

IDENTIFYING AND RADIO FREQUENCY INT THROUGH SPECTRUM ANAL



PROBLEM AND HYPOTHESIS

When a system is designed to be used in a specific environment, it is often necessary to identify and eliminate any potential sources of interference that could affect its performance.

The purpose of this project was to identify and eliminate any potential sources of interference that could affect the performance of the system.

The system was designed to be used in a specific environment, and it was necessary to identify and eliminate any potential sources of interference that could affect its performance.

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CONCLUSION

The system was designed to be used in a specific environment, and it was necessary to identify and eliminate any potential sources of interference that could affect its performance.



THE SYSTEM

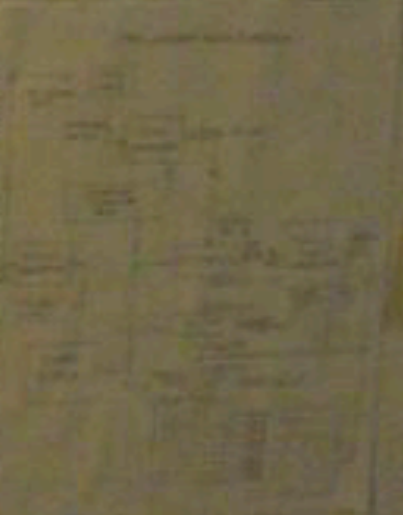
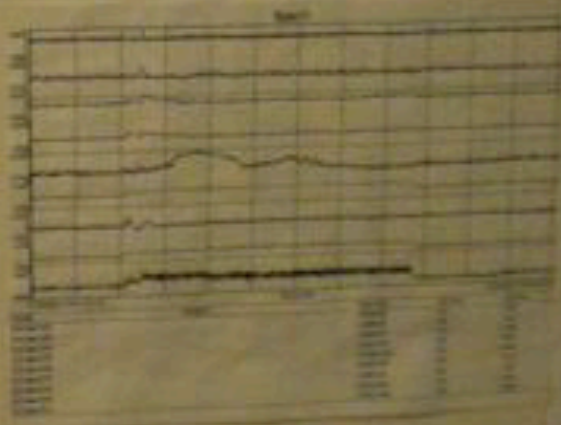
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PROBLEM

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SOLUTION

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THE JUNCTION BOX

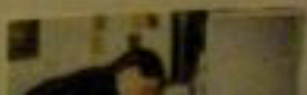
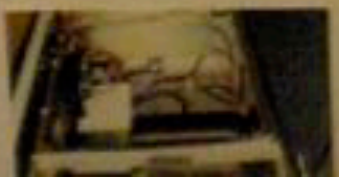
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SOLUTION

The system was designed to be used in a specific environment, and it was necessary to identify and eliminate any potential sources of interference that could affect its performance.

THE CABLING SYSTEM



IDENTIFYING AND REDUCING RADIO FREQUENCY INTERFERENCE THROUGH SPECTRUM ANALYSIS



THE SYSTEM

THE SYSTEM IS A BROADBAND SPECTRUM ANALYZER, WHICH OPERATES IN THE RF TO VIDEO RANGE FROM 100 KHZ TO 100 MHz AND THE BANDWIDTH AND SENSITIVITY ARE ADJUSTABLE TO THE REQUIREMENT IN ORDER TO OBTAIN CLEAR RESULTS.

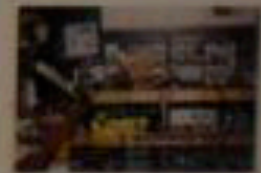
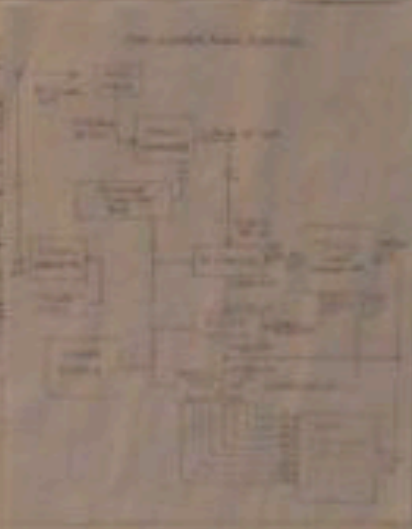
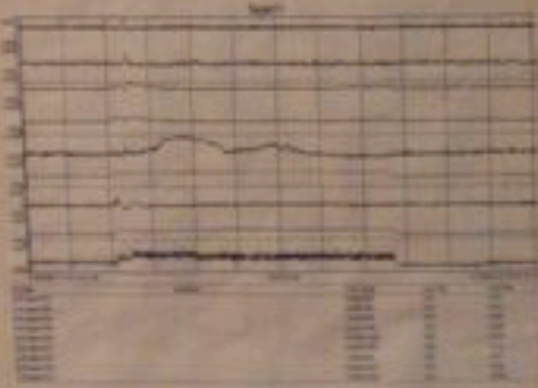
PROBLEM

- 1. TO IDENTIFY THE SOURCE OF THE INTERFERENCE IN THE BAND.
- 2. TO IDENTIFY THE TYPE OF INTERFERENCE.
- 3. TO IDENTIFY THE FREQUENCY OF THE INTERFERENCE.

SOLUTION

- 1. TO IDENTIFY THE SOURCE OF THE INTERFERENCE.
- 2. TO IDENTIFY THE TYPE OF INTERFERENCE.
- 3. TO IDENTIFY THE FREQUENCY OF THE INTERFERENCE.

THE RADIO TELESCOPE'S GENERAL SYSTEM BLOCK DIAGRAM



REDUCING RADIO FREQUENCY INTERFERENCE THROUGH SPECTRUM ANALYSIS

THE SYSTEM

The system will be used to monitor and analyze radio signals in the way of reducing their level, and monitor, identify and eliminate any application of the frequency in their respective channels of the frequency in analytical and synthesis.

PROBLEM

- 1. To identify the radio signals in the system.
- 2. To identify the frequency of the signals.
- 3. To identify the amplitude of the signals.

MISSION

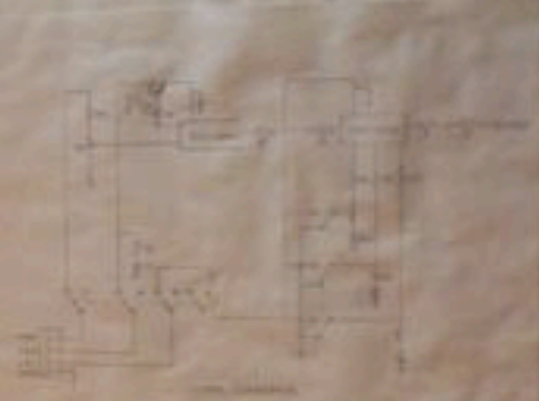
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THE RADIO TELESCOPE GENERAL SYSTEM BLOCK DIAGRAM



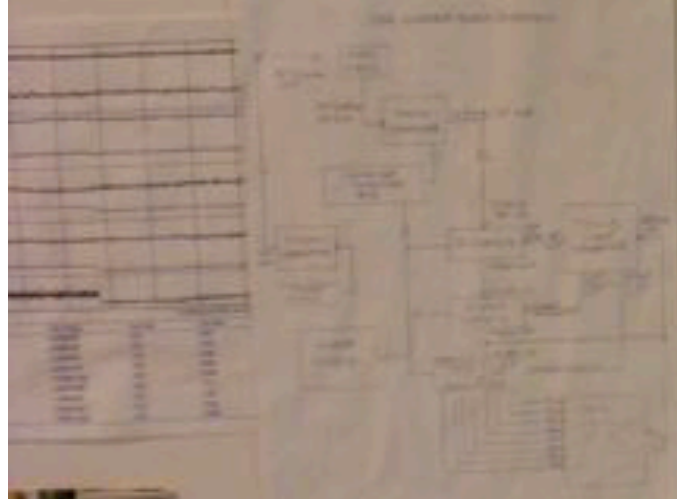
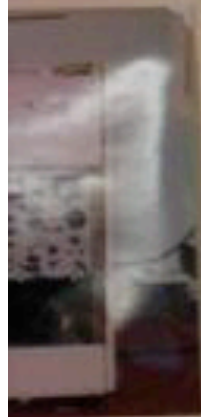
THE SIGNAL GENERATOR

The signal generator is used to generate a signal of a specific frequency and amplitude. It is used to test the system and to identify the frequency of the signals.



THE DOWNCONVERTER

The downconverter is used to convert the received signal to a lower frequency. It is used to reduce the level of the signal and to identify the frequency of the signals.





THE JUNCTION BOX

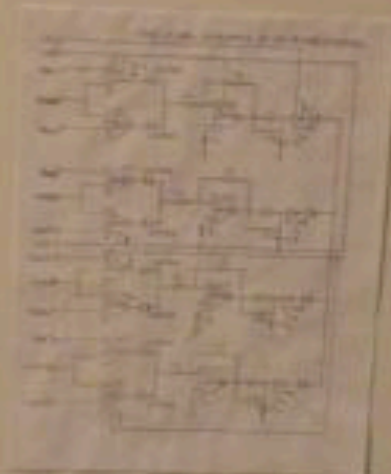
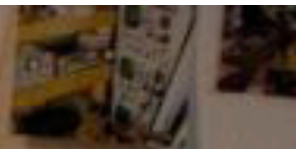
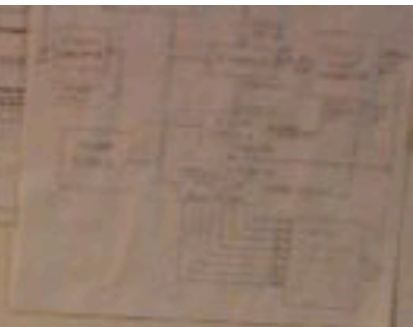
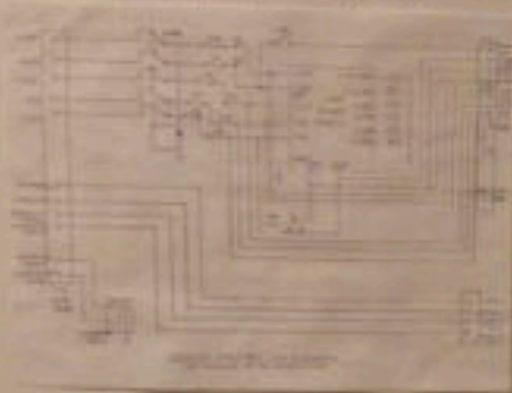
PROBLEM **SOLUTION**

The junction box is used to connect the wires of the power supply to the load.

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THE CABLING SYSTEM

The cabling system is used to connect the wires of the power supply to the load.



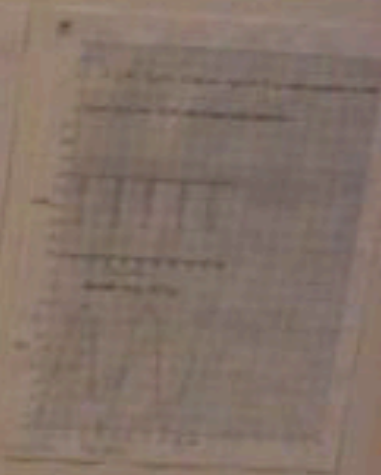
THE FILTER CIRCUIT

The filter circuit is used to filter out the unwanted frequencies from the power supply.

PROBLEM **SOLUTION**

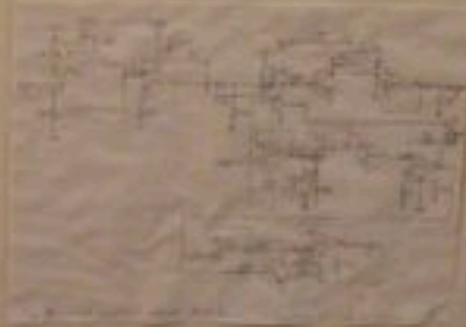
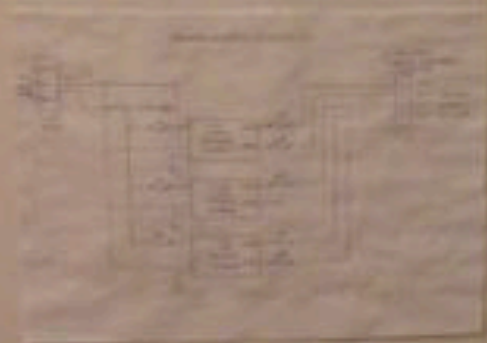
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THE POWER SUPPLY

The power supply is used to provide the power to the load.



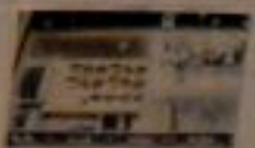
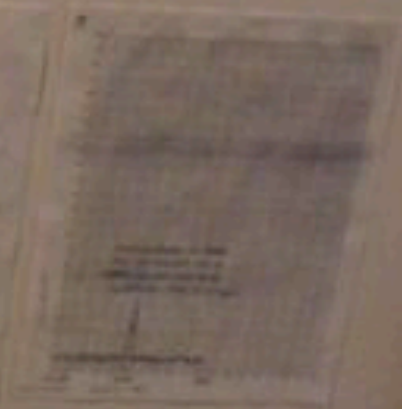
THE FREQUENCY TO AMPLITUDE PEAK SEPARATOR

The frequency to amplitude peak separator is used to separate the frequency and amplitude components of a signal.

PROBLEM **SOLUTION**

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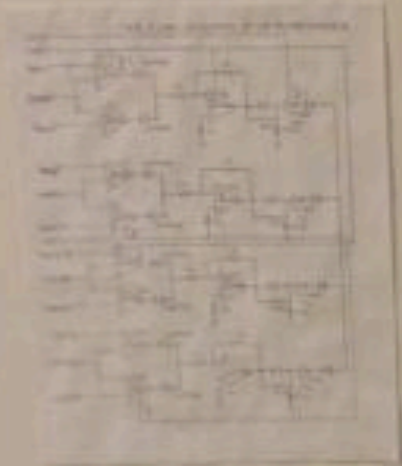
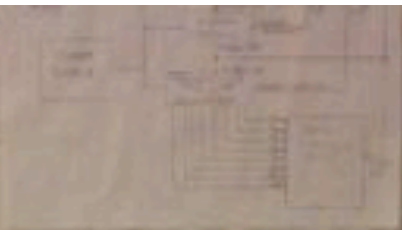


FUNCTION BOX

WILL TOWN

CABLEING SYSTEM

THE CABLEING SYSTEM

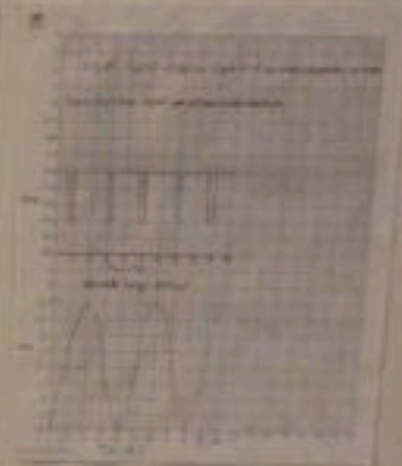


THE FILTER CHASSIS

FOR THE FREQUENCY SEPARATOR FOR RADIO STATIONS

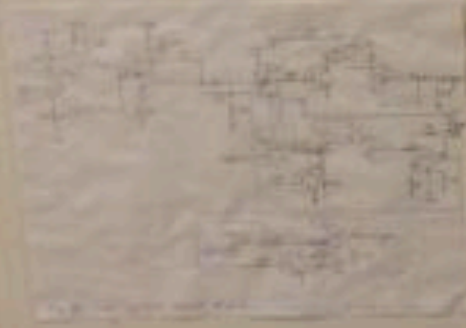
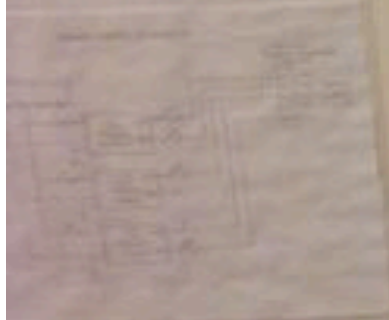
PROBLEM: ...

SOLUTION: ...



THE POWER SUPPLY

THE POWER SUPPLY

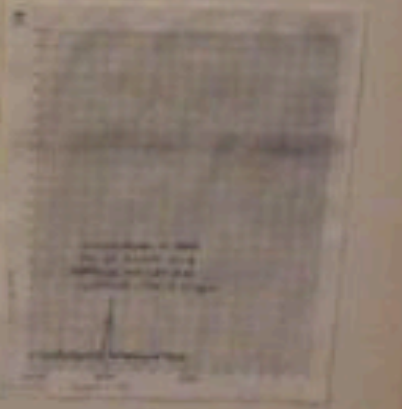


THE FREQUENCY VS AMPLITUDE PLOT SEPARATOR

FOR THE FREQUENCY SEPARATOR FOR RADIO STATIONS

PROBLEM: ...

SOLUTION: ...



THE DOWN...

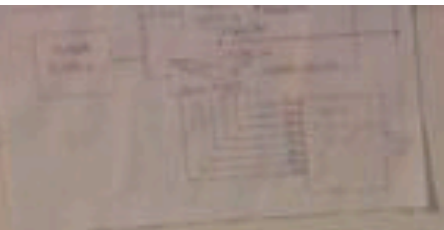
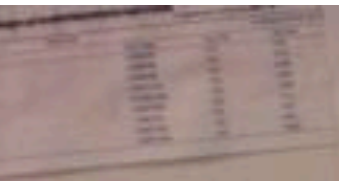
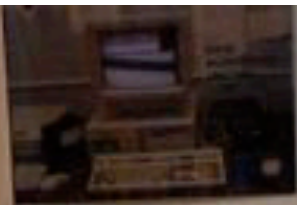
PROBLEM: ...

SOLUTION: ...

THE IF CHASSIS

PROBLEM: ...

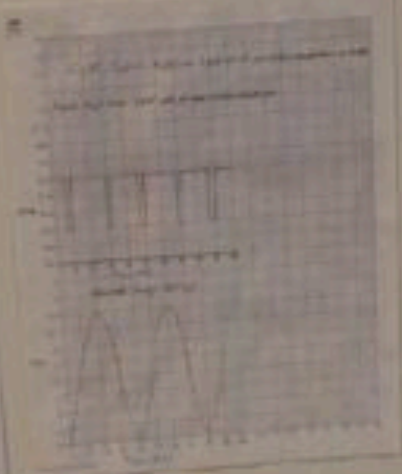
SOLUTION: ...



THE FILTER CHASSIS

The filter chassis is designed to filter out the unwanted signals and pass the desired signals.

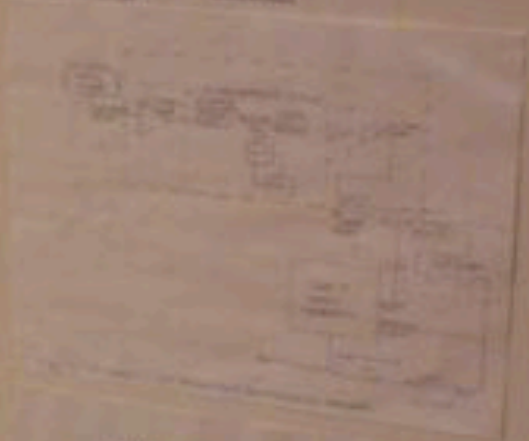
PROBLEM	SOLUTION
1. Unwanted signals are present.	1. Use a low-pass filter.
2. Signal is distorted.	2. Use a band-pass filter.
3. Signal is attenuated.	3. Use a high-pass filter.
4. Signal is noisy.	4. Use a notch filter.



THE DOWNCONVERTER

The downconverter is used to convert a high-frequency signal to a lower frequency.

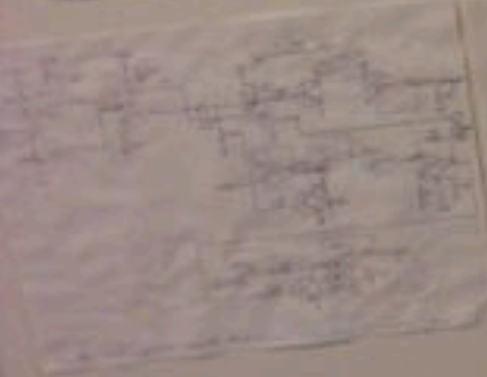
PROBLEM	SOLUTION
1. Signal is too high.	1. Use a mixer.
2. Signal is too low.	2. Use a frequency multiplier.
3. Signal is noisy.	3. Use a band-pass filter.
4. Signal is distorted.	4. Use a low-pass filter.



THE IV CHASSIS

The IV chassis is used to measure the current and voltage of a circuit.

PROBLEM	SOLUTION
1. Current is too high.	1. Use a current transformer.
2. Current is too low.	2. Use a current shunt.
3. Voltage is too high.	3. Use a voltage divider.
4. Voltage is too low.	4. Use a voltage multiplier.



THE FREQUENCY & AMPLITUDE PLOT SEPARATOR

The frequency and amplitude plot separator is used to separate the frequency and amplitude components of a signal.

PROBLEM	SOLUTION
1. Frequency is too high.	1. Use a low-pass filter.
2. Frequency is too low.	2. Use a high-pass filter.
3. Amplitude is too high.	3. Use a voltage divider.
4. Amplitude is too low.	4. Use a voltage multiplier.

