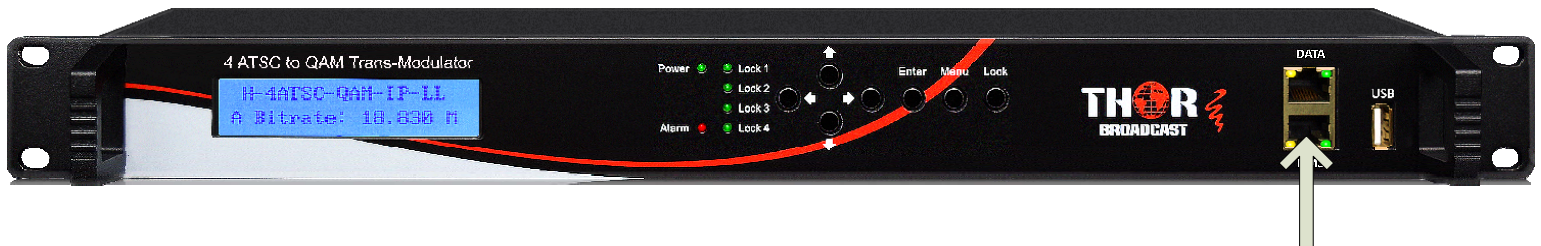
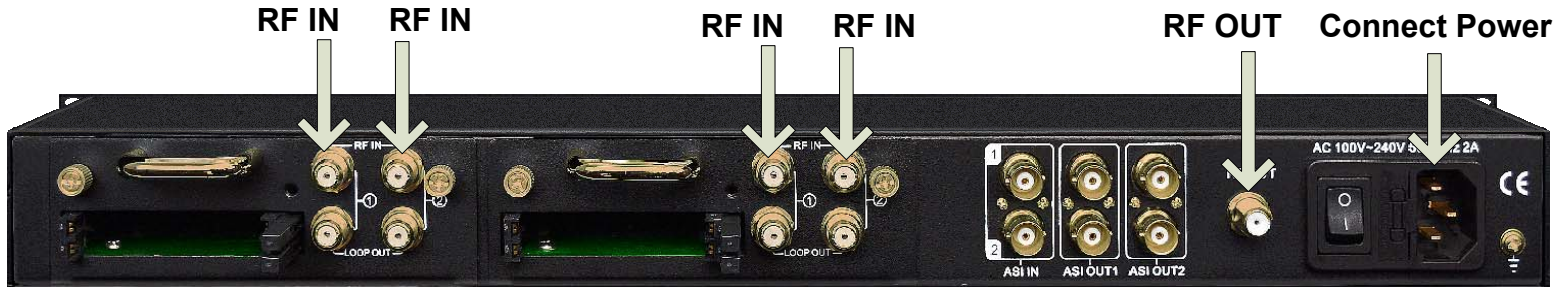


H-4ATSC-QAM-IP-LL

Quick Setup Guide

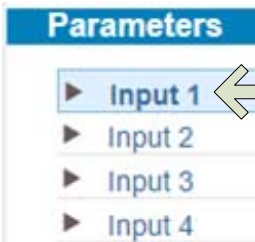
Step 1: Connections



- Connect the NMS port to your PC using an ethernet cable
- Open web browser and go to <http://192.168.0.136>
- Login/Password: admin/admin

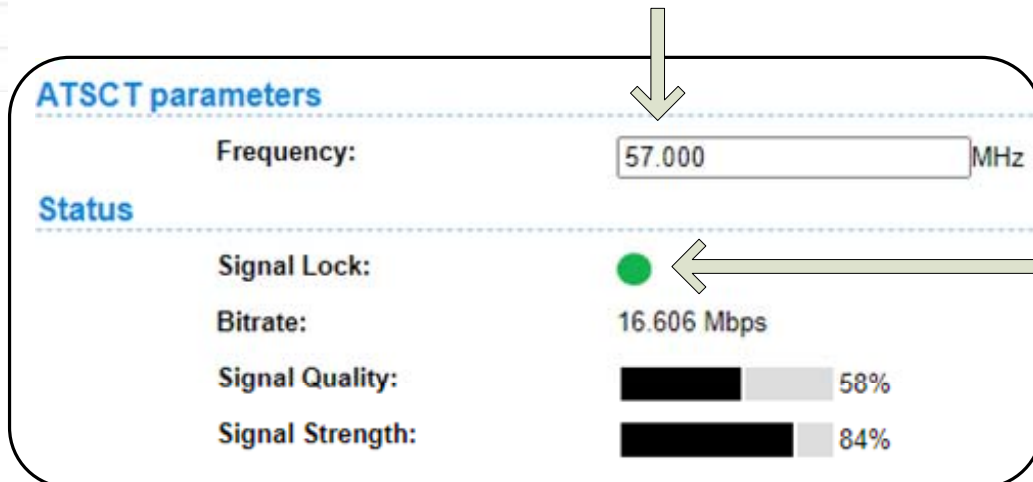
NMS Port

Step 2: Configure Inputs



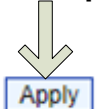
Select "Input 1" from the Main Menu

Enter the appropriate frequency for the desired channel (See ATSC Frequency Chart)



Signal Lock indicator must be Green

Click "Apply"

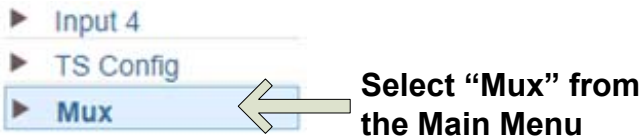


Repeat these steps as needed for Input 2, 3 and 4

Step 3: Configure Outputs

Recommended Settings:

- Channel A → Tuner 1
- Channel B → Tuner 2
- Channel C → Tuner 3
- Channel D → Tuner 4

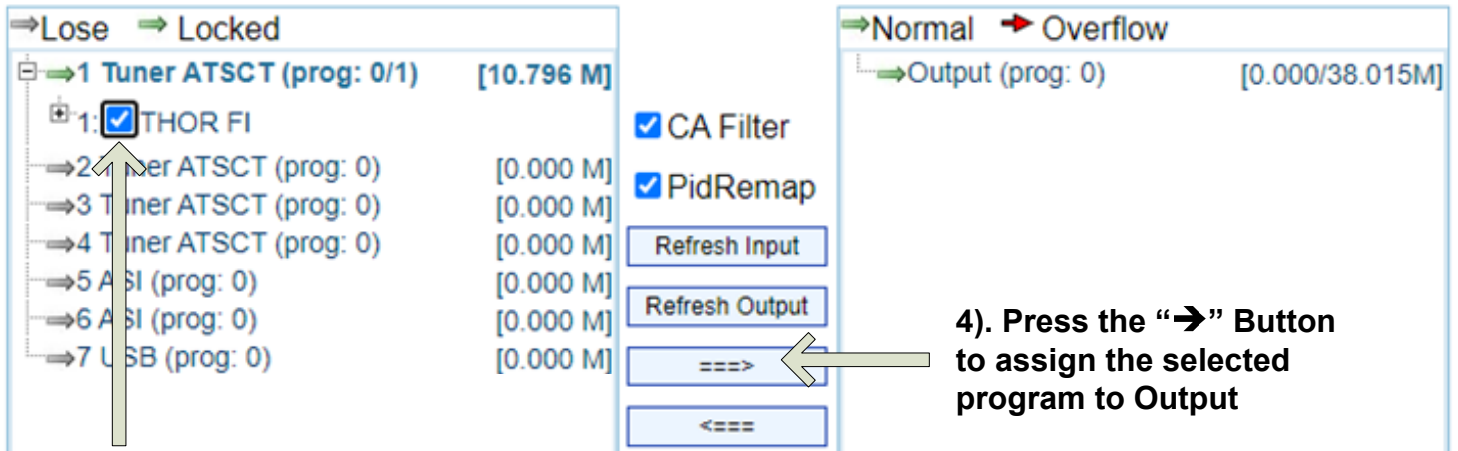


1). Select Channel A, B, C or D

2). Click "Parse Program"

Parse program

channel A channel B channel C channel D channel E



Note: To display custom major/minor channel numbers on the TV, VCT must be enabled. (See "Enabling VCT" on the next page)



Repeat these steps as needed for Channels B, C and D

NOTE:
Channel E is for IP Stream

Program Information

Program Name:	THOR FI
LCN:	1
Program Number:	1
Service Type:	0x01
Major Channel Number	1
Minor Channel Number	1
Source ID	1
Short Name	prg001
Service Provider:	
PMT PID:	0x0020
PCR PID:	0x0021
MPEG-2 Video PID:	0x0022
AC3 Audio PID:	0x0023

6). Click "Save"

Save

Close

Step 4: Modulator settings

- ▶ BISS
- ▶ PID Pass
- ▶ **Modulator**
- ▶ IP Stream
- ▶ USB Player

Select "Modulator" from the Main Menu

NOTE:
Settings changed on one channel will automatically adjust the other channels accordingly

Select Channel A, B, C or D

Select Standard (J.83B Recommended)

	channel A	channel B	channel C	channel D
Standard:	J.83B			
Constellation:	64 QAM			
Symbol Rate:	5.057 (5.0 - 9.0 Msps)			
RF Frequency:	219.000 (30.0 - 1000.0 MHz)			
RF Level:	-16.0 (-20.0 - 0.0 dBm)			
RF On:	<input checked="" type="checkbox"/>			
Bitrate(Val/Max):	0.090 Mb/s/26.971 Mbps			

Enter the appropriate RF frequency for the desired channel (See QAM Frequency Chart)

Step 5: Enabling VCT

- ▶ Input 3
- ▶ Input 4
- ▶ **TS Config**
- ▶ Mux
- ▶ CI Card
- ▶ BISS

Select "TS Config" from the Main Menu

Select Channel A, B, C or D

VCT

Modulation Mode:	0x04
VCT Mode:	CVCT
VCT Insert:	<input checked="" type="checkbox"/>

Select CVCT Mode for J.83B Modulation output

Check Box to enable VCT Insert

Click "Apply" →

Repeat these steps as needed for Channels B, C and D

Step 6: Enable IP Streaming

- ▶ PID Pass
- ▶ Modulator
- ▶ **IP Stream**
- ▶ USB Player

Select "IP Stream" from the Main Menu

IMPORTANT:
TO ACCESS STREAMS, CONNECT DEVICES TO THE DATA PORT USING AN ETHERNET CABLE

Check boxes to Enable Streams

Enable	Null PKT Filter	Output IP	Port	Bitrate(0-25Mbps)
1: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3001	8
2: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3002	8
3: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3003	8
4: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3004	8
5: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3005	8
6: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3006	8
7: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3007	8
8: <input checked="" type="checkbox"/>	<input type="checkbox"/>	224.2.2.2	3008	8

Click "Apply"



Connect to the stream using the appropriate IP and Port Number

Example:
udp://@224.2.2.2:3001

Step 7: Select Streams

- ▶ Input 4
- ▶ TS Config
- ▶ **Mux**

Select "Mux" from the Main Menu

Select "Channel E"

channel A channel B channel C channel D **channel E**

⇒ Lose ⇒ Locked

- 1 Tuner ATSC (prog: 1/1) [12.999 M]
- 2 Tuner ATSC (prog: 0) [0.000 M]
- 3 Tuner ATSC (prog: 0) [0.000 M]

CA Filter

⇒ Normal ⇒ Overflow

- Output (prog: 1) [13.011/80.001M]
- 1: THOR FI

Click Output program name for program information and more options

Program Information

Program Name: THOR FI

SPTS Output: **disable**

LCN: disable

Program Number: SPTS 1

Service Type: SPTS 2

Major Channel Number: SPTS 3

Minor Channel Number: SPTS 4

Source ID: SPTS 5

Short Name: SPTS 6

Service Provider: SPTS 7

PMT PID: 0x0020

PCR PID: 0x0021

MPEG-2 Video PID: 0x0022

AC3 Audio PID: 0x0023

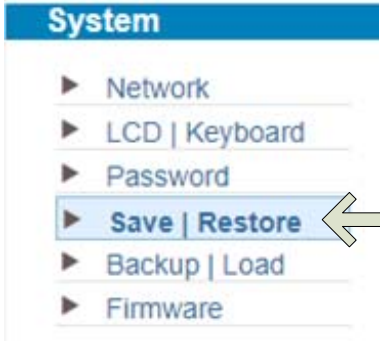
Choose SPTS Output

Click "Save"

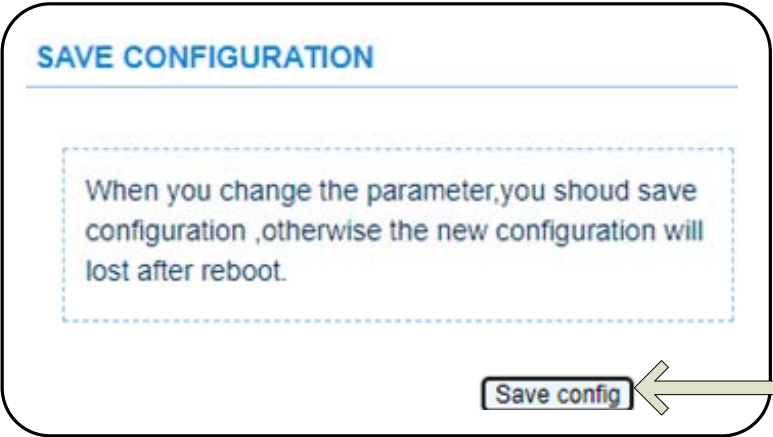


Step 8: Save Configuration

IMPORTANT:
You must save configuration or changes will be lost after reboot



Select "Save | Restore" from the Main Menu



Click "Save config"

saving configuration, please wait...

Confirmation message will appear briefly until saving is complete.



ATSC - US Television Channels (MHz)

Channel	MHz Center Frequency	Channel	MHz Center Frequency	Channel	MHz Center Frequency
2	57	27	551	52	701
3	63	28	557	53	707
4	69	29	863	54	713
5	79	30	569	55	719
6	85	31	575	56	725
7	177	32	581	57	731
8	183	33	587	58	737
9	189	34	593	59	743
10	195	35	599	60	749
11	201	36	605	61	755
12	207	37	611	62	761
13	213	38	617	63	767
14	473	39	623	64	773
15	479	40	629	65	779
16	485	41	635	66	785
17	491	42	641	67	791
18	497	43	647	68	797
19	503	44	653	69	803
20	509	45	659		
21	515	46	665		
22	521	47	671		
23	527	48	677		
24	533	49	683		
25	539	50	689		
26	545	51	695		

CATV QAM Channel Center Frequency Annex B, 6 MHz Channels- 54 to 1002 MHz

Channel Number	Center Frequency MHz	Channel Number	Center Frequency MHz	Channel Number	Center Frequency MHz	Channel Number	Center Frequency MHz
2	57	38	309	79	555	120	771
3	63	39	315	80	561	121	777
4	69	40	321	81	567	122	783
5	79	41	327	82	573	123	789
6	85	42	333	83	579	124	795
95	93	43	339	84	585	125	801
96	99	44	345	85	591	126	807
97	105	45	351	86	597	127	813
98	111	46	357	87	603	128	819
99	117	47	363	88	609	129	825
14	123	48	369	89	615	130	831
15	129	49	375	90	621	131	837
16	135	50	381	91	627	132	843
17	141	51	387	92	633	133	849
18	147	52	393	93	639	134	855
19	153	53	399	94	645	135	861
20	159	54	405	95	651	136	867
21	165	55	411	96	657	137	873
22	171	56	417	97	663	138	879
7	177	57	423	98	669	139	885
8	183	58	429	99	675	140	891
9	189	59	435	100	681	141	897
10	195	60	441	101	687	142	903
11	201	61	447	102	693	143	909
12	207	62	453	103	699	144	915
13	213	63	459	104	705	145	921
23	219	64	465	105	711	146	927
24	225	65	471	106	717	147	933
25	231	66	477	107	723	148	939
26	237	67	483	108	729	149	945
27	243	68	489	109	735	150	951
28	249	69	495	110	741	151	957
29	255	70	501	111	747	152	963
30	261	71	507	112	753	153	969
31	267	72	513	113	759	154	975
32	273	73	519	114	765	155	981
33	279	74	525	115	771	156	987
34	285	75	531	116	777	157	993
35	291	76	537	117	783	158	999
36	297	77	543	118	789		