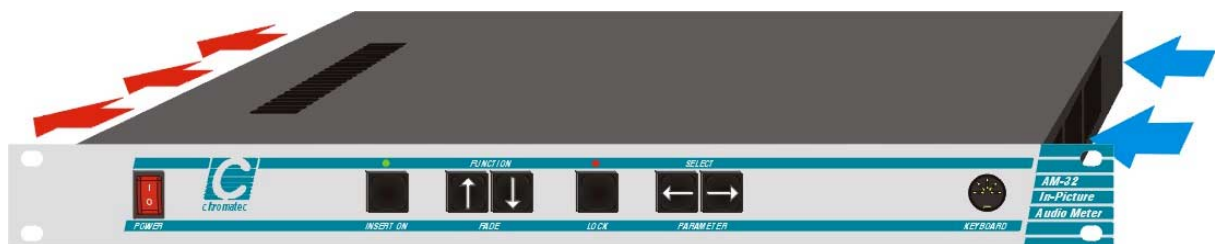
Input card type

The status of the input cards fitted to the AM-32 is automatically displayed.

Installation

The Chromatec AM-32 1U frame may be installed in 19 inch bays with 453mm depth. Ventilation is produced in each frame with three exhaust fans on the left hand side (viewed from front) with intake grilles at the right.

There are also air intake vents located on the top of the frame. Frames should be installed into bays such that airflow through these apertures is not impeded.



The 1U AM-32 frame showing main side to side ventilation

Note: The front rack ears are intended to provide a means of retaining the unit in the rack. To ensure adequate support the unit **MUST** also be supported at the rear of the frame. Please ensure that ventilation is not impaired when selecting suitable supports.

Selecting the mains voltage

The correct mains voltage (230/110 volts) for the system into which the AM-32 is installed **MUST** be selected at the rear panel **BEFORE** the AM-32 is switched on. Normally, the correct voltage for the country the unit is shipped to will be set before the unit leaves the factory.



Voltage Selector Fuses under flap

Selecting the correct mains supply voltage setting

Note: A spare 1A fuse should be located under the flap.

Health and safety considerations

The Installation and Maintenance of the Chromatec AM-32 In-Picture Audio Meter and Alarm System and any associated equipment, must be carried out by PERSONS SUITABLY QUALIFIED to work with equipment which may be connected to the mains supply.

The AM-32 MUST BE DISCONNECTED & ISOLATED FROM THE MAINS INPUT and from other product outputs before undertaking maintenance.

ELECTRIC SHOCK HAZARDS exist if conductive instruments, neck chains or fingers etc are placed within the AM-32 or in close proximity of the input/output terminals/connectors.

Incorrect installation can cause internal components to rupture and particles to be ejected from the product.

TOXIC FUME HAZARDS exist if the unit is subjected to direct flames or excessive temperature of above 100 Degrees Centigrade ambient.

The mounting and installation of the unit must be arranged by the user to comply with all safety regulations by the indigenous authority.

Disposal

Do not incinerate as explosive and toxic fume hazards exist. Disposal must be by dismantling the product to component level and disposing of each component by an approved method.

Connector I/O

All connections are provided on the rear panel of the frame. Audio connections use 50 way 'D' type connectors, remote/alarm connections use a 15 way 'D' connector, video inputs and outputs use BNC connectors and all data connectors use 9 way 'D' type connectors.



E-Series 1U frame connector I/O

Ports 1&2: Female 9 way 'D' connector RS422 assignments

Pin No	Function	Pin No	Function
1	+5V DC	6	+5V DC
2	-RX (A)	7	+RX (B)
3	-TX (A)	8	+TX (B)
4	GND	9	GND
5	GND		

Audio Out: Female 9 way 'D' connector assignments

Pin No	Function	Pin No	Function
1	Right -ve	6	GND
2	Right +ve	7	GND
3	GND	8	GND
4	Left -ve	9	GND
5	Left +ve		

Port 3: Female 15 way 'D' connector assignments

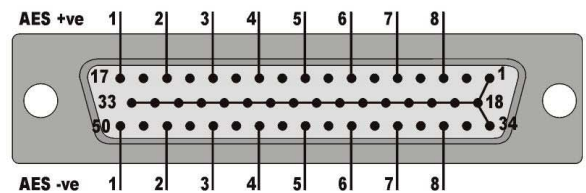
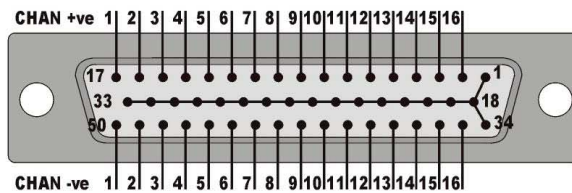
Pin No	Description	Pin No	Description
1	Insert On	9	Fade -
2	Fade +	10	Lock
3	Select -	11	Select +
4	Timecode -ve	12	Timecode +ve
5	Lock LED	13	Insert LED
6	Alarm Reset	14	GND
7	Alarm Out	15	GND
8	+5V DC		

Note: Alarm Out is a combined 5V TTL compatible signal for any asserted alarm.
Alarm Reset requires a closure to ground for a minimum period of 0.1 second.

Audio input connector pinout

Analogue In 1-16/AES/EBU In 1-8 Connector type: 50 way 'D' female

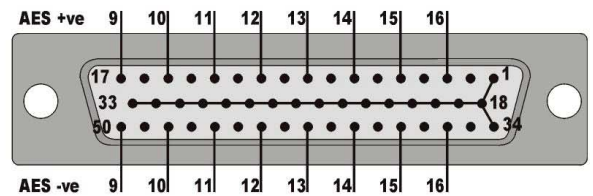
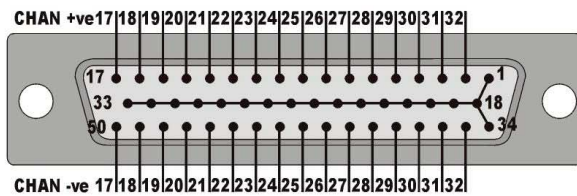
AES/EBU I/P	Hot Pin	Cold Pin	Analogue
1 - Chan 1&2	17	50	Chan 1
N/C	16	49	Chan 2
2 - Chan 3&4	15	48	Chan 3
N/C	14	47	Chan 4
3 - Chan 5&6	13	46	Chan 5
N/C	12	45	Chan 6
4 - Chan 7&8	11	44	Chan 7
N/C	10	43	Chan 8
5 - Chan 9&10	9	42	Chan 9
N/C	8	41	Chan 10
6 - Chan 11&12	7	40	Chan 11
N/C	6	39	Chan 12
7 - Chan 13&14	5	38	Chan 13
N/C	4	37	Chan 14
8 - Chan 15&16	3	36	Chan 15
N/C	2	35	Chan 16
GND	1,18,19,20,21,22,23,24,25,26,27,28,29,30, 31,32,33,34		



AM-32 50 way 'D' male connector rear pins shown - Anlg 1-16/Dig 1-8

Analogue In 17-32/AES/EBU In 9-16 Connector type: 50 way 'D' female

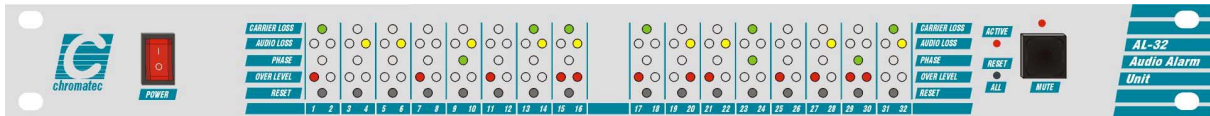
AES/EBU I/P	Hot Pin	Cold Pin	Analogue
9 - Chan 17&18	17	50	Chan 17
N/C	16	49	Chan 18
10 - Chan 19&20	15	48	Chan 19
N/C	14	47	Chan 20
11 - Chan 21&22	13	46	Chan 21
N/C	12	45	Chan 22
12 - Chan 23&24	11	44	Chan 23
N/C	10	43	Chan 24
13 - Chan 25&26	9	42	Chan 25
N/C	8	41	Chan 26
14 - Chan 27&28	7	40	Chan 27
N/C	6	39	Chan 28
15 - Chan 29&30	5	38	Chan 29
N/C	4	37	Chan 30
16 - Chan 31&32	3	36	Chan 31
N/C	2	35	Chan 32
GND	1, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34		



AM-32 50 way 'D' male connector rear pins shown - Anlg 17-32/Dig 9-16

Using the AL-32 alarm panel with the AM-32

The AM-32 may be used with one or more AL-32 Audio Alarm Units to provide dedicated alarms monitoring for multiple monitoring stations.

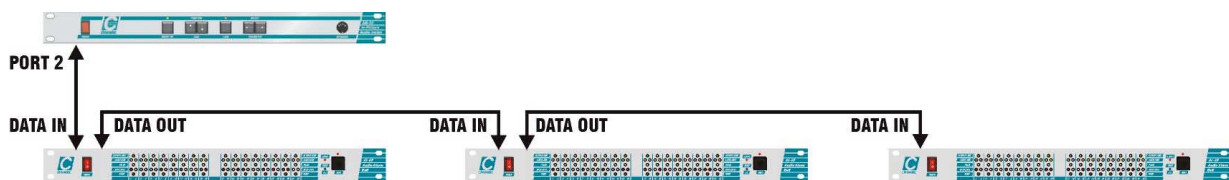


The AL-32 Audio Alarm Unit

The AL-32 has the following features:

- May be used with either AM-32/AM-32VGA
- Individual LED alarm status indicators
- Individual alarm breakouts for each alarm condition
- Alarm resets for host AM-32/VGA frame - individual channel pair resets or reset all
- Alarm sounder with mute button
- Two or more units can be cascaded

Alarm displays can be provided for the same sources at more than one monitoring station by linking multiple AL-32s to a single AM-32. This is achieved by cascading them via the DATA IN and DATA OUT connectors.



Cascading AL-32 units

Please refer to the AL-32 Audio Alarm Unit Users Guide for more information.

Problem solving

The power switch should illuminate red whenever mains power is supplied. Always ensure that power is connected before using the problem solving guide. A spare fuse is supplied in space provided in the IEC mains connector before the unit leaves the factory. Always replace the fuse with one of the correct value as shown in the Installation section.

Sample problems and their solutions

There is no composite output

Check that there is power to the unit and that it is turned on
An output should be seen within a few seconds of switching on

No colour information can be seen

Check that the correct TV standard has been selected
Check the colour assignments in the configuration

The Monitor Select Cursor cannot be seen

Check that it has not been scrolled off-screen

All alarms and bargraph elements turn on in menu mode

This is done to allow AM-32 configuration changes to be viewed immediately

Unit fails to respond correctly to commands

Power cycle the unit and/or perform a Master Reset



In the unlikely event that the unit fails to respond correctly, a **Master Reset** may be applied to restore all settings to the factory default. Turn off the power for a few seconds, then turn it back on while pressing both Fade/Function buttons until the bargraphs appear. This may take up to ten seconds. Follow any required configuration steps after any reset.

Specification

Analogue inputs

Input connectors: 50 pole "D" type
Input impedance: 20K Ω , balanced
Input sensitivity: 0dBu = 0dB scale reading
Input sensitivity adjustment - coarse: +8, -3dBu in 1dB steps
Input sensitivity adjustment - fine: \pm 1dBu in 0.1dB steps
Max Input level: +24dBu
Frequency response at -3dB points: 25Hz to 23KHz
A/D converter: Stereo 18 bit
Sampling frequency: 48KHz
Rectifiers: Software full wave rectifier
Detectors: Software Peak detector
Average

Digital inputs

Input connector: 50 pole "D" type
Input type: Differential
Input compatibility: RS422
Input interface: Transformerless professional AES/EBU
Sampling frequency: 48KHz
Rectifiers: Software full wave rectifier
Detectors: Software sample detector

Video inputs

Input connector: 75 Ohm BNC
Composite video auto PAL/NTSC
Component YUV/RGB switchable

Video outputs

Output connector: 75 Ohm BNC
Composite video PAL/NTSC
Component YUV/RGB switchable

Scales and Ballistics

NORDIC: Overall dynamic range: 54dB (+12 to -42dB)
Attack time: 10mSec
Decay time: 1.7Sec per 20dB decay

DIN PPM: Overall dynamic range: 55dB (+5 to -50dB)
Attack time: 10mSec
Decay time: 1.5Sec per 20dB decay

BBC PPM:	Overall dynamic range: 24dB +3dB down "Mark 1" (+12 to -12dB) Attack time: 10mSec Decay time: 2.8Sec per 24dB decay (from "Mark 7" to "Mark 1")
VU:	Overall dynamic range: 23dB (+3 to -20dB) Attack time: 300mSec (from V2.7) Decay time: 300mSec per 20dB decay (from v2.7)
VU EXT:	Overall dynamic range: 80dB (+10 to -70dB) Attack time: 300mSec (from v2.7) Decay time: 300mSec per 20dB decay (from v2.7) Decay time: 1.0Sec per 40dB decay
AES/EBU:	Overall dynamic range: 60dB (0 to -60dB) Attack time: One sample Decay time: 1.5Sec per 20dB decay
Phase Correlation Display	Attack time: 0.4Sec for zero to ± 1 deviation Decay time: 0.4Sec for ± 1 to zero deviation Input dynamic range: 45dB Minimum input level: -45dBu
Housing	19" Rack Mount: 1U high. Outline Dimensions: 484mm(W) x 453mm(D) x 44.5mm(H)
Power	110V / 60 Hz or 230V / 50 Hz, switch selected
Environmental	Temperature 0°C to 30°C Humidity 70% max.
Front panel	Power on/off, 6 configuration buttons
Rear panel	Video I/O BNC connector, 2 x RS422 Remote and Audio Out connectors