Understanding our Wireless World

Your guide to a successful sports broadcast season

by

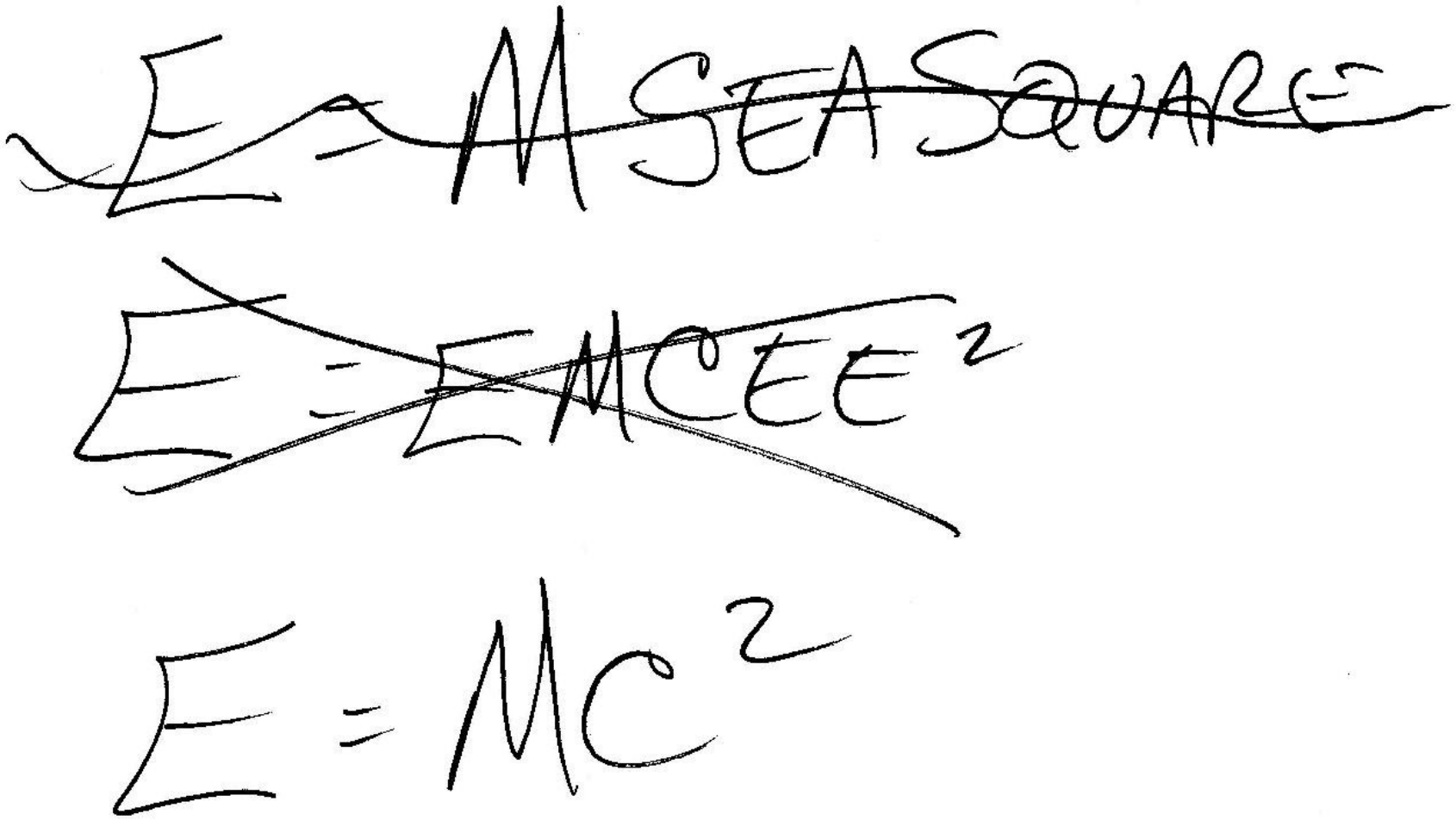
Ralph Beaver

SBE frequency coordination chair



An RF “channel” is like a blank sheet of paper. The channel itself is not that special… depends on what you do with it.

If you gave me a blank sheet of paper and said “draw something”, you may get something…



…like this!

I cannot draw. This is what you may get.

But if you give this same sheet of paper to a friend of mine, you may get…



…this!

It’s the same sheet of paper. It’s the same pencil.

It just depends on how you use it.

Channel uses

- IFB
- Camera Data
- Broadcast Audio
- Operational Communications

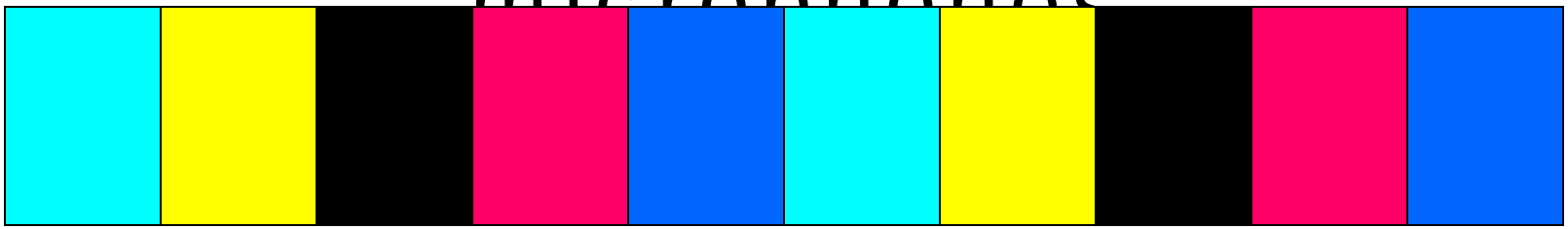
Where Do We Get Wireless Mic Channels?

- Reuse existing TV channels
- -
- -
- -

Currently available wireless microphone equipment reuses TV channels not currently in use in your area.

1 Television Channel

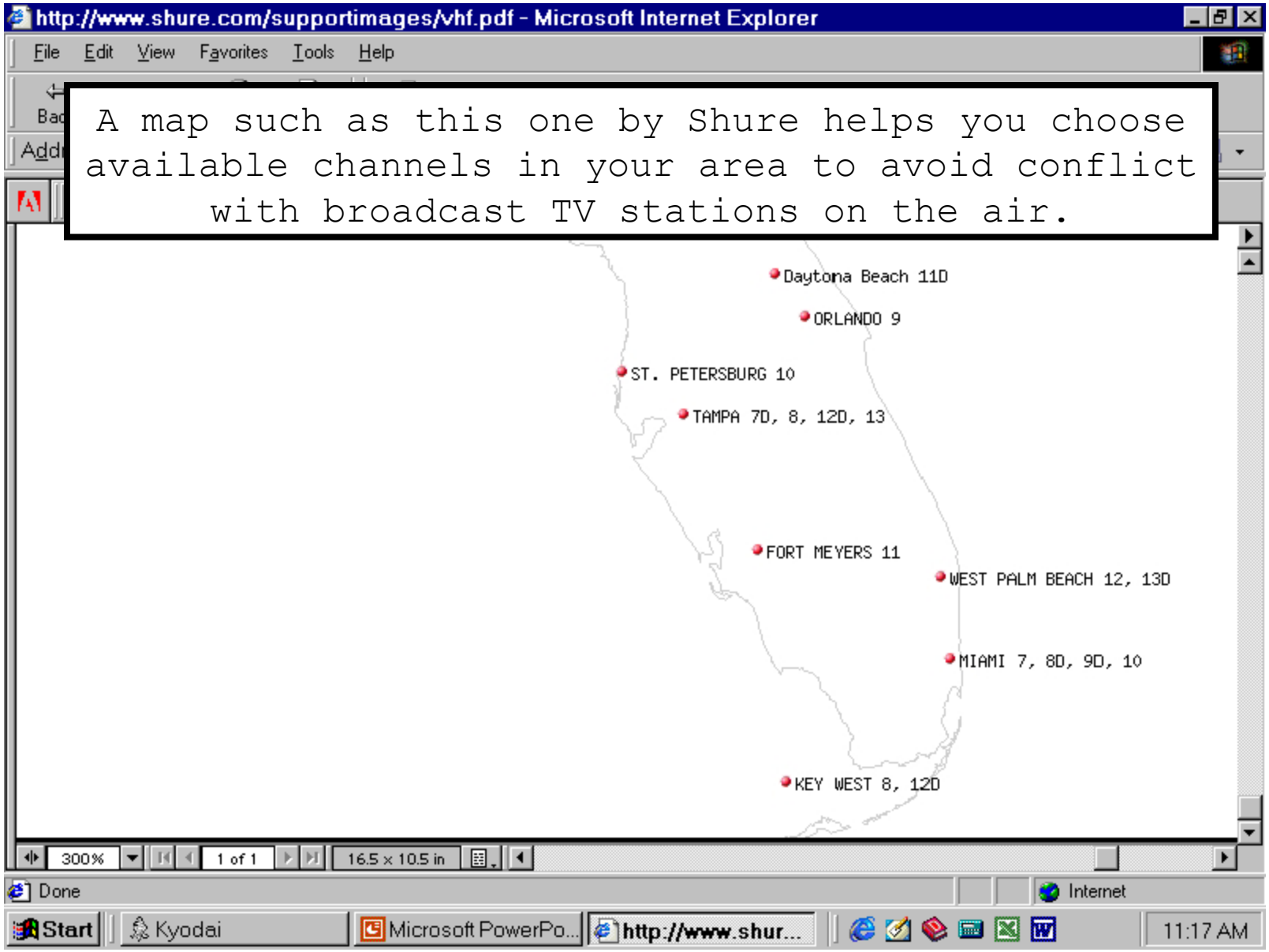
Or 10 wireless microphones



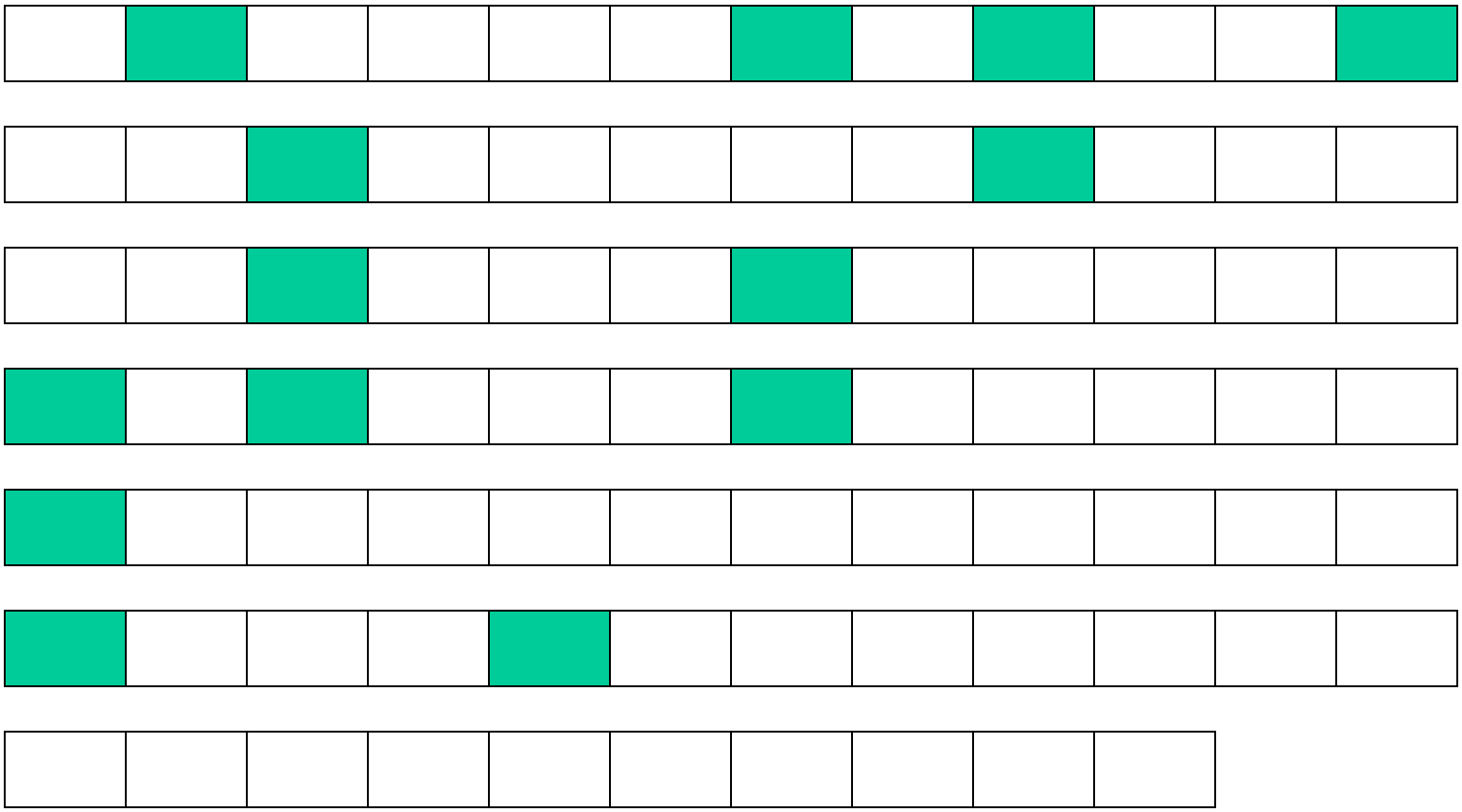
Over-the-air broadcast channels

2											**13**
14											
									83		

You may remember the typical line of TV channels. Channel 2 through 13 represent the VHF band and 14 thru 83 represent the UHF band.

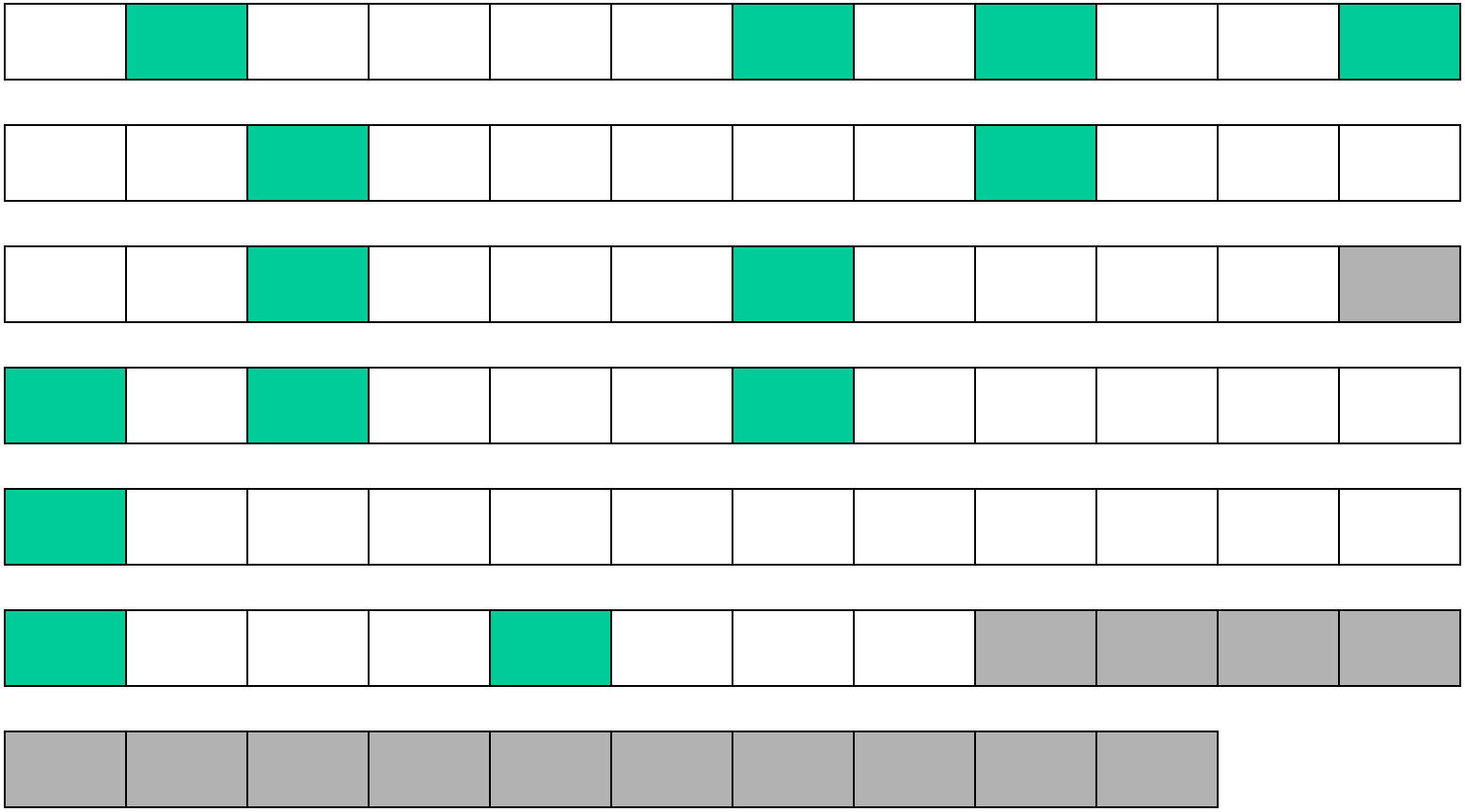

http://www.shure.com/supportimages/vhf.pdf - Microsoft Internet Explorer
File Edit View Favorites Tools Help
A map such as this one by Shure helps you choose available channels in your area to avoid conflict with broadcast TV stations on the air.
Daytona Beach 11D
ORLANDO 9
ST. PETERSBURG 10
TAMPA 7D, 8, 12D, 13
FORT MEYERS 11
WEST PALM BEACH 12, 13D
MIAMI 7, 8D, 9D, 10
KEY WEST 8, 12D
300%
1 of 1
16.5 x 10.5 in
Done
Internet
Start
Kyodai
Microsoft PowerPo...
http://www.shur...
11:17 AM

Over-the-air broadcast channels



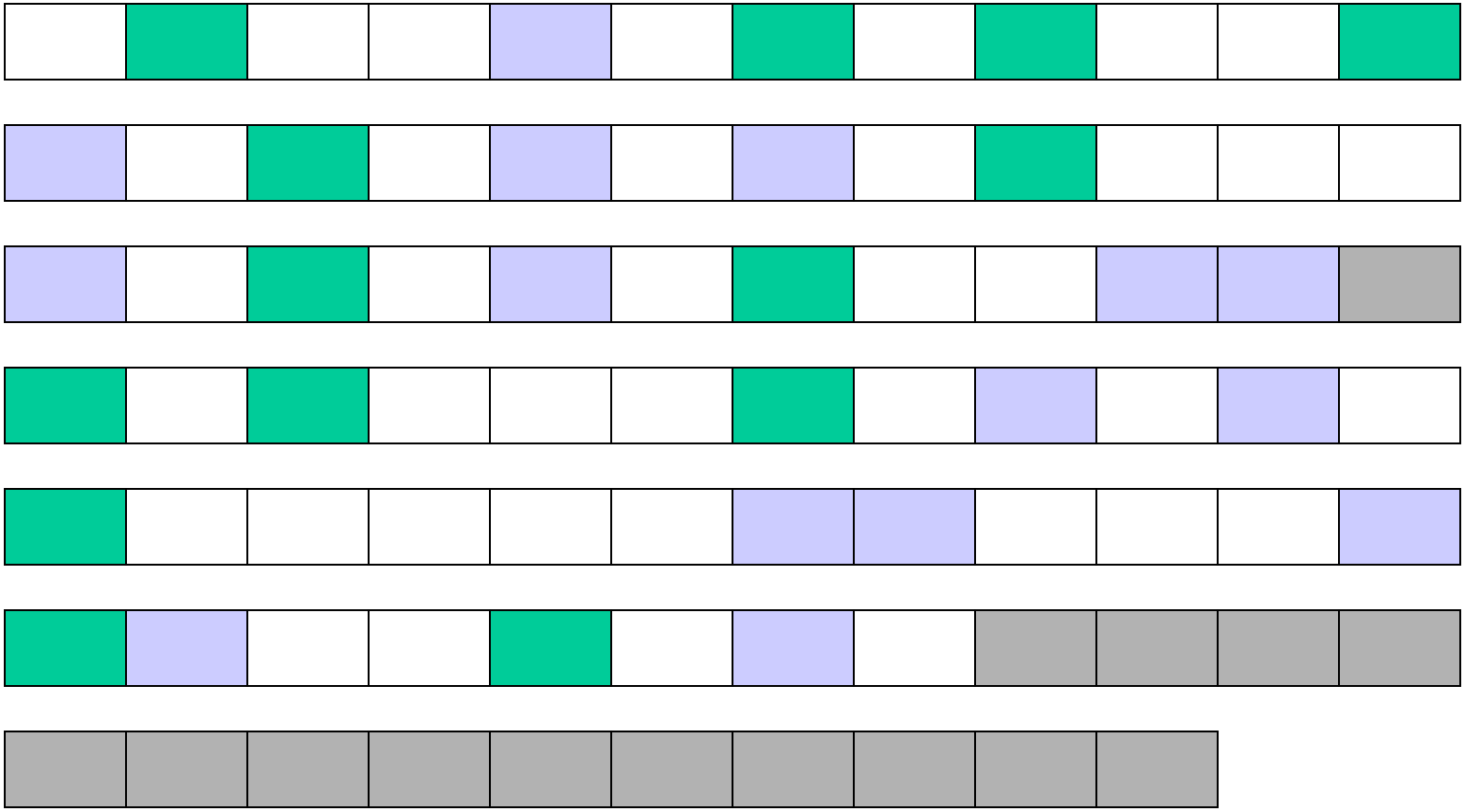
This is a sample of the Tampa, Florida TV usage. Each full power TV station is represented by a green box. We have stations on channels 3, 8, 10, 13, 16 and so on.

Government re-farming of TV channels



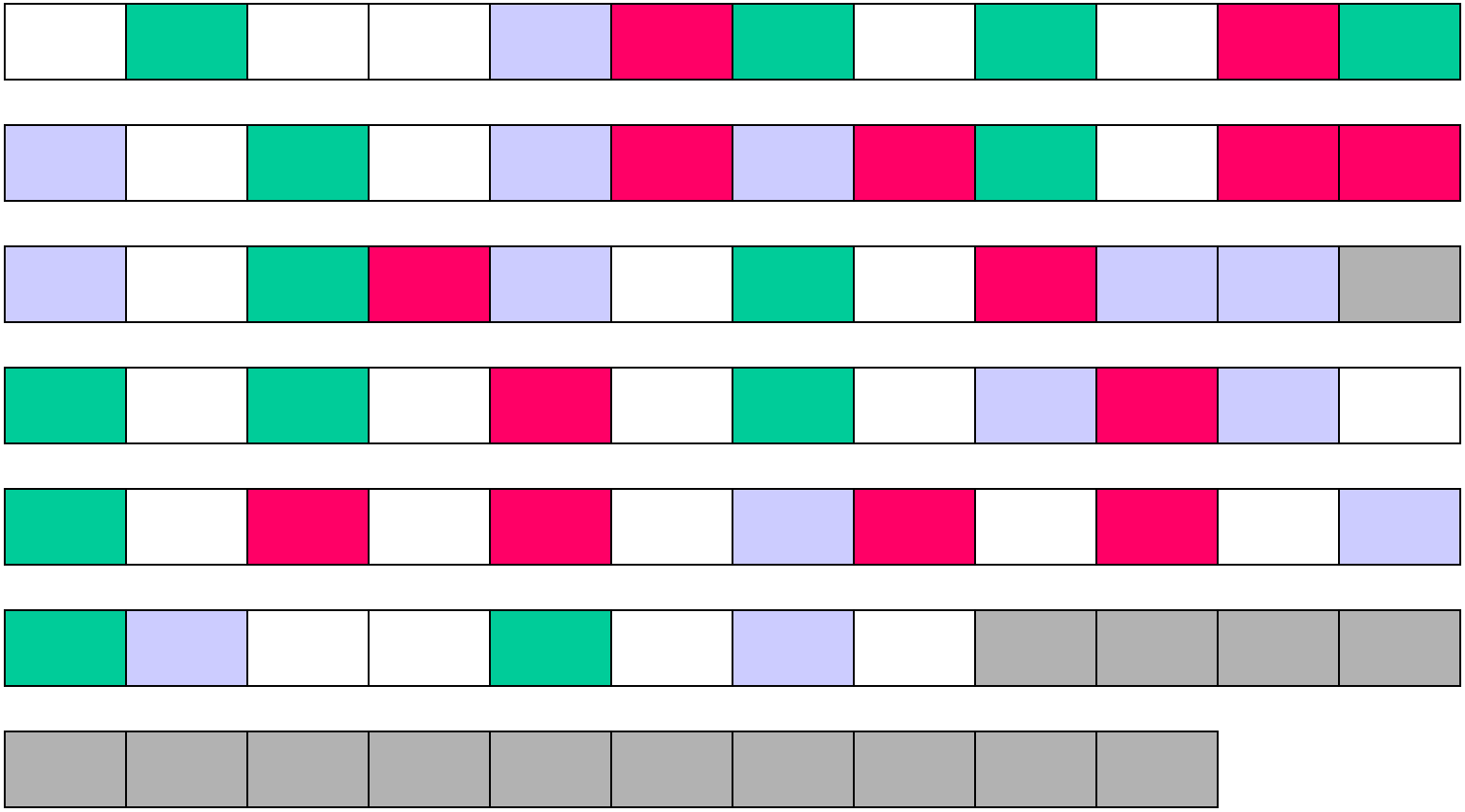
Then we consider the TV channels the FCC has re-assigned for “non-TV” use. Your cell phone may be operating in one of these gray boxes!

Add low power TV channels



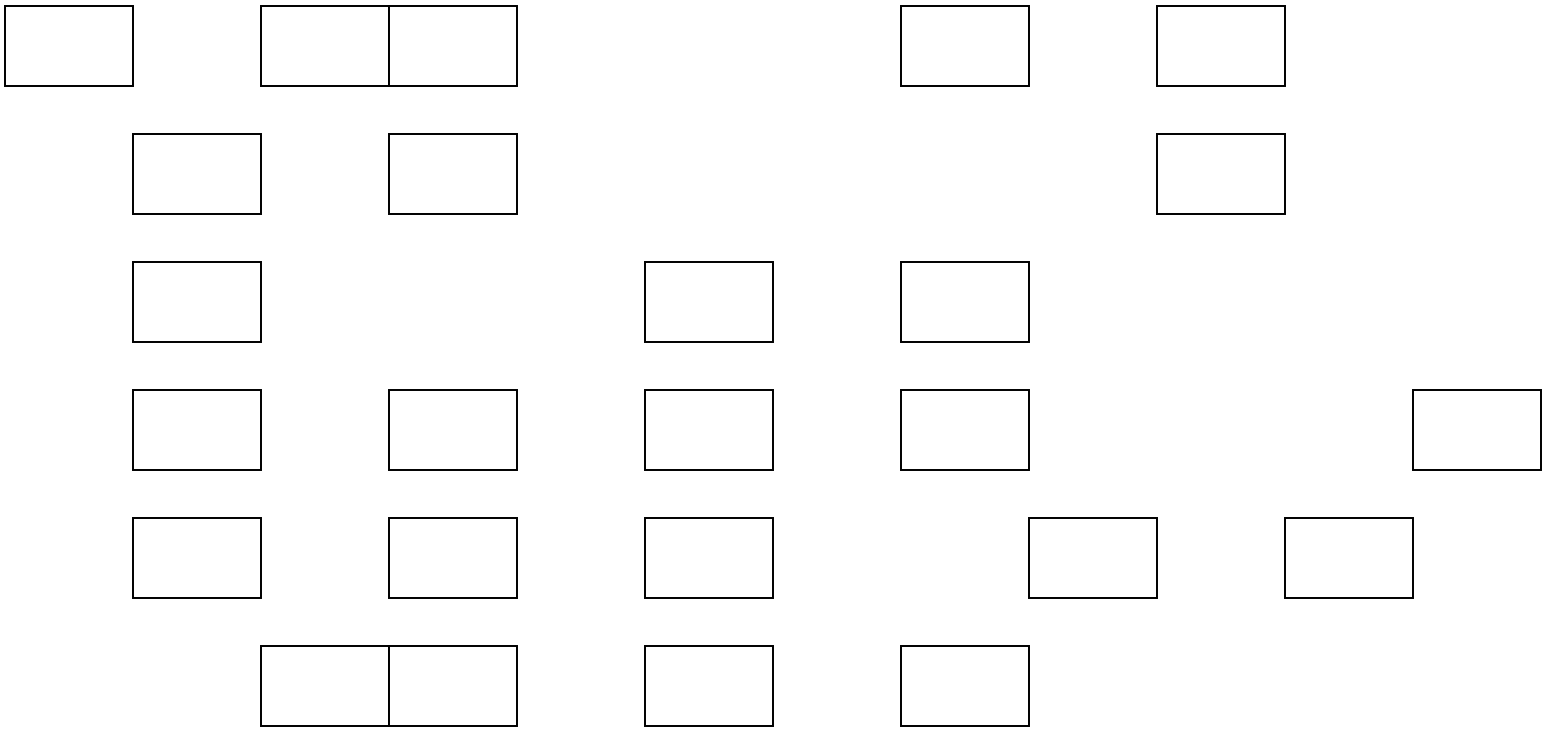
We will add blue boxes to represent Tampa Bay Area low power TV stations. As you can see, the available wireless mic channels are less and less. BUT WAIT!

Add digital television channels



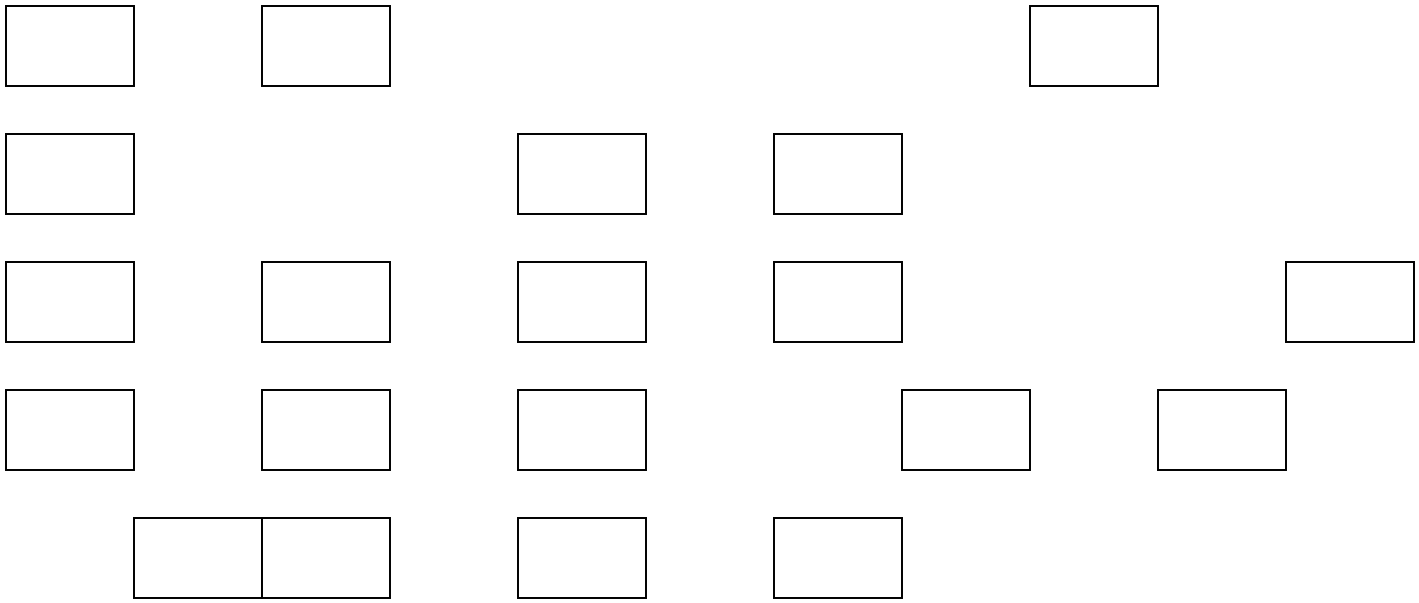
Everyone with a green box (analog TV) gets a red box (digital TV). Not many white boxes left for wireless mic use.

What is left for wireless use



Removing all the occupied boxes, here are the available channels for wireless. Since most currently available equipment operates on UHF, we will remove the VHF boxes.

What is left for wireless use



Still looks like a lot of room! Right? Nope. Let's look at a chart published by Lectrosonics to tune their wireless devices.

Block 20 (512.00-537.50) (TV 21-25)

		100K Switch (Right)															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	S12.00	S12.10	S12.20	S12.30	S12.40	S12.50	S12.60	S12.70	S12.80	S12.90	S13.00	S13.10	S13.20	S13.30	S13.40	S13.50
	1	S13.60	S13.70	S13.80	S13.90	S14.00	S14.10	S14.20	S14.30	S14.40	S14.50	S14.60	S14.70	S14.80	S14.90	S15.00	S15.10
	2	S15.20	S15.30	S15.40	S15.50	S15.60	S15.70	S15.80	S15.90	S16.00	S16.10	S16.20	S16.30	S16.40	S16.50	S16.60	S16.70
	3	S16.80	S16.90	S17.00	S17.10	S17.20	S17.30	S17.40	S17.50	S17.60	S17.70	S17.80	S17.90	S18.00	S18.10	S18.20	S18.30
	4	S18.40	S18.50	S18.60	S18.70	S18.80	S18.90	S19.00	S19.10	S19.20	S19.30	S19.40	S19.50	S19.60	S19.70	S19.80	S19.90
1.6m	5	S20.00	S20.10	S20.20	S20.30	S20.40	S20.50	S20.60	S20.70	S20.80	S20.90	S21.00	S21.10	S21.20	S21.30	S21.40	S21.50
Switch	6	S21.60	S21.70	S21.80	S21.90	S22.00	S22.10	S22.20	S22.30	S22.40	S22.50	S22.60	S22.70	S22.80	S22.90	S23.00	S23.10
(Left)	7	S23.20	S23.30	S23.40	S23.50	S23.60	S23.70	S23.80	S23.90	S24.00	S24.10	S24.20	S24.30	S24.40	S24.50	S24.60	S24.70
	8	S24.80	S24.90	S25.00	S25.10	S25.20	S25.30	S25.40	S25.50	S25.60	S25.70	S25.80	S25.90	S26.00	S26.10	S26.20	S26.30
	9	S26.40	S26.50	S26.60	S26.70	S26.80	S26.90	S27.00	S27.10	S27.20	S27.30	S27.40	S27.50	S27.60	S27.70	S27.80	S27.90
	A	S28.00	S28.10	S28.20	S28.30	S28.40	S28.50	S28.60	S28.70	S28.80	S28.90	S29.00	S29.10	S29.20	S29.30	S29.40	S29.50
	B	S29.60	S29.70	S29.80	S29.90	S30.00	S30.10	S30.20	S30.30	S30.40	S30.50	S30.60	S30.70	S30.80	S30.90	S31.00	S31.10
	C	S31.20	S31.30	S31.40	S31.50	S31.60	S31.70	S31.80	S31.90	S32.00	S32.10	S32.20	S32.30	S32.40	S32.50	S32.60	S32.70
	D	S32.80	S32.90	S33.00	S33.10	S33.20	S33.30	S33.40	S33.50	S33.60	S33.70	S33.80	S33.90	S34.00	S34.10	S34.20	S34.30
	E	S34.40	S34.50	S34.60	S34.70	S34.80	S34.90	S35.00	S35.10	S35.20	S35.30	S35.40	S35.50	S35.60	S35.70	S35.80	S35.90
	F	S36.00	S36.10	S36.20	S36.30	S36.40	S36.50	S36.60	S36.70	S36.80	S36.90	S37.00	S37.10	S37.20	S37.30	S37.40	S37.50

Block 21 (537.60-563.10) (TV 25-29)

Block: 21

		100K Switch (Right)															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	S37.60	S37.70	S37.80	S37.90	S38.00	S38.10	S38.20	S38.30	S38.40	S38.50	S38.60	S38.70	S38.80	S38.90	S39.00	S39.10
	1	S39.20	S39.30	S39.40	S39.50	S39.60	S39.70	S39.80	S39.90	S40.00	S40.10	S40.20	S40.30	S40.40	S40.50	S40.60	S40.70
	2	S40.80	S40.90	S41.00	S41.10	S41.20	S41.30	S41.40	S41.50	S41.60	S41.70	S41.80	S41.90	S42.00	S42.10	S42.20	S42.30
	3	S42.40	S42.50	S42.60	S42.70	S42.80	S42.90	S43.00	S43.10	S43.20	S43.30	S43.40	S43.50	S43.60	S43.70	S43.80	S43.90
	4	S44.00	S44.10	S44.20	S44.30	S44.40	S44.50	S44.60	S44.70	S44.80	S44.90	S45.00	S45.10	S45.20	S45.30	S45.40	S45.50
1.6m	5	S45.60	S45.70	S45.80	S45.90	S46.00	S46.10	S46.20	S46.30	S46.40	S46.50	S46.60	S46.70	S46.80	S46.90	S47.00	S47.10
Switch	6	S47.20	S47.30	S47.40	S47.50	S47.60	S47.70	S47.80	S47.90	S48.00	S48.10	S48.20	S48.30	S48.40	S48.50	S48.60	S48.70
(Left	7	S48.80	S48.90	S49.00	S49.10	S49.20	S49.30	S49.40	S49.50	S49.60	S49.70	S49.80	S49.90	S50.00	S50.10	S50.20	S50.30
	8	S50.40	S50.50	S50.60	S50.70	S50.80	S50.90	S51.00	S51.10	S51.20	S51.30	S51.40	S51.50	S51.60	S51.70	S51.80	S51.90
	9	S52.00	S52.10	S52.20	S52.30	S52.40	S52.50	S52.60	S52.70	S52.80	S52.90	S53.00	S53.10	S53.20	S53.30	S53.40	S53.50
	A	S53.60	S53.70	S53.80	S53.90	S54.00	S54.10	S54.20	S54.30	S54.40	S54.50	S54.60	S54.70	S54.80	S54.90	S55.00	S55.10
	B	S55.20	S55.30	S55.40	S55.50	S55.60	S55.70	S55.80	S55.90	S56.00	S56.10	S56.20	S56.30	S56.40	S56.50	S56.60	S56.70
	C	S56.80	S56.90	S57.00	S57.10	S57.20	S57.30	S57.40	S57.50	S57.60	S57.70	S57.80	S57.90	S58.00	S58.10	S58.20	S58.30
	D	S58.40	S58.50	S58.60	S58.70	S58.80	S58.90	S59.00	S59.10	S59.20	S59.30	S59.40	S59.50	S59.60	S59.70	S59.80	S59.90
	E	S60.00	S60.10	S60.20	S60.30	S60.40	S60.50	S60.60	S60.70	S60.80	S60.90	S61.00	S61.10	S61.20	S61.30	S61.40	S61.50
	F	S61.60	S61.70	S61.80	S61.90	S62.00	S62.10	S62.20	S62.30	S62.40	S62.50	S62.60	S62.70	S62.80	S62.90	S63.00	S63.10

Notice that a single wireless mic can only tune about 5 TV channels. . .not the entire TV band. Let's enlarge the bottom chart.

Block 21 (537.60-563.10) (TV 25-29)

Block: 2

		100K Switch (Right)															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	537.60	537.70	537.80	537.90	538.00	538.10	538.20	538.30	538.40	538.50	538.60	538.70	538.80	538.90	539.00	539.10
	1	539.20	539.30	539.40	539.50	539.60	539.70	539.80	539.90	540.00	540.10	540.20	540.30	540.40	540.50	540.60	540.70
	2	540.80	540.90	541.00	541.10	541.20	541.30	541.40	541.50	541.60	541.70	541.80	541.90	542.00	542.10	542.20	542.30
	3	542.40	542.50	542.60	542.70	542.80	542.90	543.00	543.10	543.20	543.30	543.40	543.50	543.60	543.70	543.80	543.90
	4	544.00	544.10	544.20	544.30	544.40	544.50	544.60	544.70	544.80	544.90	545.00	545.10	545.20	545.30	545.40	545.50
1 Am	5	545.60	545.70	545.80	545.90	546.00	546.10	546.20	546.30	546.40	546.50	546.60	546.70	546.80	546.90	547.00	547.10
Switch	6	547.20	547.30	547.40	547.50	547.60	547.70	547.80	547.90	548.00	548.10	548.20	548.30	548.40	548.50	548.60	548.70
(Left)	7	548.80	548.90	549.00	549.10	549.20	549.30	549.40	549.50	549.60	549.70	549.80	549.90	550.00	550.10	550.20	550.30
	8	550.40	550.50	550.60	550.70	550.80	550.90	551.00	551.10	551.20	551.30	551.40	551.50	551.60	551.70	551.80	551.90
	9	552.00	552.10	552.20	552.30	552.40	552.50	552.60	552.70	552.80	552.90	553.00	553.10	553.20	553.30	553.40	553.50
	A	553.60	553.70	553.80	553.90	554.00	554.10	554.20	554.30	554.40	554.50	554.60	554.70	554.80	554.90	555.00	555.10
	B	555.20	555.30	555.40	555.50	555.60	555.70	555.80	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
	C	556.80	556.90	557.00	557.10	557.20	557.30	557.40	557.50	557.60	557.70	557.80	557.90	558.00	558.10	558.20	558.30
	D	558.40	558.50	558.60	558.70	558.80	558.90	559.00	559.10	559.20	559.30	559.40	559.50	559.60	559.70	559.80	559.90
	E	560.00	560.10	560.20	560.30	560.40	560.50	560.60	560.70	560.80	560.90	561.00	561.10	561.20	561.30	561.40	561.50
	F	561.60	561.70	561.80	561.90	562.00	562.10	562.20	562.30	562.40	562.50	562.60	562.70	562.80	562.90	563.00	563.10

As you can see by the shading, 5 TV channels are in this chart. Let's pick a channel.

Block 21 (537.60-563.10) (TV 25-29)

Block: 2

		100K Switch (Right)															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	537.60	537.70	537.80	537.90	538.00	538.10	538.20	538.30	538.40	538.50	538.60	538.70	538.80	538.90	539.00	539.10
	1	539.20	539.30	539.40	539.50	539.60	539.70	539.80	539.90	540.00	540.10	540.20	540.30	540.40	540.50	540.60	540.70
	2	540.80	540.90	541.00	541.10	541.20	541.30	541.40	541.50	541.60	541.70	541.80	541.90	542.00	542.10	542.20	542.30
	3	542.40	542.50	542.60	542.70	542.80	542.90	543.00	543.10	543.20	543.30	543.40	543.50	543.60	543.70	543.80	543.90
	4	544.00	544.10	544.20	544.30	544.40	544.50	544.60	544.70	544.80	544.90	545.00	545.10	545.20	545.30	545.40	545.50
1 Mm	5	545.60	545.70	545.80	545.90	546.00		546.20	546.30	546.40	546.50	546.60	546.70	546.80	546.90	547.00	547.10
Switch	6	547.20	547.30	547.40	547.50	547.60	547.70	547.80	547.90	548.00	548.10	548.20	548.30	548.40	548.50	548.60	548.70
(Left)	7	548.80	548.90	549.00	549.10	549.20	549.30	549.40	549.50	549.60	549.70	549.80	549.90	550.00	550.10	550.20	550.30
	8	550.40	550.50	550.60	550.70	550.80	550.90	551.00	551.10	551.20	551.30	551.40	551.50	551.60	551.70	551.80	551.90
	9	552.00	552.10	552.20	552.30	552.40	552.50	552.60	552.70	552.80	552.90	553.00	553.10	553.20	553.30	553.40	553.50
	A	553.60	553.70	553.80	553.90	554.00	554.10	554.20	554.30	554.40	554.50	554.60	554.70	554.80	554.90	555.00	555.10
	B	555.20	555.30	555.40	555.50	555.60	555.70	555.80	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
	C	556.80	556.90	557.00	557.10	557.20	557.30	557.40	557.50	557.60	557.70	557.80	557.90	558.00	558.10	558.20	558.30
	D	558.40	558.50	558.60	558.70	558.80	558.90	559.00	559.10	559.20	559.30	559.40	559.50	559.60	559.70	559.80	559.90
	E	560.00	560.10	560.20	560.30	560.40	560.50	560.60	560.70	560.80	560.90	561.00	561.10	561.20	561.30	561.40	561.50
	F	561.60	561.70	561.80	561.90	562.00	562.10	562.20	562.30	562.40	562.50	562.60	562.70	562.80	562.90	563.00	563.10

There! The green box is your channel. The "other people" can use the remaining 255 channels. WRONG! Your "center frequency" may be the green box, but your "bandwidth" is wider.

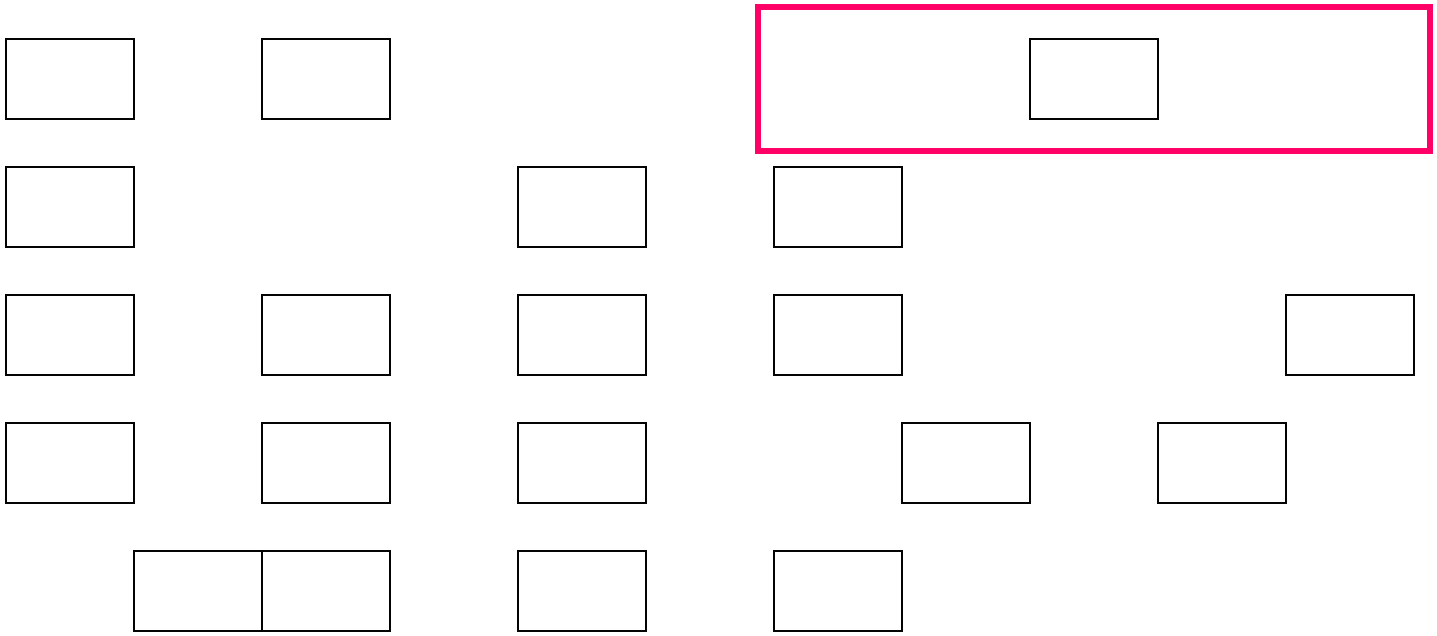
Block 21 (537.60-563.10) (TV 25-29)

Block: 21

		100K Switch (Right)															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	0	537.60	537.70	537.80	537.90	538.00	538.10	538.20	538.30	538.40	538.50	538.60	538.70	538.80	538.90	539.00	539.10
	1	539.20	539.30	539.40	539.50	539.60	539.70	539.80	539.90	540.00	540.10	540.20	540.30	540.40	540.50	540.60	540.70
	2	540.80	540.90	541.00	541.10	541.20	541.30	541.40	541.50	541.60	541.70	541.80	541.90	542.00	542.10	542.20	542.30
	3	542.40	542.50	542.60	542.70	542.80	542.90	543.00	543.10	543.20	543.30	543.40	543.50	543.60	543.70	543.80	543.90
	4	544.00	544.10	544.20	544.30	544.40	544.50	544.60	544.70	544.80	544.90	545.00	545.10	545.20	545.30	545.40	545.50
1.6m	5												546.70	546.80	546.90	547.00	547.10
Switch	6	547.20	547.30	547.40	547.50	547.60	547.70	547.80	547.90	548.00	548.10	548.20	548.30	548.40	548.50	548.60	548.70
(Left)	7	548.80	548.90	549.00	549.10	549.20	549.30	549.40	549.50	549.60	549.70	549.80	549.90	550.00	550.10	550.20	550.30
	8	550.40	550.50	550.60	550.70	550.80	550.90	551.00	551.10	551.20	551.30	551.40	551.50	551.60	551.70	551.80	551.90
	9	552.00	552.10	552.20	552.30	552.40	552.50	552.60	552.70	552.80	552.90	553.00	553.10	553.20	553.30	553.40	553.50
	A	553.60	553.70	553.80	553.90	554.00	554.10	554.20	554.30	554.40	554.50	554.60	554.70	554.80	554.90	555.00	555.10
	B	555.20	555.30	555.40	555.50	555.60	555.70	555.80	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
	C	556.80	556.90	557.00	557.10	557.20	557.30	557.40	557.50	557.60	557.70	557.80	557.90	558.00	558.10	558.20	558.30
	D	558.40	558.50	558.60	558.70	558.80	558.90	559.00	559.10	559.20	559.30	559.40	559.50	559.60	559.70	559.80	559.90
	E	560.00	560.10	560.20	560.30	560.40	560.50	560.60	560.70	560.80	560.90	561.00	561.10	561.20	561.30	561.40	561.50
	F	561.60	561.70	561.80	561.90	562.00	562.10	562.20	562.30	562.40	562.50	562.60	562.70	562.80	562.90	563.00	563.10

Your bandwidth (in yellow) now takes up far more than one box. Let's compare this chart to our first charts of TV usage. The red box here---

Block 21 Wireless Microphone



---is the same as the red box here. Oops. Looks like we can only operate in a single TV channel in this market. This reduces your choices to 10 or less.

Who do I contact?

- Manufacturer?
- Stadium/arena?
- Local TV Stations?
- Local radio stations?
- Local cable systems?

How do you find out who to contact to see which channels are available in any US market?

Society of Broadcast Engineers



www.sbe.org

SBE - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Print

Address http://www.sbe.org/

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Frequency Coordination
October 19, 2002

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Contract Engineer Listing

Sample Contract Available

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Press Release

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DONATIONS STILL NEEDED FOR WTC DISASTER RELIEF FUND

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- 2001-2002 Chapter Liaison Assignments
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Downloading from site: about:blank

Internet

Start Find a St... Office D... Microsof... Eudora SBE - ... 11:42 AM

SBE - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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Frequency Coordination
October 19, 2002

SBE 2GHz BAS Information

Contract Engineer Listing

Sample Contract Available

Short Circuits
October 2002

SBE JobsOnLine
October 25, 2002

Frequency Coordination

CLICK HERE for the current list of Frequency Coordinators, including telephone numbers and email addresses.

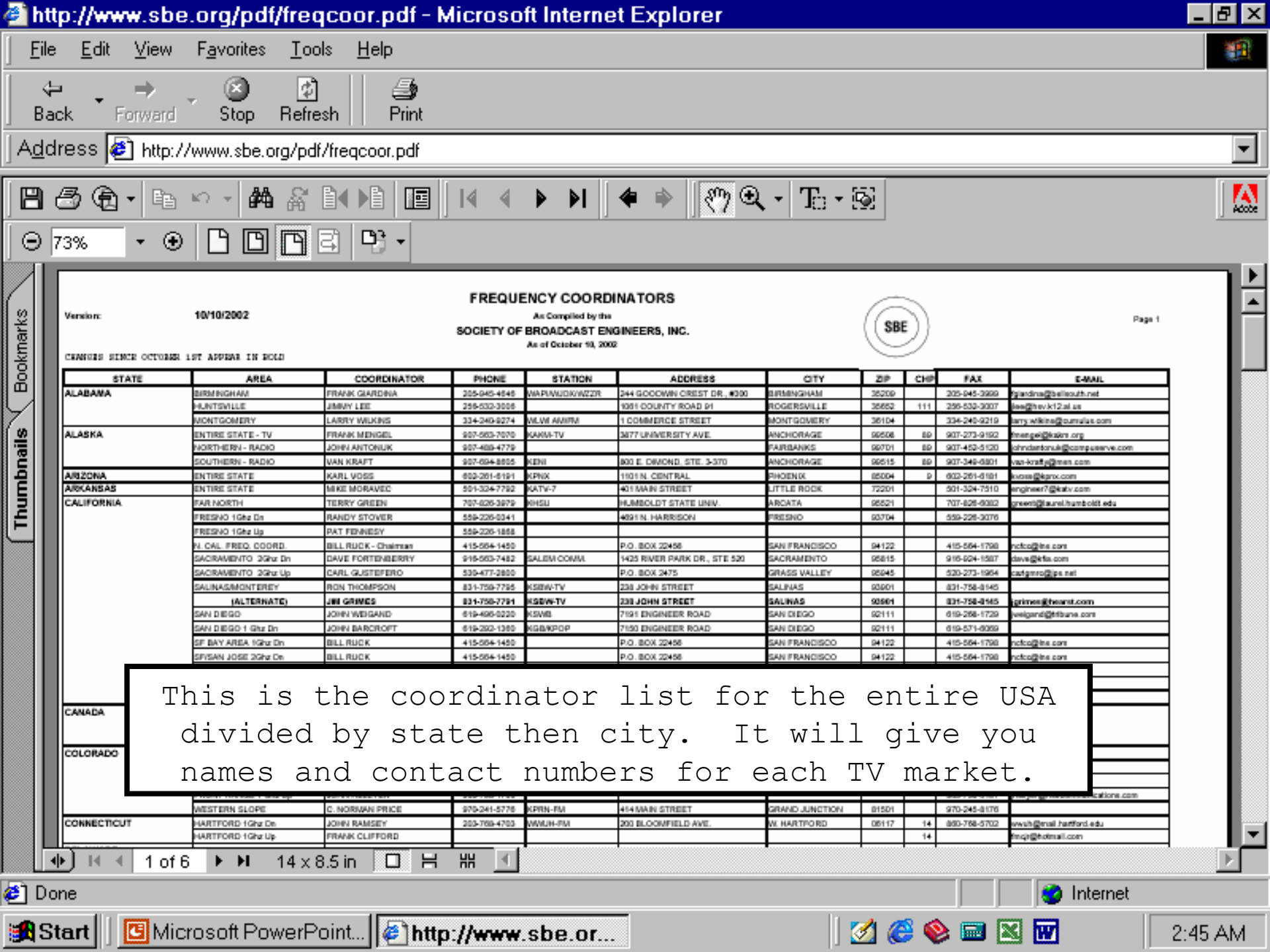
CLICK HERE for wireless microphone channel assistance.

Click here for an Introduction

MAPS

Alabama	Maine	Oregon
Arizona	Maryland	Pennsylvania
Arkansas	Massachusetts	Puerto Rico
California	Michigan	Rhode Island
Colorado	Minnesota	South Carolina

Internet
Start Find a... Office ... Micro... Eudora SBE ... 1:56 PM


http://www.sbe.org/pdf/freqcoor.pdf - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Print
Address http://www.sbe.org/pdf/freqcoor.pdf
73%
Bookmarks
Thumbnails
FREQUENCY COORDINATORS
Version: 10/10/2002
As Compiled by the
SOCIETY OF BROADCAST ENGINEERS, INC.
As of October 10, 2002
SBE
Page 1
CHANGES SINCE OCTOBER 1ST APPEAR IN BOLD
STATE | AREA | COORDINATOR | PHONE | STATION | ADDRESS | CITY | ZIP | CHP | FAX | E-MAIL
ALABAMA | BIRMINGHAM | FRANK GIARDINA | 205-945-4646 | WAPI/WJOX/WZZR | 244 GOODWIN CREST DR., #200 | BIRMINGHAM | 35209 | | 205-945-3999 | fgiardina@bellsouth.net
HUNTSVILLE | JIMMY LEE | 256-532-3006 | | 1051 COUNTY ROAD 91 | ROGERSVILLE | 35652 | 111 | 256-532-3007 | lee@hsvk12.al.us
MONTGOMERY | LARRY WILKINS | 334-240-9274 | WLWI AM/FM | 1 COMMERCE STREET | MONTGOMERY | 36104 | | 334-240-9219 | larry.wilkins@sumulus.com
ALASKA | ENTIRE STATE - TV | FRANK MENGEL | 907-563-7070 | KAKM-TV | 3677 UNIVERSITY AVE. | ANCHORAGE | 99508 | 89 | 907-273-9192 | fmengel@kakm.org
NORTHERN - RADIO | JOHN ANTONIUK | 907-488-4779 | | | FAIRBANKS | 99701 | 89 | 907-452-5120 | johndantoniuk@compuserve.com
SOUTHERN - RADIO | VAN KRAFT | 907-694-8855 | KENI | 800 E. DIMOND, STE. 3-370 | ANCHORAGE | 99515 | 89 | 907-349-6801 | van-kraft@mtaonline.com
ARIZONA | ENTIRE STATE | KARL VOSS | 602-261-6191 | KPNX | 1101 N. CENTRAL | PHOENIX | 85004 | 9 | 602-261-6191 | kvoss@kpnx.com
ARKANSAS | ENTIRE STATE | MIKE MORAVEC | 501-324-7792 | KATV-7 | 401 MAIN STREET | LITTLE ROCK | 72201 | | 501-324-7510 | engineer7@katv.com
CALIFORNIA | FAR NORTH | TERRY GREEN | 707-826-3979 | KHSU | HUMBOLDT STATE UNIV. | ARCATA | 95521 | | 707-826-6082 | tgreen@laurel.humboldt.edu
FRESNO 1Ghz Dn | RANDY STOVER | 559-226-5341 | | 4691 N. HARRISON | FRESNO | 93704 | | 559-226-3076 |
FRESNO 1Ghz Up | PAT FENNESY | 559-226-1858 | | | | | | |
N. CAL. FREQ. COORD. | BILL RUCK - Chairman | 415-564-1450 | | P.O. BOX 22456 | SAN FRANCISCO | 94122 | | 415-564-1799 | ncfco@ix.com
SACRAMENTO 2Ghz Dn | DAVE FORTENBERRY | 916-563-7482 | SALEM COMM. | 1425 RIVER PARK DR., STE 520 | SACRAMENTO | 95815 | | 916-924-1567 | dave@kfia.com
SACRAMENTO 2Ghz Up | CARL GUSTEFERO | 530-477-2800 | | P.O. BOX 2475 | GRASS VALLEY | 95945 | | 530-273-1964 | carlgmro@ps.net
SALINAS/MONTEREY | RON THOMPSON | 831-758-7795 | KSBW-TV | 238 JOHN STREET | SALINAS | 93901 | | 831-758-8145 |
(ALTERNATE) | JIM GRIMES | 831-758-7791 | KSBW-TV | 238 JOHN STREET | SALINAS | 93901 | | 831-758-8145 | jgrimes@hearst.com
SAN DIEGO | JOHN WEIGAND | 619-496-5220 | KSWB | 7191 ENGINEER ROAD | SAN DIEGO | 92111 | | 619-268-1729 | jweigand@tribune.com
SAN DIEGO 1 Ghz Dn | JOHN BARCROFT | 619-292-1360 | KGB/KPOP | 7150 ENGINEER ROAD | SAN DIEGO | 92111 | | 619-571-6069 |
SF BAY AREA 1Ghz Dn | BILL RUCK | 415-564-1450 | | P.O. BOX 22456 | SAN FRANCISCO | 94122 | | 415-564-1799 | ncfco@ix.com
SF/SAN JOSE 2Ghz Dn | BILL RUCK | 415-564-1450 | | P.O. BOX 22456 | SAN FRANCISCO | 94122 | | 415-564-1799 | ncfco@ix.com
CANADA
COLORADO
WESTERN SLOPE | C. NORMAN PRICE | 970-241-5776 | KPRN-FM | 414 MAIN STREET | GRAND JUNCTION | 81501 | | 970-245-9176 |
CONNECTICUT | HARTFORD 1Ghz Dn | JOHN RAMSEY | 203-769-4703 | WWUH-FM | 200 BLOOMFIELD AVE. | W. HARTFORD | 06117 | 14 | 860-768-5702 | wwuh@mail.hartford.edu
HARTFORD 1Ghz Up | FRANK CLIFFORD | | | | | | 14 | | fmcjr@hotmail.com
This is the coordinator list for the entire USA divided by state then city. It will give you names and contact numbers for each TV market.
1 of 6
14 x 8.5 in
Done
Internet
Start
Microsoft PowerPoint...
http://www.sbe.or...
2:45 AM

SBE Coordination Program

- Started in 1982
- Over 200 coordinators
- Over 18,000 users!
- Volunteer program

SBE coordinators are NOT the Police!



NFL users of wireless

- NFL Coach-to-Coach
- NFL Coach-to-Quarterback
- NFL Coach-to-Referee
- NFL Replay Booth-to-Referee
- NFL Green Hat
- NFL Team operations
- Food, Traffic, Security, Tickets, Cheerleaders, Stadium AV...

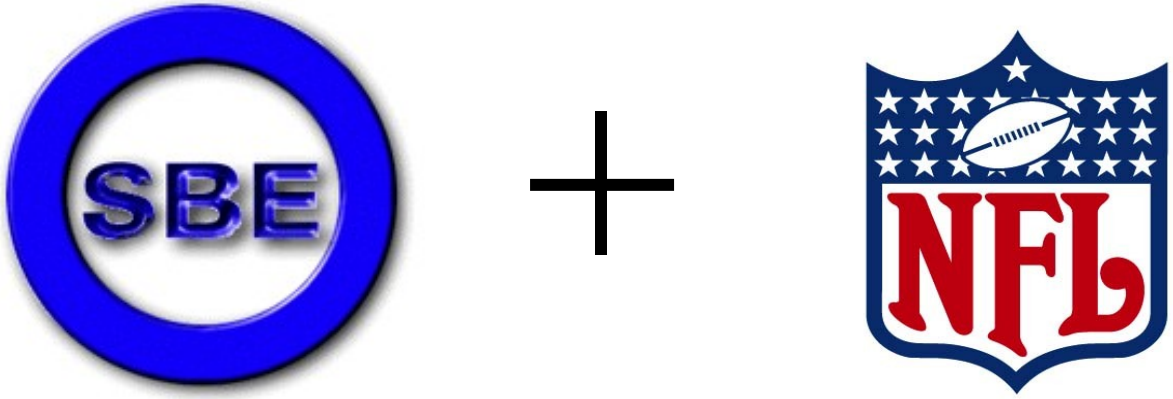
Typical NFL Gameday

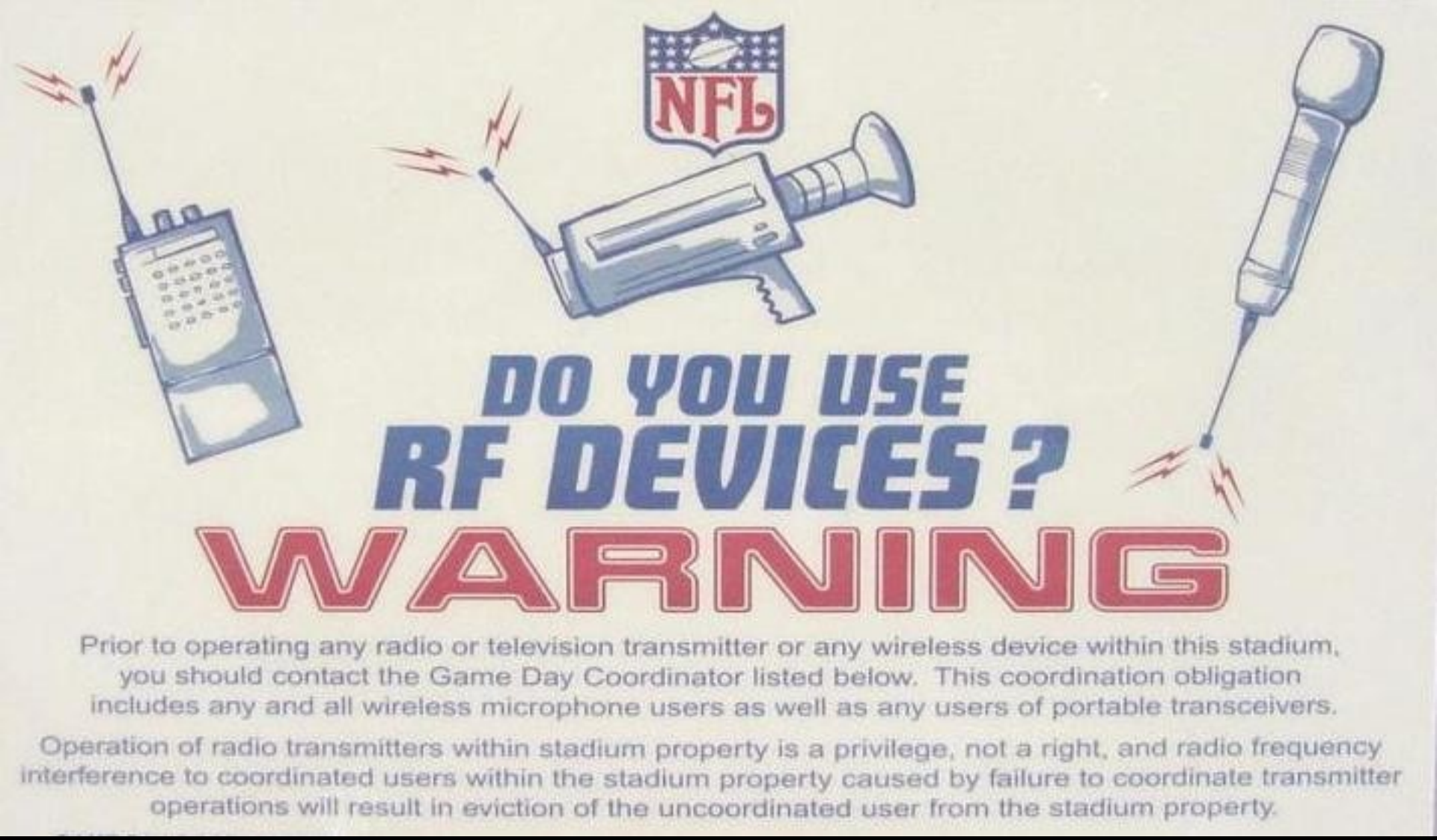
- 142 Local B’cst
- 64 Coach's
- 33 Network TV
- 33 Network Radio
- 27 NFL
- 17 Local Team
- 14 Stadium Operations
- 12 Visiting Radio
- 10 Visiting TV
- 10 Stadium AV
- 10 Food Service
- 9 Security
- 8 Film Crews
- 4 CQB
- 3 Cleanup

How the NFL cured the problem



Synergistic Success!





These signs are posted in each NFL stadium in areas the media occupies.

Exempt from Coordination

- Cellular Telephones & PCS
- Family Radio Service
- Amateur Radio
- Trunking Systems

These items are “pre-coordinated” by their nature or (in the case of Family Radio Service) cannot be coordinated.


Double check of
assigned frequency
to be sure!
OPTOELECTRONICS
Cub
MiniCounter
658.7506
FREQUENCY
1MHz - 2.8GHz FREQUENCY FINDER
ARM
GATE
FILTER/
CAPTURE
NORMAL
RANGE
2.8GHz
250MHz
CAL
POWER
ON
OFF


Brightly colored tags
marked “cleared” units
SENNHEISER SK 250-UHP
TARAB 7
CH.# B8
524.625

CONGRATULATIONS!

Now you understand our Wireless World

Have a successful sports broadcast season!