SIGNAL LEVEL METER

OPERATION MANUAL

Ver 1.1

EXTRA NOTE

If the meter is frozen or displays abnormally caused by wrong operation, please initialize it according to the following process:

1. Power off the Meter.

2. Press FAV button and ⇧ at the mean time and hold, then press power key to power on the meter.

3. Free the power button first, then free the FAV button and ⇧.

The memory will be cleared automatically, then the meter starts to work normally.

INDEX

● Accessories Supplied

*Charger: UE10W-050080SPC

*RF connector: F type Imperial P.121058J8J

*Strap: PK340080000

*Rubber Bumper JG200200001

*User manual:

*Communication Cable

*Car Adapter(Option)

● Notice

1. The built-in Ni-MH battery must be charged more than 14 hours before the first time using.

2. Use only the adapter supplied with the unit. Any other adapter could damage the unit.

3. The accuracy will be affected when the unit is used in strong electromagnetic field.

4. The unit will auto shut-off if no keypad activity for 3 minutes or the working time with remaining battery power is less than 30 seconds.

5. Be sure the polarity of the battery is correct.

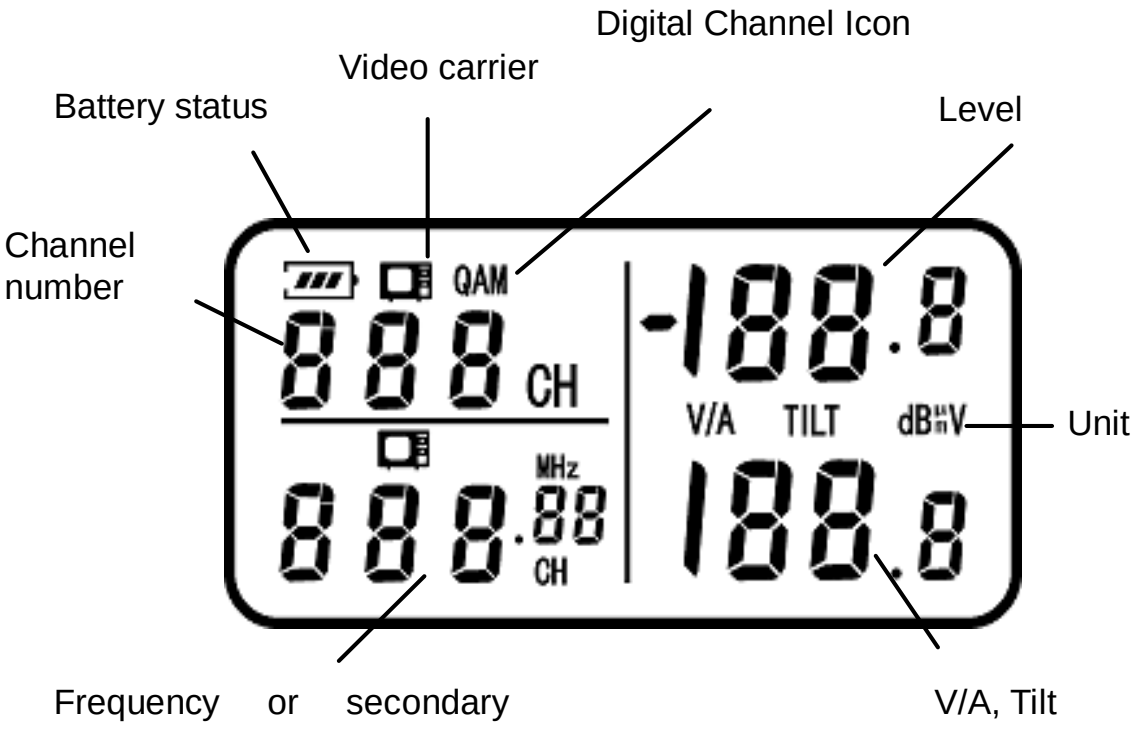
6. When the signal level is less than 30dBμV, the display will indicate “LO”.

7. The max voltage of the “RF INPUT” is 100V, and too large voltage will cause damage of the meter.

The Meter is guaranteed for 12 month excluding the battery and LCD.

Panel and Display


Hole of
handle rope
Electronic Measuring
Instrument
SN:
Battery


Digital Channel Icon
Video carrier
Battery status
Level
Channel number
QAM
CH
V/A
TILT
dBµV
Unit
MHz
CH
Frequency or secondary
V/A, Tilt

Keypad Introduction

CH /F Single Channel/Frequency, Battery Voltage

FAV Toggles between Channel preference/Tilt.

Power switch(ON/OFF).

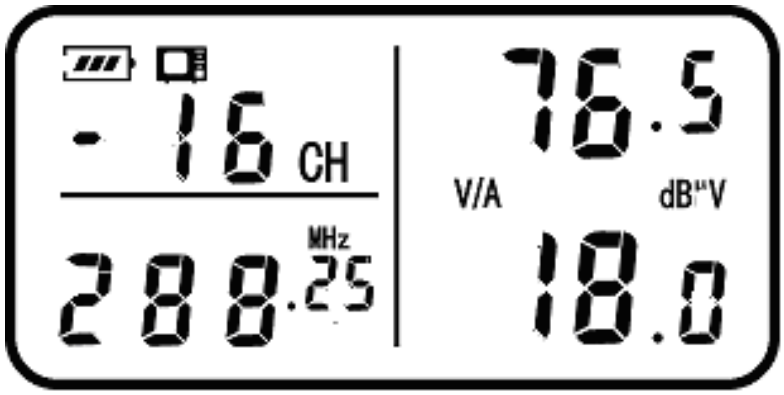
Stepping/Analog and Digital channel convert with 3-5 seconds hold.

Increase the measured frequency or channel.

Decrease the measured frequency or channel.

I. Single Channel Test

Press CH/F to enter into LEVEL mode. The screen displays as follows:



Here the higher left is the measured channel number, the lower left is the video carrier frequency, the higher right is the level of video carrier, the lower right is the △V/A of the current channel（the level difference between the video carrier and the audio carrier）

If the channel is digital channel, the " "," V / A" icon do not appear and is replaced by "QAM" icon. Channel power displays at the higher right, the lower right is no figure.

Press ⇧ or ⇩ to increase or decrease the channel number.

In this function you can test the video carrier level and the V/A at the same time.

Example 1：

How to measure the video carrier and the V/A value of 6CH?

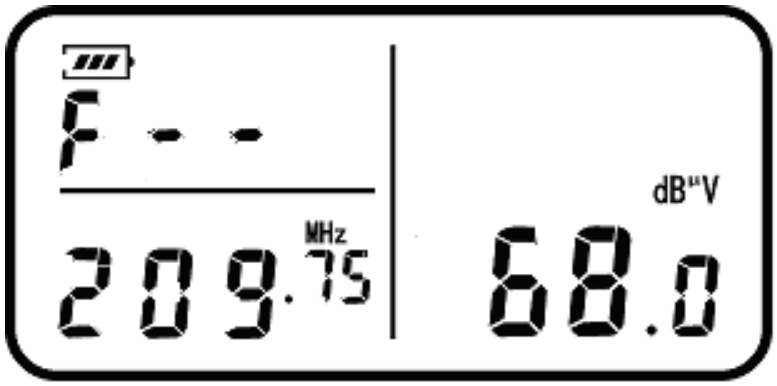
1. Press CH/F to enter SINGLE CHANNEL measurement mode.

2. Press ⇧ or ⇩ to turn to the channel06CH.

3. The level of the video carrier is displayed on the higher right, the lower right is the △V/A value of the current channel.

II. Single Frequency Test

In SINGLE CHANNEL test mode, press CH/F again to enter SINGLE FREQUENCY test mode and the screen will display as follows:



It displays on the higher left “F--“, the lower left is the frequency of the audio carrier; the right is the level of audio carrier (or FM).

Use the ⇧ or ⇩ key to increase or decrease the frequency by specified step and Press ⇄ key to change the step as 50kHz, 100kHz,1MHz, 10MHz or 100MHz.

It is used in testing the audio carrier level and the FM broadcast level.

Example 2：

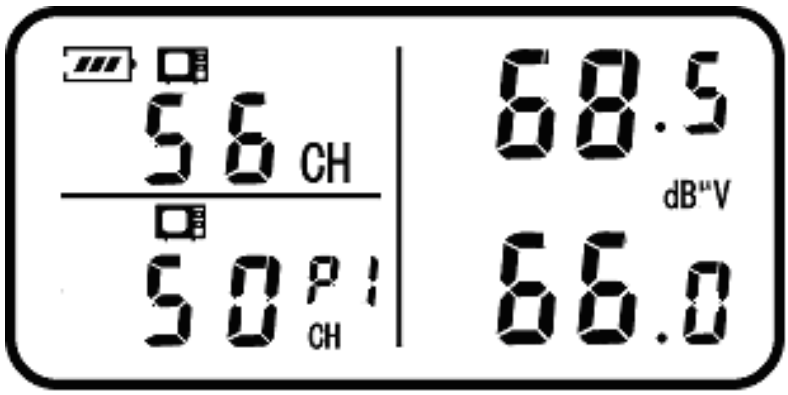
Test the RF level on 106.80MHz

1. Enter into the LEVEL mode by pressing CH/F key.
2. Press CH/F again into frequency test mode.
3. Press ⇧ or ⇩ to adjust the 10 KHz bit as 0.
4. Press ⇧ or ⇩ to adjust the 100 KHz bit as 8, then it shows XXX.8MHz.
5. Press  till the 1MHz bit blinks; adjust the frequency to XX6.8 MHz.
6. Press  till the 10MHz bit blinks, adjust the frequency to X06.8MHz.
7. Press  till the 100MHz bit blinks, adjust the frequency to 106.8MHz.

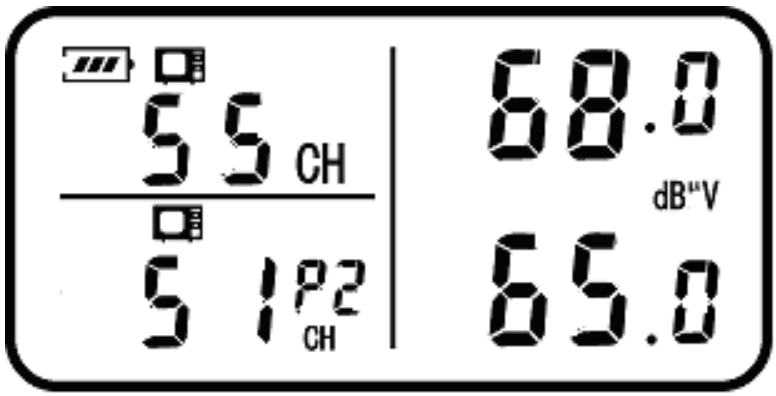
III. Tilt Measurement

a. Press the FAV button to enter into six channel display.

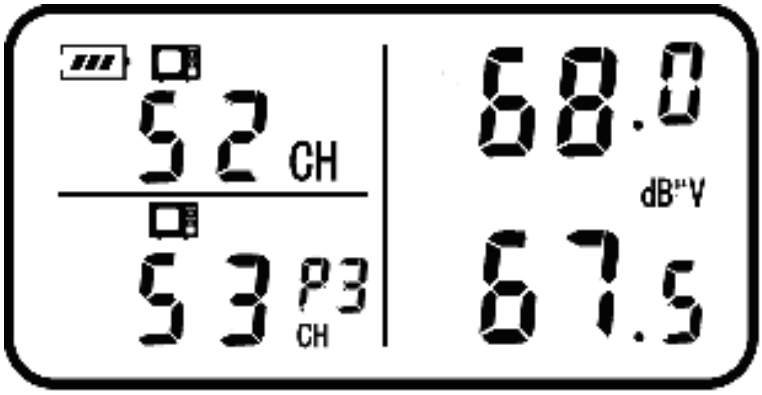
Then two channel numbers and video carrier levels display at the same time.



P1 (Page1) means first two channels.



P2 (Page2) means second two channels.

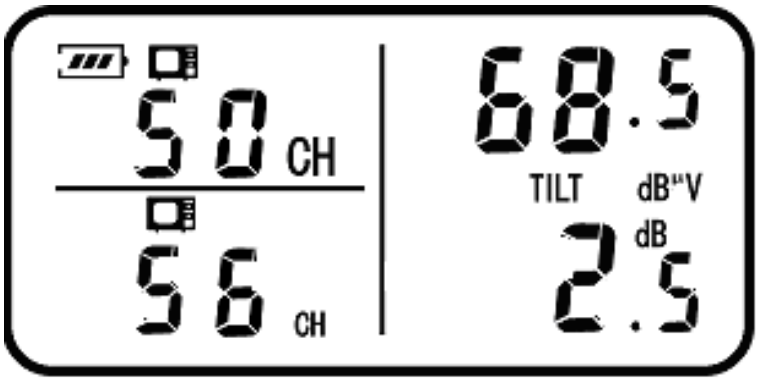


P3 (Page3) means third two channels.

b. Press the FAV button to page 3.

Press ⇧ or ⇩ to change the channel number, while using ⇦⇨ key you can switch between the first and the second channel, the "CH" symbol of the adjusted channel will blink.

c. Press the FAV key fourthly to enter into the TILT measurement mode



Two channel numbers with max frequency and min frequency among six testing channel are displayed on the left, the higher right is the corresponding level of max frequency channel, the lower right is corresponding Tilt.

d. Press FAV key again to back to page1.

1. You can measure or calibrate the parameter of the trunk amplifier.

2. This function can be used in measuring the delta level difference between any six available channels.

3. You can test the level of four channels at the same time in this function, which is very suitable for CATV maintenance work.

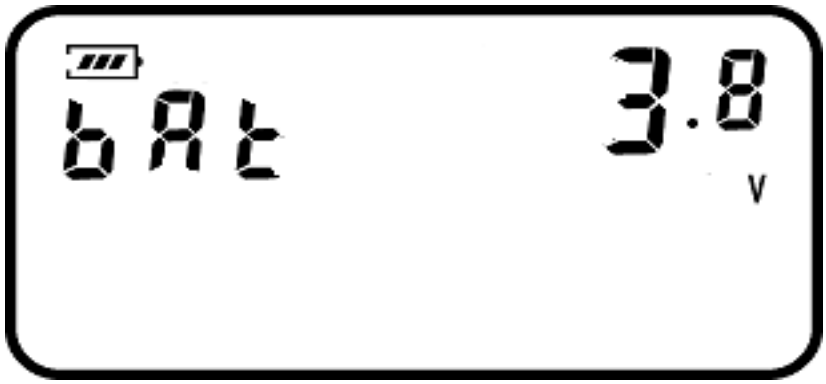
The difference between TILT mode and DOUBLE CHANNEL DISPLAY mode:

DOUBLE CHANNEL DISPLAY mode: there is no “dB” displayed, the unit of lower right one is the same as the higher right one.

TILT mode: the value displayed on the lower right is the delta level between the two channels with “dB” unit.

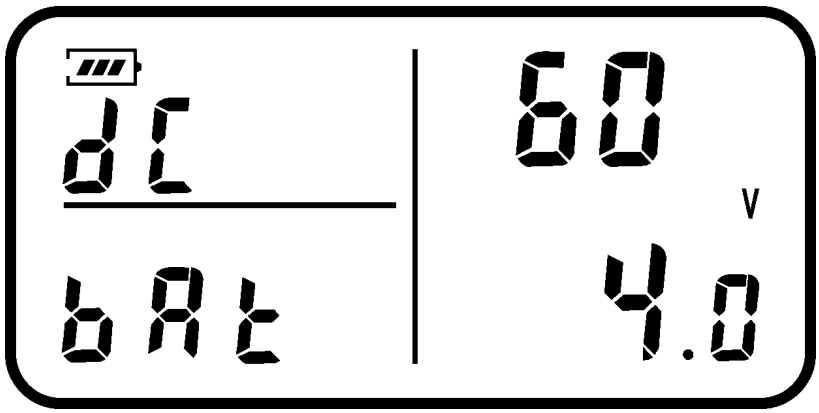
IV. Voltage Test

Press CH/F in SINGLE FREQUENCY TEST mode to access BATTERY VOLTAGE test mode.



The left displays "BAT " word and the higher right displays the internal battery voltage.

Trunk voltage (option)



The trunk voltage will show on the higher right and the battery voltage will show on the lower right. AC or DC of the trunk voltage is also indicated on the higher left.

V. Channel Plan Edit

The Channel Plan can be edit by attached PC software and download through specified series cable.

VII. Backlight of the LCD

In order to prolong the working time, the backlight is disabled from powering on until you press any key (excluding the power key), and it will last for 15 seconds then shut off automatically.

VII. Power Supply

The meter can continuously work for above 4 hours with a built-in 3.6V/2.5AH Ni-MH battery. When the battery voltage drops below 3.2 V, to remind the customer that the battery should be charged, the battery indicator "  " displays on the higher the screen. Please power off the meter and charge it with the attached charger for 12~14 hours.

1. The meter will automatically shut off and can’t be power on when the voltage of the built-in battery is lower than 3.2V to protect the battery from damage.
2. Be sure to charge the meter with theattached charger, otherwise it may cause damage.
3. Longest charging time is not more than 24 hours

VIII. Specifications

Frequency	
Range:	5MHz~1000MHz
Frequency step:	50kHz 、 100kHz 、 1MHz 、 10MHz、100MHz
Level Measurement	
Range:	30dBμV~120dBμV （ Analog Level） 40dBμV~110dBμV （ Digital Channel Power）
Accuracy:	±2dB(20℃±5℃（50~1000MHz） ±3dB(20℃±5℃)（5~50MHz）
Resolution:	0.5dB
Trunk Voltage(option)	
Range:	1V~100V(AC/DC)
Accuracy:	±2V
Resolution:	1V

Battery	
Built-in battery	3.6V / 2.5AH Ni-MH
Working time	More than 4 hours (shut off LCD backlight)
Charging time	12~14hours(power off the meter)
Miscellaneous	
Size:	168mm×71mm×42mm
Weight	308g (including battery)
Working Temperature	-10℃~40℃

A. US Analog Channel Plan

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
T-7	7	98	109.25 (A-2)
T-8	13	99	115.25 (A-1)
T-9	19	14	121.25
T-10	25	15	127.25
T-11	31	16	133.25
T-12	37	17	139.25
T-13	43	18	145.25
T-14	49	19	151.25
2	55.25	20	157.25
3	61.25	21	163.25
4	67.25	22	169.25
5	77.25	7	175.25
6	83.25	8	181.25
95	91.25 (A-5)	9	187.25
96	97.25 (A-4)	10	193.25
97	103.25(A-3)	11	199.25

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
12	205.25	38	307.25
13	211.25	39	313.25
23	217.25	40	319.25
24	223.25	41	325.25
25	229.25	42	331.25
26	235.25	43	337.25
27	241.25	44	343.25
28	247.25	45	349.25
29	253.25	46	355.25
30	259.25	47	361.25
31	265.25	48	367.25
32	271.25	49	373.25
33	277.25	50	379.25
34	283.25	51	385.25
35	289.25	52	391.25
36	295.25	53	397.25
37	301.25	54	403.25

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
55	409.25	73	517.25
56	415.25	74	523.25
57	421.25	75	529.25
58	427.25	76	535.25
59	433.25	77	541.25
60	439.25	79	553.25
61	445.25	80	559.25
62	451.25	81	565.25
63	457.25	82	571.25
64	463.25	83	577.25
65	469.25	84	583.25
66	475.25	85	589.25
67	481.25	86	595.25
68	487.25	87	601.25
69	493.25	88	607.25
70	499.25	89	613.25
71	505.25	90	619.25
72	511.25	91	625.25

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
92	631.25	115	739.25
93	637.25	116	745.25
94	643.25	117	751.25
100	649.25	118	757.25
101	655.25	119	763.25
102	661.25	120	769.25
103	667.25	121	775.25
104	673.25	122	781.25
105	679.25	123	787.25
106	685.25	124	793.25
107	691.25	125	799.25
108	697.25	126	805.25
109	703.25	127	811.25
110	709.25	128	817.25
111	715.25	129	823.25
112	721.25	130	829.25
113	727.25	131	835.25
114	733.25	132	841.25

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
133	847.25	151	955.25
134	853.25	152	961.25
135	859.25	153	967.25
136	865.25	154	973.25
137	871.25	155	979.25
138	877.25	156	985.25
139	883.25	157	991.25
140	889.25	158	997.25
141	895.25		
142	901.25		
143	907.25		
144	913.25		
145	919.25		
146	925.25		
147	931.25		
148	937.25		
149	943.25		
150	949.25		

B. US QAM Channel Plan

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
T-7		98	111
T-8		99	117
T-9		14	123
T-10		15	129
T-11		16	135
T-12		17	141
T-13		18	147
T-14		19	153
2	57	20	159
3	63	21	165
4	69	22	171
5	79	7	177
6	85	8	183
95	93	9	189
96	99	10	195
97	105	11	201

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
12	207	38	309
13	213	39	315
23	219	40	321
24	225	41	327
25	231	42	333
26	237	43	339
27	243	44	345
28	249	45	351
29	255	46	357
30	261	47	363
31	267	48	369
32	273	49	375
33	279	50	381
34	285	51	387
35	291	52	393
36	297	53	399
37	303	54	405

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
55	411	73	519
56	417	74	525
57	423	75	531
58	429	76	537
59	435	77	543
60	441	78	549
61	447	79	555
62	453	80	561
63	459	81	567
64	465	82	573
65	471	83	579
66	477	84	585
67	483	85	591
68	489	86	597
69	495	87	603
70	501	88	609
71	507	89	615
72	513	90	621

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
92	633	115	741
93	639	116	747
94	645	117	753
100	651	118	759
101	657	119	765
102	663	120	771
103	669	121	777
104	675	122	783
105	681	123	789
106	687	124	795
107	693	125	801
108	699	126	807
109	705	127	813
110	711	128	819
111	717	129	825
112	723	130	831
113	729	131	837
114	735	132	843

Channel	VideoCarrier(MHz)	Channel	VideoCarrier(MHz)
133	849	151	957
134	855	152	963
135	861	153	969
136	867	154	975
137	873	155	981
138	879	156	987
139	885	157	993
140	891	158	999
141	897		
142	903		
143	909		
144	915		
145	921		
146	927		
147	933		
148	939		
149	945		
150	951		

C. Off Air Channels, North America (CCIR Standard M; NTSC)

CHAN	BW (MHZ)	VIDEO	CHROMA	AUDIO
Lo VHF				
2	54-60	55.25	58.83	59.75
3	60-66	61.25	64.83	65.75
4	66-72	67.25	70.83	71.75
5	76-82	77.25	80.83	81.75
6	82-88	83.25	86.83	87.75
Hi VHF				
7	174-180	175.25	178.83	179.75
8	180-186	181.25	184.83	185.75
9	186-192	187.25	190.83	191.75
10	192-198	193.25	196.83	197.75
11	198-204	199.25	202.83	203.75
12	204-210	205.25	208.83	209.75
13	210-216	211.25	214.83	215.75
UHF				
14	470-476	471.25	474.83	475.75
15	476-482	477.25	480.83	481.75
16	482-488	483.25	486.83	487.75
17	488-494	489.25	492.83	493.75
18	494-500	495.25	498.83	499.75
19	500-506	501.25	504.83	505.75
20	506-512	507.25	510.83	511.75
21	512-518	513.25	516.83	517.75
22	518-524	519.25	522.83	523.75
23	524-530	525.25	528.83	529.75
24	530-536	531.25	534.83	535.75
25	536-542	537.25	540.83	541.75
26	542-548	543.25	546.83	547.75
27	548-554	549.25	552.83	553.75
28	554-560	555.25	558.83	559.75
29	560-566	561.25	564.83	565.75
30	566-572	567.25	570.83	571.75
31	572-578	573.25	576.83	577.75
32	578-584	579.25	582.83	583.75
33	584-590	585.25	588.83	589.75
34	590-596	591.25	594.83	595.75
35	596-602	597.25	600.83	601.75
36	602-608	603.25	606.83	607.75
37	608-614	609.25	612.83	613 75
38	614-620	615.25	618.83	619.75
UHF				
39	620-626	621.25	624.83	625.75
40	626-632	627.25	630.83	631.75
41	632-638	633.25	636.83	637.75
42	638-644	639.25	642.83	643.75
43	644-650	645.25	648.83	649.75
44	650-656	651.25	654.83	655.75
45	656-662	657.25	660.83	661.75

46	662-668	663.25	666.83	667.75
47	668-674	669.25	672.83	673.75
48	674-680	675.25	678.83	679.75
49	680-686	681.25	684.83	685.75
50	686-692	687.25	690.83	691.75
51	692-698	693.25	696.83	697.75
52	698-704	699.25	702.83	703.75
53	704-710	705.25	708.83	709.75
54	710-716	711.25	714.83	715.75
55	716-722	717.25	720.83	721.75
56	722-728	723.25	726.83	727.75
57	728-734	729.25	732.83	733.75
58	734-740	735.25	738.83	739.75
59	740-746	741.25	744.83	745.75
60	746-752	747.25	750.83	751.75