



DF timing explained (EN)

Agenda

Part 1: Basic UHF
overview

IPICO UHF Timeline

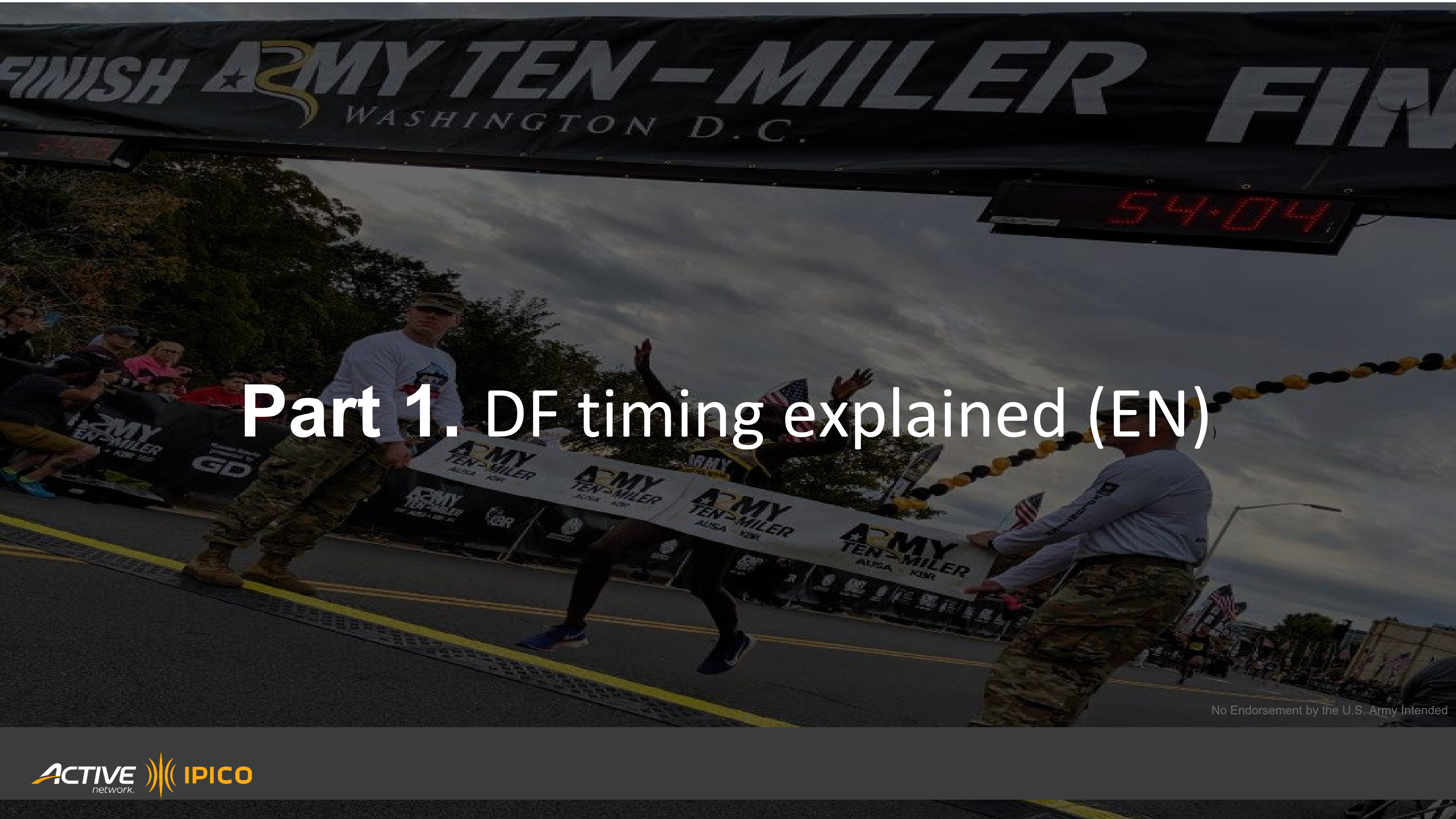
Results

Part 2. UHF Technical
deep dive

Implementation

What's next

Q & A



Part 1. DF timing explained (EN)

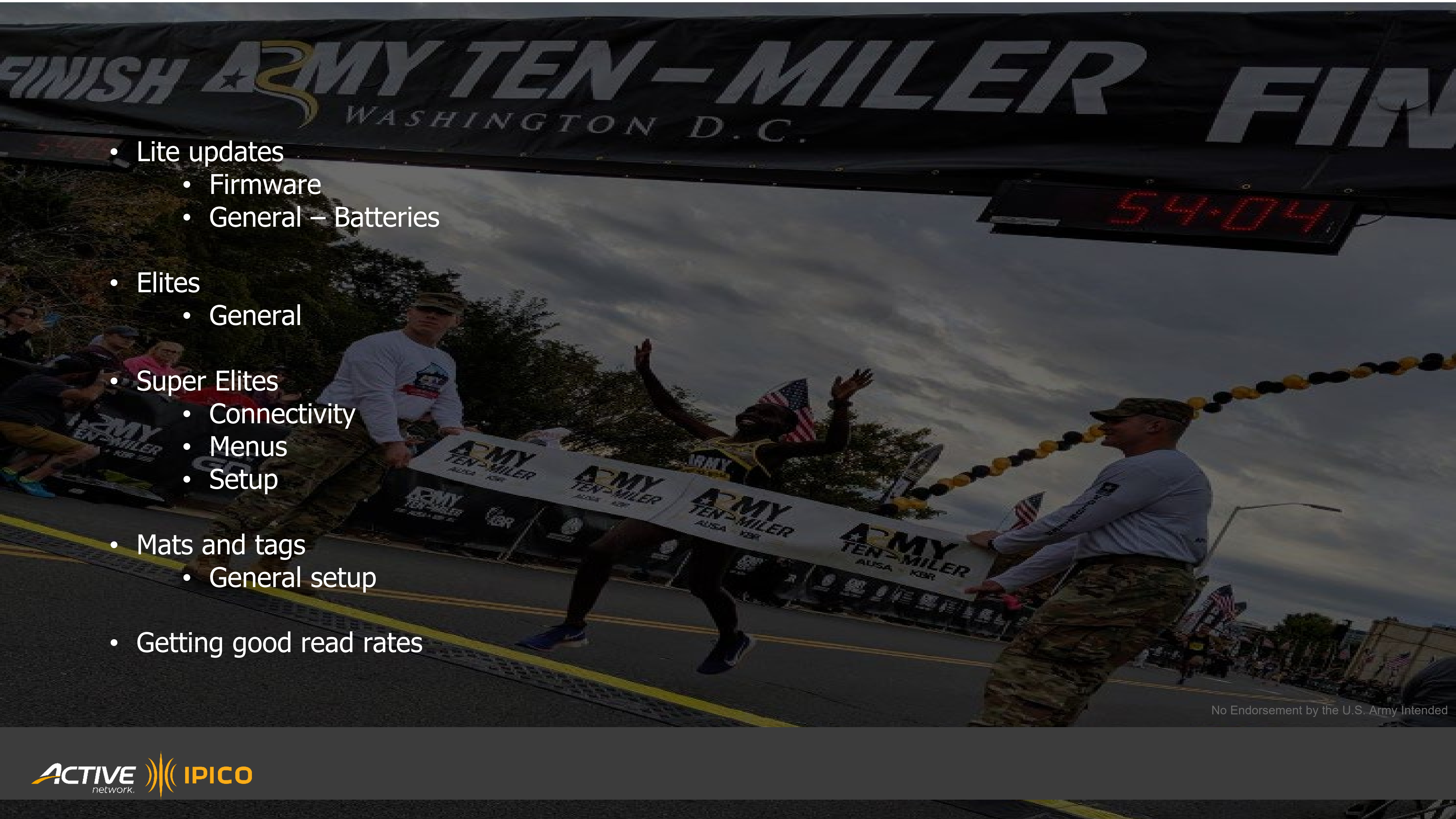
No Endorsement by the U.S. Army Intended

FINISH ARMY TEN-MILER FINISH

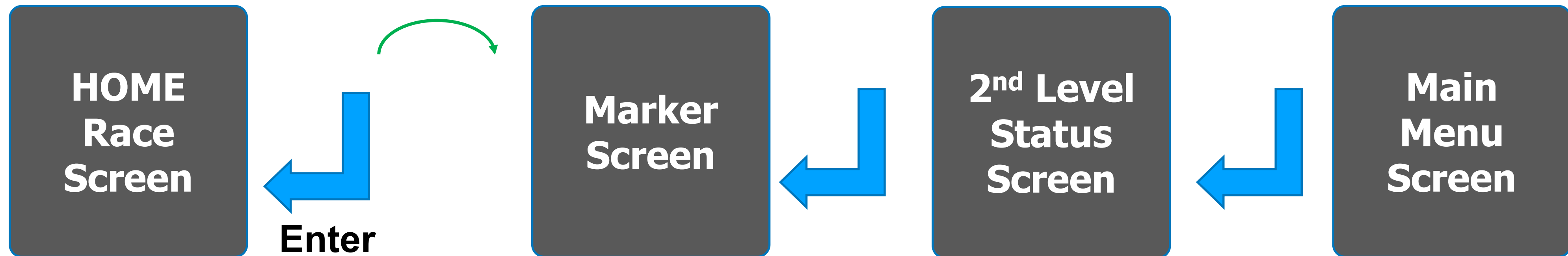
WASHINGTON D.C.

54:04

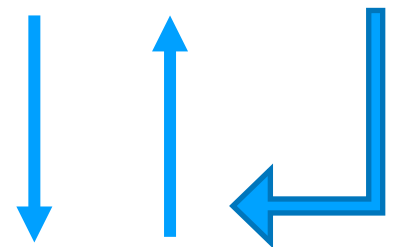
- Lite updates
 - Firmware
 - General – Batteries
- Elites
 - General
- Super Elites
 - Connectivity
 - Menus
 - Setup
- Mats and tags
 - General setup
- Getting good read rates



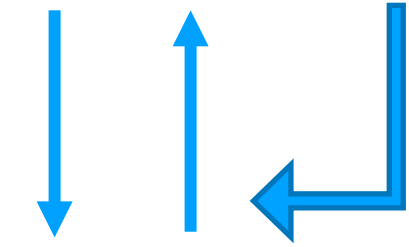
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**Enter
button**

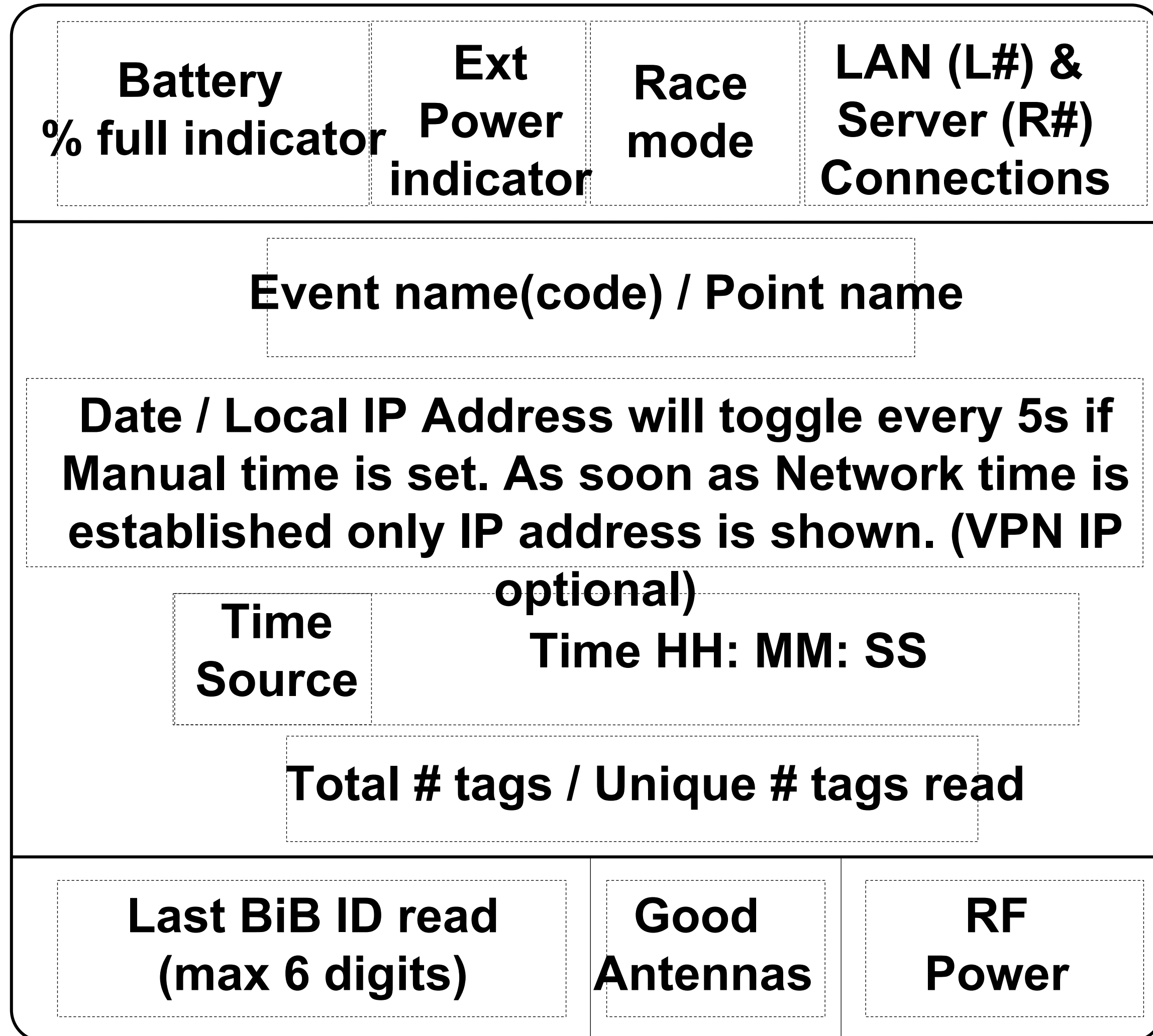


**Gun
Split
Clear
Back**

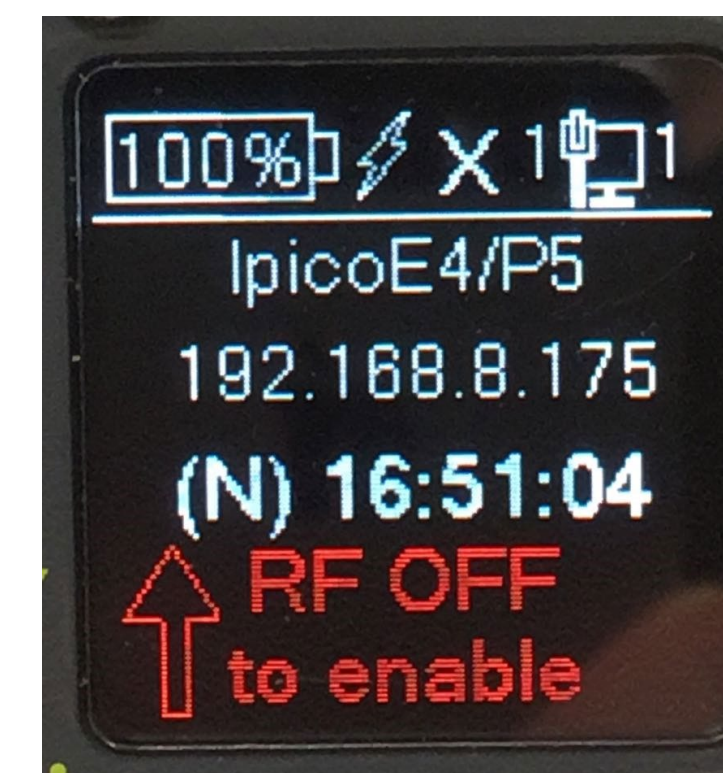
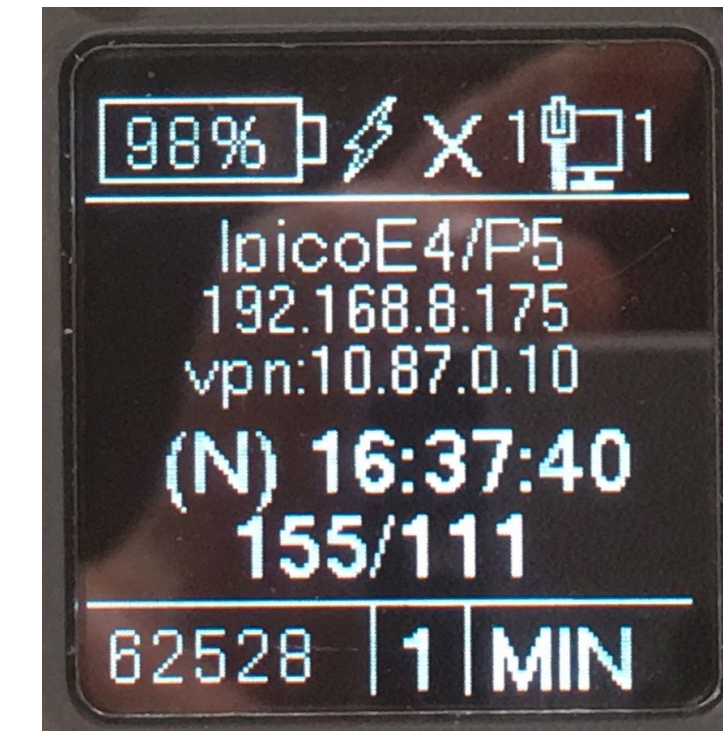


1. **Markers**
Jump back to Marker screen
2. **Status**
Jump back to Status screen
3. **Setup**
 1. **Network**
Enable VPN, DHCP and Server
 2. **Files**
Enable Line #
Clear Archives and or FSLs logs
with conformation
 3. **Time**
Set Manually and/or sync other reader on LAN
 4. **Race**
RF Output
Reader Mode
Int Buzzer ON/OFF
Sleep mode
 5. **Profiles**
Select Preset profiles (IP addresses for now)
 6. **Back to Main Menu screen**
4. **Help**
About Reader FW and HW ver(s)
Codes: Server activation codes

Home page layout

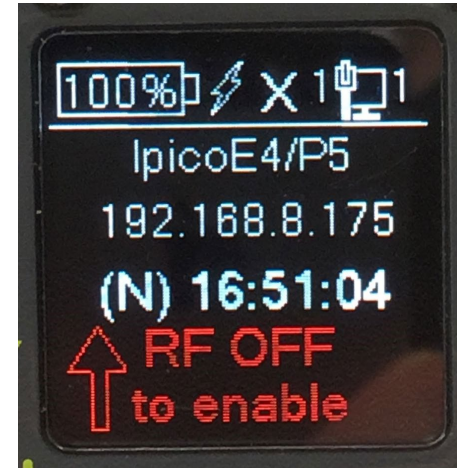
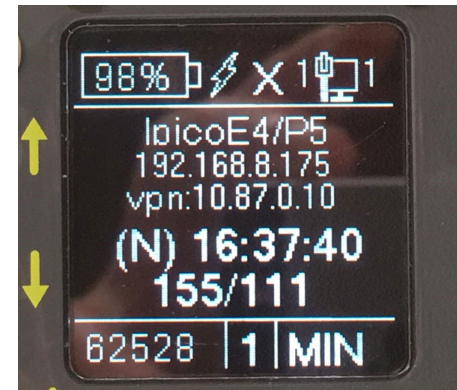


Sample Home screens

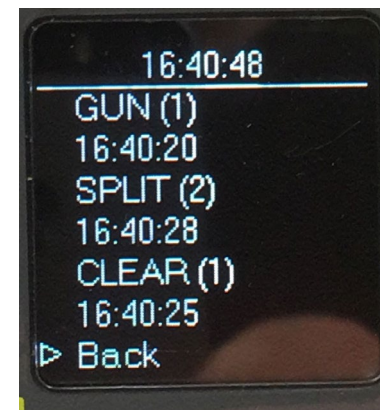
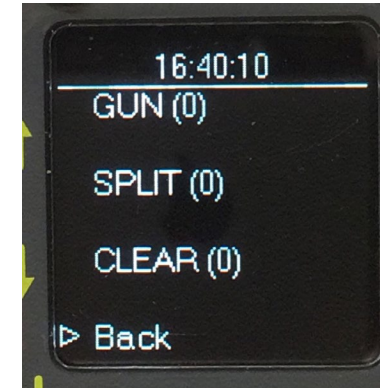


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Home



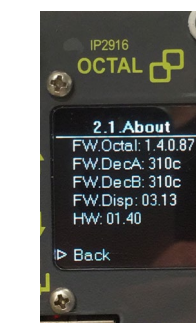
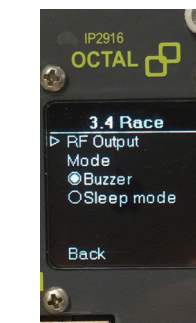
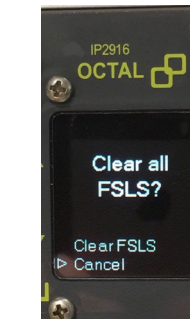
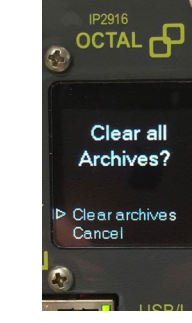
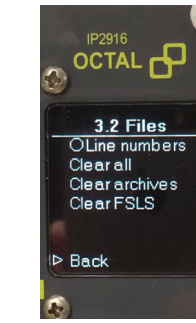
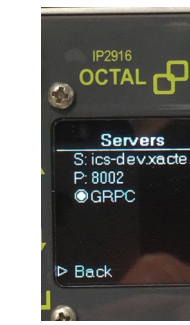
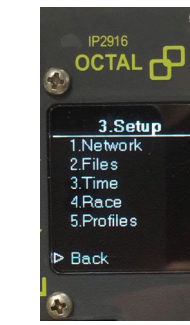
Marker



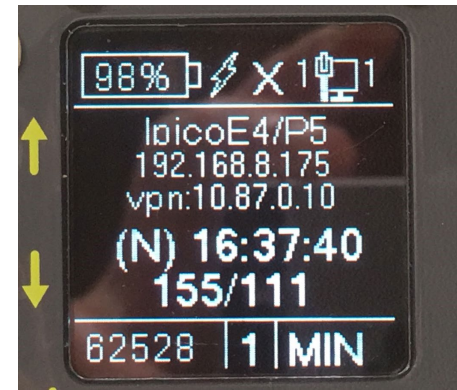
Status



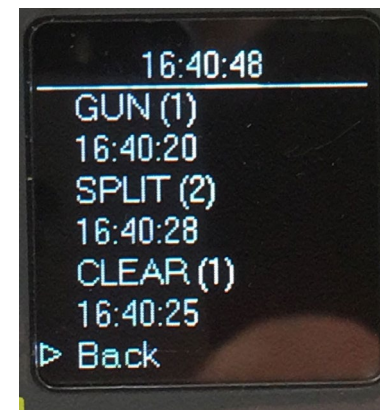
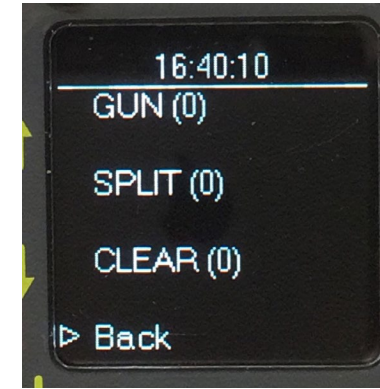
Main Menu



Home



Marker



Status



Main Menu



Power-up/Detection area with 2x2 rows 2.5m STK mats (Staggered), under no/low noise conditions.

Shoe	BiB
Good	Good

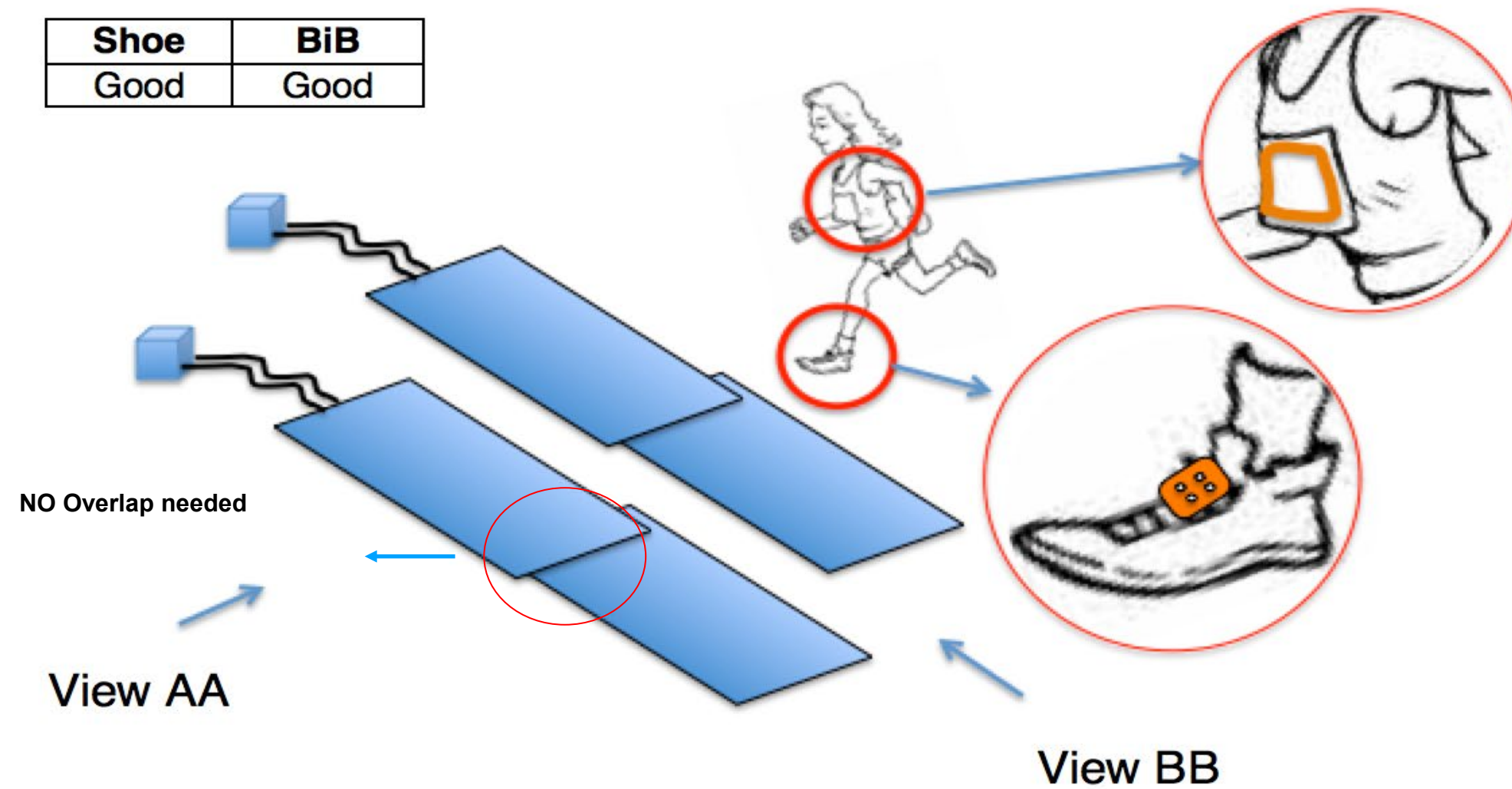


Fig 7. Double row layout of 2x2 2.5m mats

BiB Tag moving over 2 rows of mats that are staggered:

(Green/Blue lobes depict good read areas)

At least $\geq 1.4m$ above ground level

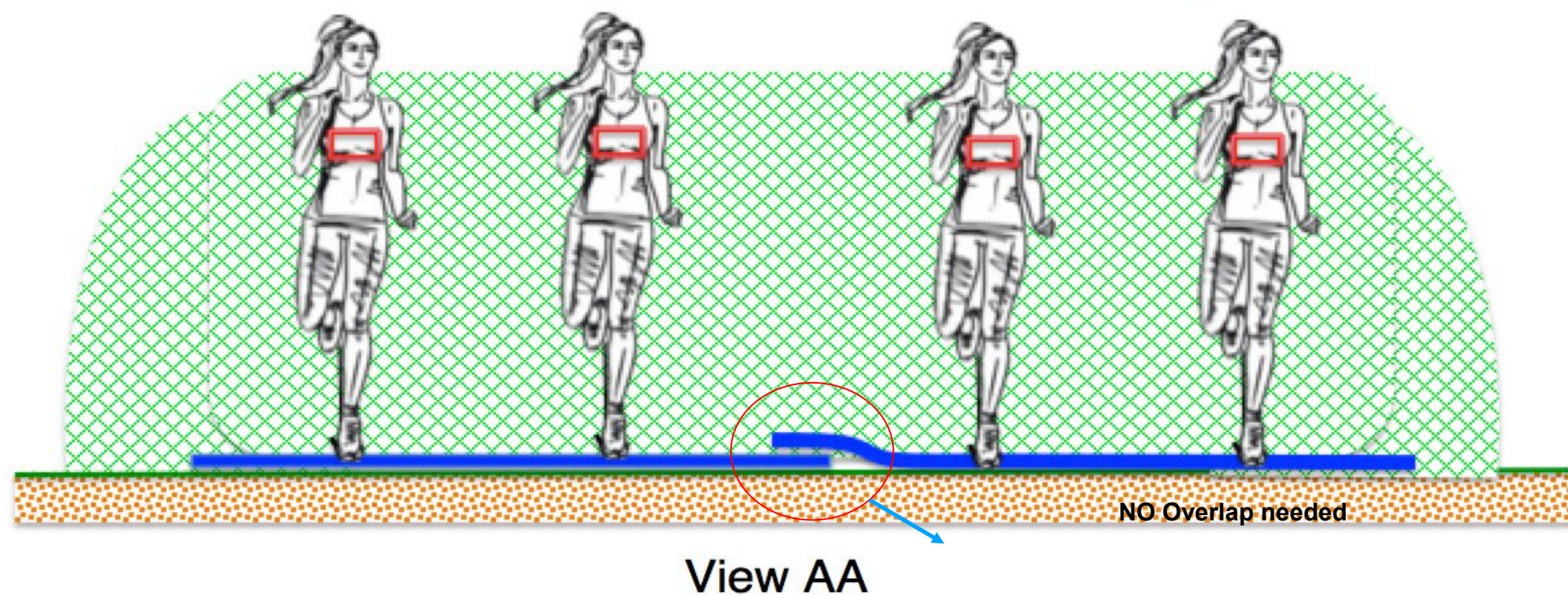
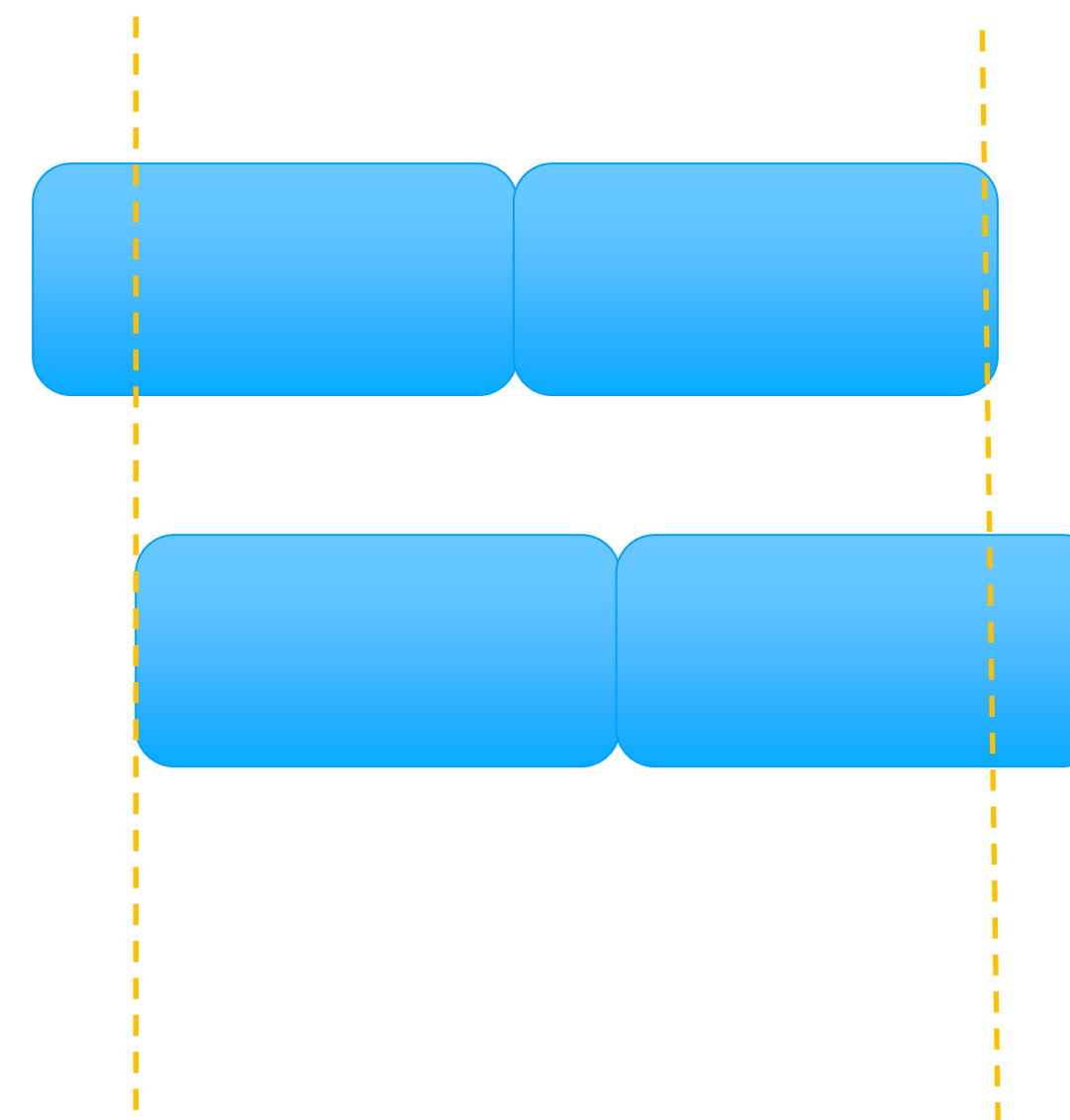
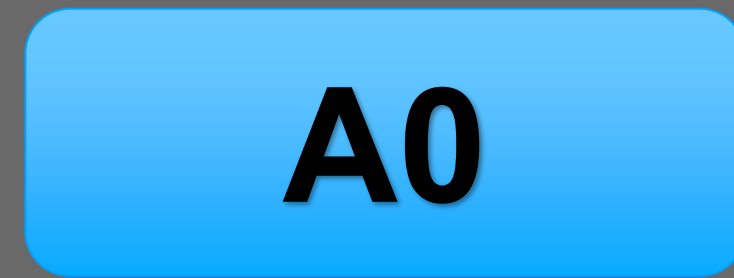


Fig 8. BiB tag moving horizontally over the 2 staggered rows of mats

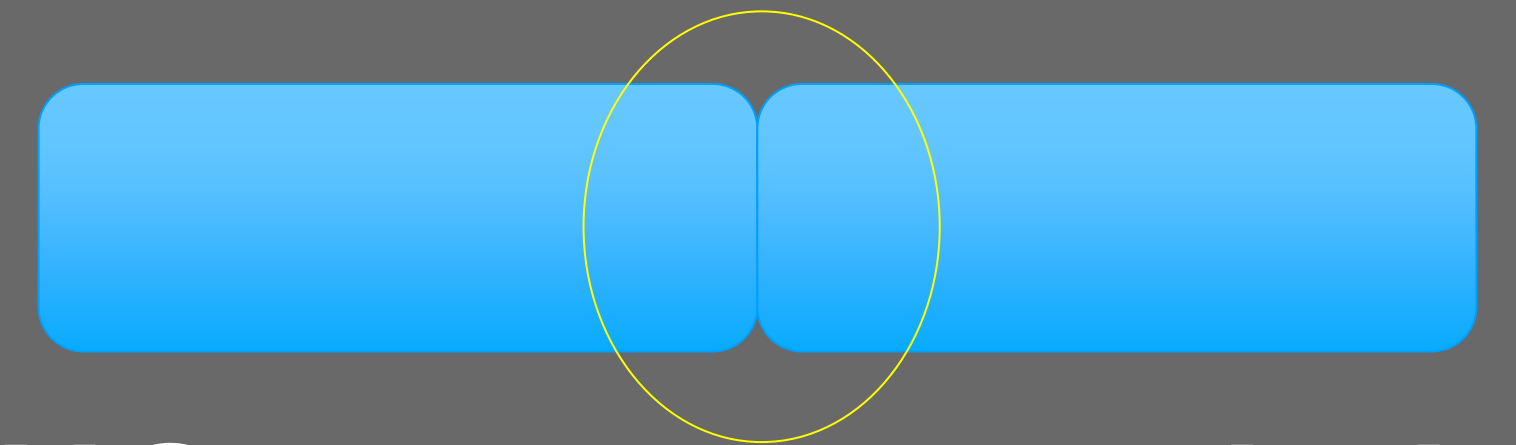


Mat layout (TX connections)

Elite
Or
Lite

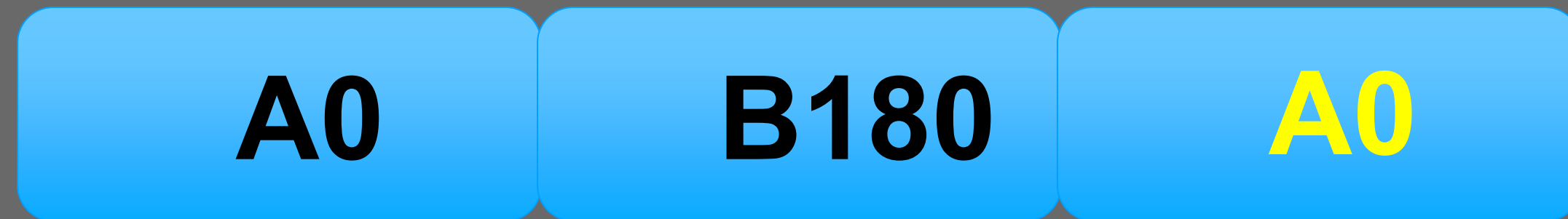


1m Spacing

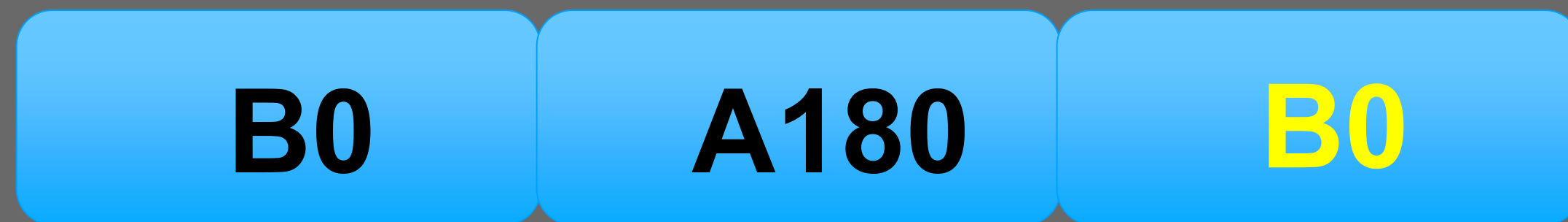


NO overlap needed
Install Edge to Edge

Elite 1



Elite 2



0.5m Stagger



5 vs 2.5 mat mixes

Elite 1



Elite 2



5M Single RX loop mats with Lites

Lite 1



Lite 2

Lite 1



Lite 2

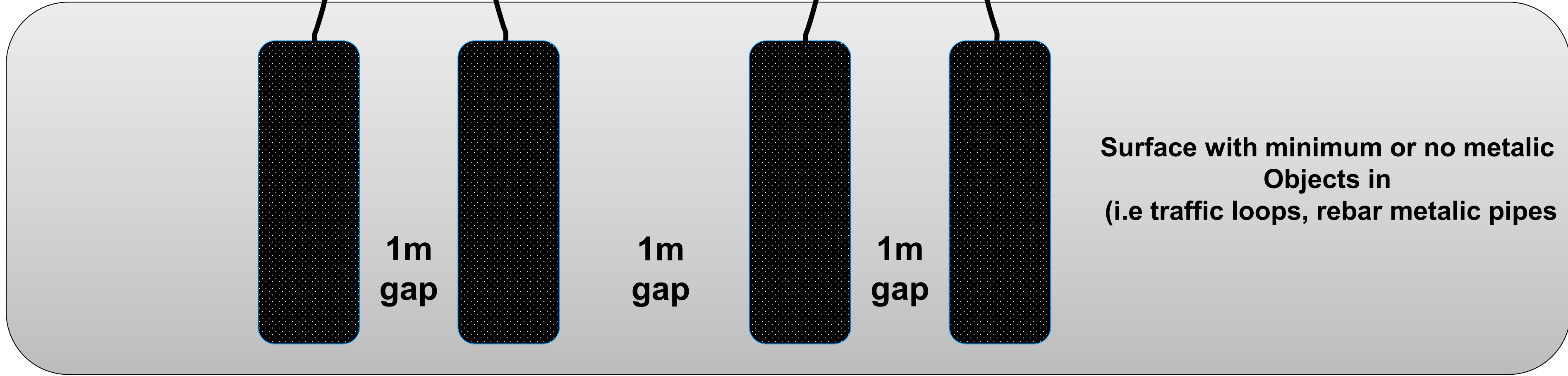
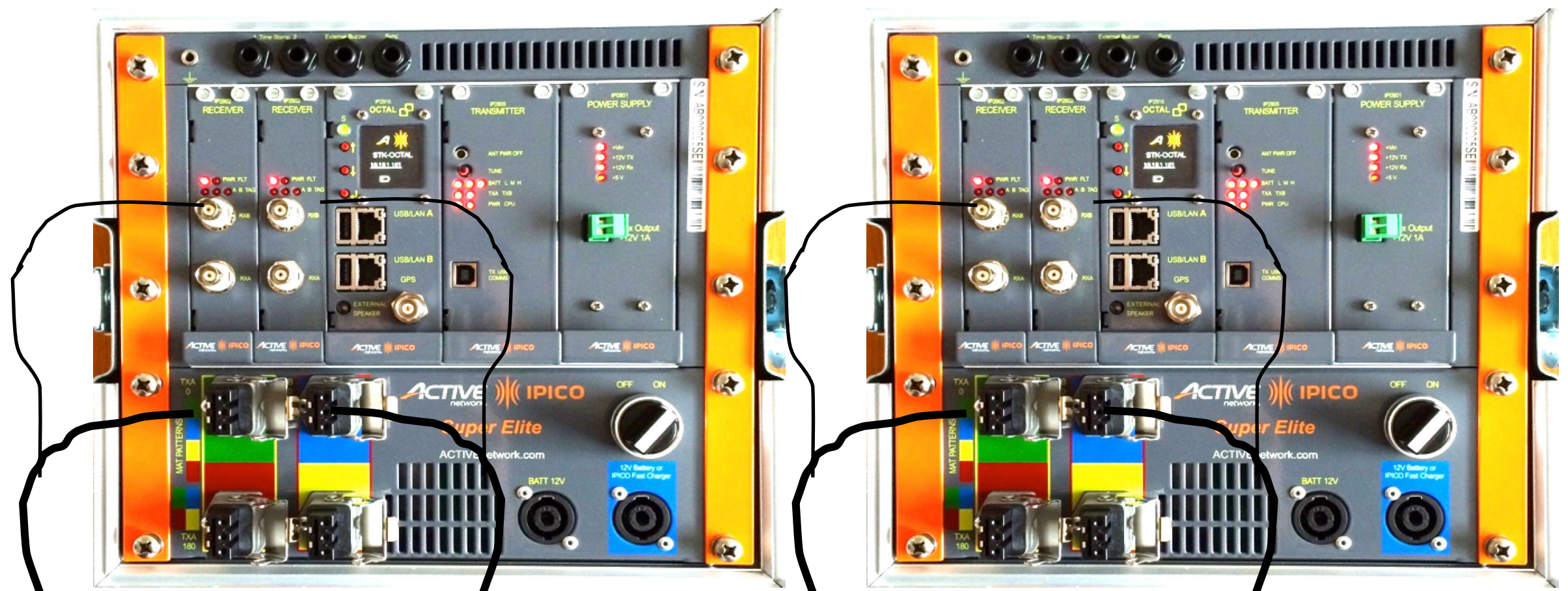


Getting good read rates

- **Educate users how to wear / use the tag correctly – even how to pass the mat**
 - **Test HW before – do acid test**
 - **Check mat layouts – scout read points before the event if possible**
 - **Try and identify all external and internal noise sources**

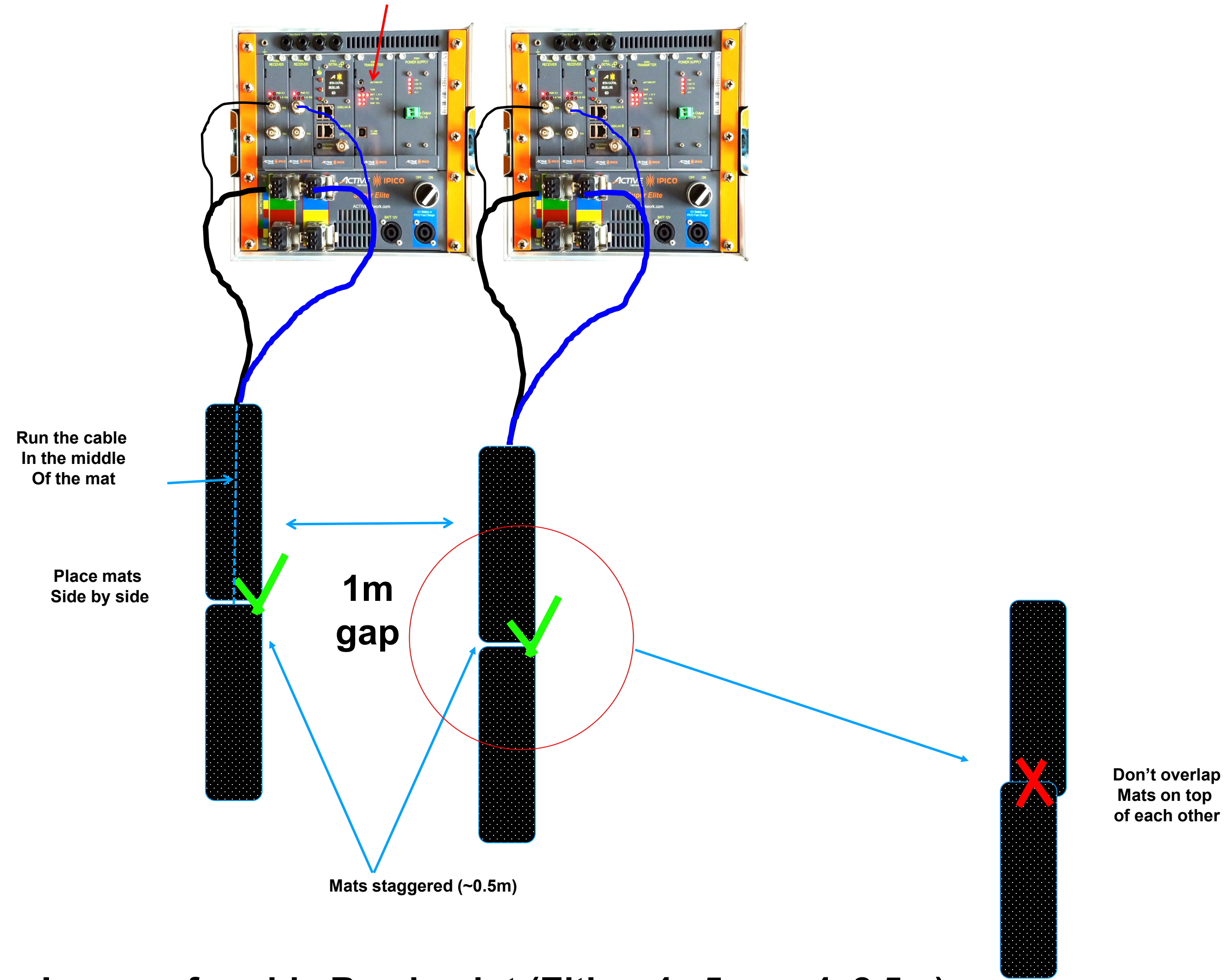
Main

Backup



**Surface with minimum or no metallic
Objects in
(i.e traffic loops, rebar metallic pipes)**

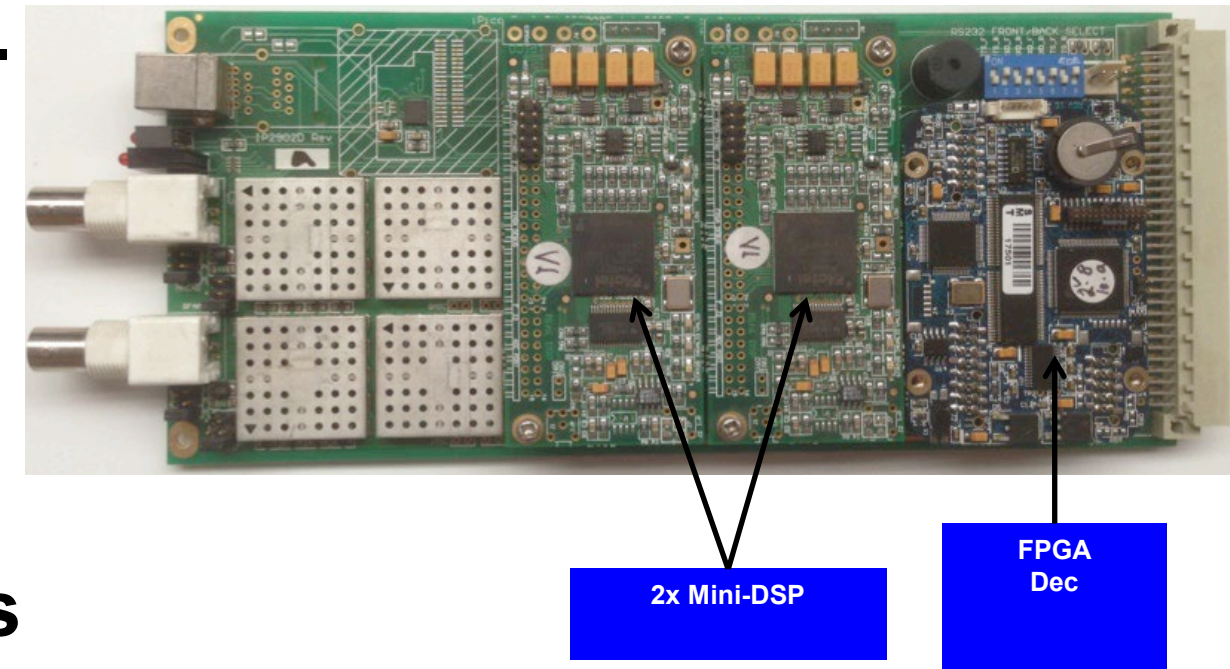
This is the TX card IP2905 make sure it has FW ver 2.77 on it



Incase of a wide Read point (Either 4x 5m or 4x2.5m)

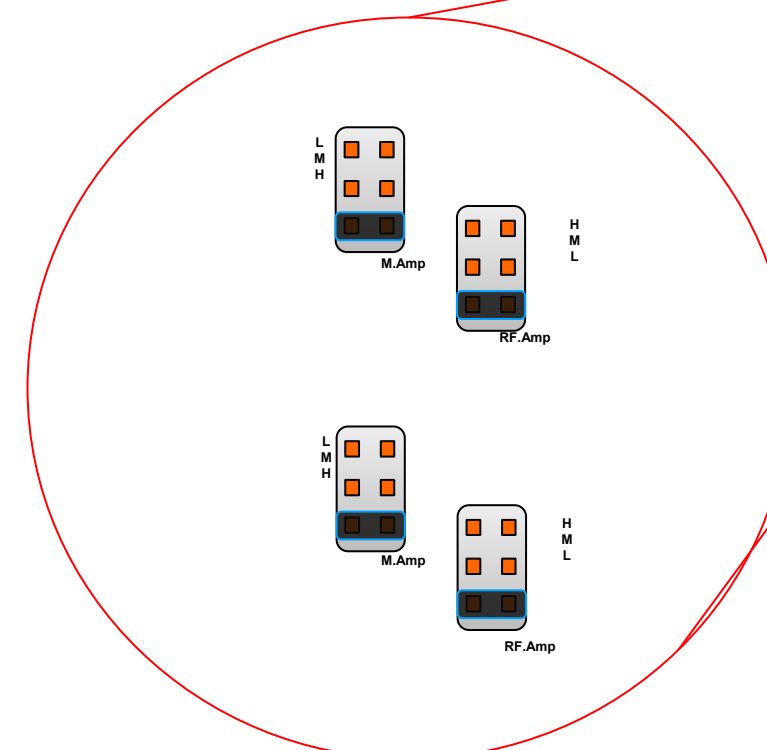
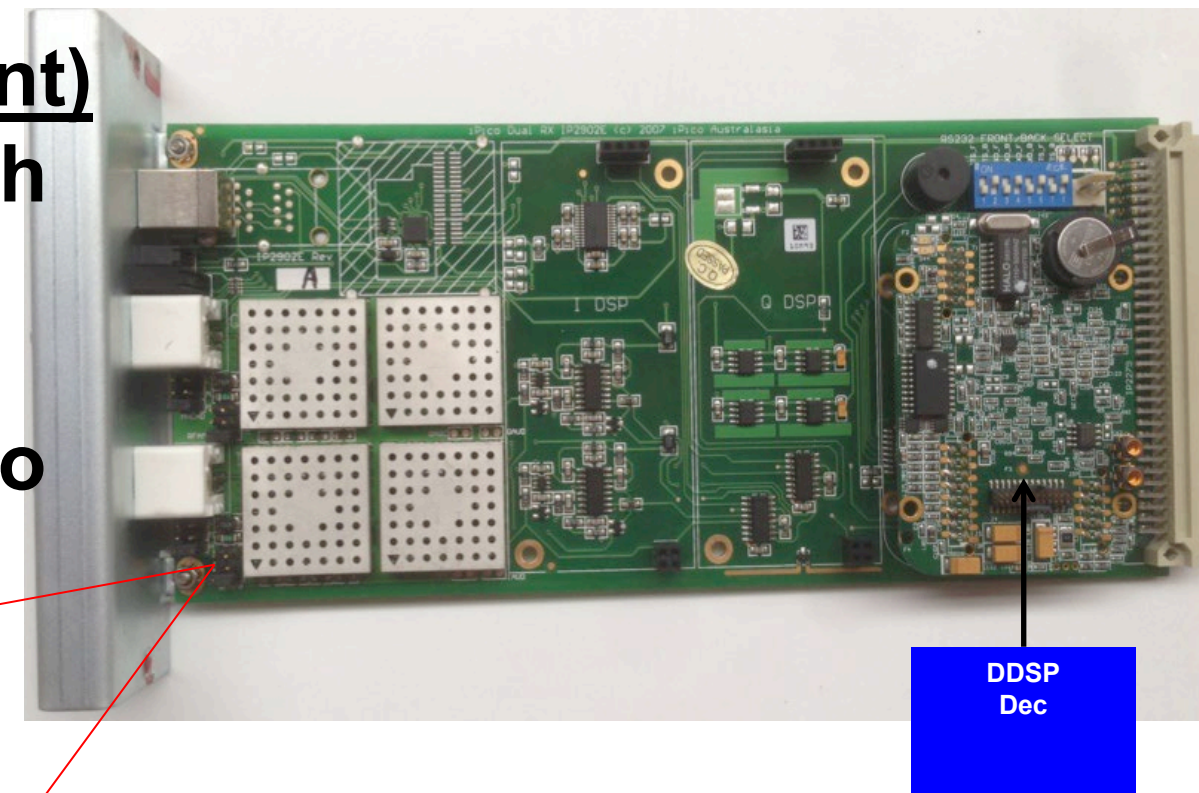
2nd Generation RX board

- 1. Elites – prior to Nov 2012 .
- 2. Lites – prior to AB000251
- 3. Mini-DSP should have V2 firmware on or it needs to be reprogrammed/upgraded.
- 4. Set jumpers on both ch's
M.Amp = H, RF Amp = L



3rd Generation RX board (current)

- 1. All new readers are fitted with DDSP decoders
- 2. All new reader will have jumpers on both ch's set to M.Amp = H, RF Amp = L



DDSP Dec
= Dual DSP Decoder,
DSP=Digital Signal Processor

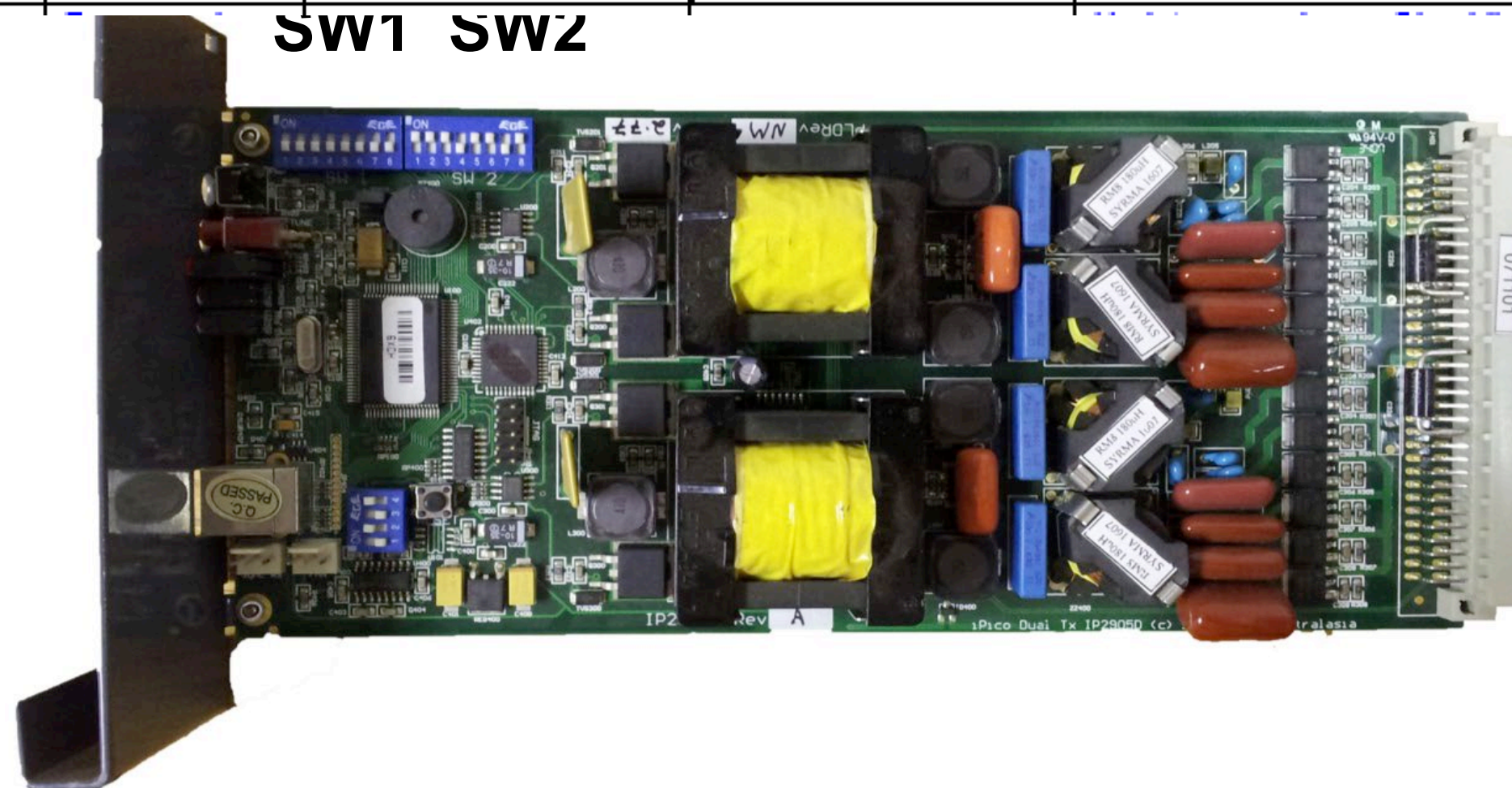
Optimize your TX card for BIB tags

TX board

1. Set SW1 and SW2 to new positions.

2. Important : All reader after Nov 2012 should be OK (Firmware ver 2.77)

Part/Processes /Doc	Description	Old value								New value								Reason
IP2905E	DIP SW1 settings	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	SW1, 6-8 = Set TXA @125kHz and TXB @ 127kHz
		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	
	DIP SW2 settings	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	SW2, 1-3 = Change Duty Cycle of TX from 100% to 10ms:10ms ON/OFF. Increase read range when TX is OFF. SW2, 8 = TX Report and Auto Tune Control 0=No Auto Tune, 1=AT and Report Note – when set to 0 TX send a report each 10 seconds but does not carry out an auto tune
		1	1	1	0	1	1	0	1	1	0	0	0	1	1	0	0	



Environment

Other ext interfaces

IT

Reader

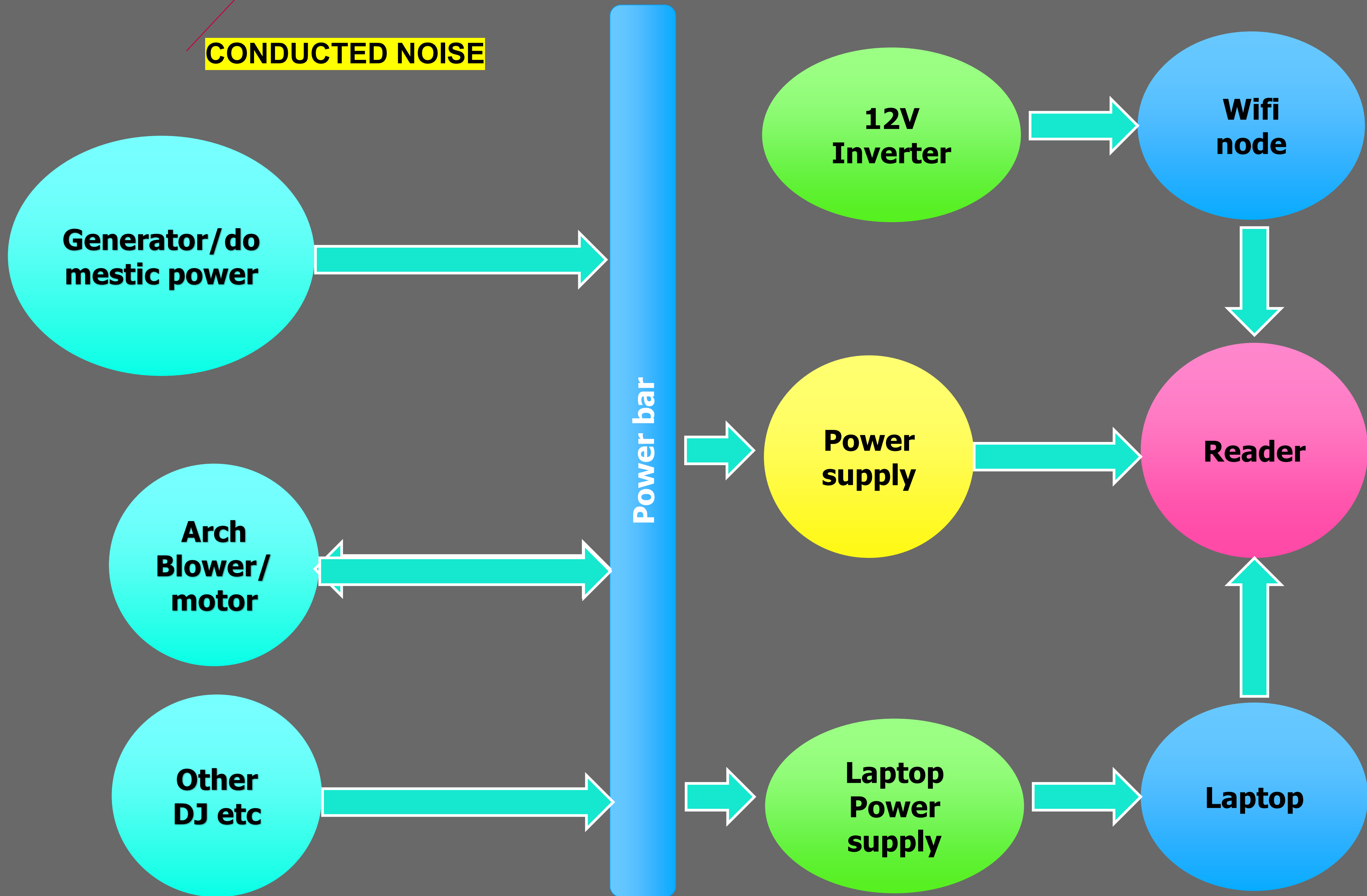
Power
supply

Mat

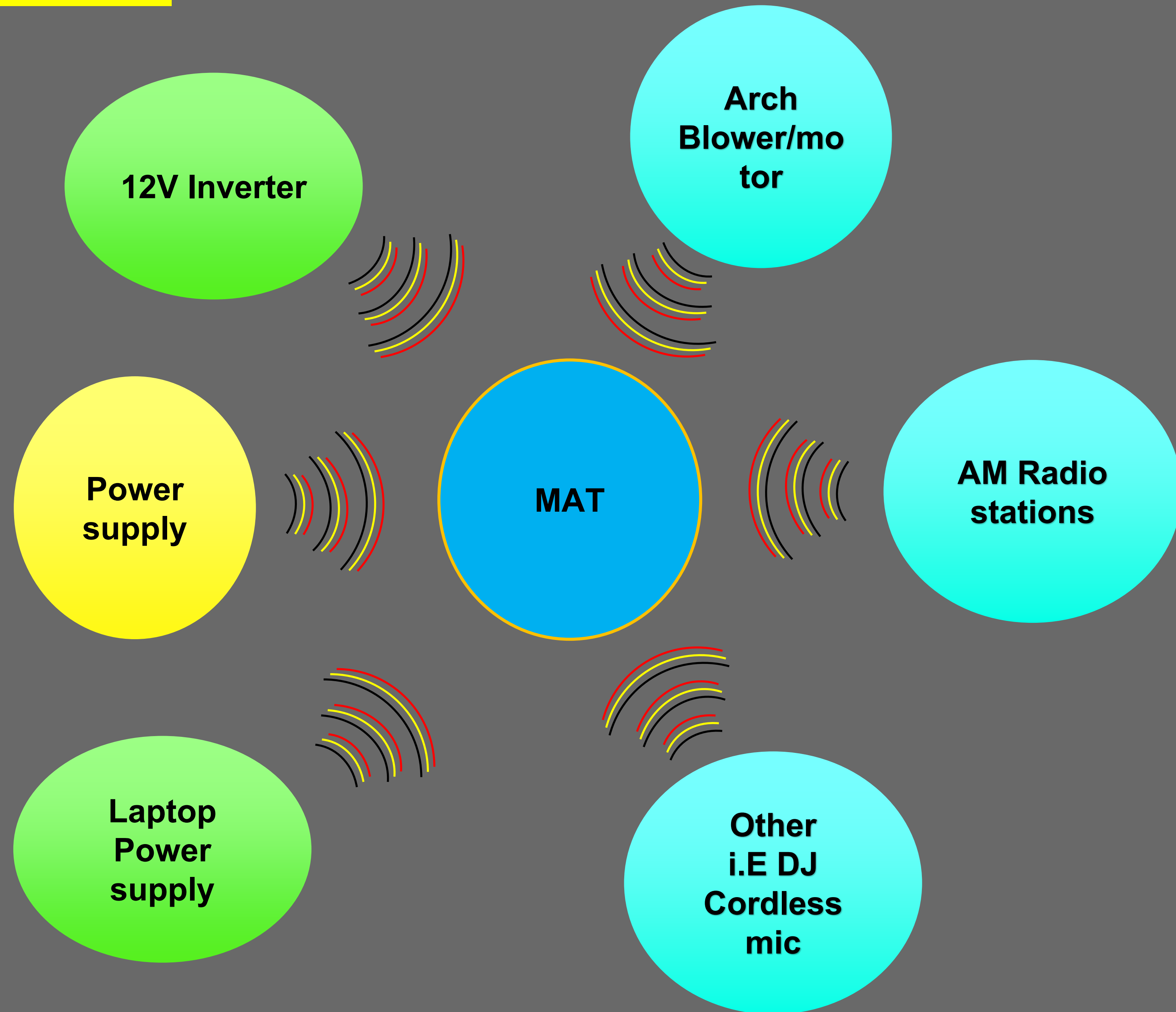
Tag

Runner

CONDUCTED NOISE



RADIATED NOISE



Find answers now in the IPICO Community:

<https://support.activenetwork.com/ipico>

<https://www.youtube.com/channel/UCekK74ctuAiF8b1SAx8Jj6Q>

Facebook - IPICO Timers

End of Part 1

Q&A