

Terminology

wiki.allstarlink.org

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1 Terminology

This page discusses some of the terminology used when configuring your AllStar Link node.

2 Common Terms

Below are some common terms and what they mean

Term	Definition/Meaning
Asterisk	Asterisk is a software PBX that we use to as the framework to implement Asterisk/app_rpt. Asterisk was conceived and written by Mark Spencer of Digium Inc. and is made available as open source software under the GPL.
Node	A single radio system. There may be more then one Node on a particular Server but most of our users just have one Node attached. A Node may be set up in several different ways. It may be a full-duplex repeater system or several different varieties of simplex operations (a conventional-type transceiver), or a hub which has no radio hardware connected to it whatsoever.
Repeater	A repeater node has a full duplex radio attached. Asterisk/app_rpt provides the repeat audio when duplex=2 is set in rpt.conf. Repeater nodes have all the features of a sophisticated repeater controller. Asterisk/app_rpt may be connected to a controller to provide only the linking function.
Channel Driver	A channel driver is a piece of code which runs in the Asterisk framework to allow conversion between a protocol such as IAX, or Echolink and the common interface used inside of Asterisk. Think of channel drivers as protocol interfaces. The channel drivers most frequently used with Asterisk/app_rpt are as follows: chan_echolink, chan_iax2, chan_usbradio, chan_zap, chan_simpleusb, chan_voter.
COR	The purpose of the COR signal is to change state when there is a signal being received by the receiver. This is done by creating a logic signal that changes states when the radios noise squelch has opened because there is sufficient quieting on the channel to "open the noise squelch". In the old days, COR was an acronym for "Carrier Operated Relay" as there were radio receivers which literally had relays in them just for this purpose. Most radio receivers now use a solid state switch (transistor) to serve this purpose. Other names synonymous with this signal are "Carrier Detect" and "Carrier Operated Switch" (COS).

Term	Definition/Meaning
CTCSS	Continuously Tone Coded Squelch System (CTCSS) is a sub-audible tone (below 300 Hz) which controls access to radio systems. CTCSS has other names including PL (Private Line) and CG (Channel Guard). We use CTCSS rather than PL or CG throughout this document. For more information see ¹ . Like COR/COS, decoding a CTCSS tone produces a logic state that becomes valid when the receiver detects the presence of a sub-audible tone that matches what the user is transmitting. CTCSS Encode refers to the tone being transmitted.
PTT	Push to Talk (PTT) is used to tell the transmitter to transmit. The name comes from the control wire leading to the switch on the microphone.
Squelch Tail	A squelch tail is the burst of white noise that occurs in a receiver when the transmitting station unkeys. It's duration is the time it takes for the receiver to squelch once there is no more signal. Generally a shorter the squelch tail is more desirable. Some receivers have variable squelch tails where weaker signals will have a longer squelch tail to prevent premature squelching. The MICOR squelch circuit is famous for this.
Hub Node	A hub is a Asterisk/app_rpt node with no radio attached and provides a central connection point to from a linked system of multiple nodes. Hubs may be located in a server room or other location where high bandwidth is available. Because no radio is attached the chan_driver is set to rxchannel=Zap/pseudo in rpt.conf.
Remote Base	Remote base nodes have half duplex radios attached and may be frequency agile. Remote bases cannot be controlled from the radio, only from other radios on the network or, like all nodes, from the computer command line. Unlike all other nodes, remote base nodes only allow one connection at a time. This is to eliminate confusion of who is controlling the remote. Remote bases have a considerably different rpt.conf.
Simplex Node	A simplex node is half duplex radio such as a mobile or hand held. Simplex nodes are not repeaters. Simplex nodes generally have no courtesy tones or hang time as determined by duplex=0 in rpt.conf. However, duplex=1 will provide courtesy tones and hang time while still not repeating.
Stanza	A section in the various AllStar Link/Asterisk configuration files that are defined using square brackets. (i.e., [general] is a stanza)
Server	A computer system at a particular location. On it there may be one or more Nodes
Hub	A Node in the AllStar Link network that does not have any radio hardware connected to it.

¹ http://en.wikipedia.org/wiki/Continuous_Tone-Coded_Squelch_System

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¹ Chapter 4 on page 15

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