

## High-Definition Audio Full-Duplex Truck Scale Intercom System with Automatic Volume and Advanced Noise Cancellation



This truck scale intercom system provides high-definition, two-way audio communication with simultaneous talk and listen conversation just like a telephone call. Its advanced design ensures that both the scale operator and the driver clearly understand what's being said.

A powerful 10-watt amplifier gives drivers the level of sound they need to hear over the noisiest engines, and automatic volume control ensures that quieter trucks don't get blasted with more volume than they need.

Noise cancellation filters out the truck noise so scale operators can clearly understand the drivers. Features like microphone automatic gain control help when drivers stop farther away from the intercom.

This is a great wired solution to one of the most challenging environments for a full-duplex intercom. Its superb audio communication make it an excellent business investment that eliminates complaints about poor audio.

### OPERATION:

Drivers don't have to try to reach past their mirrors to press a button since an optical sensor can be connected to the scale intercom. The scale intercom automatically calls the scale house giving drivers totally hands-free operation!

The scale house operator can also press a button on the inside phone and the scale intercom will answer automatically.

Scale house operators can talk to drivers through the full-duplex hands-free speakerphone, or an optional wireless headset.

You can have multiple inside and outside units and you can selectively call any one of them. Scale operators can even call each other if need be. Works great for multi-lane scales!

## THE CHALLENGES OF TRUCK SCALE COMMUNICATION

There are two problems to be solved for a truck scale intercom system: 1. The trucks are very loud and scale operators can't understand the drivers. 2. The truck scale intercom needs lots of volume to overcome engine noise.

It's easy enough to amplify sound so the driver can hear, but the hard part is the scale operator side. Two technologies are required to make this work well: Acoustic Echo Cancellation (AEC) and Active Noise Cancellation (ANC).

Acoustic Echo Cancellation is required for full duplex and is used to cancel feedback (squealing noise) on the truck scale intercom. The higher the volume, the harder AEC has to work. It takes expensive processing power and complex, patented software algorithms to make this happen. Now add noise cancellation and it takes even more processing power. Lower cost systems don't work well because they can't use the quality components and engineering needed to give you both volume and understandable conversation.

# OUTDOOR INTERCOM SPECIFICATIONS

## AUDIO

- Audio quality - percentage articulation loss of consonants (Alcons) - at 70 dB
- Audio quality - total harmonic distortion + noise, without noise reduction (THD+N) - at 70 dB
- SPL rated power at 1m in open duplex
- SPL rated power at 1m in half duplex
- SPL rated power at 1m in program distribution and announcement
- Noise cancelling - suppression of musical noise
- Noise cancelling - suppression of static noise
- Noise cancelling - suppression of rapidly changing noise
- Codecs
- Frequency range
- Audio technology Modes:

at 70 dB < 5%\*

at 70 dB < 2%\*

95 dB\*

105 dB\*

105 dB\*

YES

YES

YES

G.711, G.722, G.729

G.722 Codec 200 Hz – 7000 Hz

Full open duplex, switched open duplex

Adaptive jitter filter

Custom Ringing Tone

Audio Mixing – Conversation and Group Call

Sound Level Detection / scream alarm (only in AlphaCom)

Automatic gain control (microphone)

10 W class D

Digital MEMS, omnidirectional microphone

Undistorted and clear audio

Prevents audio feedback even at high volumes (95dB)

Matches 10W amp for distortion-free broadcast level sound

\* Tested with Audio Precision SYS 2722 equipment

- Internal speaker amplifier
- Microphone technology
- Automatic Volume Control (AVC)
- Acoustic Echo Cancellation (AEC)
- 10W Speaker

\* Tested with Audio Precision SYS 2722 equipment

## HARDWARE

- Ethernet connector
- All other connectors
- General inputs and outputs
- Outputs
- Change-over relay (NO+NC+COM)
- Power options
- PoE (power over Ethernet)
- External power supply
- Power consumption

1 x RJ 45

Tool less, spring loaded, vibration proof terminals

6 (configurable)

12mA as LED drivers

Max: 250VAC/220VDC, 2A, 60W

PoE and or external power supply

IEEE 802.3af standard, Class 0 (0.44W to 12.95 W)

24 VDC (16 – 48 V)

Idle 1.8W, max 12W (depending on volume)

# SPEAKERPHONE SPECIFICATIONS

- Network Connectivity: SIP
- Protocol Support: TCP/IP, UDP/IP, HTTP/HTTPS, etc.
- Line Appearances: 6
- Switch Port: 1x 10/100/1000 Gigabit Ethernet RJ45
- Additional Ports: 1x 3.5 mm audio, 1x USB Micro-B, 1x RJ48 daisy chain
- PoE: IEEE 802.3at Class 4 compliant
- WiFi: IEEE 802.11b/g/n compliant
- Display: 4.3" 800x400 touchscreen LCD
- Operating System: Android 4.4 KitKat
- Bluetooth Support: Bluetooth 4.0
- Local Conferencing: 7-way
- Wideband Audio: yes
- Audio Codecs: G.711µ/a, G.722, G.722.1 (1c pending), G.726, iLBC, Opus
- Speaker: 220 – 14,000kHz
- Volume: max. 86 dB at 0.5m
- Microphones: 3x cardioid
- Pickup Range: 12 ft
- QoS: yes
- Dimensions: 11.02" x 11.22" x 2.36"
- Conference Phone Package Contents:
- Conference phone, universal power supply, network cable, USB cable, RJ45 network cable, quick start guides



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