Advanced Troubleshooting Guide

Terms:

- **Units** – individual intercom stations within a intercom system
- **System** – a collection of all intercom units within a communication loop.
- **Single Phase of electricity** – a single close circuit of electricity supply. It is a single distribution of 110 Volt AC for loads that are mostly lighting and heating with few large electric appliance
- **Dual Phase of Electricity** (a.k.a. triplex) – 2 discreet single phase of 110 Volt AC distributed into one household to accommodated a large consumption of electricity.

Transmission Problem

All units transmit & receive by means of FM signal via the power lines. Therefore it is essential that all units are plugged in to the same phase of the circuit breaker or fuse.
Some big houses or older houses and most of the detached houses are wired with dual phase electricity. Especially family that uses electric range, electric cook top, electric wall oven, and electric dryers. Reason being all these electric guzzler appliances required huge amount of ampere (juice) to run. In a 110 volts AC environment, one 110 volts supply is not sufficient to handle the demand.

The common problem with multiple phases of electricity supply is the communication between units. The units might be communicating perfectly between the house & a detach garage 1000 feet away while having no communica tion at all within the same rooms or vice versa. There are also cases when the live leg of an upper receptacle and the live leg of a lower receptacle of a wall unit being wired in different phase of the AC supply. This is especially true in the kitchen area in houses that were wired before the 70's.

In a dual phase wiring situation, you can plug our all intercoms directly to 220V AC dual phase outlet. Then it will working in all two phases. Or you can use our earth wire intercom. It will also work in different phase line

Troubleshooting a Phase wiring problem vs. a bad unit

	Scenarios	Cause	Action
1	If the units communicate between 2 adjacent rooms but not with a room that is further away	One of the rooms is wired to a different phase of the power supplies. Make sure that the units are not plugged into a surge protector	Plug them directly into a wall outlet. Try different outlets. If possible, please plug all intercoms to Dual phase 220V AC outlet The system is OK. NOT defective
2	The units communicate between 2 far away rooms but not with an adjacent room or even within the same room.	One of the room is wired to a different phase of the power supplies Make that the units are not plugged into a surge protector	Plug them directly into a wall outlet. Try different outlets If possible, please plug all intercoms to Dual phase 220V AC outlet The system is OK. NOT defective
3	ALL units were powered up & plugged directly to the wall outlets with no surge protector in-between, but still failed to communicate.	Test all units by plugging all into a single power strip. Power them up. Test all units find the fail one.	If all communicate within the same strip. The system is GOOD. If your communication problem exist within the same strip, please Contact us; describe the problem in detail for a proper exchange of the bad unit

Interference and Noise

Interference and noise could be a nuisance for that purpose. The most common type of noise is the "sparks" & the statics. Interference usually comes from micros wave oven, hair dryers, motors and non compatible electrical component combinations. Interference was fed into the power lines by these appliances while the power line is the avenue where the intercom system communicates.

	Scenarios	Cause	Action
1	Interference & noise occurred intermittently	A device was being turn on at that moment. One of such candidate would be a microwave oven. Not all microwaves are bad.	Recall or check with other family members on what device was being used at that time when the interference occurred. Replicate the scenarios. Avoid using that device where the intercom is engaged. The system is NOT defective
2	Interference & noise happened at a certain period of time. For example evening & night time or vice versa	A CFL (compact fluorescent lamp, a.k.a. energy saving light bulb) non-compatible timer was turned on because of a preset schedule Other device being turn on at a specific schedule	1) Replaced the CFL non-compatible timer with a compatible model. 2) Replace the CFL light with a traditional incandescent bulb**(a)** 3) Mark the time when the statics starts & check the devices at home to see what was being scheduled to turn on at that time The system is NOT defective
3	Non-stop interference & noise on ALL channels, 24 x 7	Existing noise in the wiring system from some preinstalled appliances. The system will work perfectly in another household	The system is NOT defective **(b)**

(a) As a common decency, please always replace the non-CFL compatible timer rather than going back to the traditional incandescent light bulb. Don't we all love our mother earth?

(b) The unit is NOT defective. It is a known fact that bad appliances feed "sparks" & noise into the power line. We regret that you are not able to enjoy our product & our services because of an inherited condition. We have another single wire wired intercom. Please visit http://www.thodukonics.com / wired _ intercom.html