

Instruction Manual

HDM-4150/HDM-4250/HDM-2150



Product Name		Model no.	
Quad HD Digital Modulator 1x RF Carriers		HDM-4150	
Quad HD Digital Modulator 2x RF Carriers		HDM-4250	
Twin HD Digital Modulator 1x RF Carriers		HDM-2150	
Version	2	Date	04/2018
			EN

Contents

P3 Introduction & Main features

P3 General Safety Introduction

P5 Technical Specifications

P7 Basic Installation

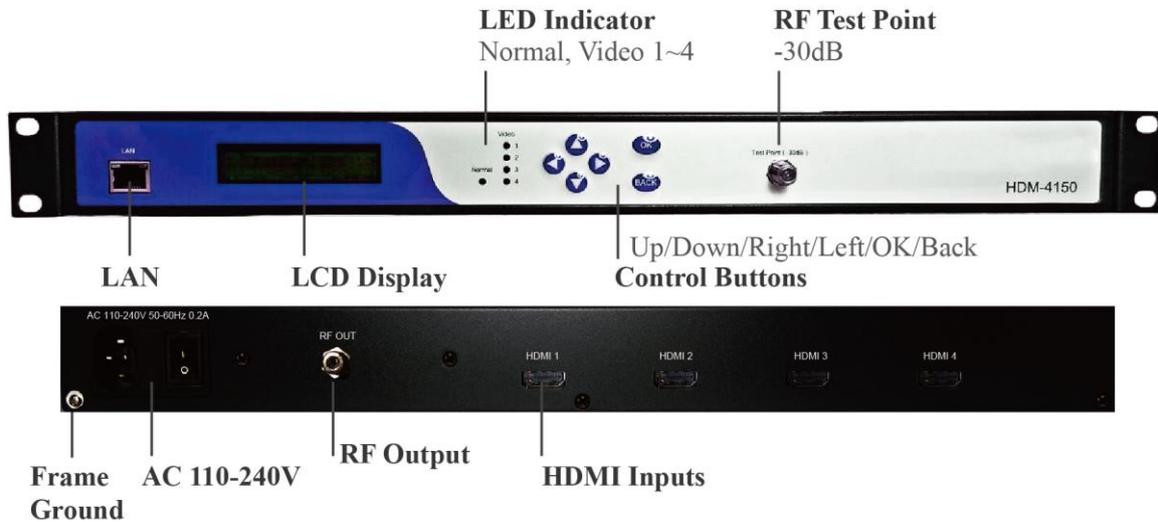
P8 Quick Menu Guide

P9 Operating Adjustment Via LCD & Buttons

P14 Operating Adjustment Via Web Interface

P16 Channel Table List – Europe

Introduction-Front and Back Panels



*Model HDM-2150 has only 2xHDMI inputs interface.

General Description & Main Features

The newest solution for a simple & affordable video distribution, anywhere.

The HDM-4150/4250/2150 can distribute 4 or 2 HD video signals to all TVs through the existing coax cables. Available for DVB-T off air (combine with antenna channels) & QAM (Combine with cable operator's channels), can change the standard at any time via software.

This solution is ideal for anyone looking for a simple and cost-effective way to support a large number of displays such as a hotel, sports bar, shopping mall or digital signage. Multiple units can be combined to create a headend for more channels as needed.

Selectable for QAM or COFDM modulation

User can choose DVB-T or DVB-C standard via software.

Bandwidth saving

Distribute 4 HD sources/channels in only one RF carrier.*HDM-4150

Test Point -30dB

Test point on the front panel enable user to test the performance without removing the unit from the shelf.

'Fanless' product

Natural convection cooling for reducing maintenance costs.

Ease of management:

On-site or remote management via front panel display and intuitive web interface.

General Safety Introduction

- ◆ Read Instruction
All the safety and operating instructions should be read before the product is operated.
- ◆ Retain Instruction
The safety and operating instructions should be retained for future reference.
- ◆ Heed Warnings
All warnings on the product and in the operating instructions should be adhered to.
- ◆ Follow Instructions
All operating and use instructions should be followed.

Basic safety instructions

- Unplug this product from the wall outlet before cleaning.
Do not use liquid cleaners or aerosol cleansers. Use a damp cloth for cleaning.
- Do not use attachments that are not recommended by the product manufacturer as they may cause hazards.
- Do not use this product near water. For example, near a bathtub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near a swimming pool; and the like.
- Do not place this product on an unstable cart, stand, tripod, bracket, or table.
The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. This product should not be placed in a built-in installation such as bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other) This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- If this product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

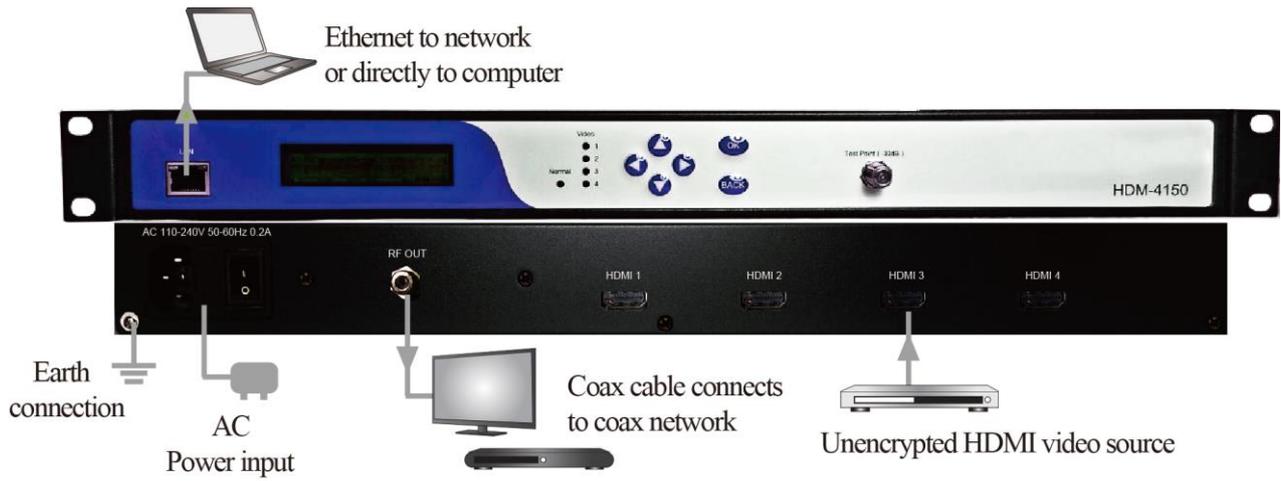
- If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
- For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them may be fatal.
- Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- **Damage Requiring Service**
Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power-supply cord or plug is damaged,
 - B. If liquid has been spilled, or objects have fallen into the product,
 - C. If the product has been exposed to rain or water,
 - D. If the product does not operate normally by following the operating instructions.
Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
 - E. If the product has been dropped or damaged in anyway, and
 - F. When the product exhibits a distinct change in performance—this indicates a need for service.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.
- Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Technical Specification

Type/Reference	HDM-4150 / H15101707100
INPUT	
Video & Audio input	4 x HDMI
Connector type	Type A receptacle
ENCODER	
Video resolution	Up to 1080p@30Hz
Video encoding format	H.264/AVC
Audio encoding format	MPEG-1 audio layer II (ISO/IEC 11172-3)
PID setting	PMT/ Video & Audio/ PCR
PSI	NID/ ONID/P.D.S./TS ID
LCN	Up to 1023
Service name	At most 15 characters
DVB-T MODULATION	
Standard	DVB-T (ETSI EN 300 744 V1.5.1)
Number of carriers	2K/8K
Guard interval	1/4, 1/8, 1/16, 1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Constellation	16QAM/64QAM
Bandwidth	6/7/8 MHz
DVB-C MODULATION	
Standard	DVB-C (ETS 300 429)
Symbol rate	Up to 6.96 M Symbol/S
Constellation	16QAM/32QAM/64QAM/128QAM/256QAM
RF OUTPUT	
RF carrier	1
Frequency	50-860 MHz
Output level	75-90 dB μ V
MER	> 36dB
Connector type	'F' female connector
CONFIGURATION	
On-site management	LCD panel & Buttons
Remote operation	LAN
GENERAL	
Type	1RU 19-inch rack mount, rack ears shipped attached
Dimensions/Weight	44x440x280mm / 3.5 kg
Power supply	AC 110 - 240
Power consumption	25W
Operation temperature	0 to +55 °C
Accessories	1 x AC power lead



Basic Installation



Quick Menu Guide

System Booting	
Please wait...	
HDM-4150	
DVBC 474.000MHZ	
RF Out	Set RF Output
	Advanced RF Setting
	Rtrv Status
Video	Set Video Source
	Rtrv Status
Audio	Set Audio
Stream	Set Service Name
	Set Service ID
	Set LCN
	Set PID
	Set NIT
	Set PDS
	Set TS ID
	Set Service Type
	Rtrv Status
	System
	Rtrv Inventory
	Upgrade Software
	Setup IP
	Rtrv IP
	Set Language
	Set MOD type

Main Menu (indicated by a blue bracket on the left side of the menu items)

Submenu (indicated by a yellow bracket on the right side of the menu items)

(*) Make sure you choose the correct port “1, 2, 3 or 4” before setting parameters in Video and Audio sections.

Operating Adjustment Via LCD & Buttons

For 'Menu & Submenu' settings, press the OK button to access the adjustment mode. In this mode ' * ' will be displayed in the upper right corner. Use the UP or DOWN buttons to select parameter values, then press OK button to confirm the setting.

RF OUTPUT

A. Setup RF Output

RF Output Setup RF Output	Following the main Submenu flow charts enter the 'Setup RF Output' mode.
Country: Europe	Press the OK button to enter the next page for country selection.
Country: * Europe	Press the OK button to access the adjustment mode. The LCD display will show an asterisk ' * ' in the upper right corner. You can now press the UP or Down buttons to select the country you require. Press OK button to save. (Europe, China, OC NTSC, OC PAL.)

Use the same steps above to adjust the following items. ★Only applicable in DVB-C mode.

Area: France	France, Germany, Italy, Nordic, Spain, UK, Belgium, Others
Frequency: E27(522MHz)	E02(50.5MHz)~E69(858MHz)
Output Level: 90dBuV	90~105dBuV
Carrier: 8K	2K or 8K
Constellation: QAM64	QAM16, QAM32, (QAM64, QAM128, QAM256★)
FEC: 3/4	1/2, 2/3, 3/4, 5/6
★Symbol rate: 6.900Mbps	Up to 6.910 Mbps
I/Q Swap: DISABLE	DISABLE, ENABLE

Are you sure?	y
---------------	---

When all the item in 'Setup RF Output' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

B. Advanced RF setting

RF Output Advanced RF Setting	
Freq Offset: No Offset	
Single Tone: Disable	
RF Output: Enable	
Are you sure?	y

Following the main Submenu flow charts enter the 'Advanced RF Setting' mode.

Frequency Offset : -10K ~ +10K, No Offest

Disable/Enable

Enable, Disable

When all the item in 'RF Output Advanced' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

C. Retrieve Status

Following the main Submenu flow charts enter the 'Retrieve Status' mode, you can check the parameters of your previous setting in 'Setup RF Output'.

VIDEO

A. Set Video

Video Resolution	
Resolution: Auto	
Encoder Rate: 14M	
Are you sure?	y

Following the main Submenu flow charts enter the 'Video Resolution' mode.

Auto

Auto/ 4~14M

When all the items in 'Set Video' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

B. Retrieve Status

Following the main Submenu flow charts enter the 'Retrieve Status' mode, you can check the parameters of your previous setting in 'Video'.

AUDIO

Encoder Rate: 128K	128K, 256K, 384K
-----------------------	------------------

STREAM

A. Set Service Name

Stream Set Service Name	Following the main Submenu flow charts enter the 'Set Service Name'. Press the OK button to enter the Submenu.
Service Name: SDCH-1	Edit the service name by preference. 0-9; A-Z, "-"; ' ' at most 15 characters
Are you sure? y	When all the items in 'Stream Set Service Name' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

B. Set Service ID

Stream Set Service ID	Following the main Submenu flow charts enter the 'Set Service ID'. Press the OK button to enter the Submenu.
Service ID: 1	Edit the service ID by preference.
Are you sure? y	When all the items in 'Stream Set Service ID' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

C. Set LCN

Stream Set LCN	Following the main Submenu flow charts enter the 'Set LCN'. Press the OK button to enter the Submenu.
LCN: 200	Edit the logical channel number by preference. 1~1023
Are you sure? y	When all the item in 'Stream set LCN' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

D. Set PID

PMT: 129	32~8191, exluding 71
-------------	----------------------

PCR: 768	32~8191, excluding 71
Video: 2064	32~8191, excluding 71
Audio: 2068	32~8191, excluding 71
Are you sure? y	When all the item in 'Stream set PID' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

E. Set NIT

OrgNetwork ID: 1	According to different area to setup the parameter values. 1~65535
Network ID: 1	1~65535
Network Name: NETWORK	A-Z, 0-9. At most 7 Characters
Network Ver: 1	1-31
Are you sure? y	When all the item in 'Stream set NIT' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

F. Set PDS

Private Data: 00000028	8 Hex
Are you sure? y	When all the item in 'Stream set PDS' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

G. Set TS ID

TS ID: 201	1~65535
Are you sure? y	When all the item in 'Stream set TS ID' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

H. Set Service Type

Service Type: HD service	
Are you sure?	y

HD Service, SD Service

When all the item in 'Set Service Type' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

I. Retrieve Status

Following the main Submenu flow charts enter the 'Stream' mode. In 'Retrieve Status' mode, press the OK button to check the parameters of your previous settings in 'Stream'.

SYSTEM

A. Retrieve Inventory

System Rtrv Inventory	
System Info HW:1.1 SW: 1.02	
System Info Feb 24 2017	

Following the main Submenu flow charts enter the ' System Retrieve Inventory'. Press the OK button ro enter the Submenu.

Press the OK button to enter the next page, you can check both hardware and software version.

Press the RIGHT button to access the next page for more information.Press the OK button to exit.

B. Reset System

System Reset System	
Reset Mode: Hard Reset	
Are you sure?	y

Following the main Submenu flow charts enter the ' System Reset System'.Press the OK button ro enter the Submenu.

Hare Reset, Soft Reset, Reset to default

When the system reset is selected, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel.

C. Upgrade Software

Upgrading Software Please wait...	
--------------------------------------	--

Please confirm IP setting correctly before upgrading code.

D. Setup IP

Enable DHCP: DISABLE	
IP Address: 192.168.1.168	

DISABLE, ENABLE

※ Please select "DISABLE" in "Enable DHCP" before editing the IP address. Otherwise the IP setting will not be completed.

X . X. X. X

Net Mask: 255.255.255.0	
Default Gateway: 192.168.1.3	
Are you sure? y	

X . X. X. X

X . X. X. X

When the items in “Setup IP” are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select ‘y’ for YES, all the settings above will be stored in memory. Select ‘n’ for NO to cancel.

E. Retrieve IP

Following the main Submenu flow charts enter the ‘System Retrieve Status’ mode. In ‘Retrieve Status’ mode, press the OK button to check the parameters of your previous settings in ‘Stream Setup IP’

F. Set Language

Only provide English in this version.

G. Set MOD Type

System Set MOD Type	
MOD Type DVB-T	
Are you sure? y	

Following the main Submenu flow charts enter the ‘ System Set MOD Type’.Press the OK button ro enter the Submenu.

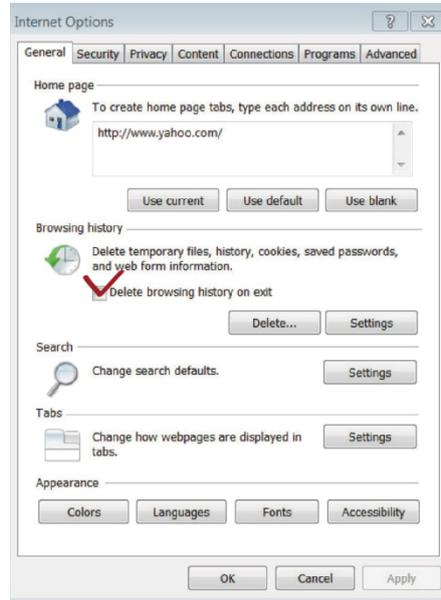
DVB-T/DVB-C

When the system reset is selected, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select ‘y’ for YES, all the settings above will be stored in memory. Select ‘n’ for NO to cancel.

OPERATING ADJUSTMENT VIA WEB BROWSER

The web browser will allow the user to fully configure the HDM-4150 unit via an Ethernet connection. Your computer will require a static IP address in the range 192.168.1.XXX

1. Connect the PC to the LAN port of the HDM-4150 unit.
2. The configuration process must be made in local mode, although later you will be able to access the unit from any PC in the LAN.
3. Launch the web browser and delete browsing history.



4. Enter the HDM-4150 IP address



5. Click on ENTER to access the welcome screen. Enter the default password '1234'



Appendix-Channel Table List of Europe

Channel	Channel Frequency MHz	Digital central Frequency MHz	Channel	Channel Frequency MHz	Digital central Frequency MHz	Channel	Channel Frequency MHz	Digital central Frequency MHz
Standard B + G Europe								
Band I			S23	318-326	322	Band V		
E2	47 - 54	50.5	S24	326 - 334	330	E38	606 - 614	610
E3	54 - 61	57.5	S25	334 - 342	338	E39	614-622	618
E4	61-68	64.5	S26	342 - 350	346	E40	622 - 630	626
Band S			S27	350 - 358	354	E41	630 - 638	634
S1	104-111	107.5	S28	358 - 366	362	E42	638 - 646	642
S3	111-118	114.5	S29	366 - 374	370	E43	646 - 654	650
S3	118-125	121.5	S30	374 - 382	378	E44	654 - 662	658
S4	125-132	128.5	S31	382 - 390	386	E45	662 - 670	666
S5	132-139	135.5	S32	390 - 398	394	E46	670 - 678	674
S6	139-146	142.5	S33	398 - 406	402	E47	678 - 686	682
S7	146-153	149.5	S34	406 - 414	410	E48	686 - 694	690
S8	153-160	156.5	S35	414-422	418	E49	694 - 702	698
S9	160-167	163.5	S36	422 - 430	426	E50	702 - 710	706
S10	167-174	170.5	S37	430 - 438	434	E51	710-718	714
Band III			S38	438 - 446	442	E52	718-726	722
E5	174-181	177.5	S39	446 - 454	450	E53	726 - 734	730
E6	181-188	184.5	S40	454 - 462	458	E54	734 - 742	738
E7	188-195	191.5	S41	462 - 470	466	E55	742 - 750	746
E8	195-202	198.5	Band IV			E56	750 - 758	754
E9	202 - 209	205.5	E21	470 - 478	474	E57	758 - 766	762
E10	209 - 216	212.5	E22	478 - 486	482	E58	766 - 774	770
E11	216-223	219.5	E23	486 - 494	490	E59	774 - 782	778
E12	223 - 230	226.5	E24	494 - 502	498	E60	782 - 790	786
Band S			E25	502 - 510	506	LTE		
S11	230 - 237	233.5	E26	510- 518	514	E61	790 - 798	794
S12	237 - 244	240.5	E27	518- 526	522	E62	798 - 806	802
S13	244 - 251	247.5	E28	526 - 534	530	E63	806 - 814	810
S14	251- 258	254.5	E29	534 - 542	538	E64	814- 822	818
S14	258 - 265	261.5	E30	542 - 550	546	E65	822 - 830	826
S16	265 - 272	268.5	E31	550 - 558	554	E66	830 - 838	834
S17	272 - 279	275.5	E32	558 - 566	562	E67	838 - 846	842
S18	279 - 286	282.5	E33	566 - 574	570	E68	846 - 854	850
S19	286 - 293	289.5	E34	574 - 582	578	E69	854 - 862	858
S20	293 - 300	296.5	E35	582 - 590	586			
S21	302 - 310	306	E36	590 - 598	594			
S22	310-318	314	E37	598 - 606	602			

