INSTALLATION MANUAL

ZINWELL®

Thanks for your purchasing.

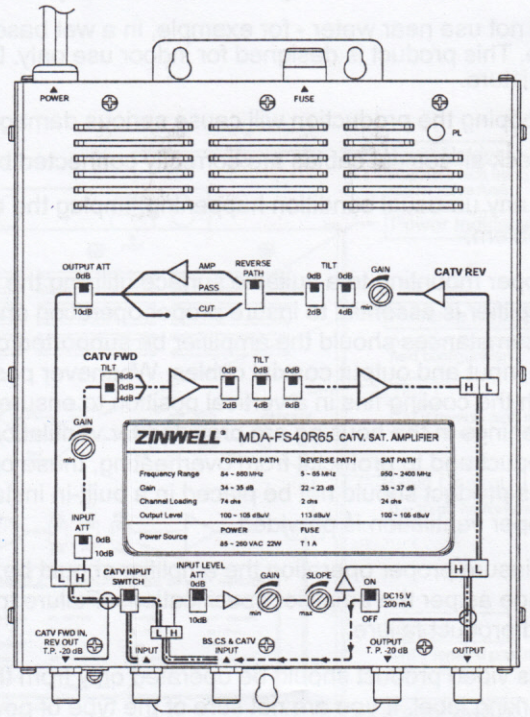
Read the operating instructions carefully to understand the MDA-FS40R65 and its correct operation.
The instrument should be keep carefully after reading it.

CATV/ SAT MDU AMPLIFIER

MDA-FS40R42 ;

MDA-FS40R55 ;

MDA-FS40R65



FEATURES

- Ultra wideband, high output level CATV/ SAT IF amplifier
- 2 operation modes: headend amplifier and line amplifier
- Band split 42/54, 55/70, 65/84
- Switchable return path modes: Gain/ Pass/ Cut off
- Input EQ and output EQ available for easy setup
- -20 dB test points provided for both input and output signals monitoring
- Gain control continuously variable
- Short circuit protection provided at SAT port powering
- Anodized aluminum housing for excellent heat-sinking
- Providing surge protection against induced surge

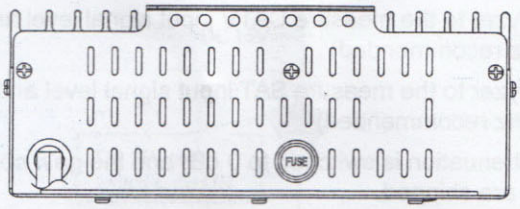
⚠ **Caution:**

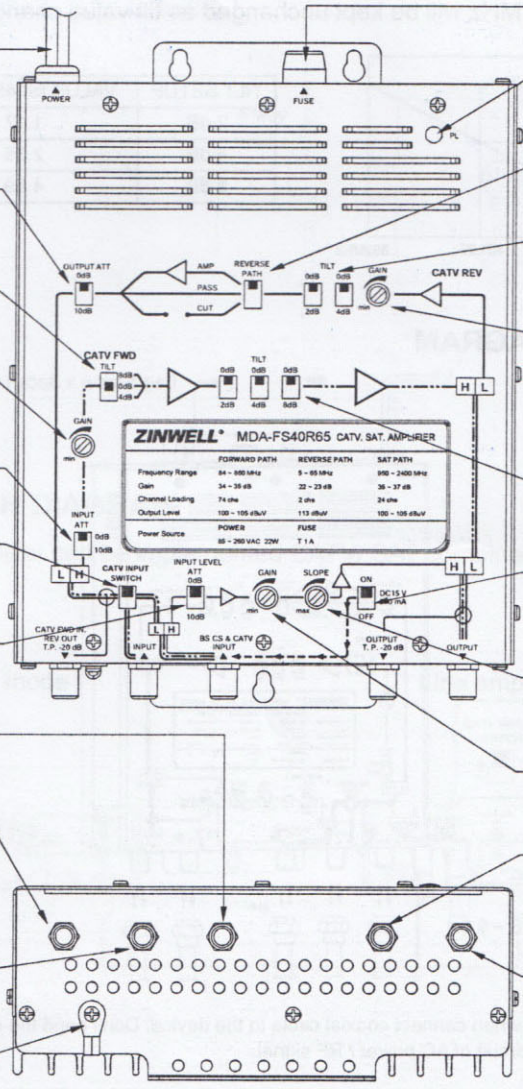
These cautions are important for safety of human body and asset.

SAFETY INFORMATION

- Please read the following instruction carefully before installation.
- Do not use near water - for example, in a wet basement, or near a swimming pool, and the like. This product is designed for indoor use only. Do not expose this product to rain or moisture.
- Dropping the production will cause serious damage to the appliance.
- Check all coaxial cables are correctly connected before feeding power.
- As any un-usual condition happening, unplug the appliance immediately and check the problem.
- Proper mounting to a suitable surface utilizing the mounting holes in the bottom flange of the amplifier is essential to insure proper operation and prevent damage! Under no circumstances should the amplifier be supported or suspended from its AC power cord or the input and output coaxial cables. Whenever possible, the amplifier should be mounted with the cooling fins in a vertical position to ensure proper heat dissipation. Slots and openings in the housing are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. This product should not be placed in a built-in installation such as a cabinet or rack unless proper ventilation is provided.
- To insure proper operation the amplifier should be adjusted to within its proper operating range as per the amplifier specifications. Failure to do so may result in improper operation and product failure.
- This video 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 supply to your home, consult your appliance dealer or local power company.
- Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- Never push objects of an kind into this video 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 video product.
- For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and cable system. This will prevent damage to the video product due to lightning and power-line surges.
- Please hold the power plug instead of the power cord when pulling it out of the outlet. To pull by the power cord may tear it up and cause fire or electricity shock.
- Don't put or pull the plug by wet hand to prevent electric shock.

INTERNAL INSTALLATION AND USAGE





Power Cord

Fuse Holder
Restrict inhibit using higher value fuse

Power Indicator LED

Output Level Attenuation
CATV reverse path 0/10 dB switch

Reverse Path Switch
Amplifier/ Bypass/ Cut switch for field configuration

Tilt
CATV reverse path max. 6 dB EQ with 2 dB step

Input Tilt
CATV forward path 0/4/8 dB switch

Gain Control
0 ~ 10 dB for Reverse Path

Gain Control
0 ~ 10 dB for forward path

Input Level Attenuation
CATV forward path 0/10 dB switch

Output Tilt
CATV forward path max. 14 dB EQ with 2 dB step

CATV Input Switch
CATV/ SAT combined input or CATV/ SAT separated inputs selection

Power Switch
DC 15V 200mA for SAT

Input Level Attenuation
SAT Path 0/10 dB switch

Slope Control
0 ~ 6 dB for SAT path

CATV/ SAT Combined Input Port
CATV/ SAT combined inputs

Gain Control
0 ~ 10 dB for SAT path

CATV Reverse Path Test Port
-20 dB for the forward input and reverse output

CATV Forward Path Test Port -20 dB

CATV Input Port
CATV forward path input/ reverse path output

CATV Output Port
CATV forward path output/ reverse path input

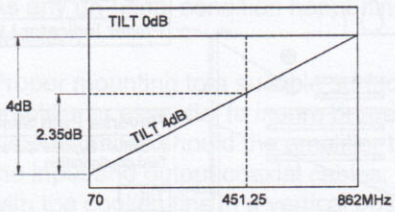
Grounding Terminal

INPUT LEVEL SETUP

- The optimum input level for proper amplifier operation and to specifications is very important for every amplifier.
- Use spectrum analyzer to the measure CATV input signal level and confirm it is sufficient. (70 dBuV/ 860 MHz recommended)
- Use spectrum analyzer to the measure SAT input signal level and confirm it is sufficient. (70 dBuV/ 2400 MHz recommended)
- The input/ output attenuation is switched to 0 dB, and the gain control is tuned to maximum when the products are shipped.

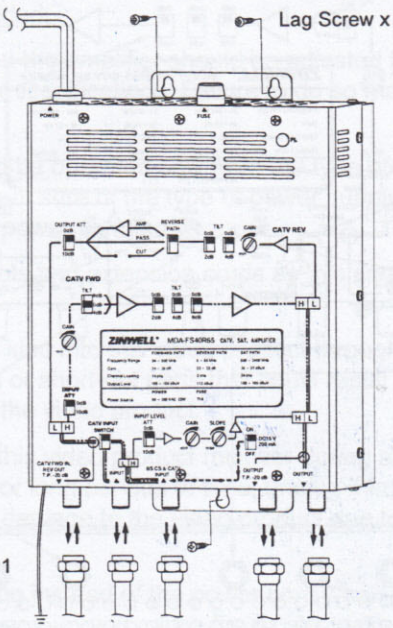
TILT SWITCH SETUP

- Tilt value in the level difference between 860 MHz and 70 MHz.
- Output level at 860 MHz will be kept unchanged as tilt value changed.



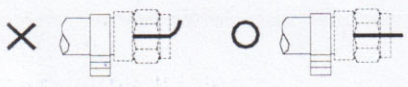
TILT SETUP	VALUE (at 451.25 MHz)
2 dB	1.17 dB
4 dB	2.35 dB
8 dB	4.69 dB

INSTALLATION DIAGRAM

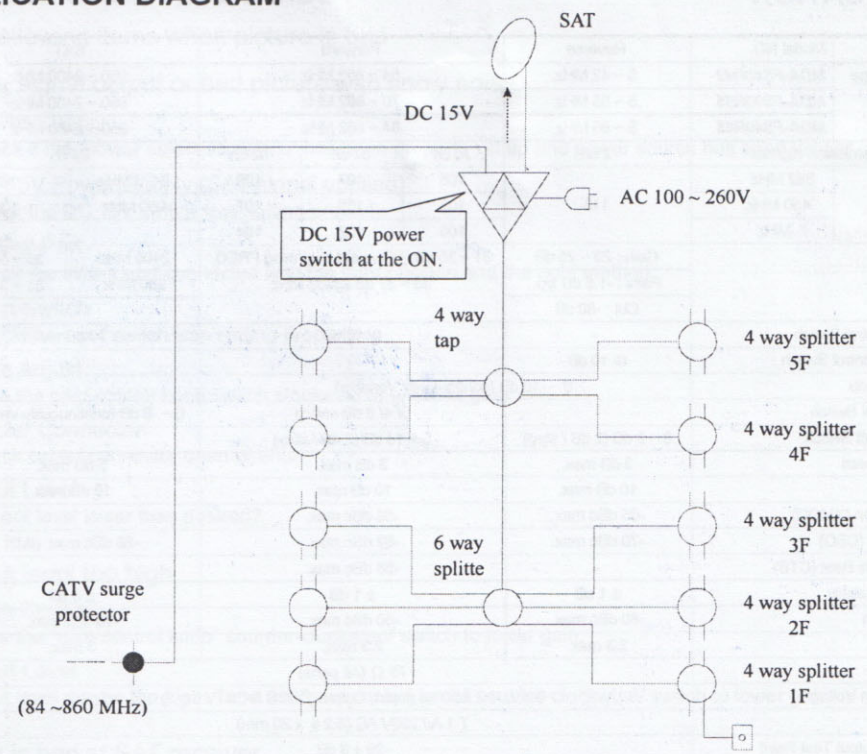


Grounded wire is § 1.6 ~ § 3.1 Ⅳ type.

NOTE: Care should be taken when connect coaxial cable to the device. Don't bend the center conductor of coaxial cable. This will cause short circuit of AC power / RF signal.

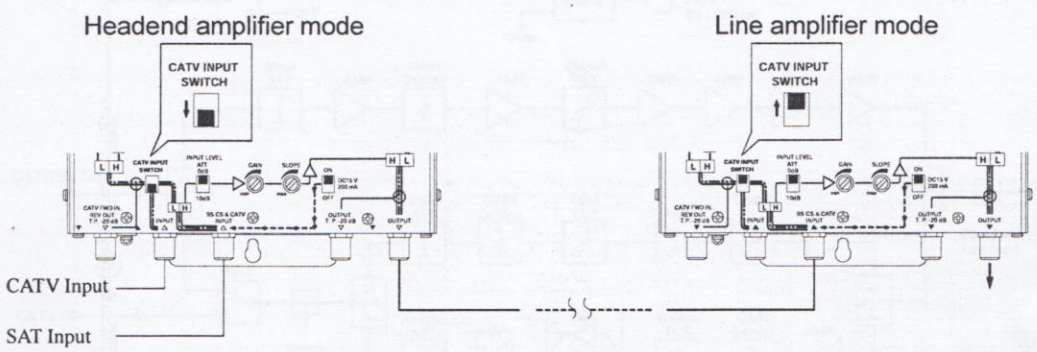


APPLICATION DIAGRAM



CATV INPUT SWITCH DIAGRAM

With this switch, this amplifier can be implemented CATV/ SAT combined input or CATV/ SAT separated inputs.



SPECIFICATION

Descriptions	Model NO.	Reverse	Forward			SAT	
Frequency Range	***MDA-FS40R42***	5 ~ 42 MHz	54 ~ 862 MHz			950 ~ 2400 MHz	
	MDA-FS40R55	5 ~ 55 MHz	70 ~ 862 MHz			950 ~ 2400 MHz	
	MDA-FS40R65	5 ~ 65 MHz	84 ~ 862 MHz			950 ~ 2400 MHz	
Number of transmission Signals		2 ch	74 ch	57 ch	32 ch	24 ch	
Rated	862 MHz	113	105	107	109	2400 MHz	105
Output Level	450 MHz		103	105	107	950 MHz	100
(dBuV)	* MHz		100	102	104	-	
Gain		Gain : 20 ~ 25 dB	31 ~ 35 dB @Forward beginning FREQ.			2400 MHz	35 ~ 41 dB
		Pass : -1.5 dB typ.	33 ~ 37 dB @862 MHz			950 MHz	31 ~ 37 dB
		Cut : -60 dB				-	
Input Level Control Switch		-	0/ 10 dB			0/ 10 dB switch	
Output Level Control Switch		0/ 10 dB	-			-	
Gain Control knob		0 ~ -10 dB (continuously Variable)				-	
Input Tilt Control Switch		-	0/ 4/ 8 dB switch			0 ~ -6 dB (continuously variable)	
Output Tilt Select Switch		0 ~ 6 dB (2 dB / step)	0 ~ 14 dB (2 dB / step)			-	
Response Flatness		3 dB max.	3 dB max.			5 dB max.	
Noise Figure		10 dB max.	10 dB max.			10 dB max.	
Cross Modulation (XMOD)		-65 dBc max.	-58 dBc max.			-	
Intermodulation (CSO)		-70 dBc max.	-62 dBc max.			-66 dBc max. (IM3)	
Composite Triple Beat (CTB)		-	-58 dBc max.			-	
Temperature Stability		± 1 dB	± 1 dB			± 3 dB	
Hum Modulation		-60 dBc max.	-60 dBc max.			-70 dBc max.	
VSWR		2.3 max.	2.3 max.			3 max.	
Impendance		75 Ω (All ports)					
Surge Protection Voltage		6 KV, 1.2 x 50 us (Input, Output, BSCS & CATV Input)					
Fuse Rating		T 1 A / 250V AC (5.2 ϕ x 20 mm)					
Tap Value of Output Test Point		-20 ± 3 dB					
Power Requirement		85 ~ 260 VAC					
Power Consumption		22 W					
Power Supply for BS CS Converter		15 VDC, 200mA (with ON/ OFF switch)					
Temperature Range		-20℃ ~ +50℃					
Weight		2.3 Kg (about)					

* Forward Frequency = 54 MHz for MDA-F40R42 ;
70 MHz for MDA-F40R55 ;
84 MHz for MDA-F40R65 .

TROUBLE SHOOTING GUIDE

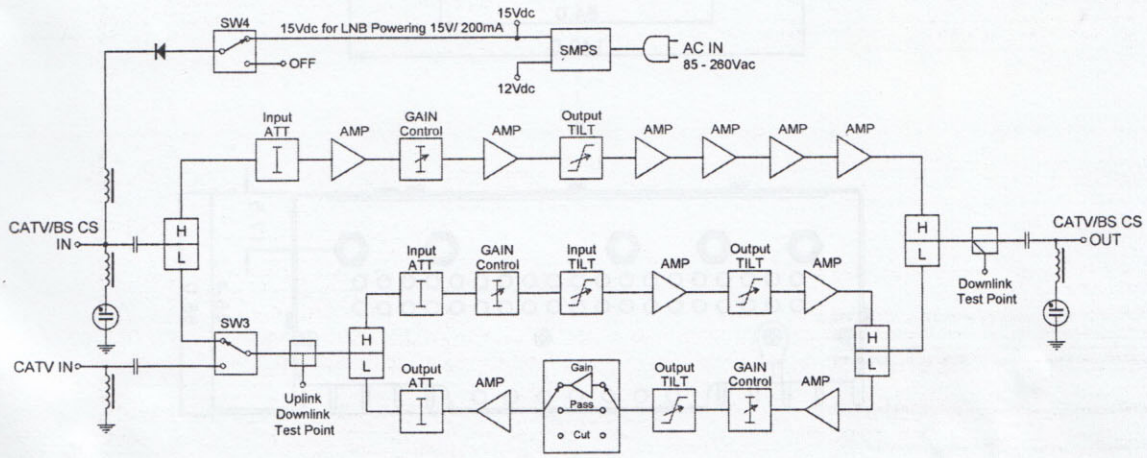
Check following items when picture is bad

1. No TV signal output or bad picture with snow noise.
   - Power Supply
     Check if the "power selection switch" has been properly set up and power source has been proper connected.
   - DC 15V Power Supply (SAT signal applied)
     Check the DC 15V switch was setting properly.
   - In/ Out Port
     Check the in/ out port connected with the right position and the right method.
   - Input Switch
     Check the input switch was setting properly.
   - Gain Adjust
     Tune the gain control knob switch clockwise to get max gain.
   - Cable/ Connector
     Check cable/ connector open or short.
   - Input Level
     Is input level lower than desired?

2. Output level too high
   - Gain Control
     Tune the "gain control knob" counter-clockwise/ switch to lower gain.
   - Input Level
     Input level maybe too high. Tune the "gain control knob" counter-clockwise/ switch to lower gain.

3. Video is bad at SAT receiver
   - Adjusting Antenna
     Adjusting your antenna's angle and direction to get the best video quality.
   - Input Level
     Input level maybe too low. Check the cable connection and input level.

BLOCK DIAGRAM



DIMENSION DIAGRAM