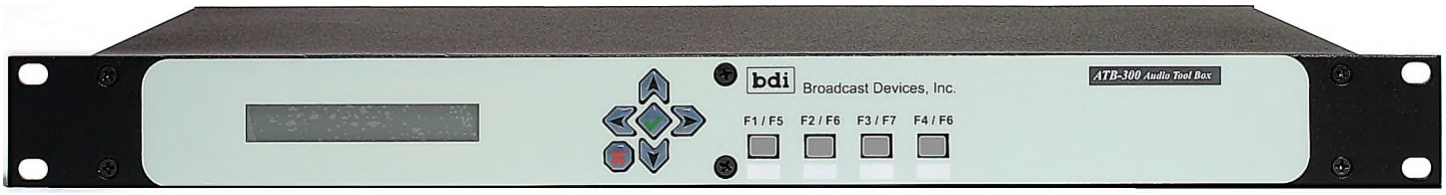
ATB-300 Audio Switcher

Digital/Analog Audio Switcher Distribution Amplifier



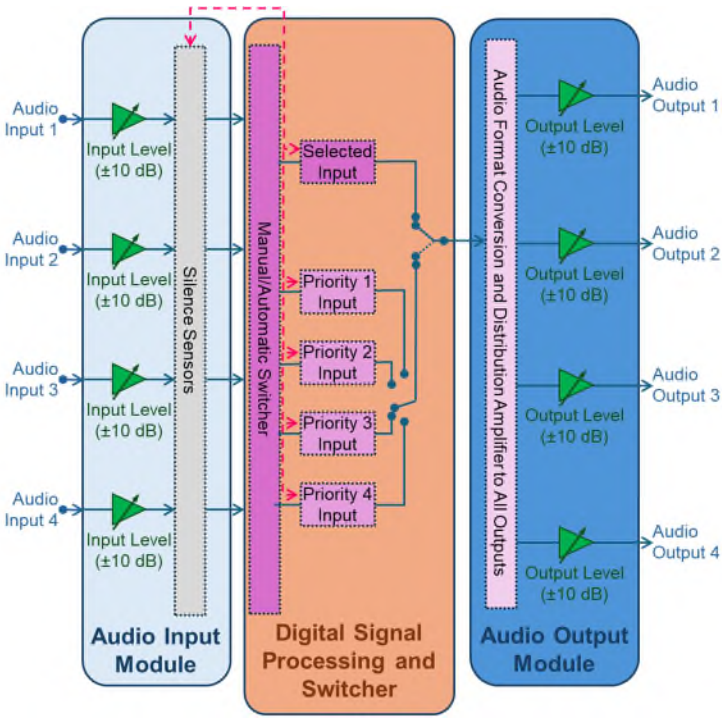
ATB-300 Digital/Analog Audio Switcher with silence sensors, front panel.

ATB-300 Digital/Analog Audio Switcher with silence sensors, rear panel.

Summary of Basic Switcher Functionality

The **ATB-300 is a 4 or 8 channel stereo analog/digital audio switcher/distribution system** featuring silence detection and automatic switching. Input and output types are defined by the model number as shown in the chart on page 2. The ATB-300 can be used to manually switch inputs or will automatically switch when a programmable silence interval of between 10 and 600 seconds is detected. Auto switching is programmed using a “priority list” of 4 or 8 memories, depending on configuration, which are programmed with input channels to search for audio in order of programmed preference. The ATB-300's **intelligent search algorithm** constantly monitors all inputs to allow immediate switching to the first active channel in the priority list without the need to sequence through inactive channels when silence is detected. The switcher has models that accept AES3 I/O, analog L/R I/O, composite baseband I/O, and hybrid versions. It also **provides format conversion in addition to switching functions**. The ATB-300 series audio switchers **include web access and SNMP v2** support. SNMPv2 support is provided via an MIB for use with compatible remote control systems and third-party software.

4 x 4 Switcher Functional Block Diagram



ATB-300 Manual Mode

Manual mode enables audio switching via the front panel, the **free Windows Audio Toolbox App**, the GPIO interface, via Ethernet SNMPv2 interface, or the optional GPMRC Remote Control Panel. GPIO allows selection of each of the 4 or 8 inputs for each output via the front panel, the Audio Toolbox App, and the GPMRC remote control panel. Serial control is also available for integration with Sage ENDEC and DASDEC™ EAS encoders, automation systems, and satellite receivers.

ATB-300 Auto Mode with Auto Return Option

In auto mode, the display indicates the selected input and its activity status. The ATB-300’s silence sensors automatically switch to the lowest priority number input, which has audio, during audio loss and, in **Auto Return mode**, restores the primary channel once audio returns for a user-defined interval. Silence sense is user-adjustable for length from 10 to 600 seconds and thresholds from -30 to -55 dBFS. If Auto Return is not desirable or required, it may be disabled.

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Significant ATB-300 Features:

The ATB-300 has an **audible alarm** feature that can be programmed from the front panel. The Audible alarm will sound after a silence detection sequence has occurred. A sonalert within the unit will sound until the unit is reset either remotely or from the front panel. This feature can be turned on or off.

ATB-300 **Auxiliary Alarm Relay Function and Remote Enable** consists of two sets of form C contact relays available on the remote control. One relay (K1) is a maintained-closure relay, and the second (K2) can be programmed to be maintained or momentary. Both relays are activated by a silent alarm detection sequence. K1 is normally connected to a status input on a remote-control system to indicate a fault has occurred. K2 can be used for this function in the maintained mode, and can also be used as a remote start for an auxiliary audio source in case of failure of the remote link audio. For example, a CD/DVD player or remote server can act as an auxiliary audio source, and K2 programmed for momentary closure can be used to start such a source connected to an ATB-300 input.

Adjustable Input and Output Gain Controls are provided and allow the user to adjust gain in 1 dB increments ±10 dB with a factory default of 0 dB. When factory default gains are used, AES3 I/O is unity. When AES3 inputs are output to an analog channel, the analog output will correspond to -20 dB nominal below the full scale of the AES3 input or +4dBm analog balanced output. Analog L/R inputs are designed to accept a +4 dBm nominal input, producing +4 dBm at the analog output and -20 dBfs at the AES3 output.

The ATB-300 supports **active frame rate conversion** on all AES3 digital inputs. The unit can accept sample rates from 8 to 96 KHz. The frame rate converter then up- or down-converts the sample rate to the selected output sample rate. The ATB-300 can output 32, 44.1 or 48 KHz sample rates user adjustable. The factory-default sample rate is 44.1 kHz.

The ATB-300 **input pairs can be configured for mode of operation on an individual basis. Stereo, Mono Left, Mono Right, L+R, and Stereo Swap** can be configured from the front panel for both AES and analog inputs. Use mono left and mono right to fill in a missing channel. For example, choosing mono left will take the signal from the left channel and apply it to both channels at the unit's output. Use L+R to create a monaural input from a stereo source.

The ATB-300 allows the user to **invert the phase** (Tip/Ring Inversion) of any channel to correct for inadvertent phase inversion. Note: Phase inversion is left or right, but not both simultaneously. Input Invert Control modes are dynamically saved when selected.

In short, the ATB-300 is a **versatile audio switching and format-conversion platform** that accepts analog, AES3 digital, and composite baseband inputs. The unit automatically converts between formats—**analog to AES3, AES3 to analog, composite baseband to AES3, and more**—while providing reliable, seamless source selection and broadcast-grade source switching.

		Number of Inputs			Number of Outputs		
Model	**Configuration (Inputs X Outputs)**	**AES3 Digital Stereo**	**Analog Stereo**	**Composite Baseband**	**AES3 Digital Stereo**	**Analog Stereo**	**Composite Baseband**
ATB-300-1	4 X 4	Four (4)	-	-	Four (4)	-	-
ATB-300-2	8 X 4	Four (4)	Four (4)	-	Four (4)	-	-
ATB-300-3	4 X 8	Four (4)	-	-	Four (4)	Four (4)	-
ATB-300-4	4 X 4	-	Four (4)	-	-	Four (4)	-
ATB-300-5	8 X 8	Four (4)	Four (4)	-	Four (4)	Four (4)	-
ATB-300-6	8 X 8	Eight (8)	-	-	Eight (8)	-	-
ATB-300-7	8 X 4	-	Eight (8)	-	-	Four (4)	-
ATB-300-8	8 X 8	-	Eight (8)	-	-	Eight (8)	-
ATB-300-9*	8 X 8	Four (4)	-	Four (4)	Four (4)	-	Four (4)
ATB-300-10*	8 X 8	-	Four (4)	Four (4)	-	Four (4)	Four (4)

*Note ATB-300-9 and ATB-300-10 models can be configured to convert composite baseband to AES3 stereo outputs.

ATB-300 Audio Switcher

Technical Specifications	ATB-300
Input and Output Types Available:	AES3 8 to 96 KHz, Analog balanced +4 dBm, Composite FM Stereo Baseband
Number of Inputs and Outputs:	Four (4) or Eight (8) by Configuration. See Model Chart below.
Input and Output Connectors:	DSUB25F - TASCAM Standard
Input and Output Level Adjustment Range:	All inputs and outputs include audio level adjustment with a range capability of ±10 dB
AES3 Input Sample Rates:	8 to 96 KHz
AES3 Output Sample Rates:	32, 44.1, or 48 KHz—User Definable
Analog Inputs:	+4 dBm Balanced L/R +24 dBm Maximum input level
Analog Outputs:	+4 dBm Balanced L/R +18 dBm Max output level
Frequency Response:	±0.25 dB from 20 Hz to 20 KHz
Total Harmonic Distortion:	Less than 0.05% at headroom level
Dynamic Range:	90 dB or greater
Baseband FM Stereo Input and Output Level:	3.5 V Peak to Peak for 100% FM Modulation
Baseband FM Stereo Frequency Response:	±0.05 dBm 10 Hz to 53 KHz
Remote Control:	Up to eight (8) Parallel GPIO, RS232/485 Serial, Ethernet, SNMPv2, and free Windows-based BDI Graphical User Interface supplied. An optional GPMRC Remote Control Panel also available.
GPIO Remote Connectors:	DSUB25F
Remote Control Local Command:	Momentary to Common
Status Local:	Open Collector +5 VDC pull-up available on the connector
RS232 Serial Connector:	DSUB25F
RS485 Serial Connector:	DSUB9F
Ethernet LAN Connector:	RJ45
Power Requirements:	100 to 240 VAC, 50/60 Hz, 0.5 amps
Operating Ambient Temperature:	32 to 122 degrees, F (0 to 50 degrees, C)
Humidity:	95%, Non-condensing
Mechanical Dimensions:	19 in W x 10 in D x 1.75 in H (483 mm W x 254 mm D x 44 mm H) Standard One EIA Rack Unit Enclosure
Shipping Dimensions:	22 in W x 14 in D x 7 in H (559 mm W x 356 mm D x 178 mm H)
Shipping Weight:	15 lbs. (7 kg)

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