



PracticalShow.Tech

PST #080

July 23, 2020

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Keep Comm with Pete...

**Part 2: "making 2-wire
comms useful"**

Master stations,
Dial-ups,
2-4 wire hybrids

 Become a patron

 PayPal

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 ...

HANDBOOK OF INTERCOM SYSTEMS ENGINEERING

FIRST EDITION



TELEX

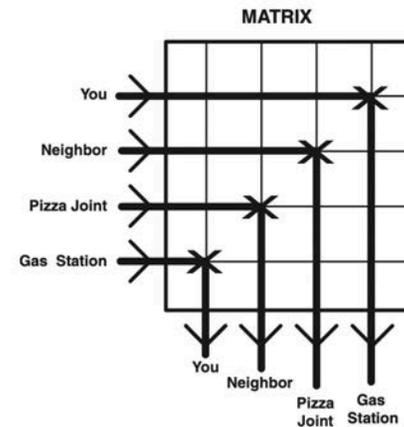
38109-977 Rev. 4

Matrix Systems

Wired Matrix systems are systems in which a large number of individuals have the ability to establish private individual conversations from point A to point B. Again, going back to the telephone system in your neighborhood, you, your next door neighbor, the pizza joint down the street and the local gas station are all connected to the same central office by wires from each location back to the telephone company. At any time, you can be talking to the gas station, while your neighbor is ordering a pizza. The pizza guy does not hear you ask the mechanic about the repairs on your SUV.

Depending on where in the English speaking world you are, you may refer to these types of systems as Matrix systems, crosspoint intercoms, point-to-point systems, private lines (sometimes, confusingly referred to as "PL"), or by some of the brand names used: McCurdy, ADAM™, Zeus™, and others.

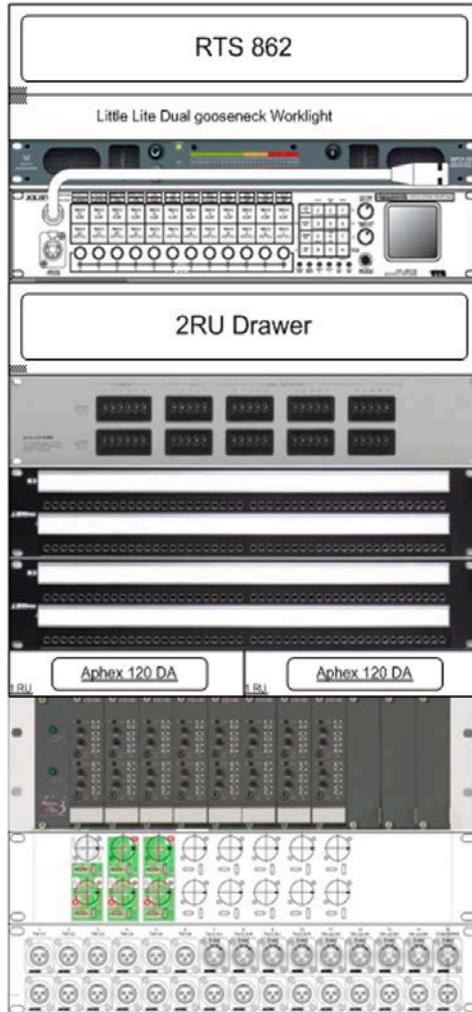
Figure 1.2 Simple Matrix System



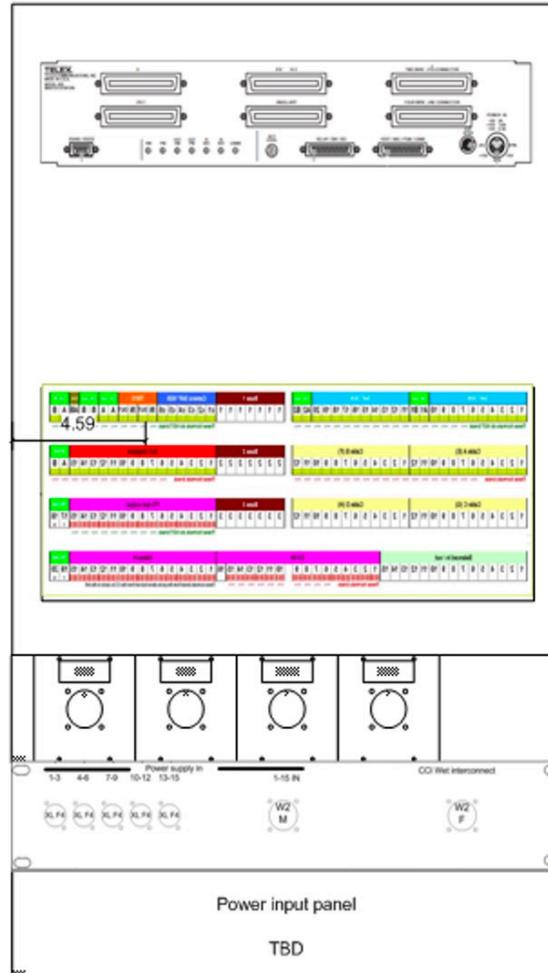
<https://products.rtsintercoms.com/binary/Handbook of Intercom Systems Engineering.pdf>

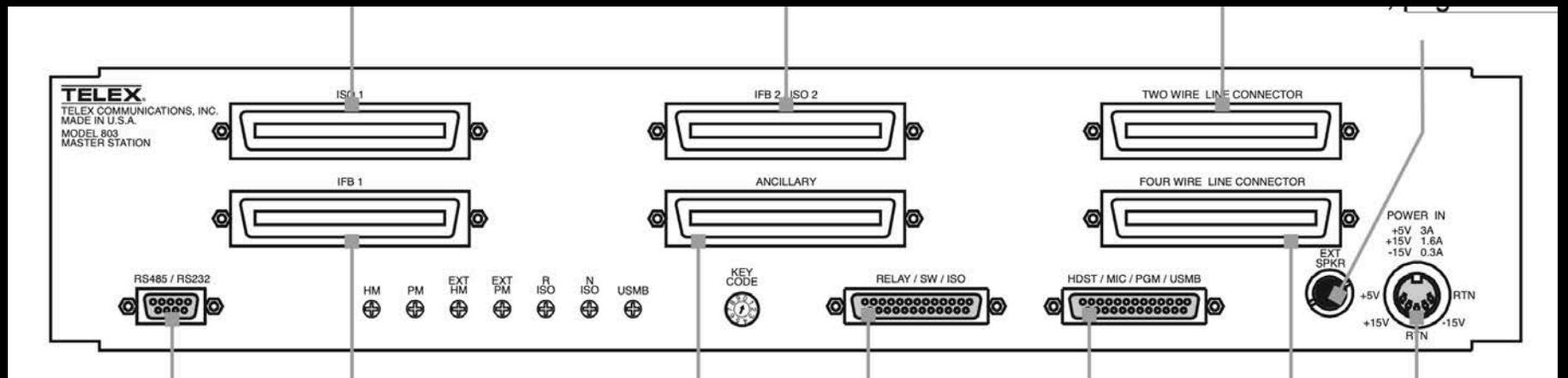
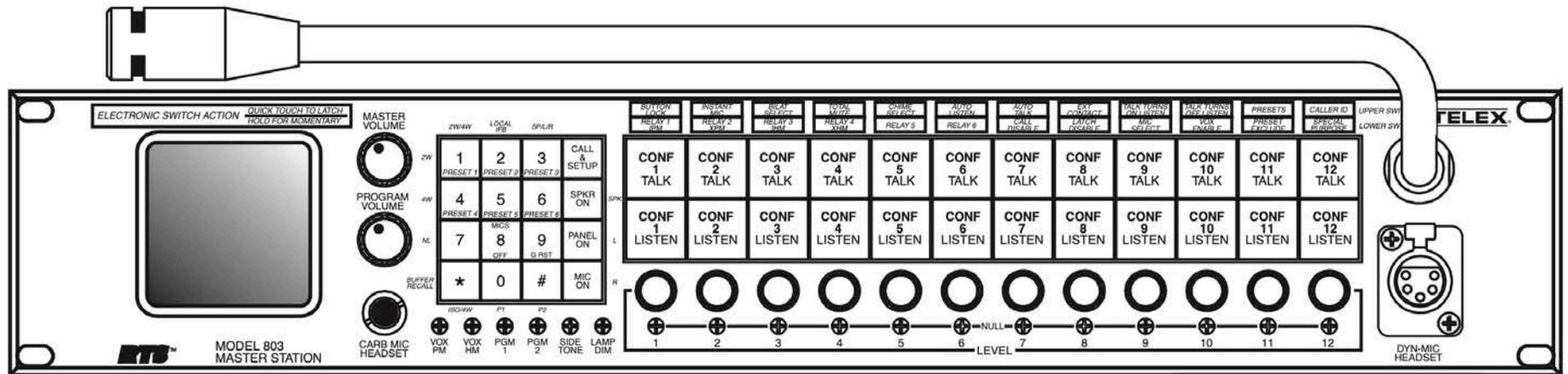
Front View

- 38.5
- 36.75
- 35
- 33.25
- 31.50
- 29.75
- 28.00
- 26.25
- 24.50
- 22.75
- 21.00
- 19.25
- 17.50
- 15.75
- 14.00
- 12.25
- 10.50
- 8.75
- 7.00
- 5.25
- 3.50
- 1.75

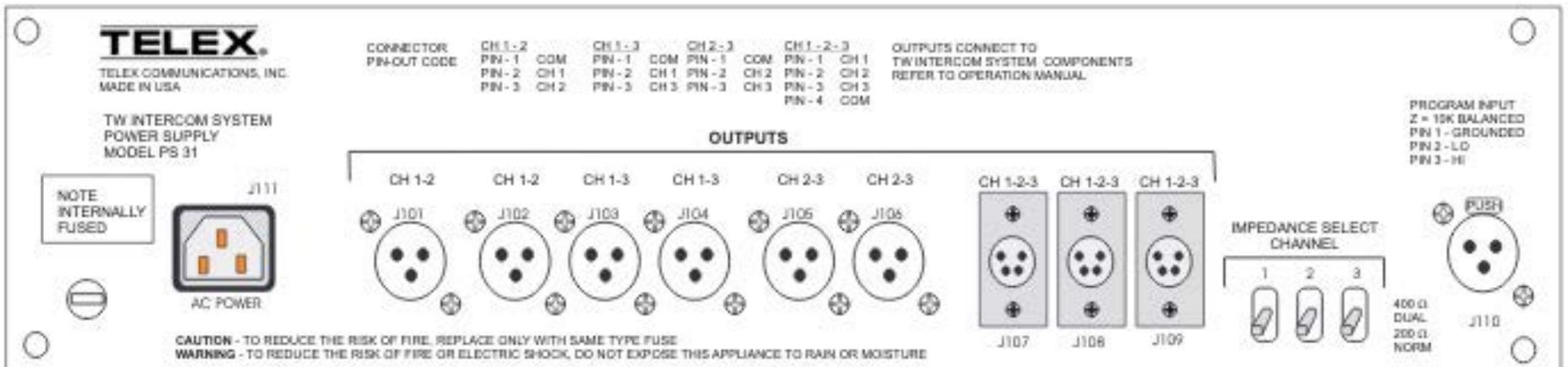
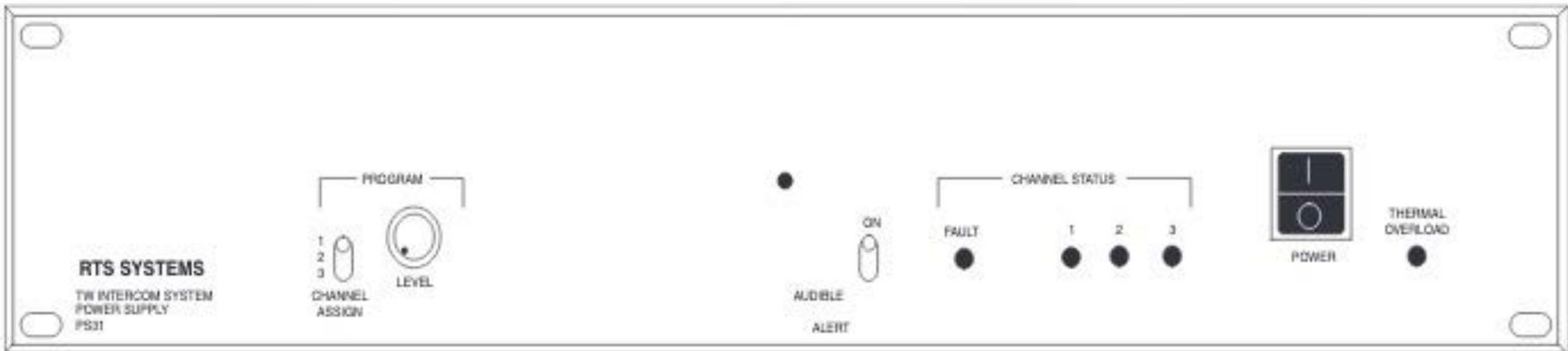


Rear View

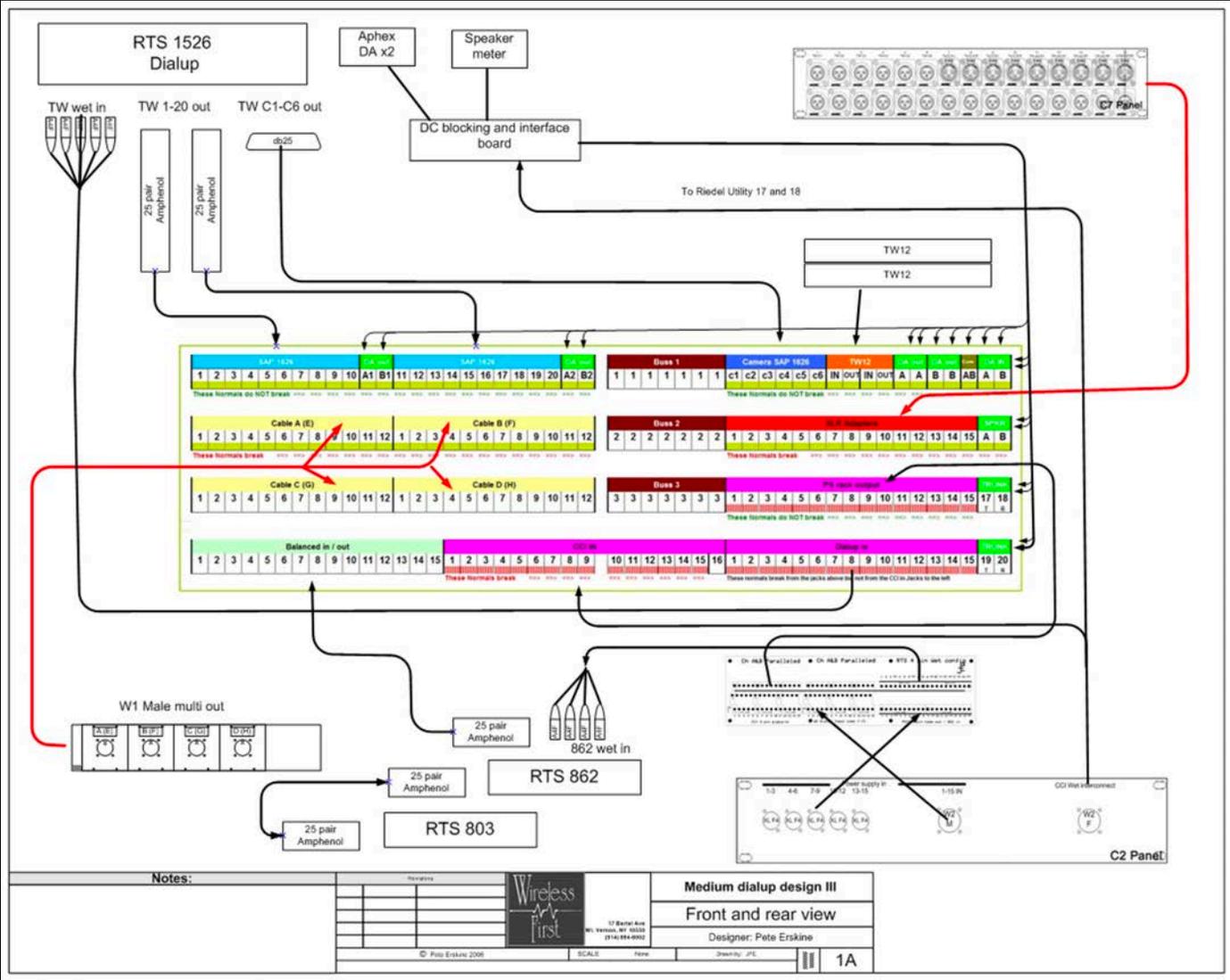


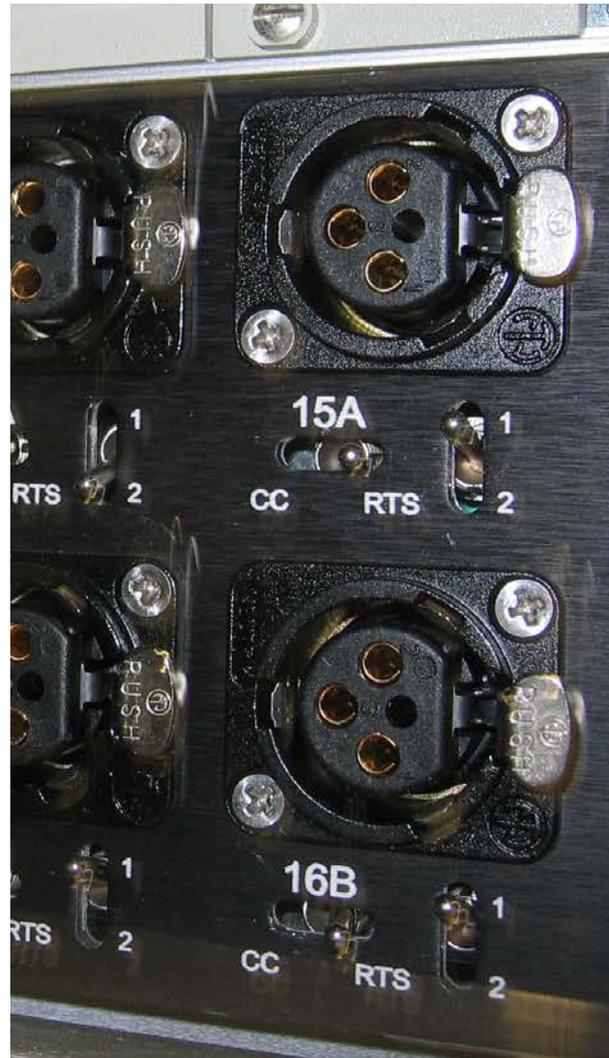


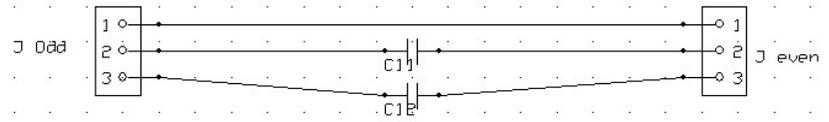




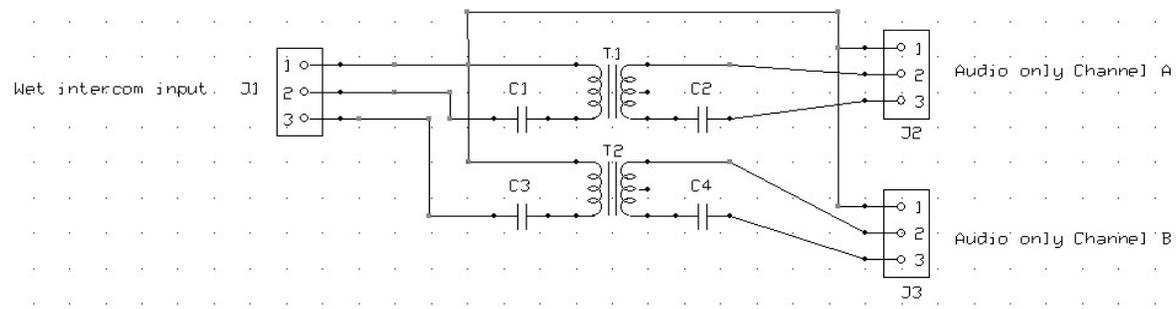








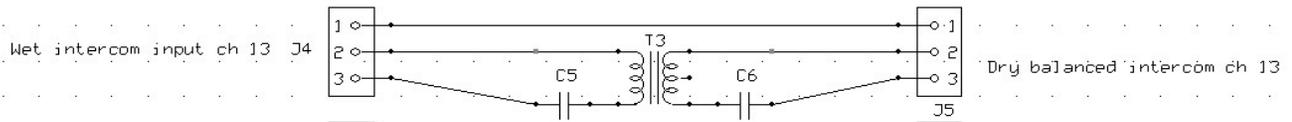
Dry out links - quantity 18



Wet intercom input J1

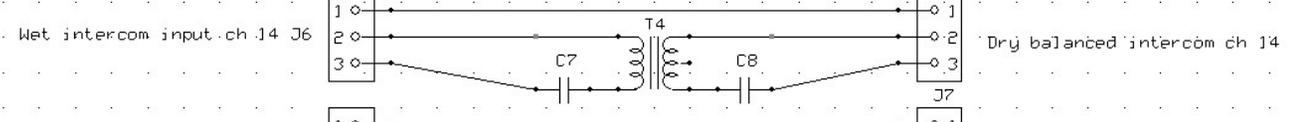
Audio only Channel A

Audio only Channel B



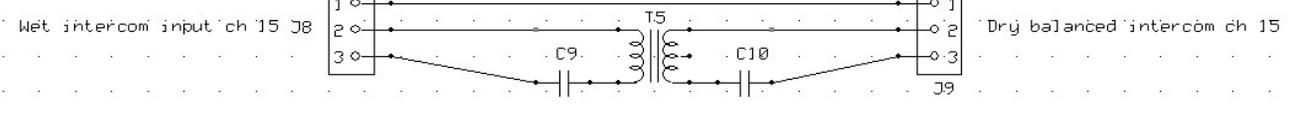
Wet intercom input ch 13 J4

Dry balanced intercom ch 13



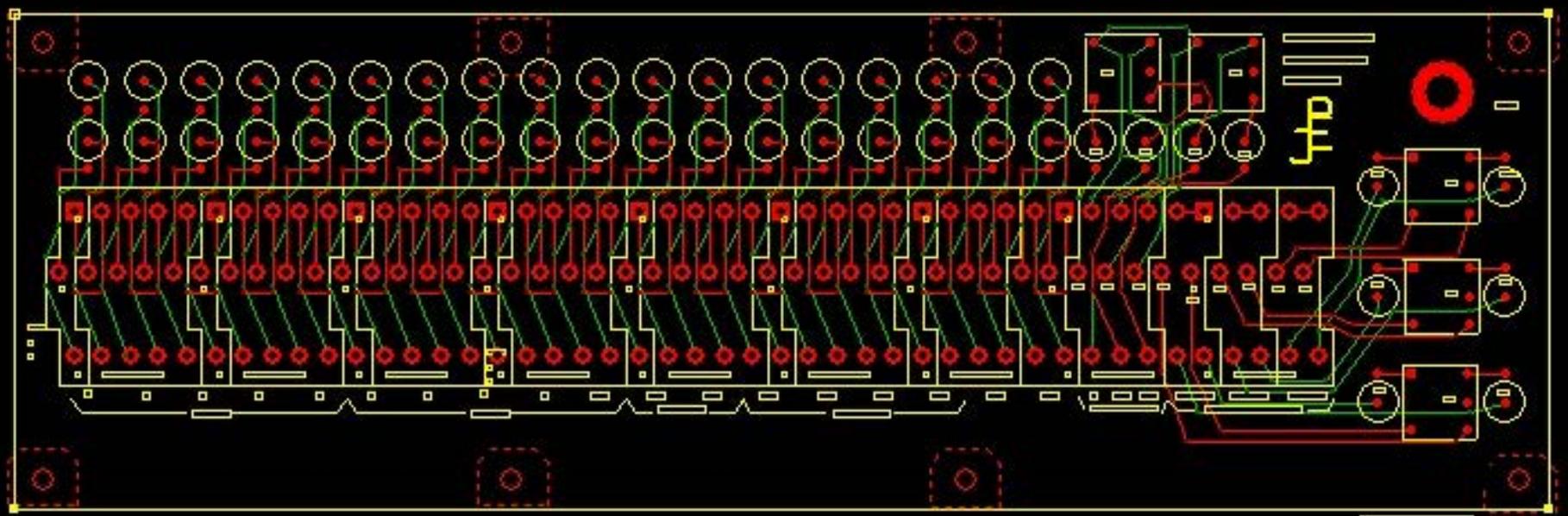
Wet intercom input ch 14 J6

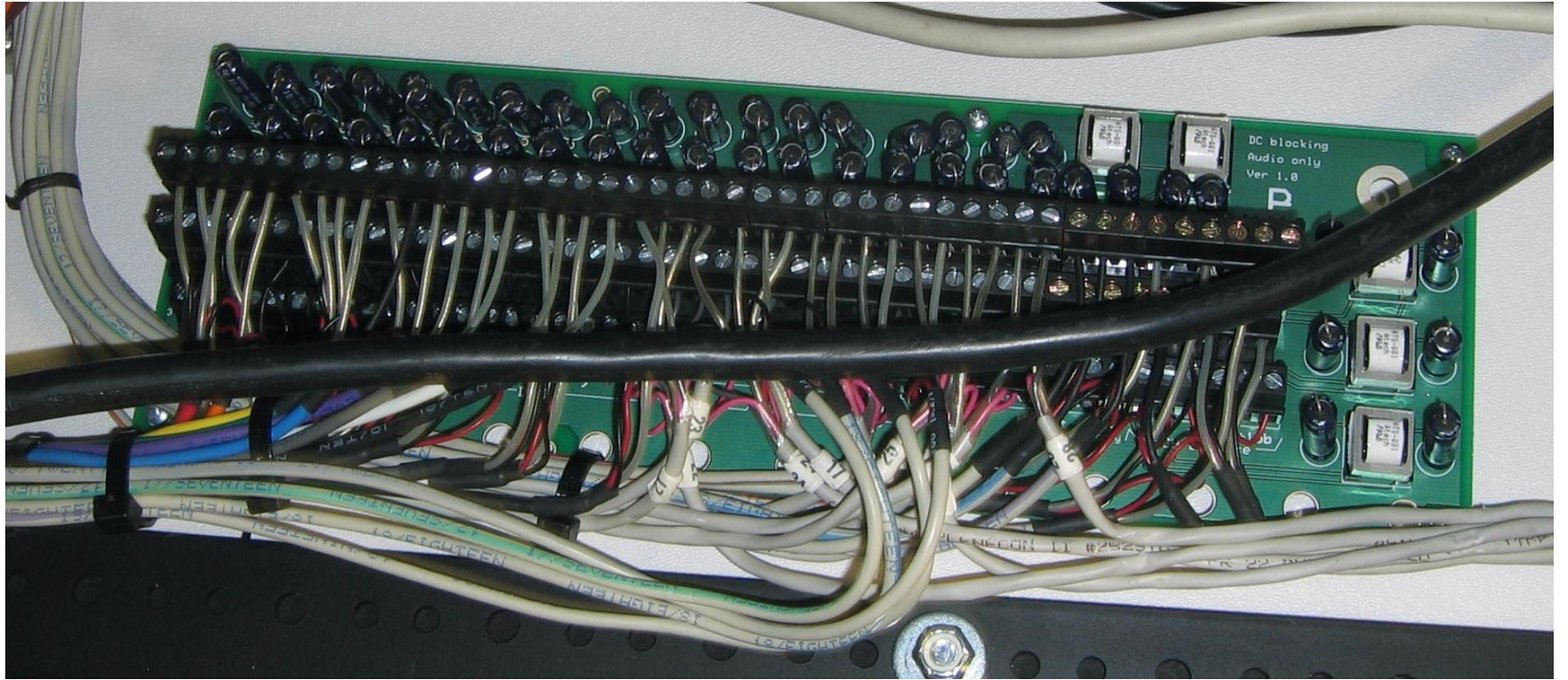
Dry balanced intercom ch 14



Wet intercom input ch 15 J8

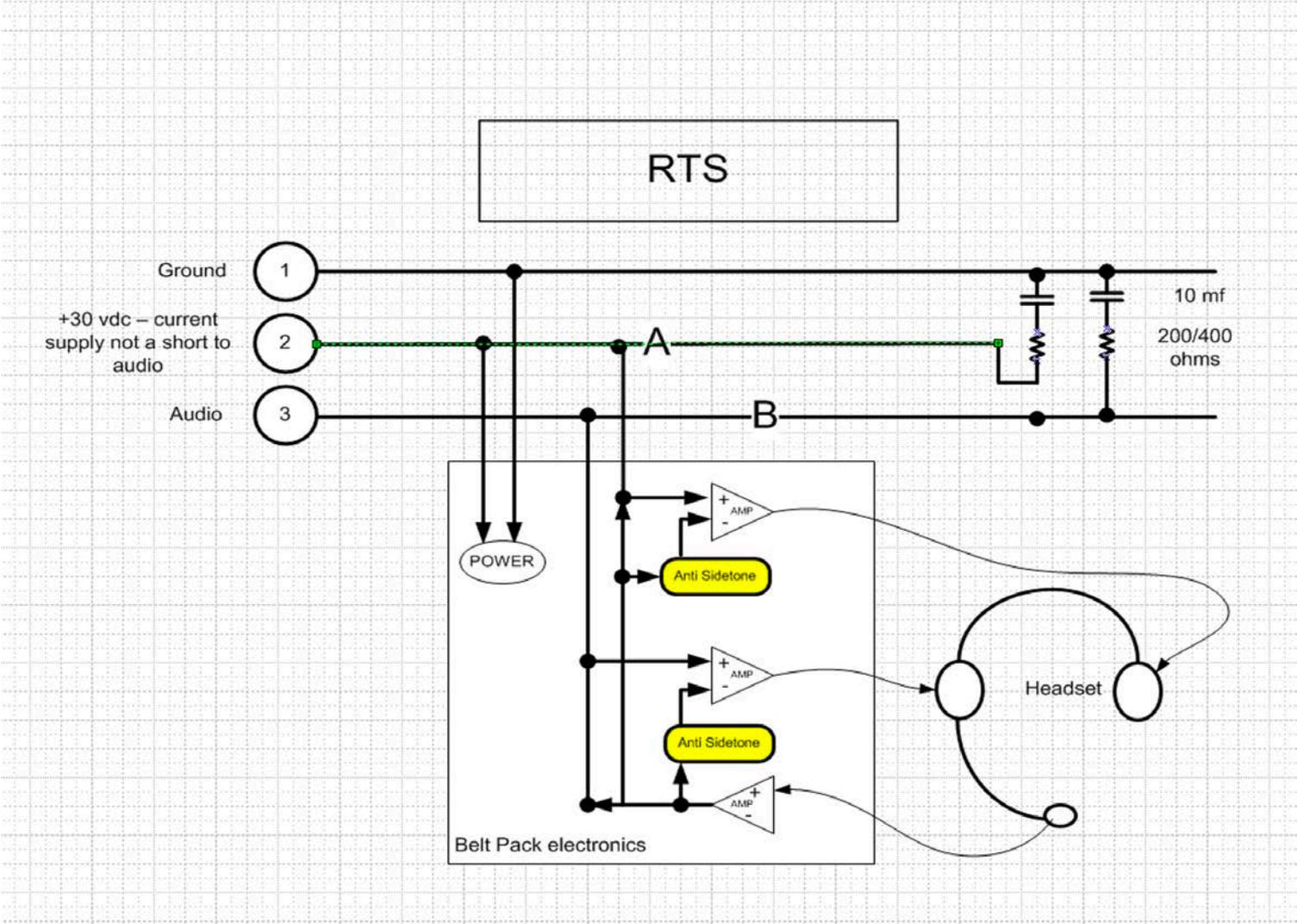
Dry balanced intercom ch 15

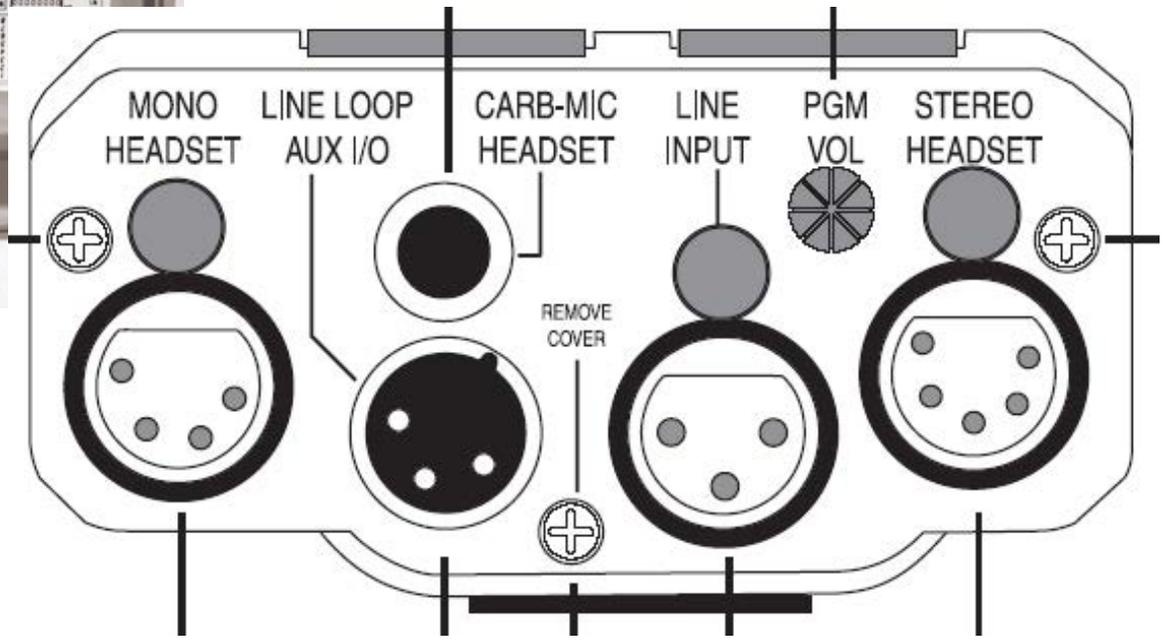
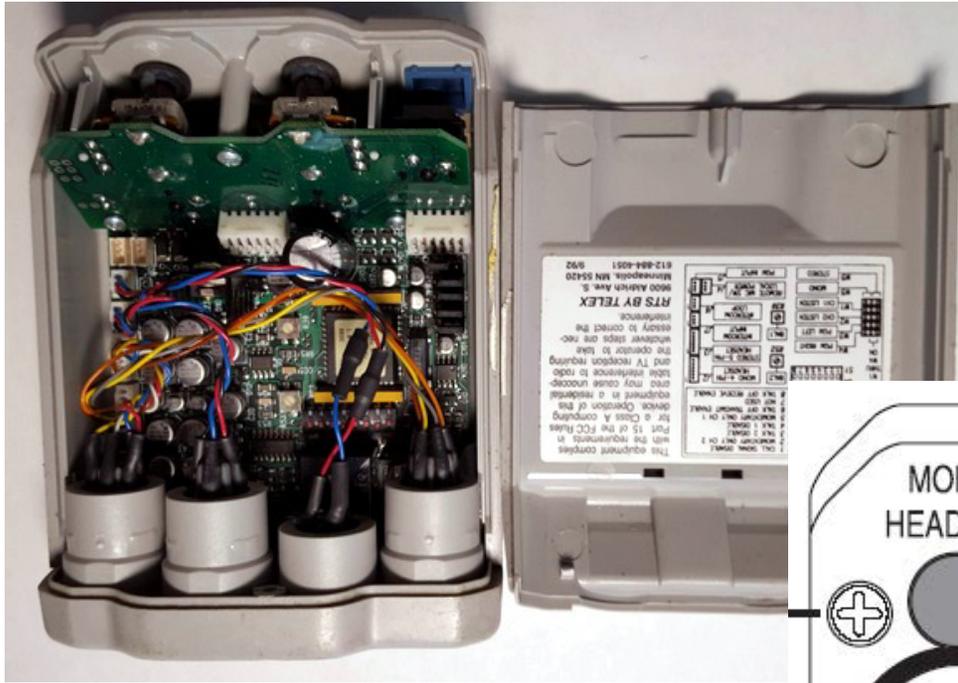


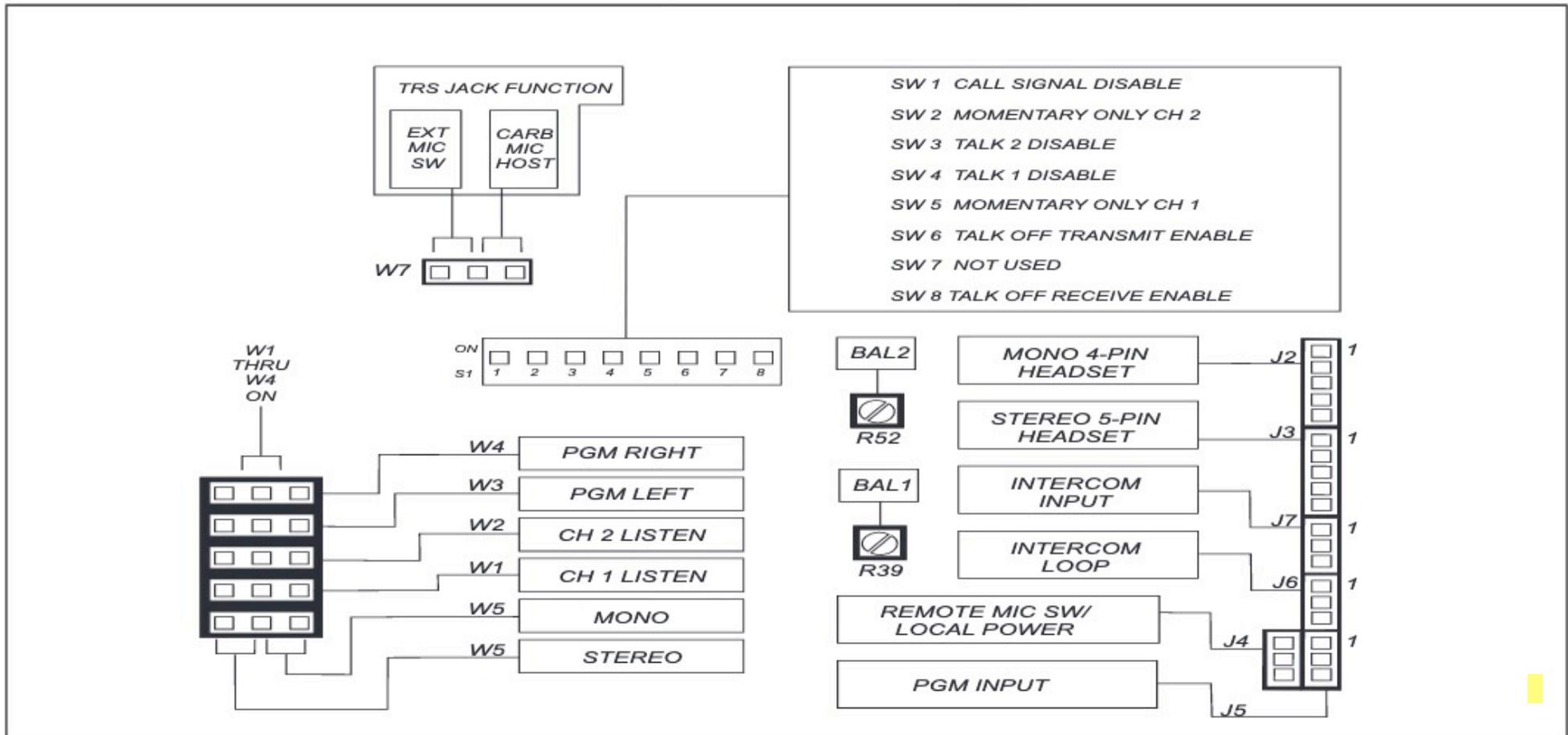


DC blocking
Audio only
Ver 1.0

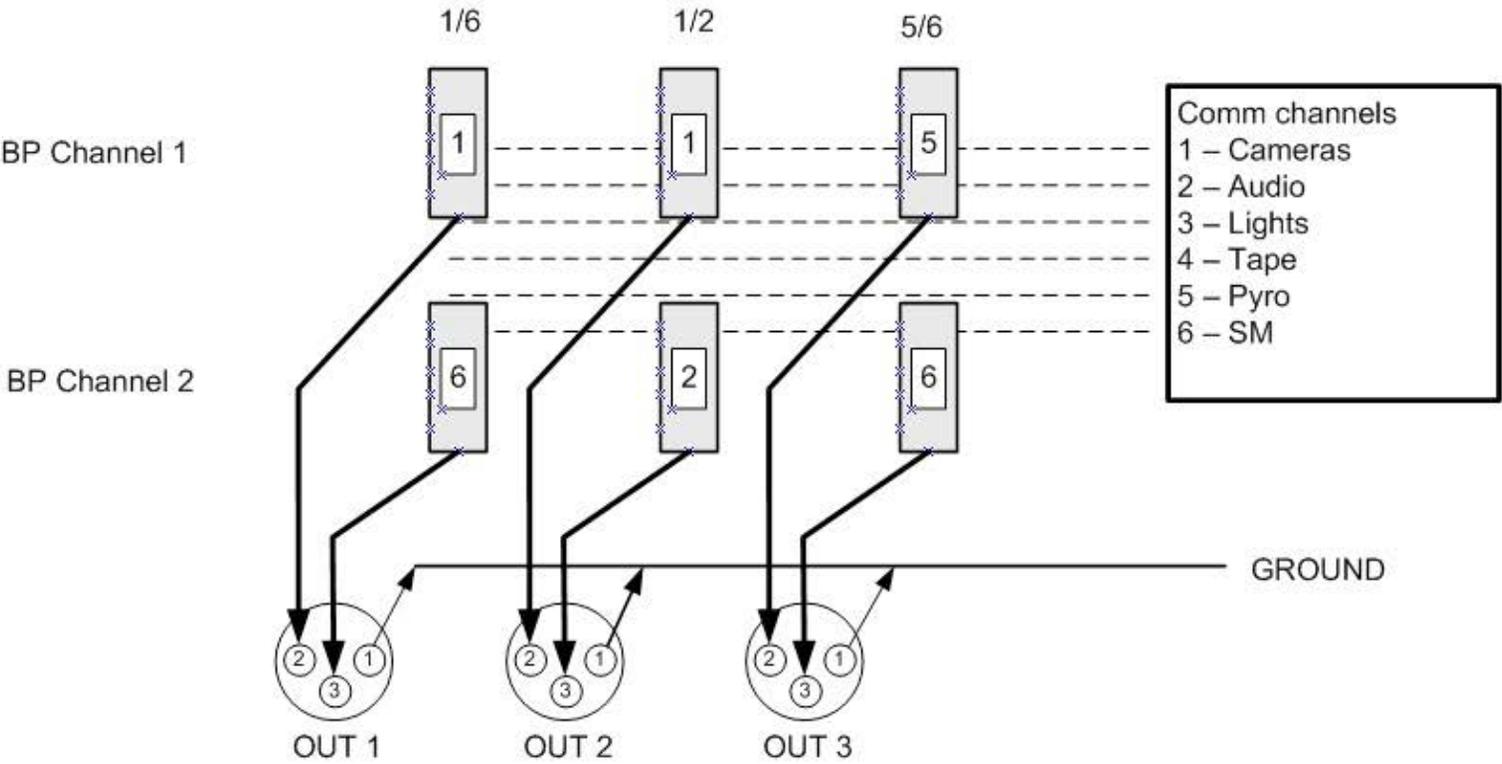
P







Dial-UP concept



RTS SYSTEMS

TW INTERCOM SYSTEM
SOURCE ASSIGN PANEL
MODEL SAP1626

CHANNEL
SELECT
(CH-1)

CHANNEL
SELECT
(CH-2)

CAMERAS

1 2 3 4 5 6

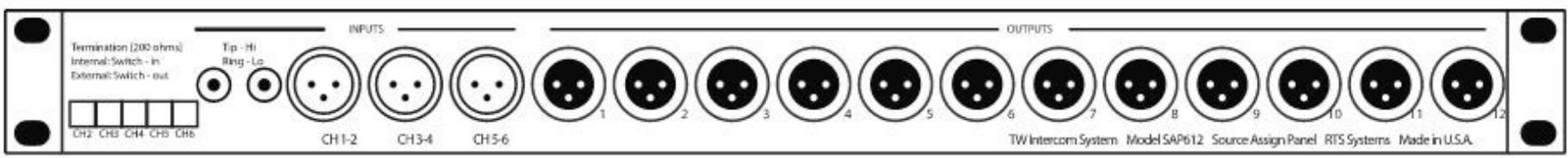
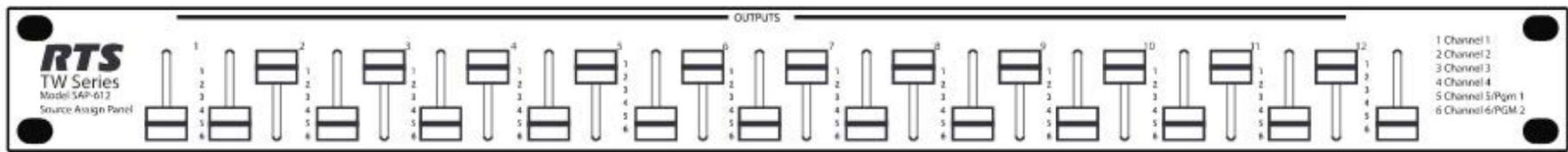
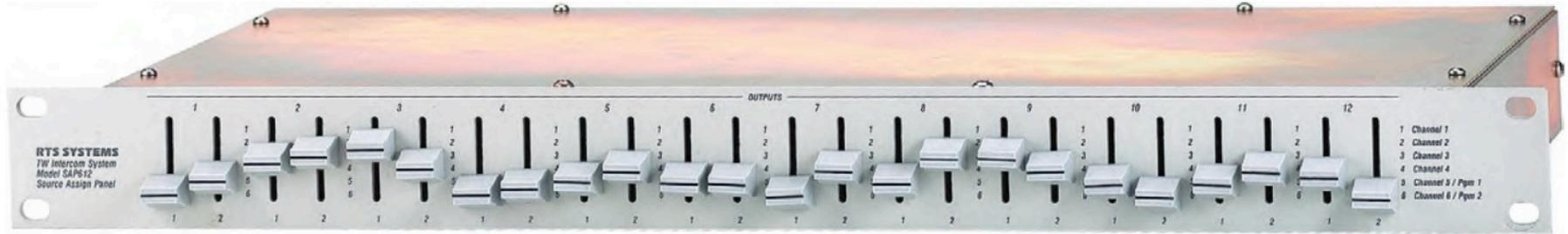
1 2 3

0 0 0 0 0 0

15 15 0

0 0 0 0 0 0

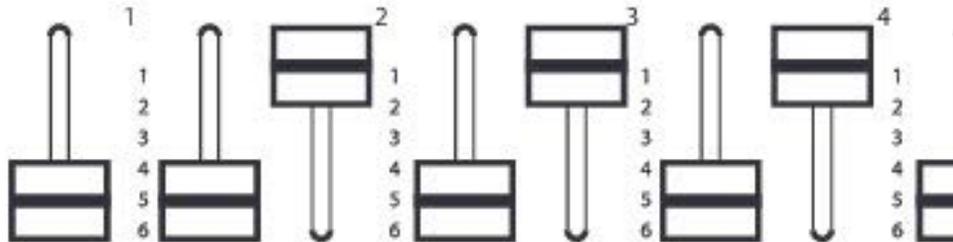
2 2 0



RTS

TW Series
Model SAP-612

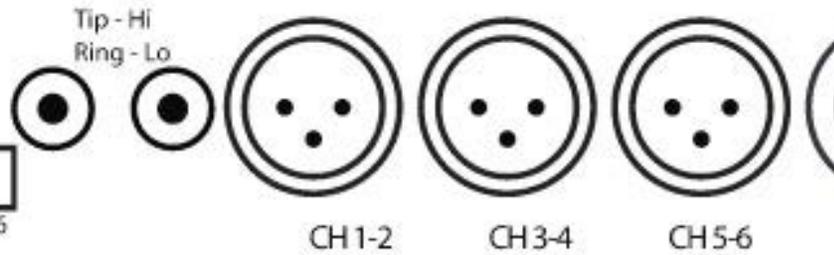
Source Assign Panel

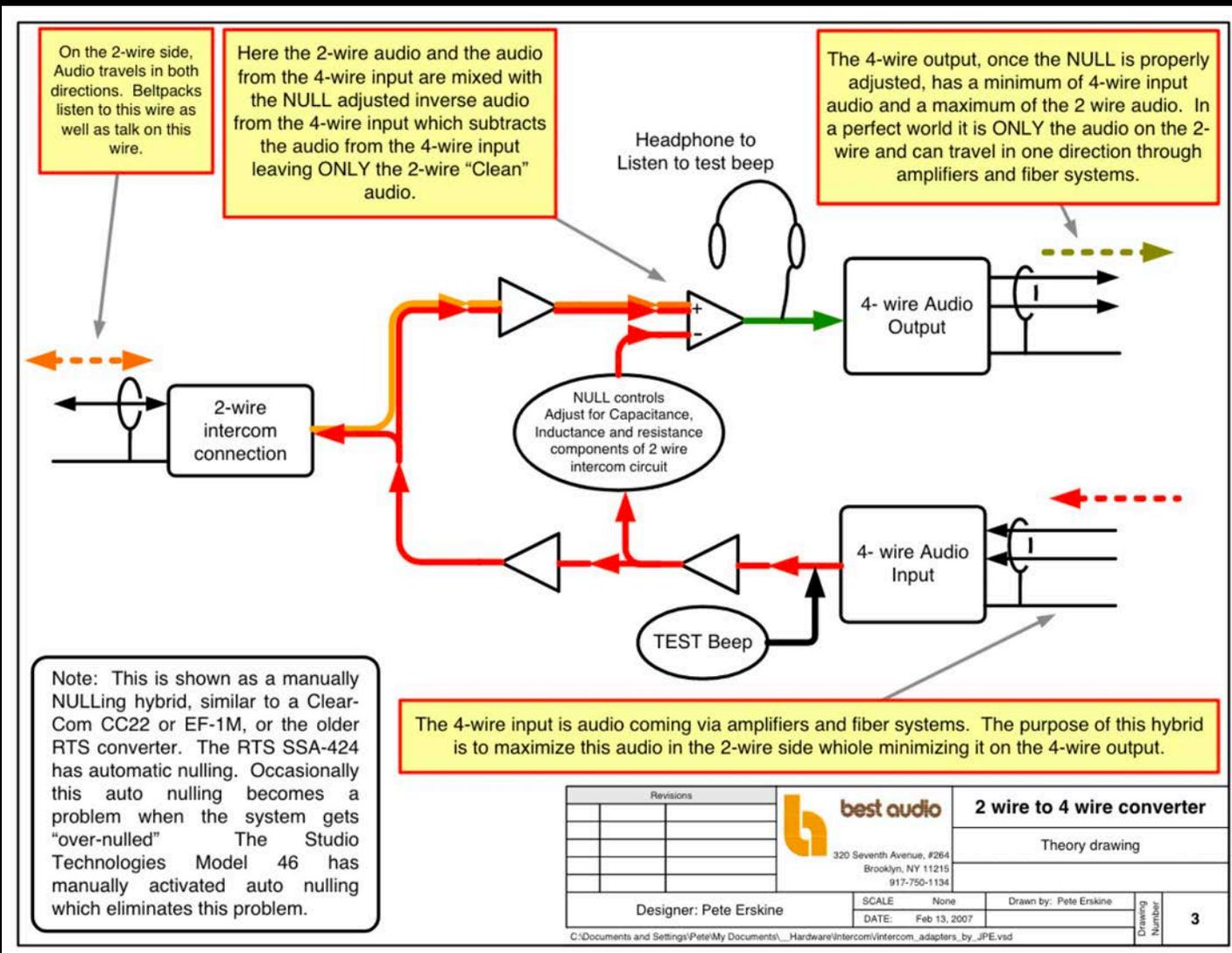


Termination [200 ohms]
Internal: Switch - in
External: Switch - out

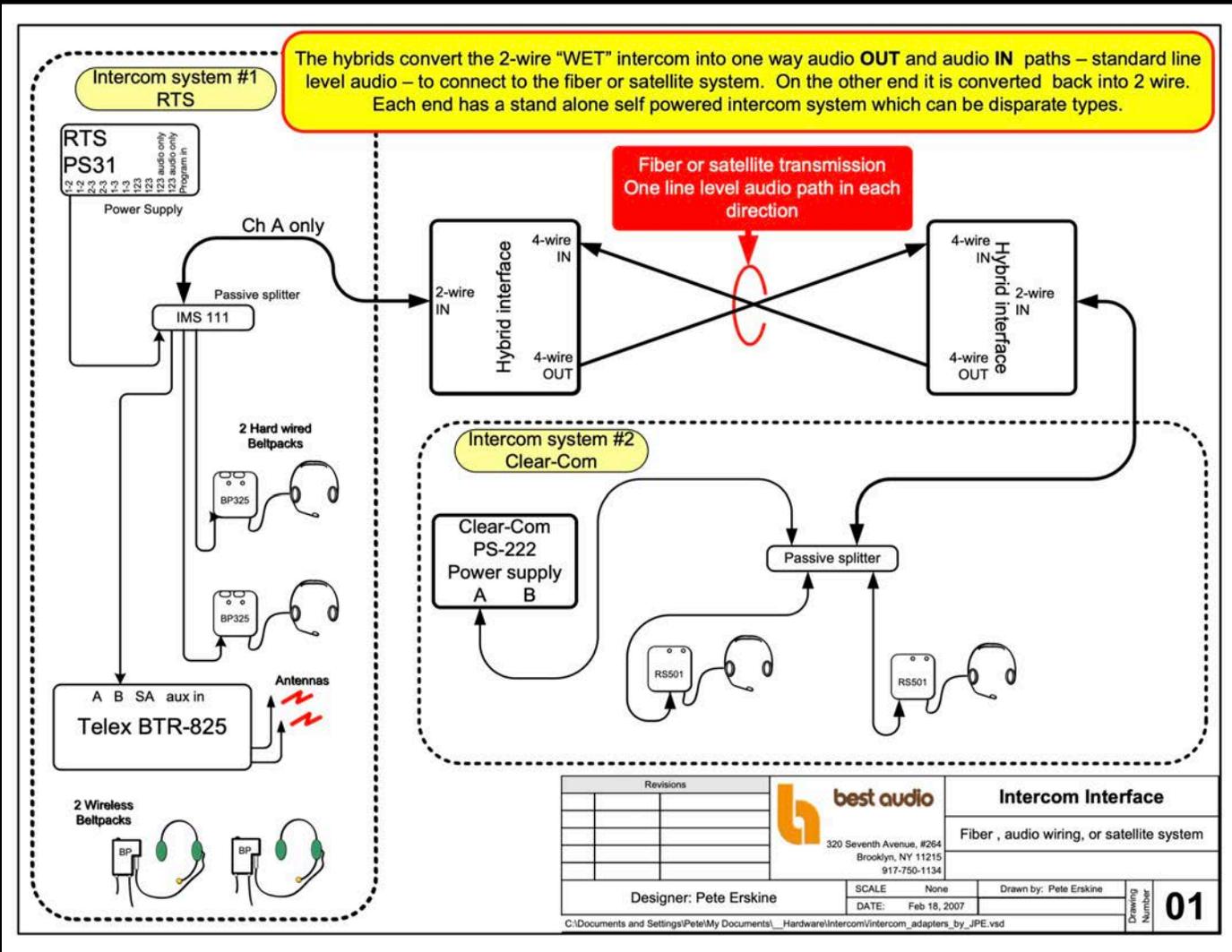


INPUTS





Revisions		 320 Seventh Avenue, #264 Brooklyn, NY 11215 917-750-1134	2 wire to 4 wire converter	
			Theory drawing	
Designer: Pete Erskine		SCALE: None	Drawn by: Pete Erskine	Drawing Number
		DATE: Feb 13, 2007		
C:\Documents and Settings\Pete\My Documents\Hardware\intercom\intercom_adapters_by_JPE.vsd				



The hybrids convert the 2-wire "WET" intercom into one way audio **OUT** and audio **IN** paths – standard line level audio – to connect to the fiber or satellite system. On the other end it is converted back into 2 wire. Each end has a stand alone self powered intercom system which can be disparate types.

Fiber or satellite transmission
One line level audio path in each direction

Revisions	

best audio
320 Seventh Avenue, #264
Brooklyn, NY 11215
917-750-1134

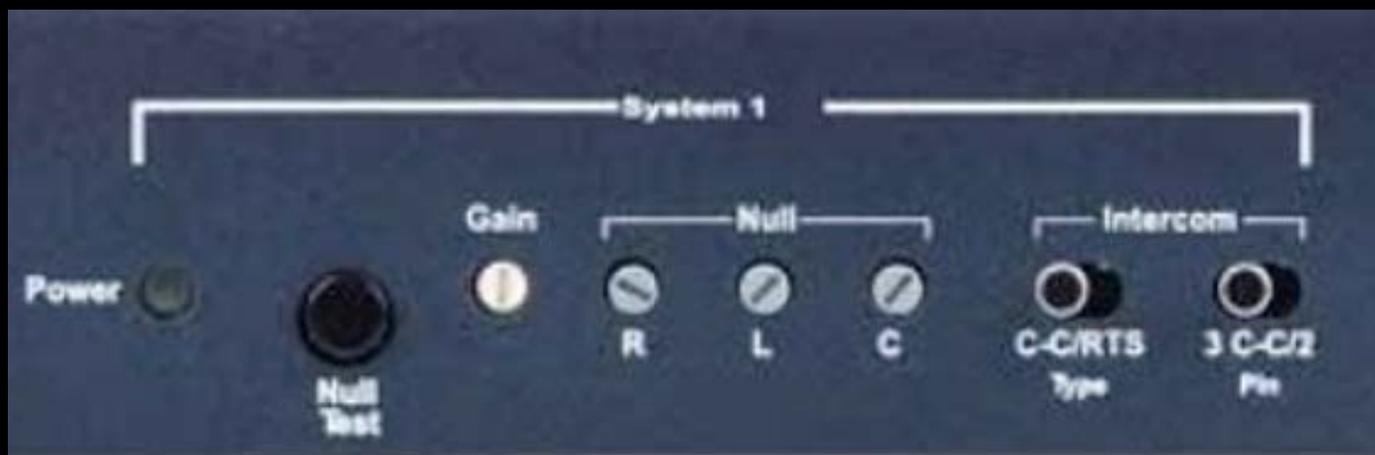
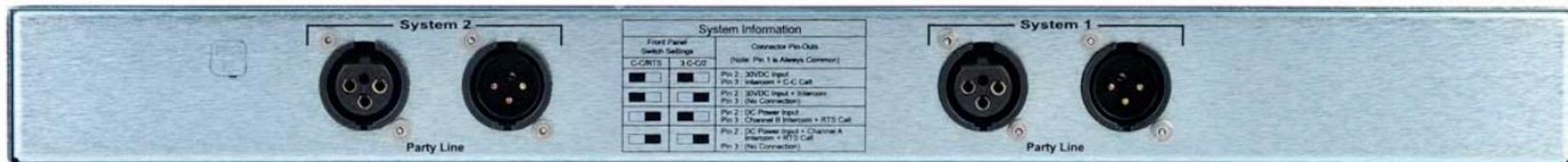
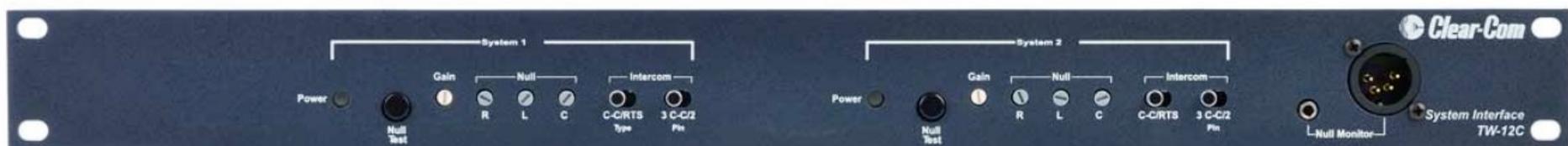
Intercom Interface
Fiber , audio wiring, or satellite system

Designer: Pete Erskine

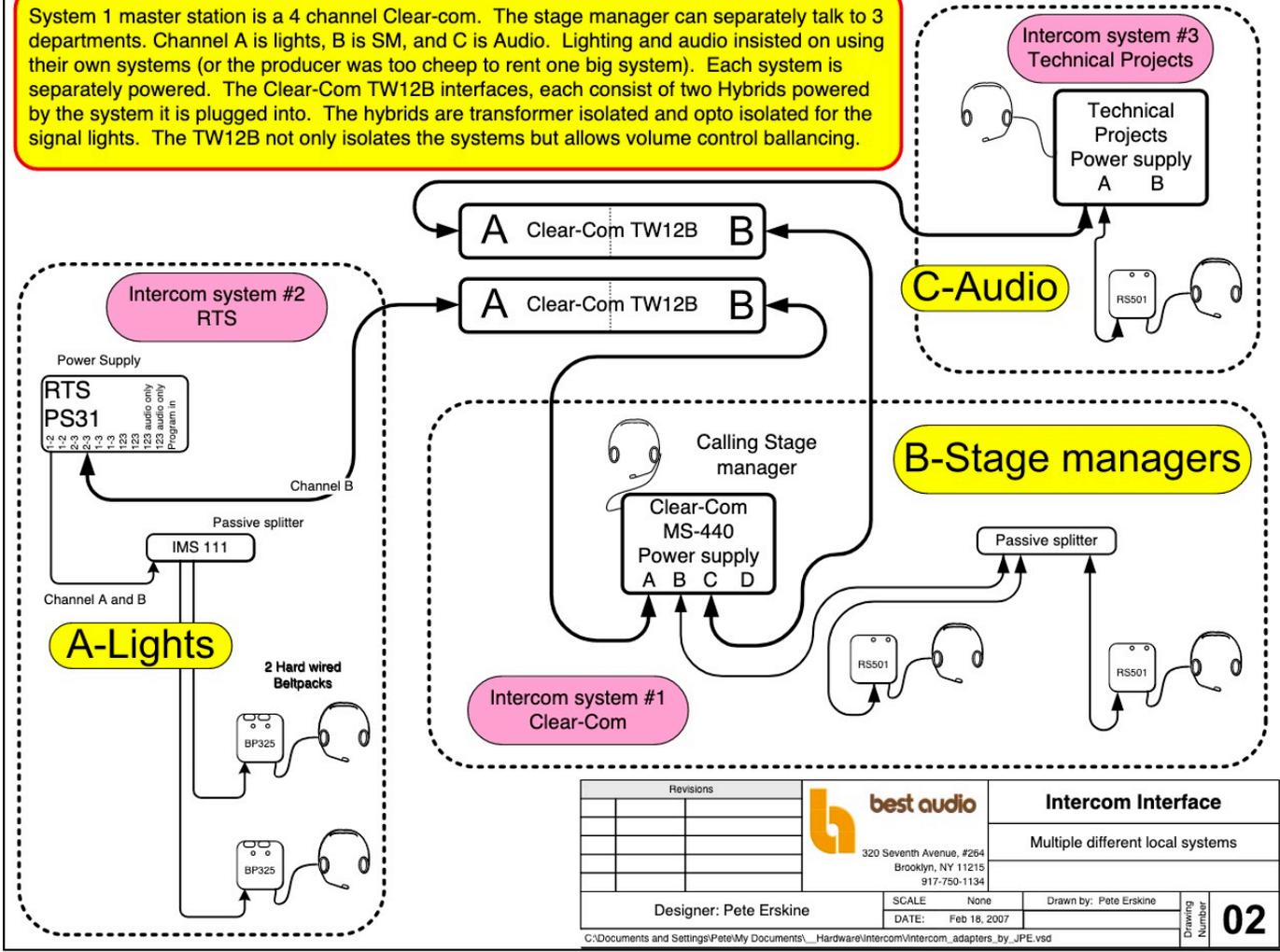
SCALE: None
DATE: Feb 18, 2007

Drawn by: Pete Erskine

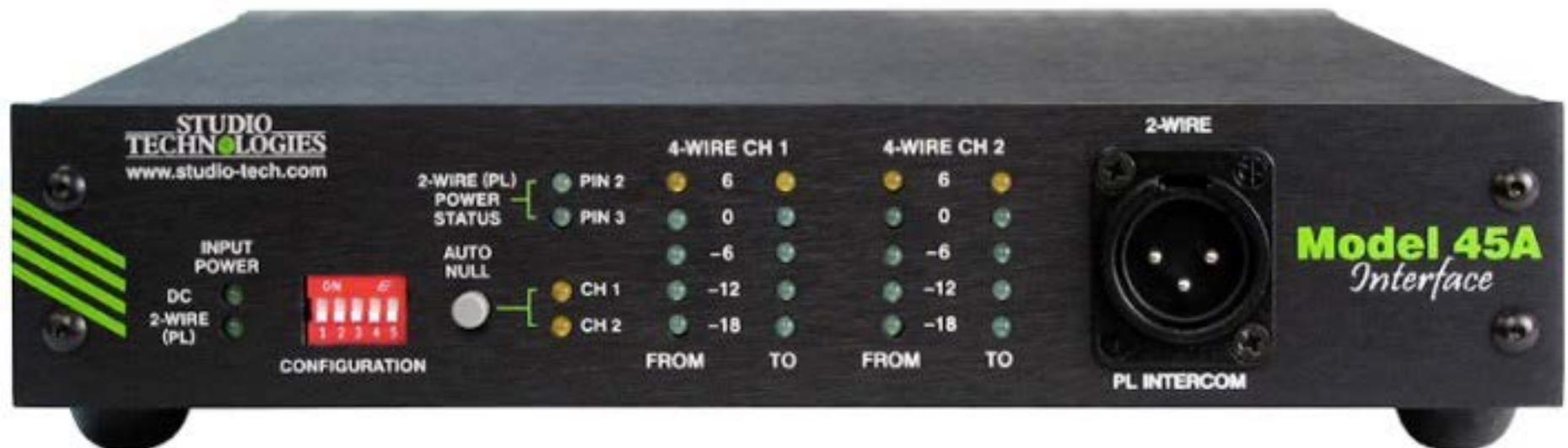
Drawing Number **01**



System 1 master station is a 4 channel Clear-com. The stage manager can separately talk to 3 departments. Channel A is lights, B is SM, and C is Audio. Lighting and audio insisted on using their own systems (or the producer was too cheap to rent one big system). Each system is separately powered. The Clear-Com TW12B interfaces, each consist of two Hybrids powered by the system it is plugged into. The hybrids are transformer isolated and opto isolated for the signal lights. The TW12B not only isolates the systems but allows volume control balancing.



Revisions		best audio	Intercom Interface	
			320 Seventh Avenue, #264 Brooklyn, NY 11215 917-750-1134	Multiple different local systems
		Designer: Pete Erskine SCALE: None DATE: Feb 18, 2007 Drawn by: Pete Erskine		Drawing Number 02





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