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TV Channel and CATV Frequencies

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Newsgroups: sci.electronics

From: andy@cbrown.claremont.edu

Subject: Re: CATV channel frequencies USA

Here is a list of TV frequencies. In the US, a TV channel is a 6 MHz wide chunk of bandspace. The bottom edge of the over-the-air channel 2 is 54 MHz and the upper edge is 60 MHz. Within this 6 MHz space is a video carrier, a color carrier, and an audio carrier.

The frequency of the video carrier is 1.25 MHz above the lower edge, so for channel 2 the video is at 55.25 MHz.

The color carrier is approx. 3.58 MHz above the _video_ carrier (N.B. not the lower edge), so for ch 2 it is 58.83 MHz.

The audio carrier is 4.5 MHz above the _video_ carrier, so for ch 2 it is 59.75 MHz.

The reason I mention all of this is that you have to be careful to note how a channel frequency is being specified. The two common methods are (1) specifying the lower edge (e.g. 54 MHz, but often as a range of lower edge to upper edge like 54-60 MHz) and (2) specifying the frequency of the video carrier (e.g. 55.25 MHz). In the following lists I always use the latter method, specifying the video carrier.

CATV has channels with frequencies below channel 2. They are designated T-7 (tee seven or tee dash seven) through T-14 and are usually used for transmission in the reverse direction. If your local city council meeting is broadcast live, the camera is being modulated onto one of those T channels and sent back up to the cable system headend whereupon it is broadcast outbound on the community cable access channel.

In the list I have some channels with the designation A-1 (A minus one, not A dash one) through A-8. They are so designated because their frequencies immediately precede that of the CATV channel known as A.

In the CATV listing, the column labeled Common gives the common industry parlance for that channel. The next column labeled EIA gives the new EIA standardized designation. Column STD shows the standard CATV frequency which usually matches IRC. IRC stands for Incrementally Related Carrier and means that the lower edge of the channel space is on the nice, round-numbered boundary such as 54 MHz, 60 MHz, 66 MHz etc. HRC stands for Harmonically Related Carrier, and as you can see means that it is the video carrier that is assigned the nice round number (6 MHz harmonics, hence). Some cable systems use IRC, some use HRC.

The number of channels on a given cable system varies. Very old systems might only go up to 300 or 350 MHz. Most common in the past ten years or so is 450 MHz. Newer systems may be 550 MHz. The latest and greatest with any meaningful installed base is 800 or 860 MHz (somebody correct me), but it is rare and pricey. The list herein only goes up to 550 MHz.

FM radio frequencies are thrown in for good measure.

This stuff was gathered from several sources. My thanks to all of them.

Error reports are welcome.

AIR	2	55.25	VHF-LO	
AIR	3	61.25	VHF-LO	
AIR	4	67.25	VHF-LO	
AIR	5	77.25	VHF-LO	
AIR	6	83.25	VHF-LO	
AIR	7	175.25	VHF-HI	
AIR	8	181.25	VHF-HI	
AIR	9	187.25	VHF-HI	
AIR	10	193.25	VHF-HI	
AIR	11	199.25	VHF-HI	

AIR	12	205.25	VHF-HI	
AIR	13	211.25	VHF-HI	
AIR	14	471.25	UHF	
AIR	15	477.25	UHF	
AIR	16	483.25	UHF	
AIR	17	489.25	UHF	
AIR	18	495.25	UHF	
AIR	19	501.25	UHF	
AIR	20	507.25	UHF	
AIR	21	513.25	UHF	
AIR	22	519.25	UHF	
AIR	23	525.25	UHF	
AIR	24	531.25	UHF	
AIR	25	537.25	UHF	
AIR	26	543.25	UHF	
AIR	27	549.25	UHF	
AIR	28	555.25	UHF	
AIR	29	561.25	UHF	
AIR	30	567.25	UHF	
AIR	31	573.25	UHF	
AIR	32	579.25	UHF	
AIR	33	585.25	UHF	

AIR	34	591.25	UHF	
AIR	35	597.25	UHF	
AIR	36	603.25	UHF	
AIR	37	609.25	UHF	
AIR	38	615.25	UHF	
AIR	39	621.25	UHF	
AIR	40	627.25	UHF	
AIR	41	633.25	UHF	
AIR	42	639.25	UHF	
AIR	43	645.25	UHF	
AIR	44	651.25	UHF	
AIR	45	657.25	UHF	
AIR	46	663.25	UHF	
AIR	47	669.25	UHF	
AIR	48	675.25	UHF	
AIR	49	681.25	UHF	
AIR	50	687.25	UHF	
AIR	51	693.25	UHF	
AIR	52	699.25	UHF	
AIR	53	705.25	UHF	
AIR	54	711.25	UHF	
AIR	55	717.25	UHF	

AIR	56	723.25	UHF	
AIR	57	729.25	UHF	
AIR	58	735.25	UHF	
AIR	59	741.25	UHF	
AIR	60	747.25	UHF	
AIR	61	753.25	UHF	
AIR	62	759.25	UHF	
AIR	63	765.25	UHF	
AIR	64	771.25	UHF	
AIR	65	777.25	UHF	
AIR	66	783.25	UHF	
AIR	67	789.25	UHF	
AIR	68	795.25	UHF	
AIR	69	801.25	UHF	
AIR	70	807.25	UHF	(no longer assigned to TV)
AIR	71	813.25	UHF	(no longer assigned to TV)
AIR	72	819.25	UHF	(no longer assigned to TV)
AIR	73	825.25	UHF	(no longer assigned to TV)
AIR	74	831.25	UHF	(no longer assigned to TV)
AIR	75	837.25	UHF	(no longer assigned to TV)
AIR	76	843.25	UHF	(no longer assigned to TV)
AIR	77	849.25	UHF	(no longer assigned to TV)

AIR	78	855.25	UHF	(no longer assigned to TV)
AIR	79	861.25	UHF	(no longer assigned to TV)
AIR	80	867.25	UHF	(no longer assigned to TV)
AIR	81	873.25	UHF	(no longer assigned to TV)
AIR	82	879.25	UHF	(no longer assigned to TV)
AIR	83	885.25	UHF	(no longer assigned to TV)

Common	EIA	STD	IRC	HRC	Band
CATV T-7		7.00			SUB
CATV T-8		13.00			SUB
CATV T-9		19.00			SUB
CATV T-10		25.00			SUB
CATV T-11		31.00			SUB
CATV T-12		37.00			SUB
CATV T-13		43.00			SUB
CATV T-14		49.00			SUB
CATV 2-1			49.25	48.00	LO
CATV 2	02	55.25	55.25	54.00	LO
CATV 3	03	61.25	61.25	60.00	LO
CATV 4	04	67.25	67.25	66.00	LO
CATV A-8 4+		01	73.25	72.00	LO
CATV A-7 5	05		79.25	78.00	LO

CATV A-6 6	06		85.25	84.00	LO
CATV A-5	95	91.25	90.00	91.25	MID
CATV A-4	96	97.25	96.00	97.25	MID
CATV A-3	97	103.25	102.00	103.25	MID
CATV A-2	98	109.25	108.00	109.25	MID
CATV A-1	99	115.25	114.00	115.25	MID
CATV 7	07	175.25	175.25	174.00	HI
CATV 8	08	181.25	181.25	180.00	HI
CATV 9	09	187.25	187.25	186.00	HI
CATV 10	10	193.25	193.25	192.00	HI
CATV 11	11	199.25	199.25	198.00	HI
CATV 12	12	205.25	205.25	204.00	HI
CATV 13	13	211.25	211.25	210.00	HI
CATV A	14	121.25	121.25	120.00	MID
CATV B	15	127.25	127.25	126.00	MID
CATV C	16	133.25	133.25	132.00	MID
CATV D	17	139.25	139.25	138.00	MID
CATV E	18	145.25	145.25	144.00	MID
CATV F	19	151.25	151.25	150.00	MID
CATV G	20	157.25	157.25	156.00	MID
CATV H	21	163.25	163.25	162.00	MID
CATV I	22	169.25	169.25	168.00	MID

CATV J	23	217.25	217.25	216.00	SUPER
CATV K	24	223.25	223.25	222.00	SUPER
CATV L	25	229.25	229.25	228.00	SUPER
CATV M	26	235.25	235.25	234.00	SUPER
CATV N	27	241.25	241.25	240.00	SUPER
CATV O	28	247.25	247.25	246.00	SUPER
CATV P	29	253.25	253.25	252.00	SUPER
CATV Q	30	259.25	259.25	258.00	SUPER
CATV R	31	265.25	265.25	264.00	SUPER
CATV S	32	271.25	271.25	270.00	SUPER
CATV T	33	277.25	277.25	276.00	SUPER
CATV U	34	283.25	283.25	282.00	SUPER
CATV V	35	289.25	289.25	288.00	SUPER
CATV W	36	295.25	295.25	294.00	SUPER
CATV AA	37	301.25	301.25	300.00	HYPER
CATV BB	38	307.25	307.25	306.00	HYPER
CATV cc	39	313.25	313.25	312.00	HYPER
CATV DD	40	319.25	319.25	318.00	HYPER
CATV EE	41	325.25	325.25	324.00	HYPER
CATV FF	42	331.25	331.25	330.00	HYPER
CATV GG	43	337.25	337.25	336.00	HYPER
CATV HH	44	343.25	343.25	342.00	HYPER

CATV II	45	349.25	349.25	348.00	HYPER
CATV JJ	46	355.25	355.25	354.00	HYPER
CATV KK	47	361.25	361.25	360.00	HYPER
CATV LL	48	367.25	367.25	366.00	HYPER
CATV MM	49	373.25	373.25	372.00	HYPER
CATV NN	50	379.25	379.25	378.00	HYPER
CATV OO	51	385.25	385.25	384.00	HYPER
CATV pp	52	391.25	391.25	390.00	HYPER
CATV QQ	53	397.25	397.25	396.00	HYPER
CATV RR	54	403.25	403.25	402.00	HYPER
CATV SS	55	409.25	409.25	408.00	HYPER
CATV TT	56	415.25	415.25	414.00	HYPER
CATV UU	57	421.25	421.25	420.00	HYPER
CATV VV	58	427.25	427.25	426.00	HYPER
CATV WW	59	433.25	433.25	432.00	HYPER
CATV xx	60	439.25	439.25	438.00	HYPER
CATV YY	61	445.25	445.25	444.00	HYPER
CATV ZZ	62	451.25	451.25	450.00	HYPER
CATV AAA	63	457.25	457.25	456.00	HYPER
CATV BBB	64	463.25	463.25	462.00	HYPER
CATV CCC	65	469.25	469.25	468.00	HYPER
CATV DDD	66	475.25	475.25	474.00	HYPER

CATV EEE	67	481.25	481.25	480.00	HYPER
CATV FFF	68	487.25	487.25	486.00	HYPER
CATV GGG	69	493.25	493.25	492.00	HYPER
CATV HHH	70	499.25	499.25	498.00	HYPER
CATV III	71	505.25	505.25	504.00	HYPER
CATV JJJ	72	511.25	511.25	510.00	HYPER
CATV KKK	73	517.25	517.25	516.00	HYPER
CATV LLL	74	523.25	523.25	522.00	HYPER
CATV MMM	75	529.25	529.25	528.00	HYPER
CATV NNN	76	535.25	535.25	534.00	HYPER
CATV OOO	77	541.25	541.25	540.00	HYPER
CATV PPP	78	547.25	547.25	546.00	HYPER

FM	1	88.10	FM
FM	2	88.30	FM
FM	3	88.50	FM
FM	4	88.70	FM
FM	5	88.90	FM
FM	6	89.10	FM
FM	7	89.30	FM
FM	8	89.50	FM
FM	9	89.70	FM

FM	10	89.90	FM
FM	11	90.10	FM
FM	12	90.30	FM
FM	13	90.50	FM
FM	14	90.70	FM
FM	15	90.90	FM
FM	16	91.10	FM
FM	17	91.30	FM
FM	18	91.50	FM
FM	19	91.70	FM
FM	20	91.90	FM
FM	21	92.10	FM
FM	22	92.30	FM
FM	23	92.50	FM
FM	24	92.70	FM
FM	25	92.90	FM
FM	26	93.10	FM
FM	27	93.30	FM
FM	28	93.50	FM
FM	29	93.70	FM
FM	30	93.90	FM
FM	31	94.10	FM

FM	32	94.30	FM
FM	33	94.50	FM
FM	34	94.70	FM
FM	35	94.90	FM
FM	36	95.10	FM
FM	37	95.30	FM
FM	38	95.50	FM
FM	39	95.70	FM
FM	40	95.90	FM
FM	41	96.10	FM
FM	42	96.30	FM
FM	43	96.50	FM
FM	44	96.70	FM
FM	45	96.90	FM
FM	46	97.10	FM
FM	47	97.30	FM
FM	48	97.50	FM
FM	49	97.70	FM
FM	50	97.90	FM
FM	51	98.10	FM
FM	52	98.30	FM
FM	53	98.50	FM

FM	54	98.70	FM
FM	55	98.90	FM
FM	56	99.10	FM
FM	57	99.30	FM
FM	58	99.50	FM
FM	59	99.70	FM
FM	60	99.90	FM
FM	61	100.10	FM
FM	62	100.30	FM
FM	63	100.50	FM
FM	64	100.70	FM
FM	65	100.90	FM
FM	66	101.10	FM
FM	67	101.30	FM
FM	68	101.50	FM
FM	69	101.70	FM
FM	70	101.90	FM
FM	71	102.10	FM
FM	72	102.30	FM
FM	73	102.50	FM
FM	74	102.70	FM
FM	75	102.90	FM

FM	76	103.10	FM
FM	77	103.30	FM
FM	78	103.50	FM
FM	79	103.70	FM
FM	80	103.90	FM
FM	81	104.10	FM
FM	82	104.30	FM
FM	83	104.50	FM
FM	84	104.70	FM
FM	85	104.90	FM
FM	86	105.10	FM
FM	87	105.30	FM
FM	88	105.50	FM
FM	89	105.70	FM
FM	90	105.90	FM
FM	91	106.10	FM
FM	92	106.30	FM
FM	93	106.50	FM
FM	94	106.70	FM
FM	95	106.90	FM
FM	96	107.10	FM
FM	97	107.30	FM

FM	98	107.50	FM
FM	98	107.70	FM
FM	100	107.90	FM

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