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Keep Comm with Pete...

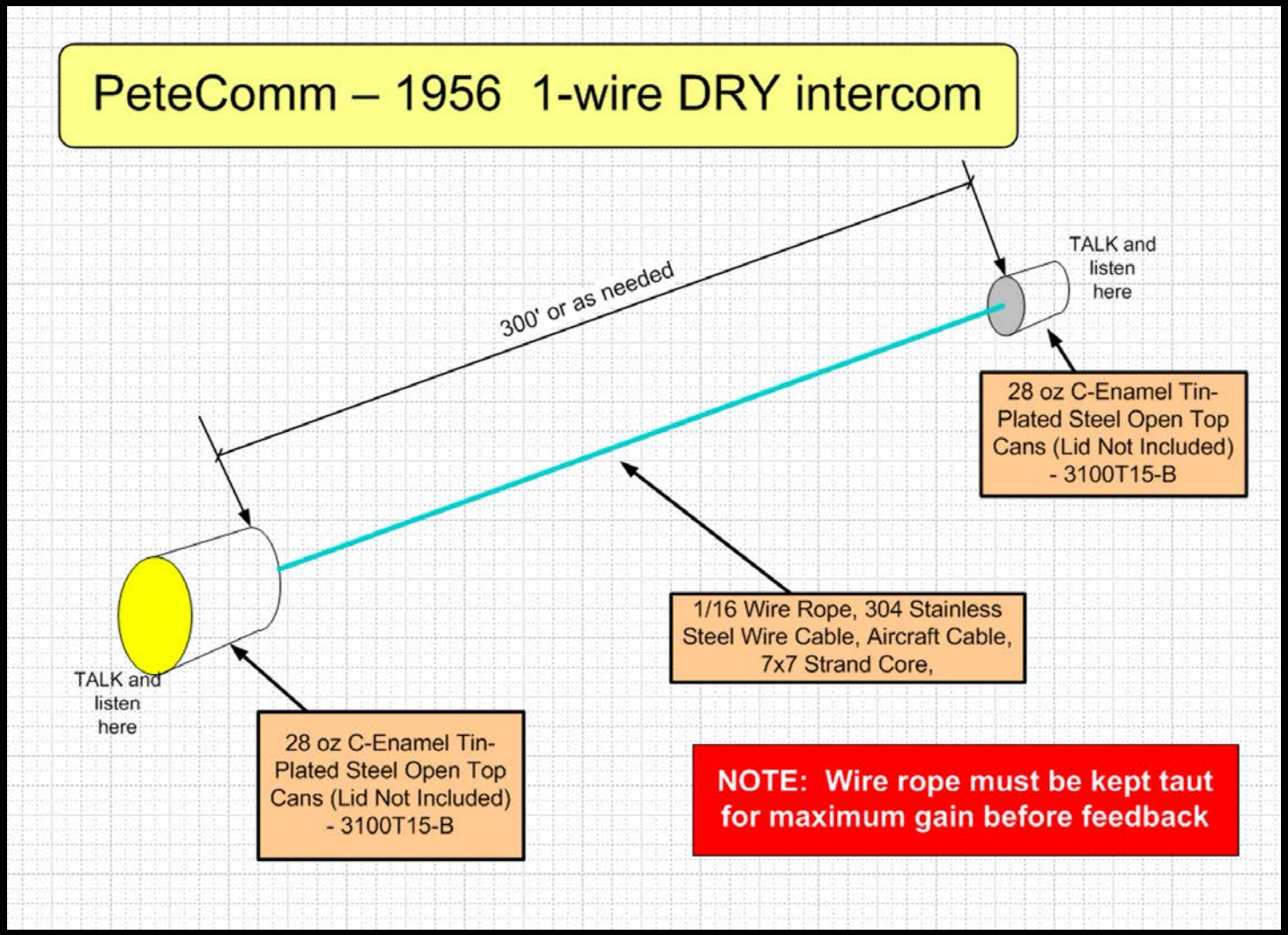
Part 1: "In the beginning – 2 tin cans and a string"

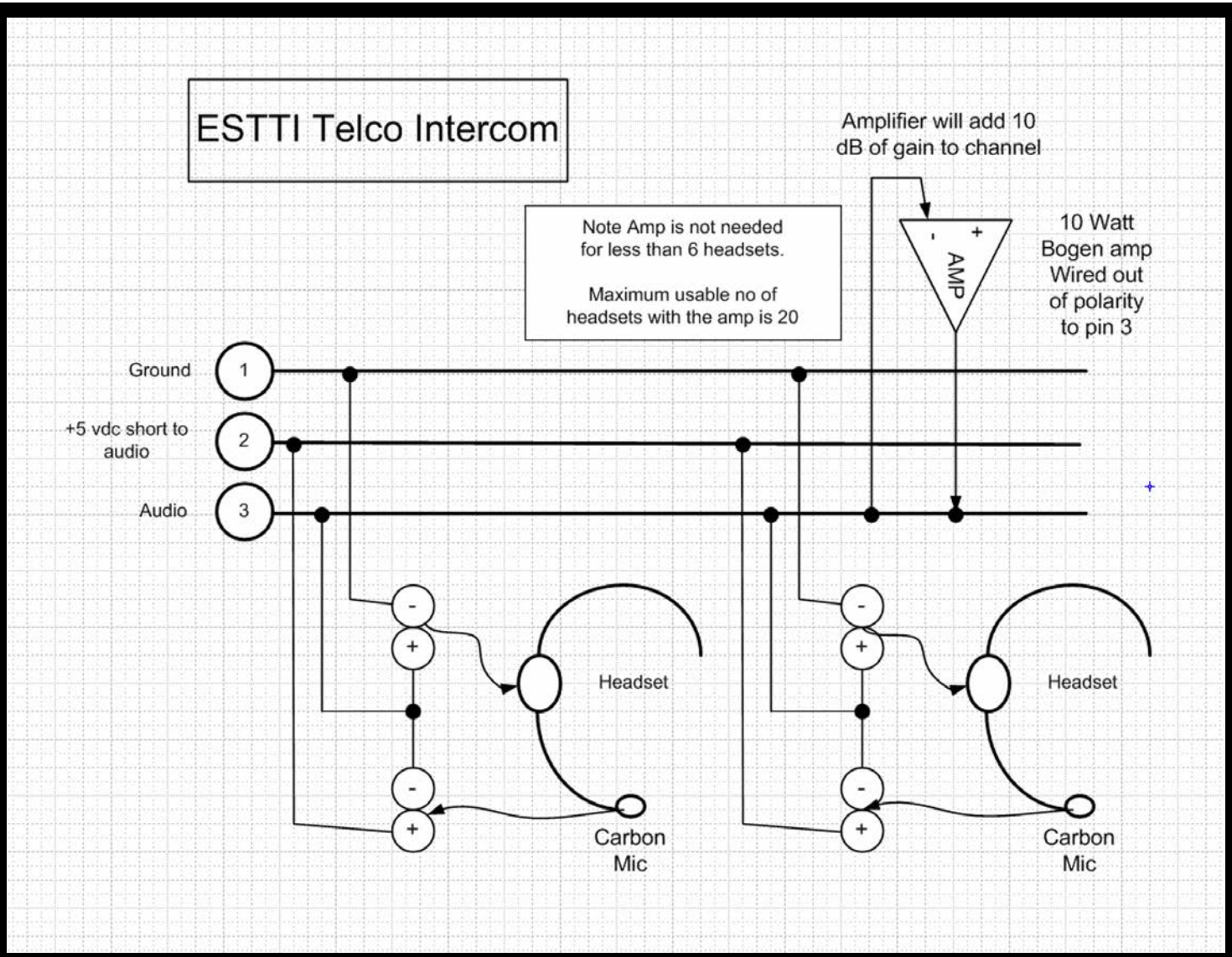
Basic 2-wire intercom...
Invention, tips and tricks
for Clear-Com and RTS

Guest:

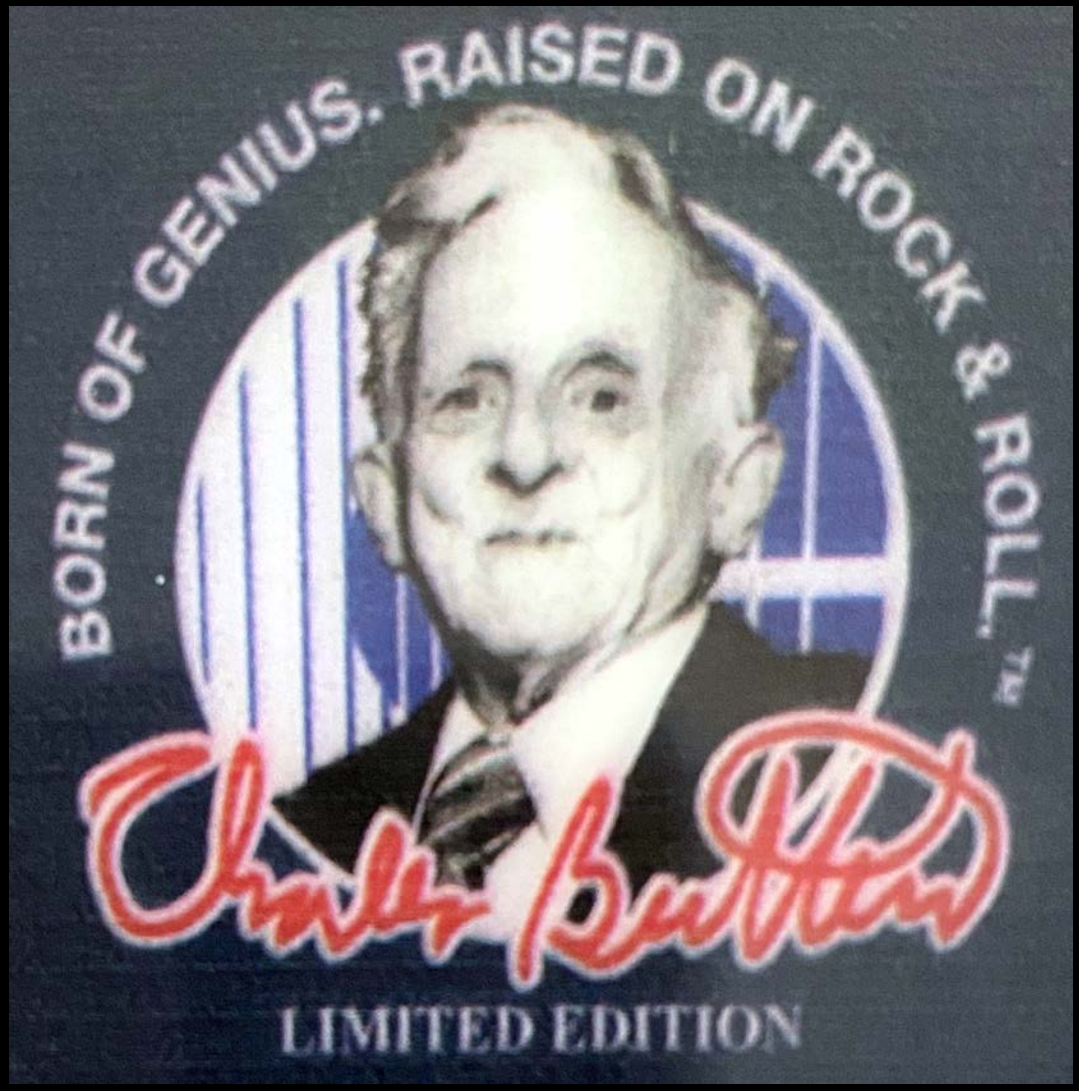
Bob Tourkow
bob@cousy.net

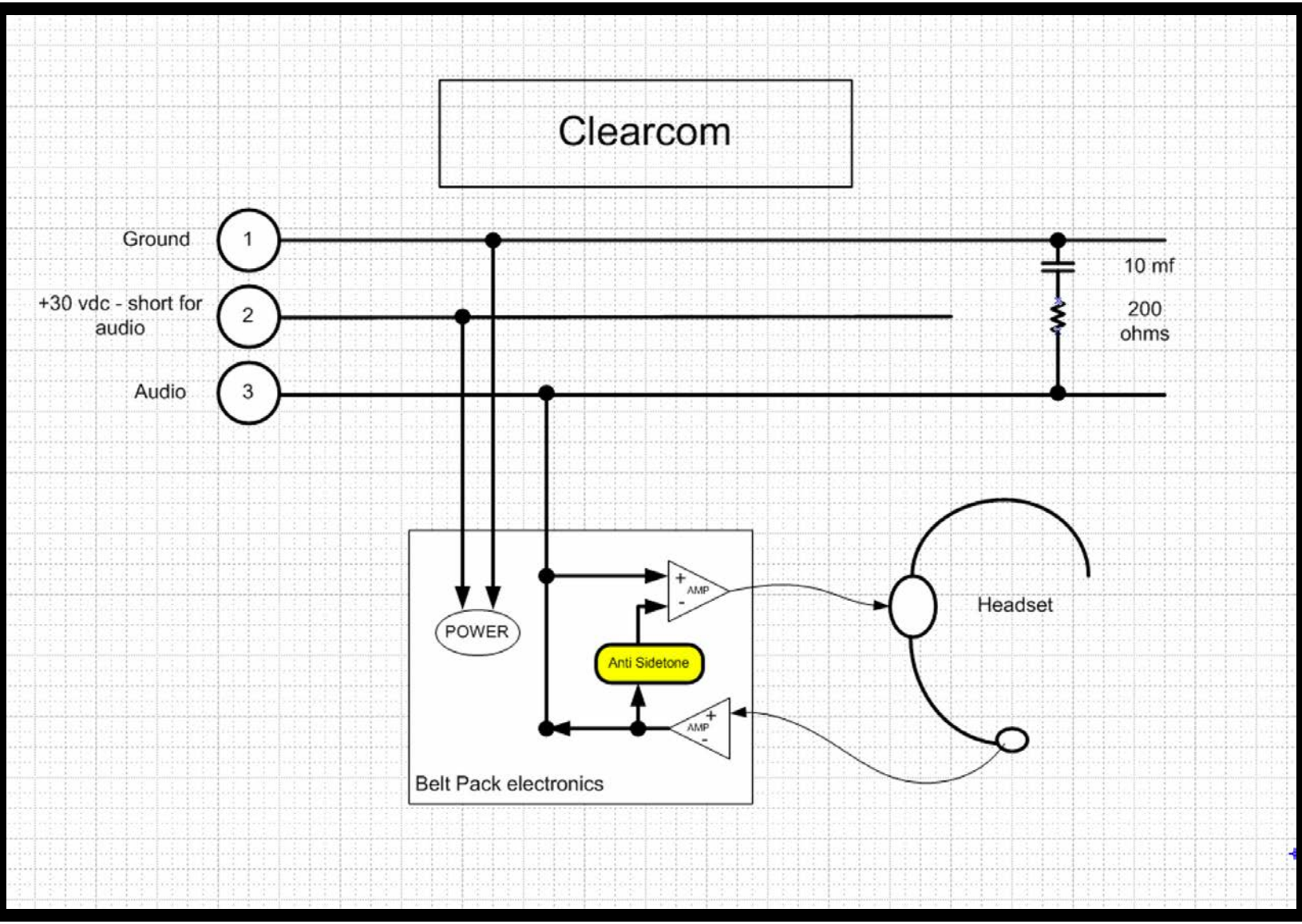
... This webinar is **recorded** & available to view through our website archive practicalshow.tech ...
... When you post a question, please repeat the idea which prompted it ...
... Questions will not necessarily be immediately addressed and it will help ...


PeteComm – 1956 1-wire DRY intercom
300' or as needed
TALK and listen here
28 oz C-Enamel Tin-Plated Steel Open Top Cans (Lid Not Included) - 3100T15-B
1/16 Wire Rope, 304 Stainless Steel Wire Cable, Aircraft Cable, 7x7 Strand Core,
TALK and listen here
28 oz C-Enamel Tin-Plated Steel Open Top Cans (Lid Not Included) - 3100T15-B
NOTE: Wire rope must be kept taut for maximum gain before feedback


ESTTI Telco Intercom
Amplifier will add 10 dB of gain to channel
Note Amp is not needed for less than 6 headsets.
Maximum usable no of headsets with the amp is 20
AMP
10 Watt Bogen amp Wired out of polarity to pin 3
Ground
1
+5 vdc short to audio
2
Audio
3
Headset
Carbon Mic
Headset
Carbon Mic

Brand Name	Manufacturer
Audiocom®	Telex Communications, Inc.
Chaos	Goddard Design Company
Clear-Com	Clear-Com Intercom Systems
David Clark	David Clark Company, Inc.
PortaCom	Anchor Audio, Inc.
Production Intercom	Production Intercom, Inc.
RTS™	Telex Communications, Inc.

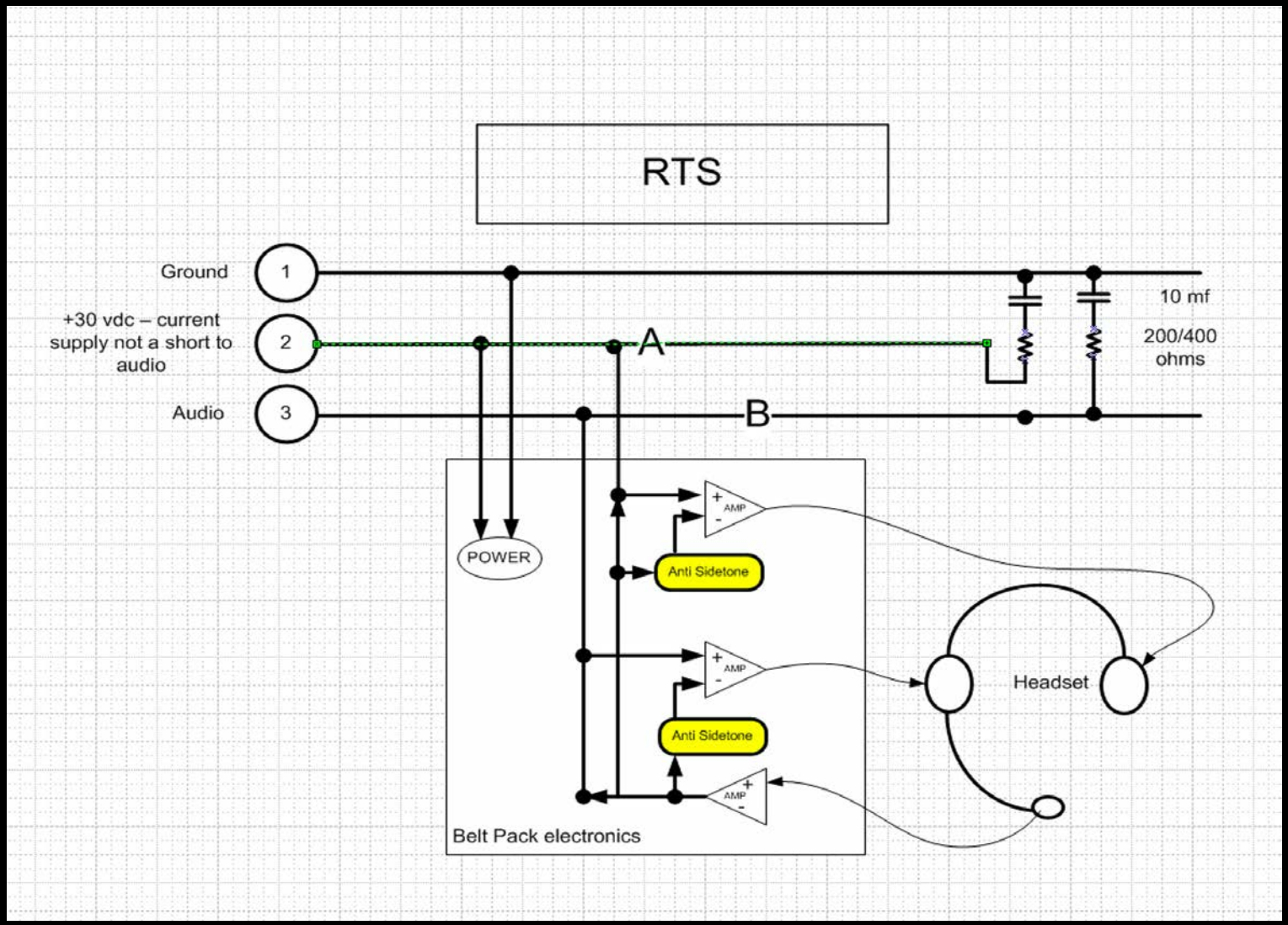

BORN OF GENIUS. RAISED ON ROCK & ROLL.™
LIMITED EDITION


Clearcom
Ground
1
+30 vdc - short for audio
2
Audio
3
10 mf
200 ohms
POWER
AMP
Anti Sidetone
AMP
Headset
Belt Pack electronics

Clear-Com RS-701 Beltpack

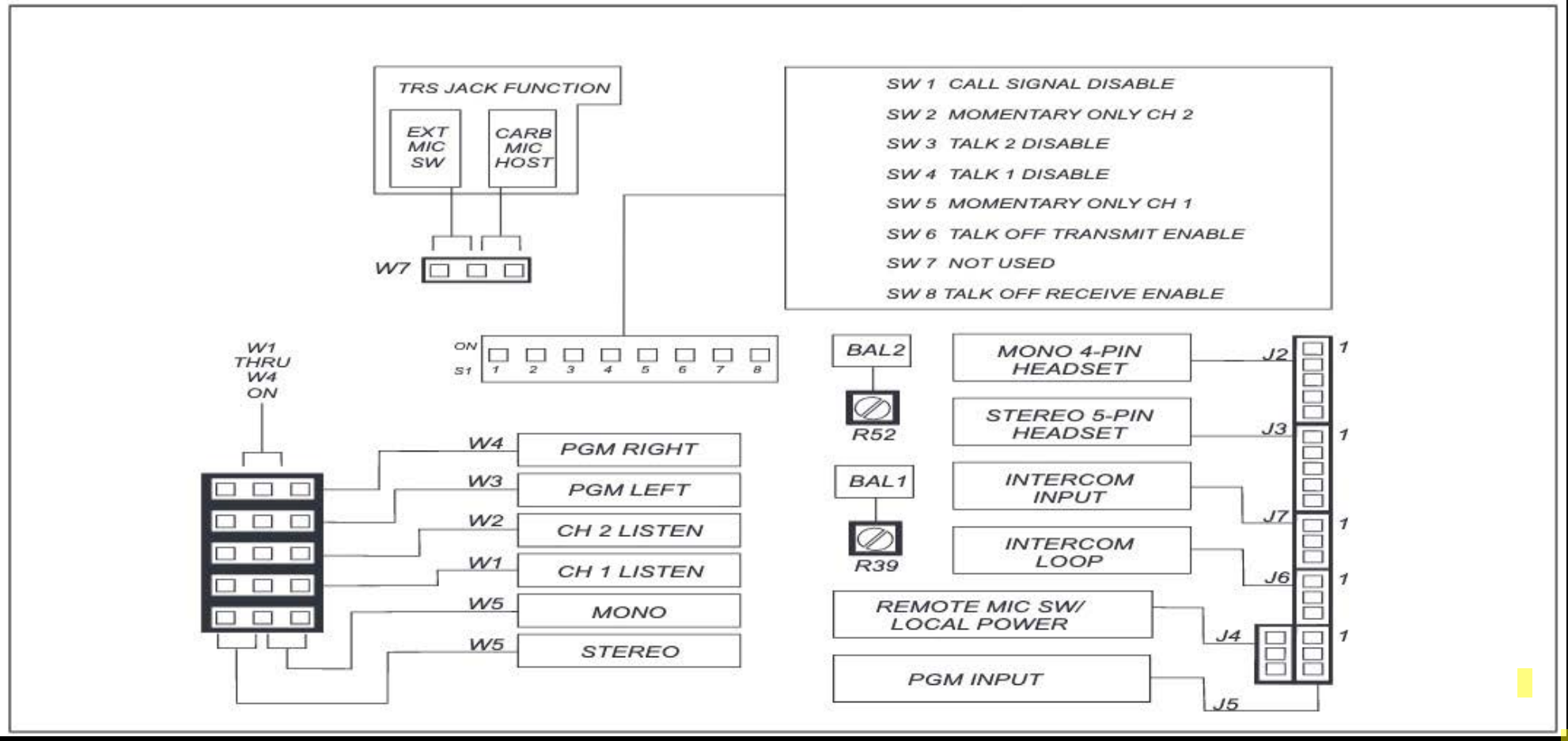
Telex TW-5W 1 In, 5 Out Splitter Box

IMB111 splitter from Bexel


RTS
Ground
1
+30 vdc – current supply not a short to audio
2
Audio
3
A
B
10 mf
200/400 ohms
POWER
AMP
Anti Sidetone
AMP
Anti Sidetone
AMP
Belt Pack electronics
Headset

RTS BP325
Beltpack

RTS BP325 Beltpack



HANDBOOK OF INTERCOM SYSTEMS ENGINEERING

FIRST EDITION

TELEX®

38109-977 Rev. 4

CHAPTER 1

INTERCOMS—AN OVERVIEW

RALPH STRADER

Introduction

Intercom systems, by definition, may be comprised of many different types of intercoms and subsystems. The basic building blocks can be categorized into four basic types or elements: Party-Line Systems, Matrix Systems, Wireless Systems, and Accessories.

Party-Line Systems

Wired Party-Line systems are systems in which a number of participants are all involved in the same conversation. Think of the telephone extensions in your home, if each person in your family picks up a telephone in your home, you will all be able to hear each other. You can talk to one another simultaneously and the person "on the other end of the line" will be a full participant in one "public" conversation.

Depending on where in the world you are from, (presuming English language), you may also refer to this type of system as "PL" (for "party-line), "TW" or "Two-Wire" from the telephone systems, where on two wires, a full duplex conversation takes place, or "conference" denoting the type of activity taking place in the conversation.

Figure 1.1 Simple Party-Line System

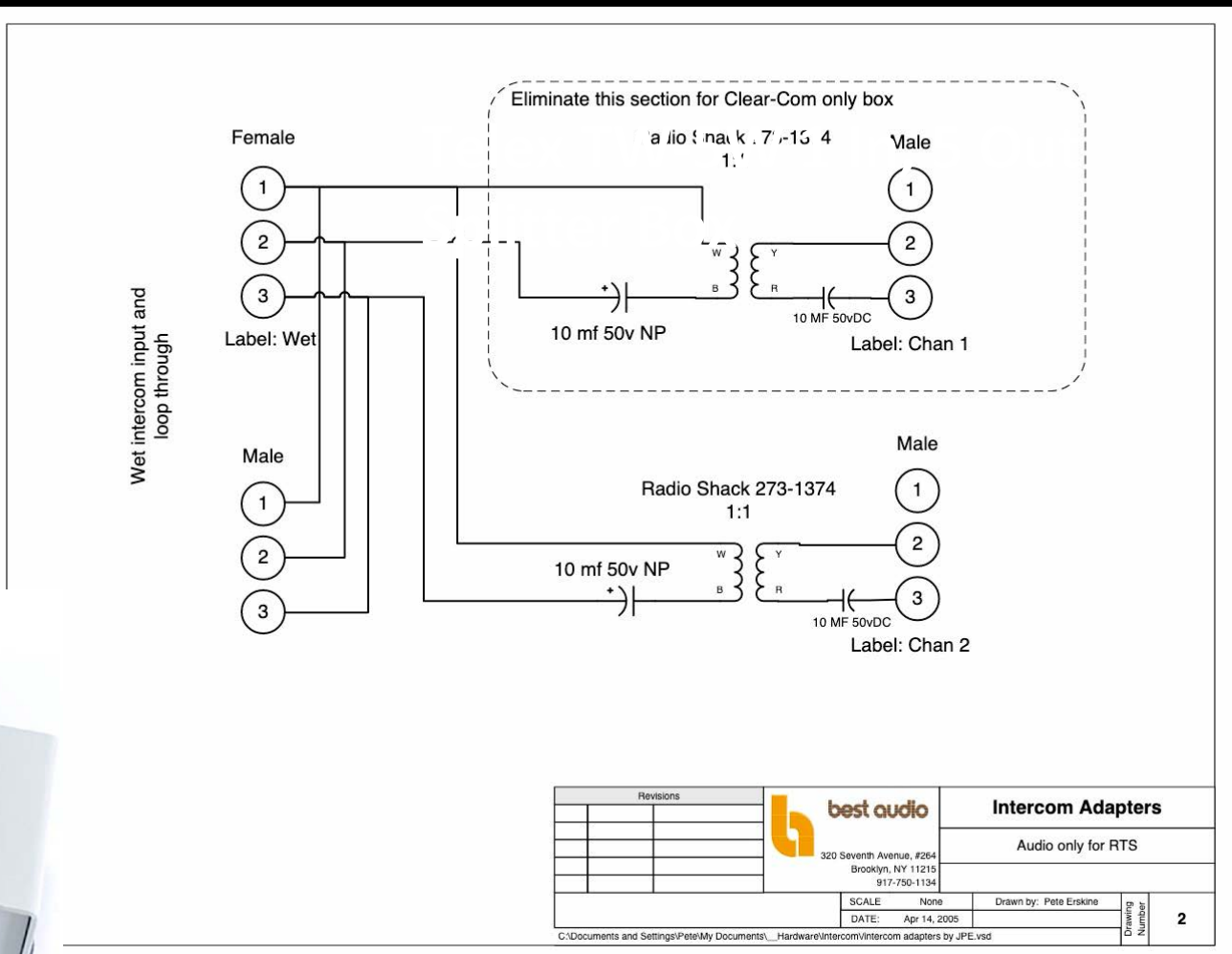
Note, the physical configuration and implementation of that "PL" or "TW" does not necessarily need to be on two physical wires, in most cases it is not. The specific topologies will be addressed in the chapters that follow.

KING BISCUIT
speaker station

KB 702
speaker station

RTS
TELEX
TW INTERCOM SYSTEM
USER STATION MODEL SPK 300
SPKR
ON OFF
MIC
ON OFF
CH
1 2
VOLUME
SIDETONE
CALL
CARB MIC
HOST
DYN MIC HOST

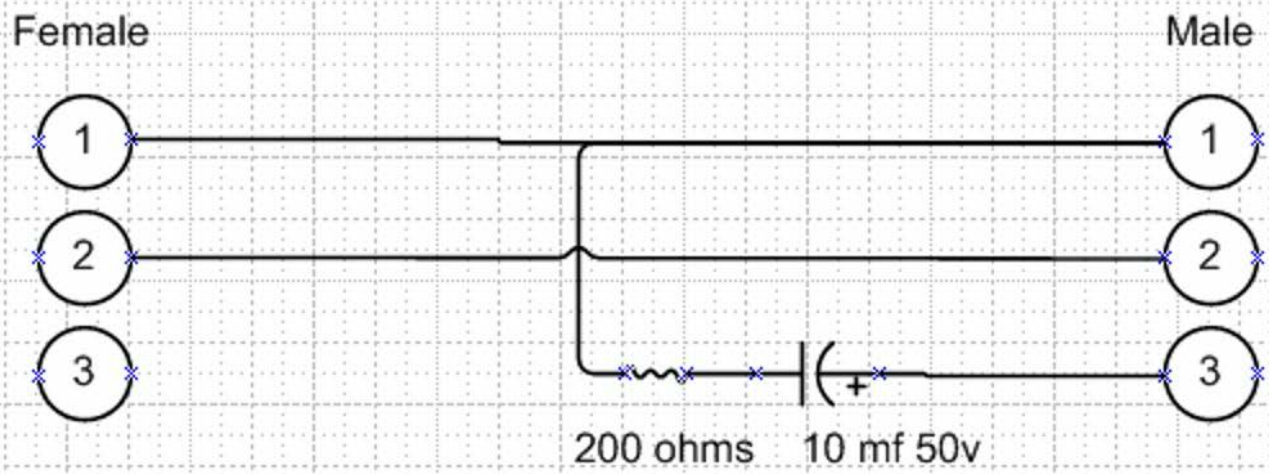
ASG AOB interface - BEXEL



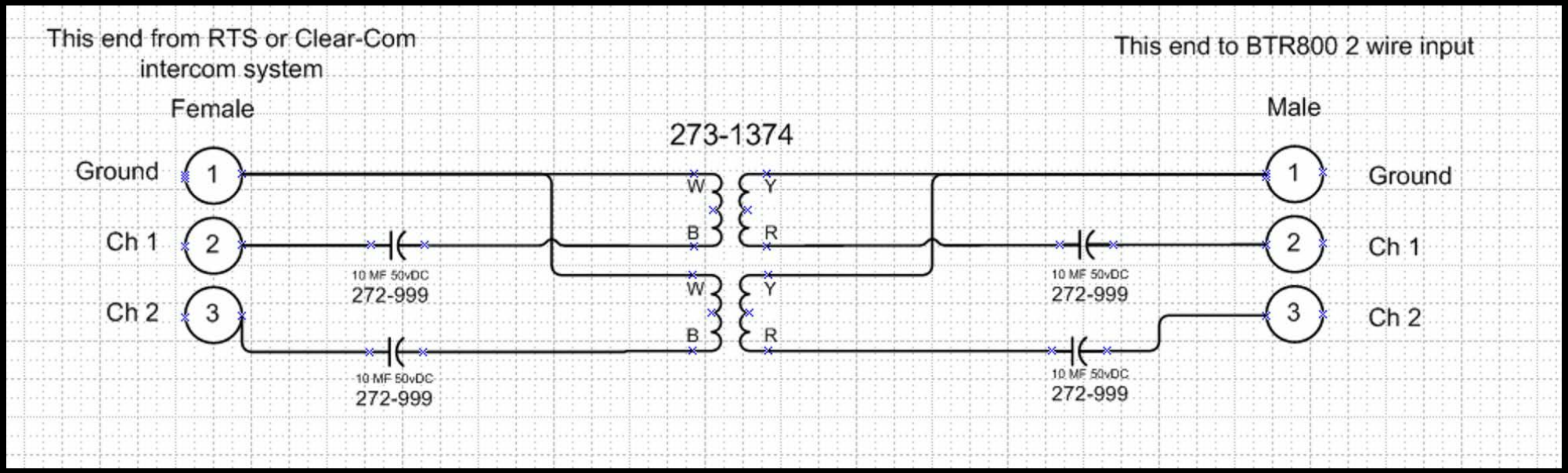
My design for audio only

Channel 2 iso adapter

Build this in a male female barrel like the ones used for ground lifts



BUZZ Buster
Also available as
AUDIOMAN ISO BOX



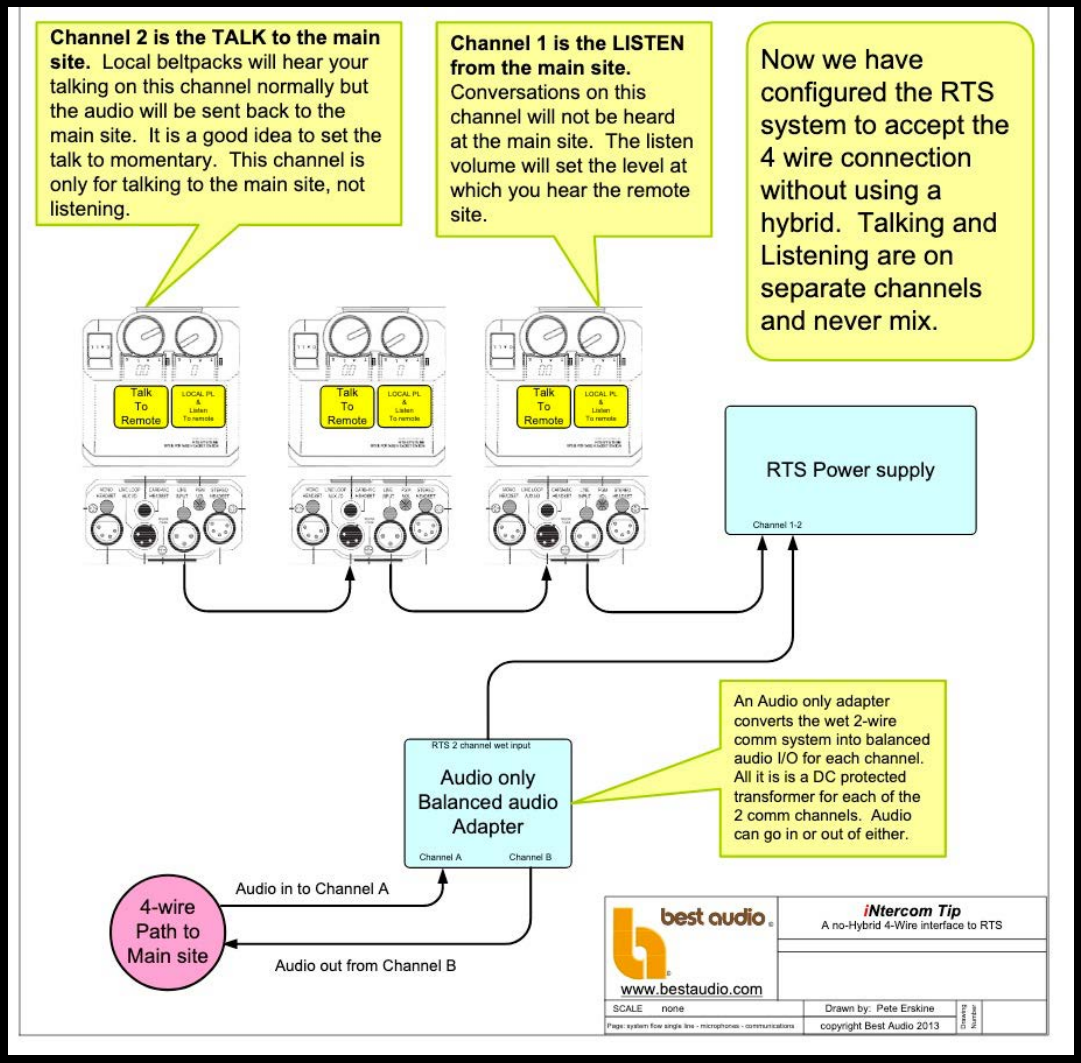
*Pete's **iNtercom** Tips*

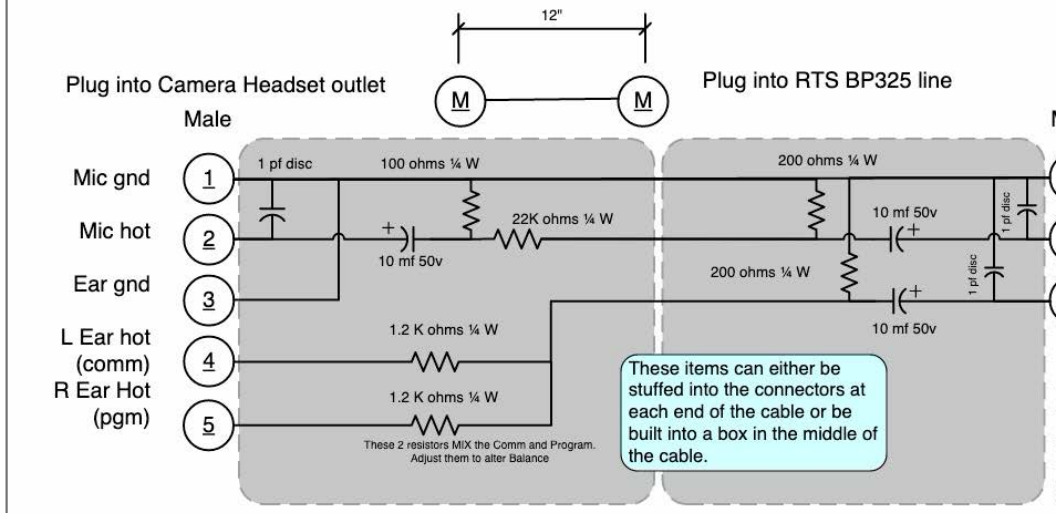
A no-Hybrid 4-Wire interface to RTS

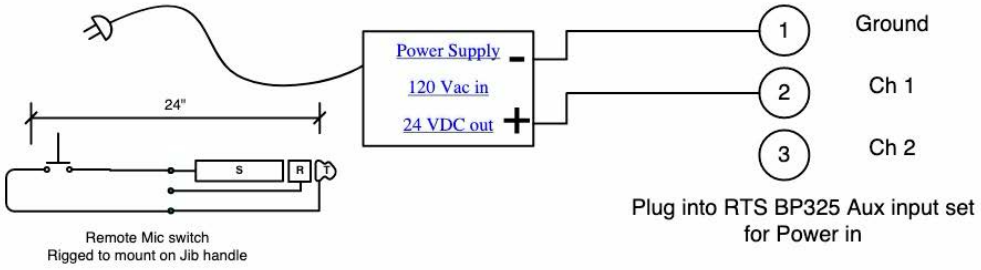
Suppose you have multiple RTS intercom systems to interface into the same party line from remote sites where every site must hear the others.

A typical setup would have a hybrid to convert from the 4 wire feed from your satellite or fiber feed to the 2-wire RTS at each site. At the Matrix. each 4-wire feed would connect to the PL channel. The problem is, that when the number of hybrids gets large, and the nulls are not perfect (which is often hard to do), the PL channel begins to ring.

Here is a way to interface <u>any number</u> of remote RTS systems without using a hybrid.


Channel 2 is the TALK to the main site. Local beltpacks will hear your talking on this channel normally but the audio will be sent back to the main site. It is a good idea to set the talk to momentary. This channel is only for talking to the main site, not listening.
Channel 1 is the LISTEN from the main site. Conversations on this channel will not be heard at the main site. The listen volume will set the level at which you hear the remote site.
Now we have configured the RTS system to accept the 4 wire connection without using a hybrid. Talking and Listening are on separate channels and never mix.
Talk To Remote
LOCAL PL & Listen To remote
RTS Power supply
Channel 1-2
RTS 2 channel wet input
Audio only Balanced audio Adapter
Channel A
Channel B
An Audio only adapter converts the wet 2-wire comm system into balanced audio I/O for each channel. All it is is a DC protected transformer for each of the 2 comm channels. Audio can go in or out of either.
4-wire Path to Main site
Audio in to Channel A
Audio out from Channel B
best audio
www.bestaudio.com
iNtercom Tip
A no-Hybrid 4-Wire interface to RTS
SCALE none
Drawn by: Pete Erskine
copyright Best Audio 2013





Jib Kit

Allows the camera headset to be remoted to the rear of a jib. AC power is supplied locally for the RTS BP325. To use up to 4 additional BP325 belt packs, "Y" power AND intercom.

Channel 2 is for Local communication and has the listen from the jib camera.

Channel 1 is talk to the director.

Set switches in BP325

DIPS - all off except
1 ON Call Signal Transmit Disable
5 ON Momentary Only Talk Button, CH1

Jumpers (W1-W5)
W1 OFF CH1 Intercom Audio Listen
W2 ON CH2 Intercom Audio Listen On
W5 MONO Stereo/Mono operation

Power
Unplug the LINE LOOP connector from J6 and plug
it into J4.

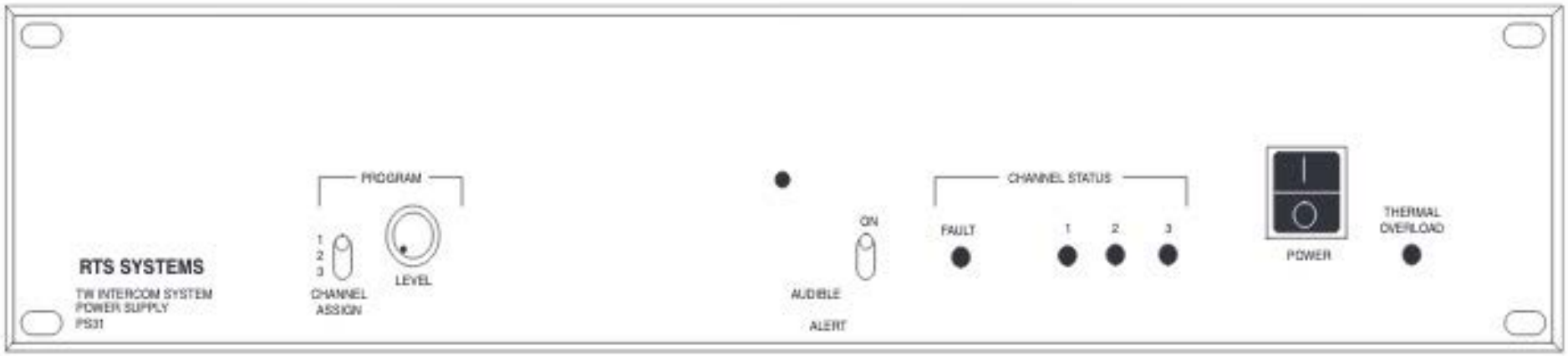
Revisions	best audio	Intercom Adapters
	320 Seventh Avenue, #264 Brooklyn, NY 11215 917-750-1134	
Designer: Pete Erskine	SCALE None DATE: Apr 14, 2005	Drawn by: Pete Erskine Drawing Number 1

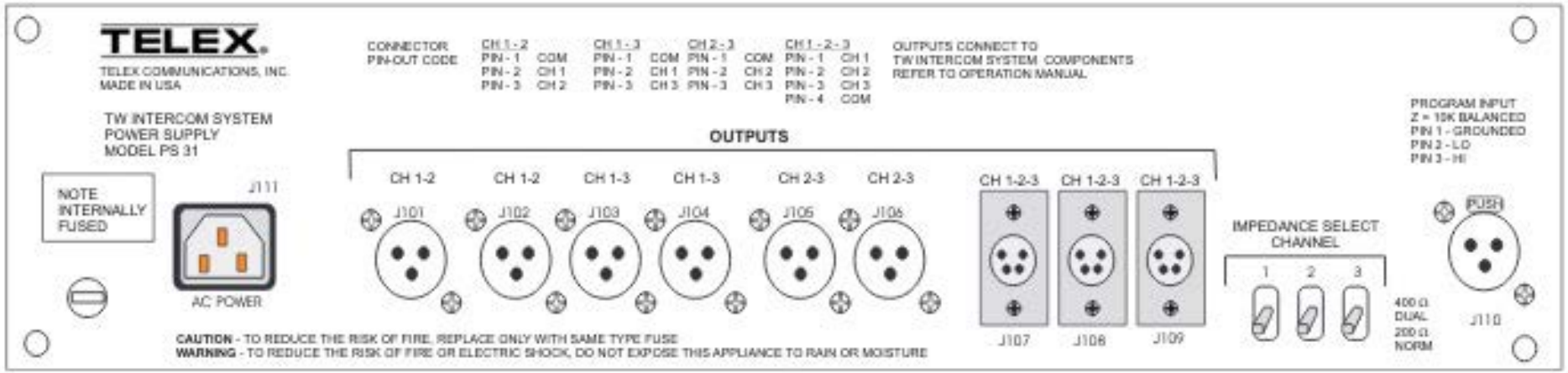
C:\Documents and Settings\Pete\My Documents__Hardware\Intercom\Intercom adapters by JPE.vsd

MS-704 Master supply

SB-704 Master supply

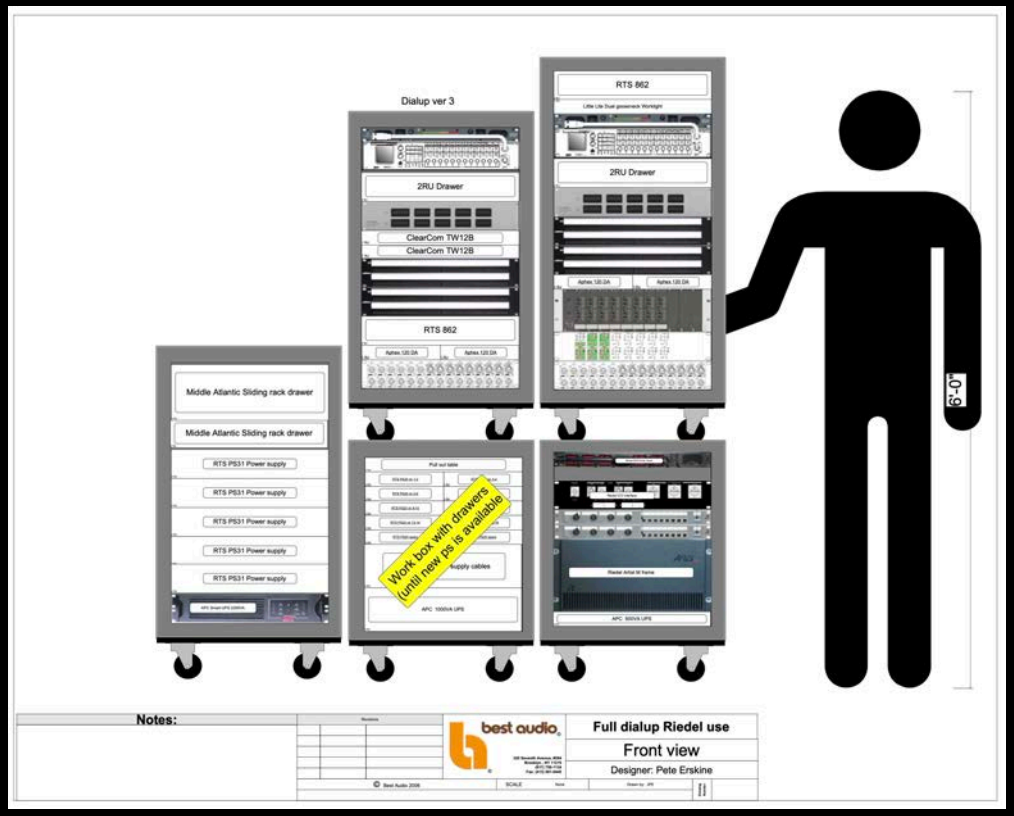
RTS PS-31 3 ch power supply


PROGRAM
1
2
3
CHANNEL ASSIGN
LEVEL
RTS SYSTEMS
TW INTERCOM SYSTEM
POWER SUPPLY
PS31
ON
AUDIBLE ALERT
CHANNEL STATUS
FAULT
1
2
3
POWER
THERMAL OVERLOAD


TELEX
TELEX COMMUNICATIONS, INC.
MADE IN USA
TW INTERCOM SYSTEM
POWER SUPPLY
MODEL PS 31
NOTE
INTERNALLY
FUSED
J111
AC POWER
CONNECTOR PIN-OUT CODE
CH 1 - 2
PIN - 1 COM
PIN - 2 CH 1
PIN - 3 CH 2
CH 1 - 3
PIN - 1 COM
PIN - 2 CH 1
PIN - 3 CH 3
CH 2 - 3
PIN - 1 COM
PIN - 2 CH 2
PIN - 3 CH 3
CH 1 - 2 - 3
PIN - 1 CH 1
PIN - 2 CH 2
PIN - 3 CH 3
PIN - 4 COM
OUTPUTS CONNECT TO TW INTERCOM SYSTEM COMPONENTS REFER TO OPERATION MANUAL
OUTPUTS
CH 1-2
CH 1-2
CH 1-3
CH 1-3
CH 2-3
CH 2-3
J101
J102
J103
J104
J105
J106
CH 1-2-3
CH 1-2-3
CH 1-2-3
J107
J108
J109
IMPEDANCE SELECT CHANNEL
1
2
3
400 Ω DUAL
200 Ω NORM
PROGRAM INPUT
Z = 10K BALANCED
PIN 1 - GROUNDED
PIN 2 - LO
PIN 3 - HI
PUSH
J110
CAUTION - TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE
WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

RTS PS-20 Power supply

NOW…how do we efficiently hook all of this up?



Tune in to Keep Comm With Pete - Part 2

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