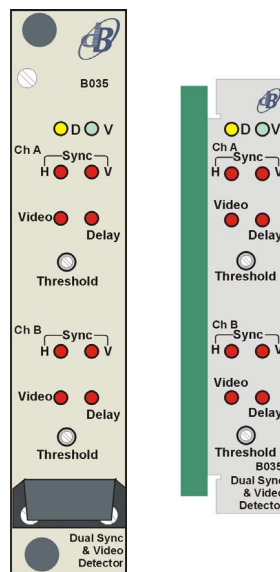


B035

DUAL SYNC DETECTOR



Handbook

Version 1.1



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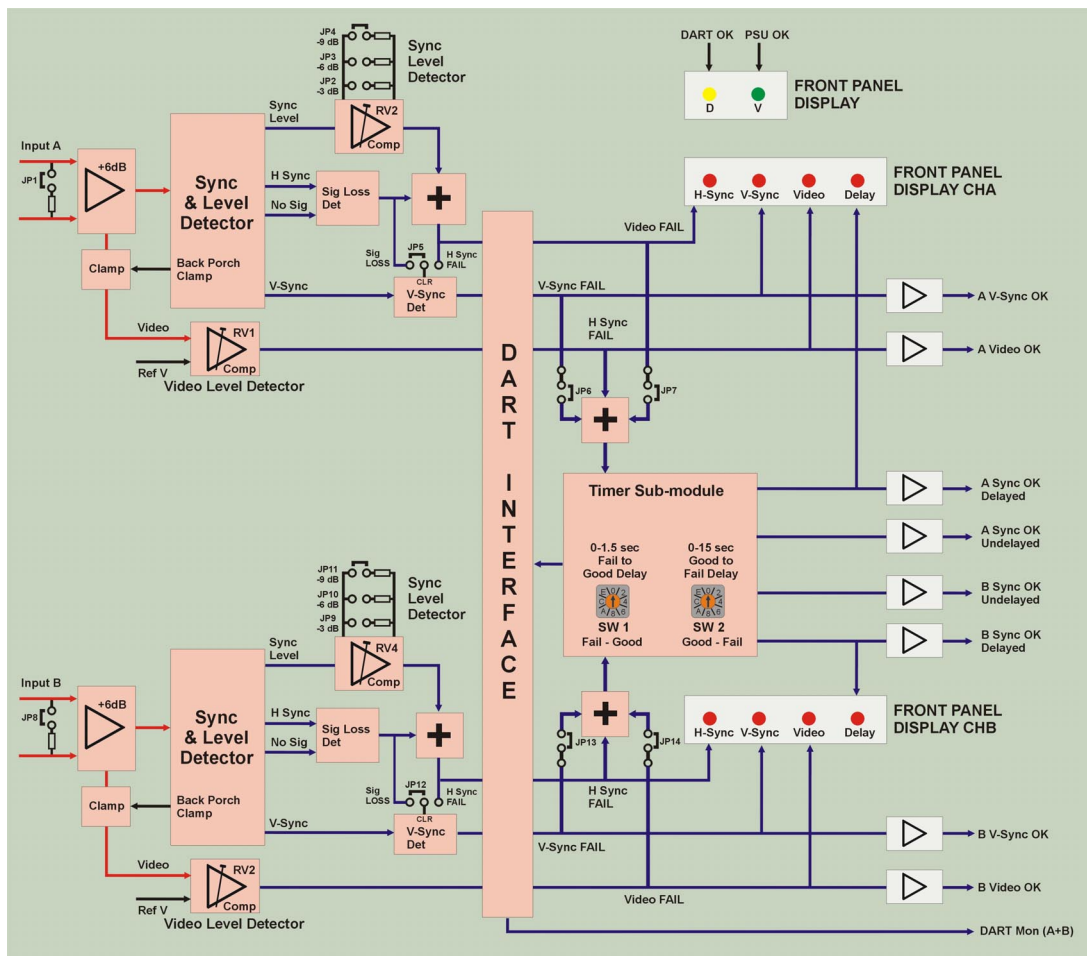
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Introduction

The dB Dual Sync Detector Module has dual composite video inputs with independent detector circuits, separate front panel indications for loss of line syncs, loss of field syncs and loss of preset video level.

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 rails.



The B035 dual sync detector

The sync detector threshold is adjustable between 0dB and -12dB in 3dB steps by links on the module. The video level detector threshold is adjustable between 0dB and -12dB via the front panel.

Panel indications are undelayed or immediate, whilst external remote status signals may be delayed or undelayed and are operated by H Syncs or a combination of H Syncs, V Syncs and Video Level.

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 15 seconds. The Fail to Good time delay period can be adjusted in 0.1 second steps between 0 and 1.5 seconds.

The B035 can be monitored via DARTnet.

Main features

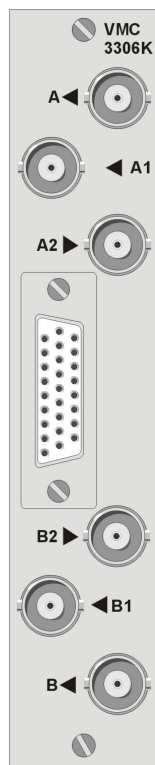
- Dual sync detector module for Avitel and Vistek frames for analogue video
- Inputs may be terminated with 75R or Hi -Z (10kR)
- Front panel indications for loss of line syncs, loss of field syncs and loss of preset video level for each channel
- Open collector outputs for loss of field syncs and loss of preset video level for each channel
- Darlington outputs for delayed and undelayed programme status
- External programme status output triggered by loss of H Syncs or a combination of H Syncs, V Syncs and/or Video Level
- Adjustable delayed programme status onset and reset timing
- Front panel adjustment for Video Level Loss threshold
- Internal adjustment for Sync Loss threshold
- DART monitoring capable as standard

Installation

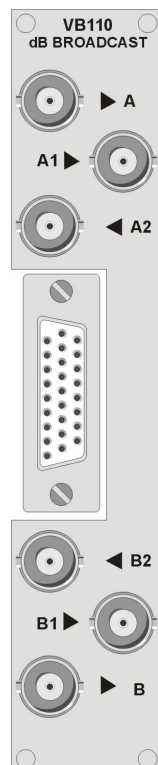
Selecting rear connectors

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

Type	Frame	Connectors	Signal types
VMC 3306K	1U/3U Avitel	BNCs	Analogue video
VB110	1U(F010)/3U Vistek	BNCs	Analogue video



*Avitel style chassis
VMC 3306K*



*3U Vistek style
chassis VB110*

Rear panel connections

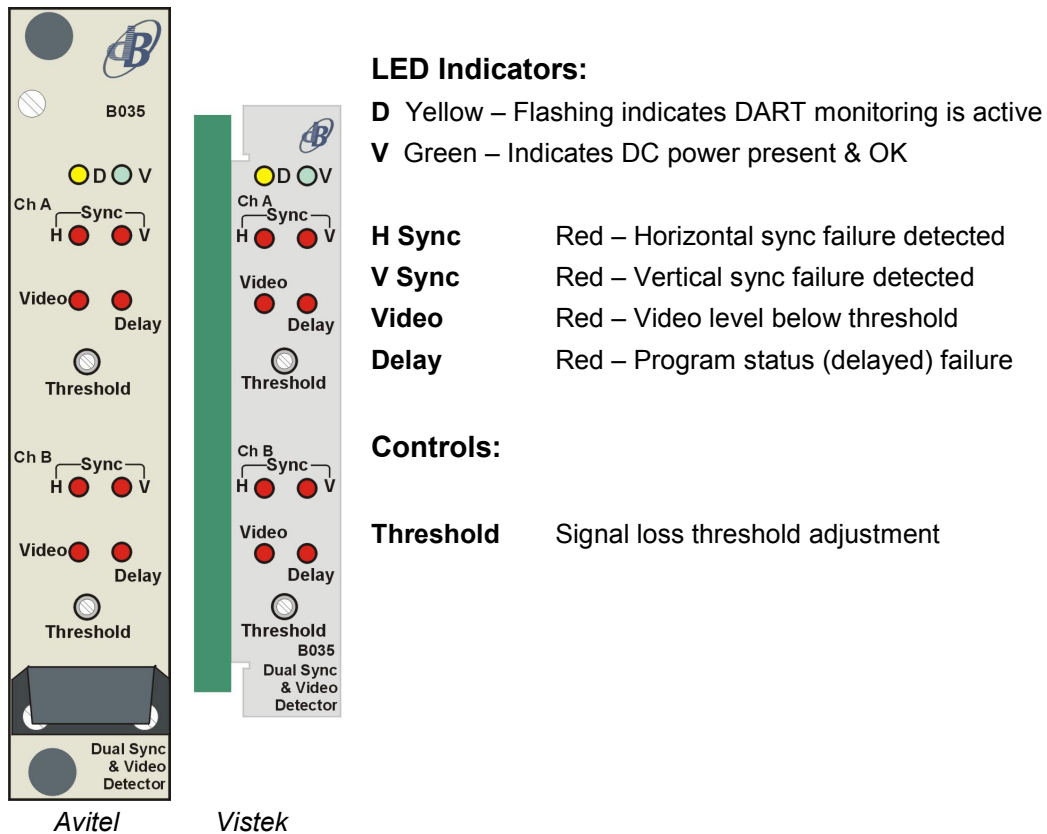
SIGNAL	CONNECTOR	COMMENTS
A1	BNC	Channel A Input 1
A2	BNC	Channel A Input 1 (Loop)
A	BNC	Not used
B1	BNC	Channel B Input 1
B2	BNC	Channel B Input 1 (Loop)
B	BNC	Not used

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

Note: External Alarms are grounded when NO ALARM is indicated.

Configuration and operation

Front panel control

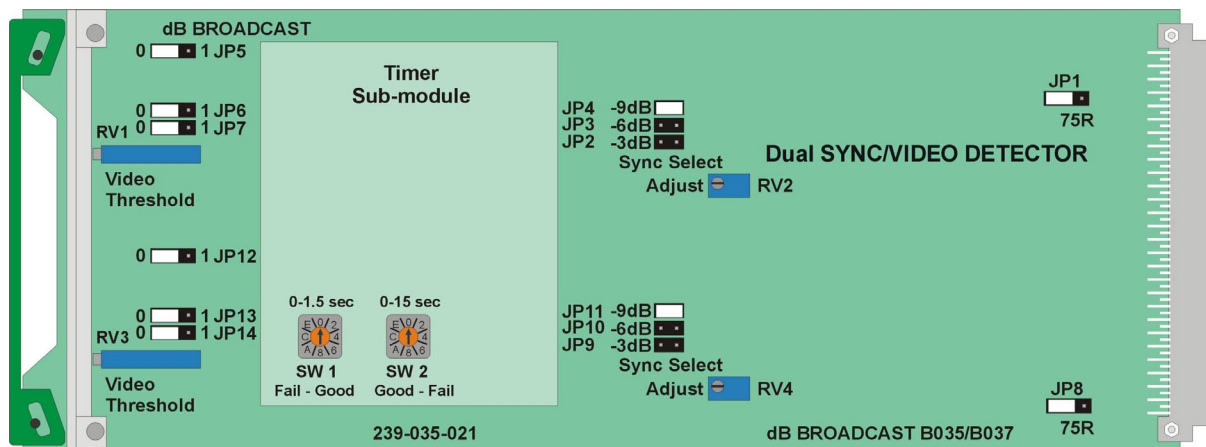


LED	Ext Alarm	Meaning when lit
H Sync	None	Horizontal sync failure detected – sync below threshold set by RV2 (CHA)/RV4 (CHB) or Signal Lost detected
V Sync	V Sync OK	Vertical sync failure detected
Video	Video OK	Video level below threshold set by RV1 (CHA)/RV3 (CHB)
Delay	Sync OK	Program status (delayed) failure as set by JP6/JP7 (CHA)/JP13/JP14 (CHB) and onset/reset delay timings on the Timing Sub-Module (see Configuration section)

Note: External Alarms are grounded when NO ALARM is indicated.

Configuration

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



The B035 Dual Sync/Video Detector showing jumper links

Channel A link functions and adjustments

Adjustment	Main Module - Channel A jumpers
JP1	Select 75R termination or Hi-Z (10kR).
JP2/3/4	Place the jumper in the -9dB, -6dB or -3dB position for the sync loss threshold required.
RV2	Adjust for fine control of sync loss threshold.
JP6	Move this link to the left (nearest front panel) to add Video Level loss to the delayed and undelayed external program status outputs.
JP7	Move this link to the left (nearest front panel) to add Vertical Sync loss to the delayed and undelayed external program status outputs.
JP5	Move this link to the left (nearest front panel) to allow Sig Loss only to reset the Vertical Sync loss detector. Move this link to the right (away from front panel) to allow Sig Loss and Sync Level threshold to reset the Vertical Sync loss detector.
RV1	Front panel adjustment for video loss threshold.

Channel B link functions and adjustments

Jumper No	Main Module - Channel B jumpers
JP8	Select 75R termination or Hi-Z (10kR).
JP9/10/11	Place the jumper in the -9dB, -6dB or -3dB position for the sync loss threshold required.
RV4	Adjust for fine control of sync loss threshold.
JP13	Move this link to the left (nearest front panel) to add Video Level loss to the delayed and undelayed external program status outputs.
JP14	Move this link to the left (nearest front panel) to add Vertical Sync loss to the delayed and undelayed external program status outputs.
JP12	Move this link to the left (nearest front panel) to allow Sig Loss only to reset the Vertical Sync loss detector. Move this link to the right (away from front panel) to allow Sig Loss and Sync Level threshold to reset the Vertical Sync loss detector.
RV3	Front panel adjustment for video loss threshold.

Delayed Program Loss Onset and Reset delays

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 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 Onset (Good to Fail time) delay

This is adjusted using the 16-way rotary switch SW2 from 0 to 15 seconds.

SW2	Delay in seconds	SW2	Delay in seconds
0	0	8	8
1	1	9	9
2	2	A	10
3	3	B	11
4	4	C	12
5	5	D	13
6	6	E	14
7	7	F	15

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 Video LED keeps blinking on and off for good signals

Check that the front panel video threshold sensitivity is set correctly – try backing the sensitivity off a little (RV1 for CHA; RV3 for CHB).

Check that the incoming signal is not double terminated.

The H-Sync LED keeps blinking on and off for good signals

Check that the sync threshold sensitivity is set correctly – try backing the sensitivity off a little (RV2 and JP2/3/4 for CHA; RV4 and JP8/9/10 for CHB).

Check that the incoming signal is not double terminated.

Check that the incoming sync level is set correctly.

The delayed or undelayed program status does not indicate bad signals sometimes

Check the sensitivity settings for video and sync level

Check the setting of V-Sync and Video Fail jumpers (JP6 and 7 for CHA, JP13 and JP14 for CHB)

The delayed program status indicates bad signals too often

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

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

The delayed program status does not indicate bad signals sometimes

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

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

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

Ordering information

B035 types

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

B035	Version for Avitel Chassis
B035/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)
VMC 3306K	BNC Rear connector module, (no PSUs included)

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
VMC 3306K	BNC 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)
VB110	BNC Rear connector module

1U Vistek configuration (dual PSU)

F010	1U Chassis, 2 Module slots, 2 PSUs (PSUs included)
VB110	BNC Rear connector module

Specification

INPUTS & OUTPUTS

Signal formats Analogue Video

Connectors 2 x 3 BNCs (two active per channel)

Impedance 75 Ohms or Hi Z/10kR (Link Selectable)