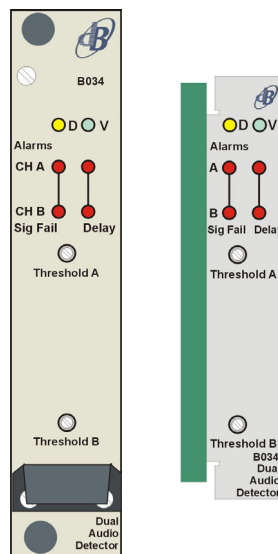


B034

DUAL AUDIO PROGRAMME DETECTOR



Handbook

Version 1.3



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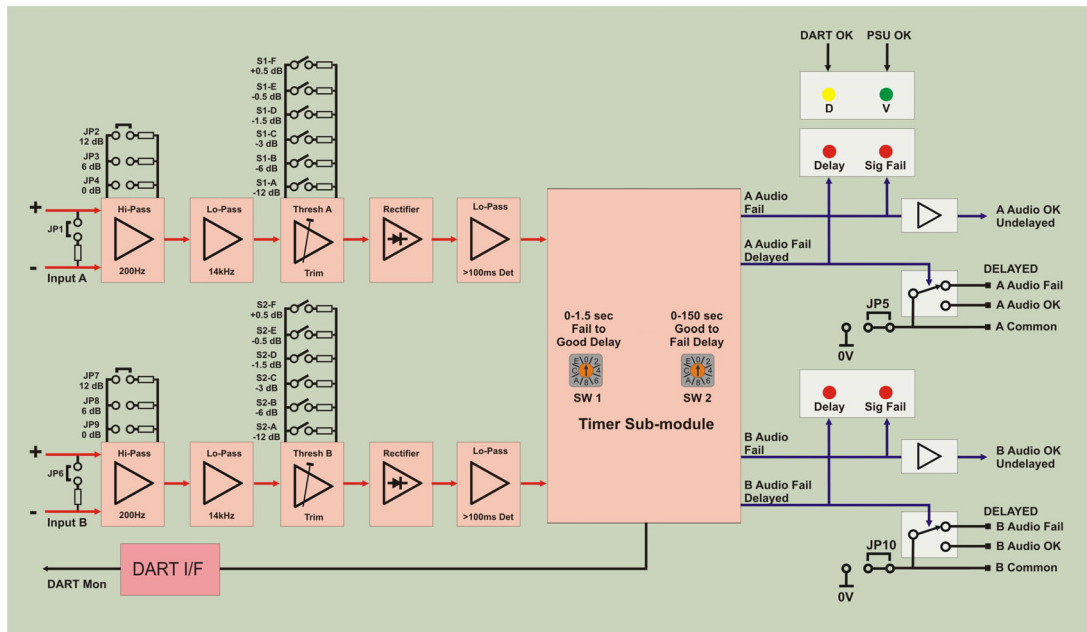
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Introduction

The dB B034 Dual Audio Programme Detector module has dual balanced audio inputs with independent detector circuits. It fits in either 1U or 3U Avitel or Vistek frames and power is derived from the frame PSU. An on-module regulator provides 5 Volt to 12 Volt rails.



The B034 Dual Audio Programme Detector

The input impedance is selectable to either 600R or 50K. The detection threshold is set by links in 0.5dB steps from -10dB to -33dB and a further adjustment of +/- 10dB via the front panel.

The detection circuit has an optional high pass filter selectable to either 6dB or 12dB per octave roll off below 200Hz. The detection circuit will reject pilot tone. The front panel LED's indicate undelayed and delayed programme failure.

A timer module is used to configure the delayed remote status signals and provides adjustable onset (Good to Fail) and reset (Fail to Good) timings. The Good to Fail time delay period can be adjusted in 1 second steps between 0 and 150 seconds. The Fail to Good time delay period can be adjusted in 0.1 second steps between 0 and 1.5 seconds.

Undelayed remote status signals are provided as peripheral driver outputs and the delayed remote status signals as isolated relay contacts.

The B034 can be monitored via DARTnet.

Main Features

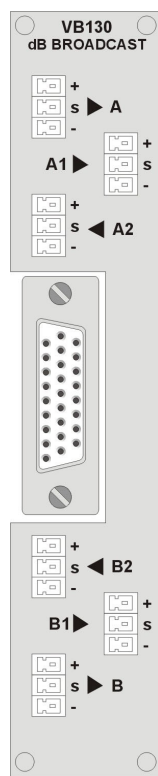
- Dual audio programme detector for Avitel and Vistek frames
- Inputs may be terminated with 600R or Hi -Z (50kR)
- Front panel indications for programme signal fail (undelayed and delayed) for each channel
- Peripheral driver output for undelayed signal fail and isolated relay outputs for delayed signal fail and signal OK
- Adjustable delayed programme fail onset and reset timing
- Front panel fine adjustment for audio level loss threshold
- Internal adjustment for audio level threshold and high pass filter boost
- DART monitoring capable as standard

Installation

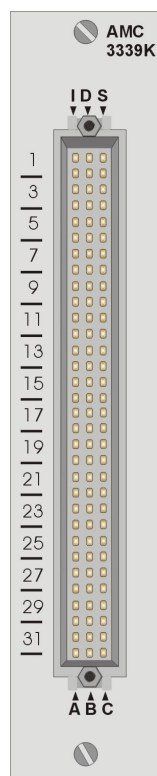
Selecting Rear Connectors

The available rear connectors and the frames/signal I/O used are as follows:

Type	Frame	Connectors	Signal types
VB130	1U(F010)/3U Vistek	3-pin screw terminal	Analogue audio
AMC 3339K	1U/3U Avitel	DIN 41614	Analogue audio



*3U Vistek style
chassis VB130*



*Avitel style chassis
AMC 3339K*

Rear Panel Connections

SIGNAL	CONNECTOR	COMMENTS
A1	3 pin screw	Not used
A2	3 pin screw	Not used
A	3 pin screw	Input 1
B1	3 pin screw	Not used
B2	3 pin screw	Not used
B	3 pin screw	Input 2

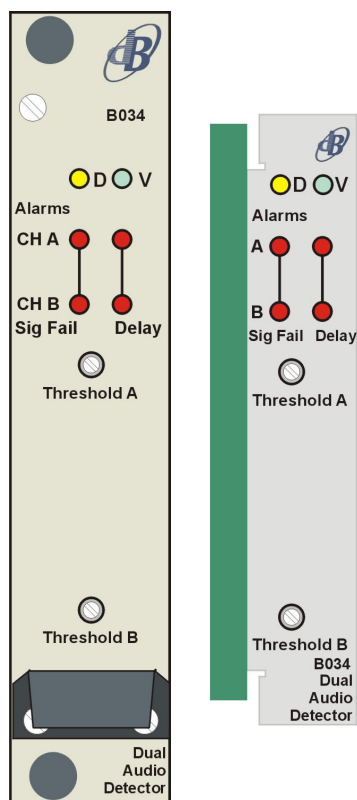
Control and Status - 26 way D type			
PIN	SIGNAL (pins 1 –13)	PIN	SIGNAL (pins 14 – 26)
1	0V CTL A	14	0V SUPPLY GROUND
2	0V CTL A	15	SPARE
3	0V CTL A	16	SPARE
4	0V CTL A	17	B AUDIO FAIL (DELAYED)
5	A AUDIO OK (UNDELAYED)	18	B AUDIO OK (DELAYED)
6	A AUDIO OK (UNDELAYED)	19	DELAYED COMMON
7	DELAYED COMMON	20	DELAYED COMMON
8	DELAYED COMMON	21	B AUDIO OK (UNDELAYED)
9	A AUDIO OK (DELAYED)	22	B AUDIO OK (UNDELAYED)
10	A AUDIO FAIL (DELAYED)	23	0V CTL B
11	SPARE	24	0V CTL B
12	SPARE	25	0V CTL B
13	0V SUPPLY GROUND	26	0V CTL B

Rear Panel Connections (DIN41614)

Pin No	A	B	C
1	0V Screen	A IN-C	A IN-H
2	0V Screen	A IN-C	A IN-H
3	0V Screen	0V	0V
4	0V Screen	0V	0V
5	0V Screen	0V	0V
6	0V Screen	0V	0V
7	0V Screen	0V	0V
8	0V Screen	0V Ctrl	0V Ctrl
9	0V Screen	0V Ctrl	0V Ctrl
10	0V Screen	A AUDIO OK (UNDEL)	A AUDIO OK (UNDEL)
11	0V Screen	DELAYED COMMON	DELAYED COMMON
12	0V Screen	A AUDIO OK (DEL)	A AUDIO FAIL (DEL)
13	0V Screen	N/C	N/C
14	0V Screen	N/C	N/C
15	0V Screen	0V	N/C
16	0V Screen	0V	N/C
17	0V Screen	N/C	N/C
18	0V Screen	N/C	N/C
19	0V Screen	N/C	N/C
20	0V Screen	N/C	N/C
21	0V Screen	B AUDIO OK (DEL)	B AUDIO FAIL (DEL)
22	0V Screen	DELAYED COMMON	DELAYED COMMON
23	0V Screen	B AUDIO OK (UNDEL)	B AUDIO OK (UNDEL)
24	0V Screen	0V Ctrl	0V Ctrl
25	0V Screen	0V Ctrl	0V Ctrl
26	0V Screen	0V	0V
27	0V Screen	0V	0V
28	0V Screen	0V	0V
29	0V Screen	0V	0V
30	0V Screen	0V	0V
31	0V Screen	B IN-C	B IN-H
32	0V Screen	B IN-C	B IN-H

Configuration and Operation

Front Panel Control



Avitel

Vistek

LED Indicators:

D Yellow – Flashing indicates DART monitoring is active

V Green – Indicates DC power present & OK

Sig Fail Red – Immediate signal loss indication

Delay Red – Delayed signal loss indication

Controls:

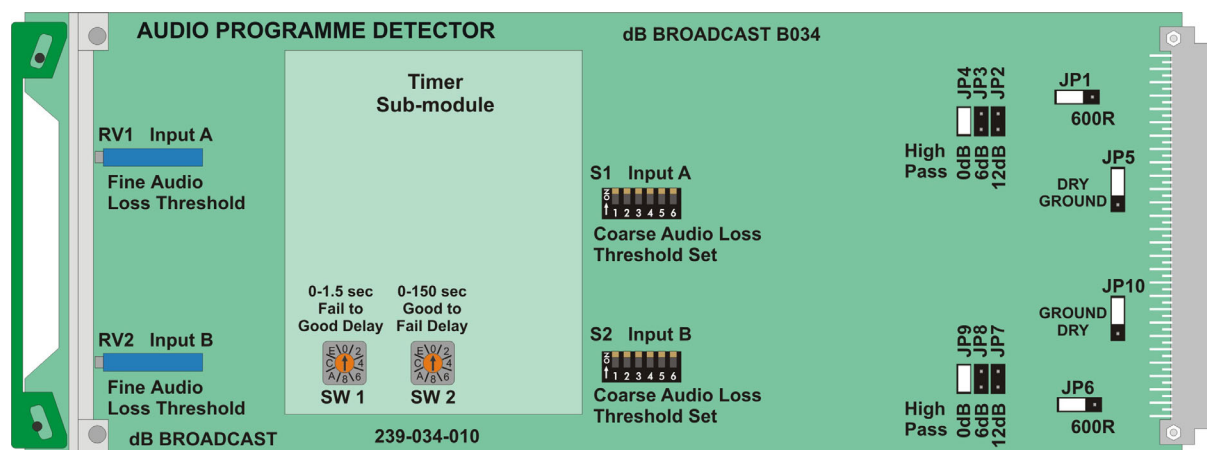
Threshold Audio programme loss threshold adjustment

LED	Ext Alarm	Meaning when lit or active
Sig Fail	Audio OK (Undel) – Peripheral driver	Audio programme loss detected – Audio level below threshold set by RV1/S1 (CHA) and RV2/S2 (CHB)
Delay	Audio Fail (Del) - Relay	Audio programme loss detected (delayed) – Audio level below threshold set by RV1/S1 (CHA) and RV2/S2 (CHB)
None	Audio OK (Del) - Relay	Audio programme detected (delayed) – Audio level above threshold set by RV1/S1 (CHA) and RV2/S2 (CHB)

Note: Sig Fail is the opposite sense to Audio OK (Undel).

Configuration

Each channel has a number of configuration jumper links and adjustments.



The B034 Dual Audio Programme Detector showing jumper links

Channel A Link Functions and Adjustments

Adjustment	Main Module - Channel A jumpers
JP1	Select 600R termination or high impedance (50kR).
JP2/3/4	Place the jumper in the 0dB, 6dB or 12dB position for the high pass roll off required.
S1	Set DIL switch levers for the coarse audio loss threshold level required – see table on page 8.
RV1	Front panel adjustment for fine control of audio loss threshold (+/- 10dB).
JP5	Move this link to the top for floating common ground. Move this link to the bottom for grounded common ground.

Channel B Link Functions and Adjustments

Adjustment	Main Module - Channel A jumpers
JP6	Select 600R termination or high impedance (50kR).
JP7/8/9	Place the jumper in the 0dB, 6dB or 12dB position for the high pass roll off required.
S2	Set DIL switch levers for the coarse audio loss threshold level required – see table on page 8.
RV2	Front panel adjustment for fine control of audio loss threshold (+/- 10dB).
JP10	Move this link to the bottom for floating common ground. Move this link to the top for grounded common ground.

Delayed Program Loss Onset and Reset delays

Adjusting Onset (Good to Fail time) delay

This is adjusted using the 16-way rotary switch SW2 from 10 to 150 seconds.

SW2	Delay in seconds	SW2	Delay in seconds
0	0	8	80
1	10	9	90
2	20	A	100
3	30	B	110
4	40	C	120
5	50	D	130
6	60	E	140
7	70	F	150

Adjusting Reset (Fail to Good time) delay

This is the period following a failure that the module waits before signalling that the pre-failure state has been regained. It is adjusted using SW1 in 0.1 second steps from 0.1 second to 1.5 seconds.

SW1	Delay in seconds	SW1	Delay in seconds
0	0	8	0.8
1	0.1	9	0.9
2	0.2	A	1.0
3	0.3	B	1.1
4	0.4	C	1.2
5	0.5	D	1.3
6	0.6	E	1.4
7	0.7	F	1.5

Adjusting Audio Loss Threshold Settings

The coarse audio loss threshold setting is adjusted using S1 for input A and S2 for input B.

S1/S2	Value
1	-12dB
2	-6dB
3	-3dB
4	-1.5dB
5	-0.5dB
6	+0.5dB

To calculate the required threshold, always subtract 10dB from the total configured value.

Example

To obtain a threshold of -25dBu, set levers 1 (-12dB) and 3 (-3dB), this gives an effective level threshold of -25dB (-15dB -10dB). The -10dB adjustment is only subtracted once for each input.

Note: It is recommended to use the fine control accessible through the front panel for accurate calibration.

Sample Problems and their Solutions

The unit does not appear to operate correctly

Check that the green 'V' LED is illuminated and that the module is seated correctly in the frame.

Check that the appropriate rear connector has been cabled correctly.

The Audio LED keeps blinking on and off for good signals

Check the six-way threshold DIL switch threshold setting. (S1 for CHA, S2 for CHB). If necessary try backing the sensitivity off a little using the fine threshold control accessible through the front panel (RV1 for CHA; RV2 for CHB).

Check the 0, 6 and 12dB high pass settings. (JP 2, 3, 4 for CHA, JP 7, 8, 9 for CHB).

Check that the incoming signal is correctly terminated.

The delayed program status indicates bad signals too often

Check the onset (Good to Fail) delay is not to low

Check the reset (Fail to Good) delay is not to low

The delayed program status does not indicate bad signals sometimes

Check the onset (Good to Fail) delay is not to high

The delayed program status takes too long to recover from indicating a bad signal

Check the reset (Fail to Good) delay is not to high

Ordering Information

B034 module types

Different frames require different mechanical fittings. All module functionality is identical.

B034	Version for Avitel Chassis
B034/V	Version for Vistek Chassis

3U Avitel configuration

ERF 3390K-P1	3U Chassis, 14 Module slots, 1 PSU slot, (no PSUs included)
ERF 3390K-P2	3U Chassis, 12 Module slots, 2 PSU slots, (no PSUs included)
MPS 3392L	PSU for above chassis, (no PSUs included)
AMC 3339K	DIN41614 Rear connector module

1U Avitel configuration

ERF 1131K	1U Chassis, 3 Module slots, PSU mounted externally, (no PSUs included)
MPS 0330	PSU for above chassis (requires mounting holsters)
ECA 0331	Mounting holsters for PSU MPS 0330
AMC 3339K	DIN41614 Rear connector module

3U Vistek configuration

V1606-dB-2PSU	3U Chassis, 14 Module slots, 2 PSU slots (2 PSUs included)
V1610-dB-48V	3U Chassis, 14 Module slots, 2 48V PSU slots (2 48V PSUs included)
VB130	Screw terminal Rear connector module

1U Vistek configuration (dual PSU)

F010	1U Chassis, 2 Module slots, 2 PSUs (PSUs included)
VB130	Screw terminal Rear connector module

Specification

INPUTS & OUTPUTS

Signal formats Analogue Audio

Connectors 3-Pin Screw Terminal or DIN 41614 connector

Impedance 600 Ohms or Hi Z/50kR (Link Selectable)