Networkable, Multi-channel Audio Monitoring System

Up to 64 Channels * Programmable Alarms * Remote Control + Monitoring Over IP
The Chromatec AM-xx is a hardware device for converting multi-channel audio into level data. There is a graphical output for the local display audio meter bargraphs in accordance with industry standards. Additionally, the AM-xx has alarm functions for the indication of common audio signal fault conditions.

Introduction

The need to monitor audio levels has existed since electronic transmission began. However, the scale of the task has grown substantially with the proliferation of audio channels in all domains, including outside broadcast, TV and radio transmission and live sound.

The graphical output includes an on-screen setup menu that enables configuration using the front panel keys.

Data generated by the AM-xx is available for distribution over a LAN / WAN to other systems and devices that serve a remote monitoring function.

Additionally, the AM-xx enables the selection of up to eight audio channels at a time for audible monitoring. These are available from an optional monitor output card installed in the frame, and can also be streamed over the network and via the USB2 and RS422 / 232 data ports.
TV Studio / OB application

Both studio and mobile acquisition face increasingly complicated productions, with more audio input sources every year. This is matched by ever larger mixing consoles where the individual channel metering can be some distance from the operator and not easily visible.

The requirement for multiple outputs, for example, multi-lingual and clean feeds, makes it difficult to continually check their status.

In these circumstances, where there is little scope for error, the Chromatec AM-xx provides easy and complete monitoring.

TV Transmission application

Television playout systems are getting larger and more complicated, but still need great flexibility to cope with varying transmission schedules.

There are a variety of programme types, each with different audio content profiles. Additionally, the nature of an individual channel’s programming is likely to change over a 24 hour period. It is vital that the audio monitoring has the flexibility to take these factors into account.

This level of flexibility is provided by the AM-xx. For example, the audio fault detection criteria may be set independently for each audio channel. Furthermore, when used in conjunction with SOFT-xx PC software, it is possible to schedule automatic configuration changes.
Live sound application

In a live environment, there are many things that can go wrong. Keeping track of all the sources plus the main and stage mixes is difficult enough when things are going well. The ability to rapidly identify the source of a problem when things go wrong minimises disruption to the event.

With the Chromatec AM-xx you can watch all the sources and destinations easily on one display. The AM-xx can check the presence of the signal and its level anywhere from the mic to the audience.

When all is going well you have the confidence. When intervention is necessary, you know exactly where to look.

Radio / multichannel application

The radio market has expanded rapidly over the last decade, with increasing numbers of specialist channels to satisfy the many focused audiences.

However, the transmission path to the listener is a long one. The AM-xx can check station inputs, outputs and off-air feeds to provide support and confidence to the operator.
Technical configuration

Input capability of up to 64 audio channels per frame, in blocks of 16 discrete channels / 8 stereo pairs. Alarm detection parameters can be set independently for each channel. Logic and processing is carried out within the frame, with level processing performed at 16 bit resolution.

Electronics are housed in a 1U frame with a removable front panel, which allows cards to be “hot swapped” while the unit is in operation. If the unit is initially only partly equipped with input cards, additional cards can be fitted to empty slots via the front panel.

LAN / Processor and audio monitor cards are also accessible from the front.

All firmware is stored in field programmable FLASH memory.

Options

1. Input card formats include Analogue (16 discrete channels), AES digital (8 pairs) or surround (5 streams).
2. Audible monitor output card.
3. SOFT-xx Windows PC software – In addition to the integration of up to four AM-xx frames, SOFT-xx provides a means of remotely indicating alarm status and alarm reset.
4. REMOTE-xx – A 1U hard wired remote control panel which replicates the front panel keys to allow the AM-xx to be mounted outside the operational environment.
5. ALARM-xx – A 1U rack device for the purpose of remotely indicating alarm status and enabling alarm reset. It has a group of 5 LEDs for each audio channel’s alarm status, an audible alarm and a global alarm output port. Each Alarm-xx has a 32 channel capacity and can be assigned to a set of 32 adjacent channels from a specific AM-xx. Connectivity is via serial link or LAN.
Specification

Input cards
4 audio input card slots, each supporting 16 channels / 8 pairs.

Input formats
Analogue with +24dB capability.
AES/EBU (Bal / Unbal selected by jumpers on PCB).
Surround and other formats TBA.
Input card types automatically recognised by the frame.
Input PCBs connect to interface board via 96 pin DIN connector.
Analogue cards: Alarm detection for audio loss, over level, out-of-phase on adjacent pairs.
AES/EBU cards: 32/44.1/48/96kHz capable, same alarm detection as analogue, plus carrier loss detection.

Outputs
Outputs: any 4 pairs of audio at 24 bit resolution (to main processor board).

Audio Input Connectors:
8 x 25 pole, Sub-D for analogue and AES-EBU (2 connectors per card slot).

Reference Input:
PAL/NTSC video input for frame synchronisation.

Data Input/Outputs:
I/O @ 115Kbps (Data out, alarms out/reset, parameter read/set) available as either RS232 or RS422.
I/O on USB-2 (Data out, alarms out/reset, parameter read/set).
Up to 4 pairs audio monitor outputs running on the USB-2 compressed. All 96kHz AES/EBU channels resampled at 48kHz for resynchronisation with internal clock.
The USB-2 works at 6.144MHz plus level & alarm data I/O on LAN port. (Data out, alarms out/reset, parameter read/set).
For all data outputs, audio meter scale/ballistic data will be in dB.

Audio Monitor Outputs (optional card):
Up to 4 pairs, balanced analogue (max. +20dBu) and AES/EBU (24 bit). (Any 96kHz AES/EBU sources will be resampled to 48kHz and sent out at 48kHz).

Display Monitor Outputs:
DVI-I (inc. XGA) supporting 4:3 & 16:9 aspect ratios.
Graphical interface firmware.

Size
484mm (W) x 453mm (D) x 44.5mm (H)
1U Box with removable front panel.

Weight
6.8 Kg

Power
Switch-mode PSU: 100v – 240v / 47 – 63Hz auto selected

www.chromatec.com
Features and specifications subject to change without notice.