Audio Overlay Train Detection

State-of-the-art crossing and overlay detection – engineered for high-spectrum environments. Fully backward compatible with FM AFTAC™, AFTAC™ II delivers reliable, efficient, and seamless upgrades for enhanced safety and performance.

KB SIGNALING™

AFTAC™ II

Key Benefits

- Simple Train Detection Unit
- Audio Overlay
- Simple Setup
- Proven Performance

Customer Benefits

Flexible

The AFTAC II is available in three chassis configurations. The transceiver unit is typically used for crossing island applications. The transmitter chassis along with a receiver chassis can be used to make up a discreet circuit at different locations. The dual-receiver chassis can be used to receive signals from two distant transmit locations away from the crossing. Direct rail coupling is used for short track wire runs and couplers are available for long high impedance runs over #14 AWG (American Wire Gauge) wire.

Diverse Applications

The AFTAC II utilizes a digital filter in the receiver which allows applications in 25KVA traction return systems as well as an overlay on DC, coded DC, and other AC signals without the use of insulated joints.

Simple Setup

Track circuit adjustment is easily accomplished via a simple transmitter power selection and the use of a receiver gains control with a built in meter.

Proven Performance

The AFTAC II was designed using AFTAC I technology that has many years of reliable service in the freight market.

General Description

The Audio Frequency Train Activated Circuit (AFTAC™) II is the second generation of FM audio overlay train detection systems.

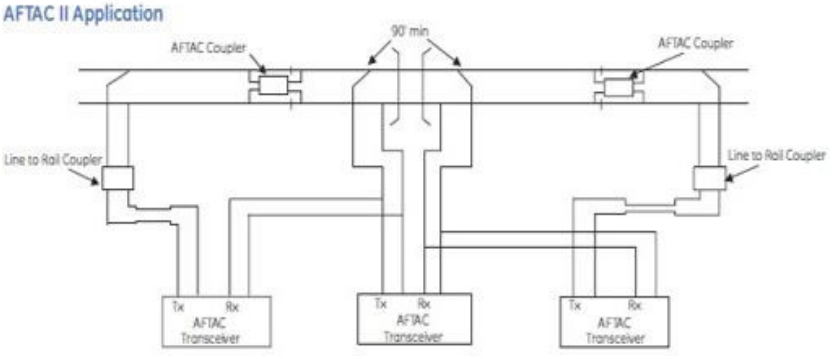
This versatile, compact system can be configured four ways, using the same enclosure: single transmitter, single receiver, one transmitter, one receiver, or two receivers. Module requirements have been reduced to two for receiver and one for a single transmitter. Either receiver or transmitter can be operated over line with proper coupling. No insulated joints are required.

Power output is controlled via a three-position power level switch and a power range jumper with six power settings. Low power (maximum transmitter output of 0.5 VAC) is for short distances up to 2,500 feet depending on frequency and ballast conditions. Medium power (maximum transmitter output of 3.18 VAC) is designed for distances up to 4,500 feet.

AFTAC™ II

Specifications

Power Requirements	■ Input voltage: 10-14 VDC ■ Current draw Transceiver: 2.13 amps ■ One transmitter: 1.7 amps ■ Two receivers: 810 ma One receiver: 405 ma ■ Allowable ripple: 0.5 VAC pp
Receiver	■ Input impedance: 0.5 ohms at center frequency ■ Sensitivity: maximum 1.4 mVAC (-55db, adjustable) ■ Bandwidth Above 800 Hz: 3 db points 3% (fc) min, 30 db points 10% (fc) max Below 800 Hz: 3 db points 6% (fc) min, 30 db points 25% (fc) max ■ Relay drive: +12 VDC with 500-ohm relay ■ Subtone selectivity: >60 db down at adjacent channel ■ Ring-by: 10 ft max, less with .06-ohm shunt
Transmitter	■ Output impedance: 2 ohms at center frequency ■ Output power Low–selectable: 0.29 V (42 mw); 0.45 V (100 mw); 0.83 V (344 mw) High–selectable: 1.3 V (.85 w); 1.8 V (1.6w); 3.2 V (5 w) ■ Modulation: FM ■ Deviation ratio 0.4 kHz to 2.5 kHz—0.5:1 2.6 kHz to 3.7 kHz—0.75:1 3.8 kHz to 10.2 kHz—1.1 ■ Subtone frequency stability: ±1% ■ Ring-by: 20 ft max, less with .06-ohm shunt
Operating Temperature	■ -40°F (-40°C) ÷ +160°F (+71°C)
Dimensions	■ Height: 13.25 in (337 mm) ■ Depth: 10.5 in (267 mm) ■ Width: 11.25 in (286 mm)
Weight	■ 13.69 pounds (6.16 kg)



23 Channels and 12 Subtones for Electrified or Non-Electrified Territory

Channel	AFTAC II Frequency	Standard Subtone	Maximum Subtone
1	500 Hz	10 Hz	10 Hz
2	700 Hz	10 Hz	10 Hz
3	900 Hz	10 Hz	10 Hz
4	1.1 KHz	10 Hz	10 Hz
5	1.3 KHz	17 Hz	24 Hz
6	1.6 KHz	24 Hz	31 Hz
7	1.9 KHz	31 Hz	31 Hz
8	2.3 KHz	38 Hz	38 Hz
9	2.8 KHz	45 Hz	45 Hz
10	3.1 KHz	52 Hz	52 Hz
11	3.5 KHz	66 Hz	66 Hz
12	4.0 KHz	73 Hz	73 Hz
13	4.4 KHz	80 Hz	80 Hz
14	4.9 KHz	87 Hz	87 Hz
15	5.4 KHz	10 Hz	108 Hz
16	5.9 KHz	17 Hz	108 Hz
17	6.4 KHz	24 Hz	108 Hz
18	7.1 KHz	31 Hz	108 Hz
19	7.7 KHz	38 Hz	108 Hz
20	8.3 KHz	45 Hz	108 Hz
21	8.9 KHz	52 Hz	108 Hz
22	9.5 KHz	66 Hz	108 Hz
23	10.2 KHz	73 Hz	108 Hz

Contact your KB Signaling Business Development Manager
Call 1-800-825-7090, or Email us at aso.techsupport-kb@alstomgroup.com for more information today.

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