

APPLICATION GUIDE

The goal of this section is to illustrate how Siemon Home Cabling products can be used to support some of the most popular network applications used in the residential market. For each application there is usually more than one way to install the network. Since Siemon Home Cabling components have been designed to perform within the context of ANSI/EIA/TIA-568-B.1, ANSI/EIA/TIA-570-A and ISO/IEC 11801 standards, some fundamental assumptions have been made for this guide.

First, all of the horizontal UTP cabling in this section is 4-pair, unshielded twisted-pair cable. All modular jacks are wired to the T568A pin configuration.

Second, while many network equipment manufacturers recommend a maximum drop distance between the equipment and the multimedia outlet, the horizontal distances in this guide are assumed to be 90 m (295 ft.) or less. This distance is in accordance with the recommendation in the '570-A and 11801 standards for horizontal cabling and allows for the additional length of patch cords at the room outlet and in the distribution center.

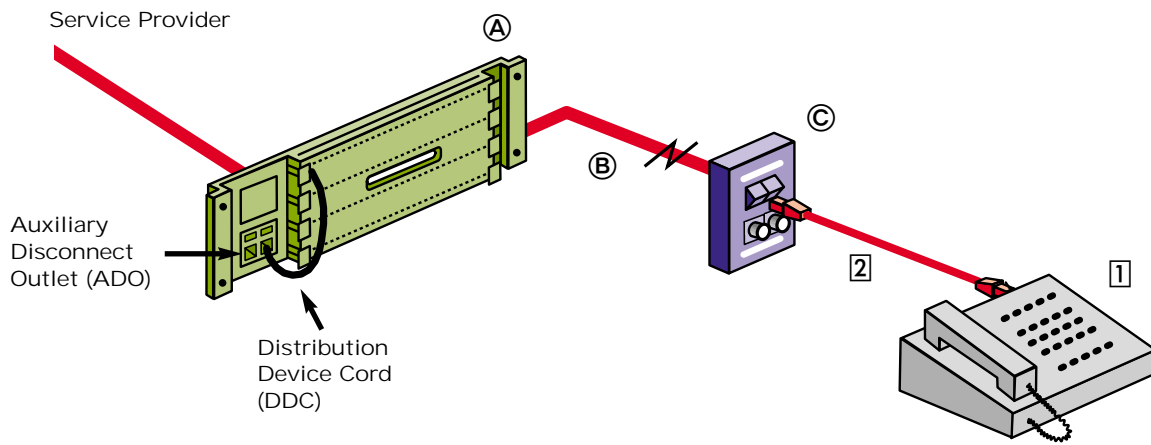
The Siemon Company offers technical support to customers who need network design assistance. Our technical support staff will work with customers to help design a network that will support their needs and recommend appropriate Siemon Company products. For assistance call our Technical Support Department or e-mail them at HCsupport@siemon.com.

SECTION CONTENTS

Voice Distribution	7.1
Phone Systems	7.2
Data Distribution/Basic Dial-Up Internet Service	7.3
Distribution of DSL/Cable Modem.....	7.4
Distribution of One CATV Signal (Amplified).....	7.5
Basic Satellite Installation (Single or Dual LNB).....	7.6
Distribution of One CATV Signal and Two Security Cameras	7.7

VOICE DISTRIBUTION

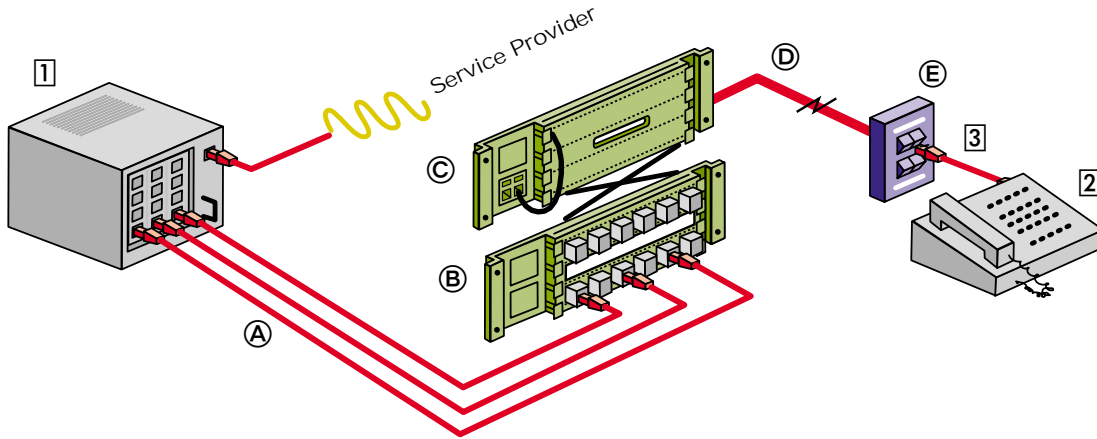
Voice distribution in the home can be of a basic or complex structure. The basic installation brings in up to four phone lines and distributes them to every voice outlet in the home. A more complex installation brings in up to four phone lines and selectively distributes them around the home. The Siemon Company features products that can configure both types of systems.



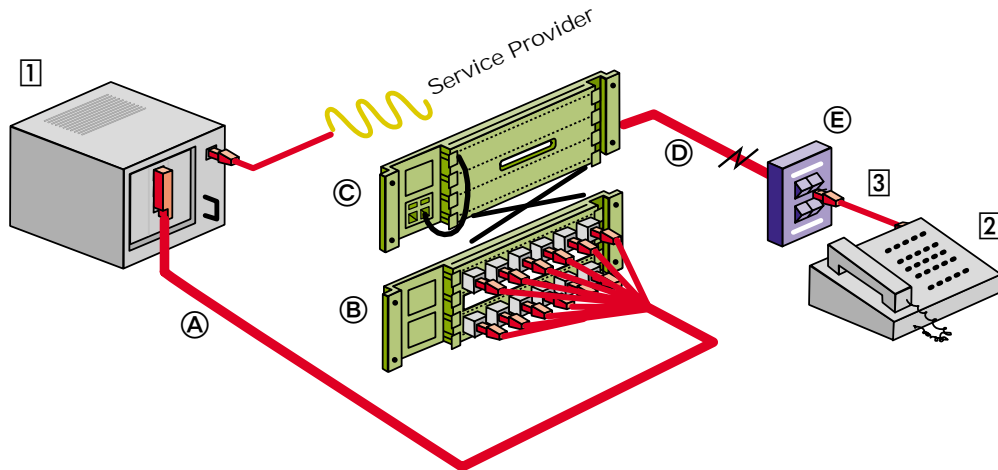
Siemon Product	Siemon Solution
Ⓐ Distribution Panel	HC-110-80 or HC-110T-80
Ⓑ 4-Pair Cable	9C5R4-(XX)
Ⓒ Multimedia Outlet	HC-MM-2-(XX)
Customer Supplied	
① Telephone	✓
② Phone Cord	✓

MODULAR/25-PAIR PHONE SYSTEM

Multiple line phone systems use either a modular or a 25-pair interface. The diagrams below show how to use the Siemon Home Cabling System to distribute multiple phone lines throughout the home. The top diagram shows the modular interface; the bottom diagram shows the 25-pair interface.



Modular Interface



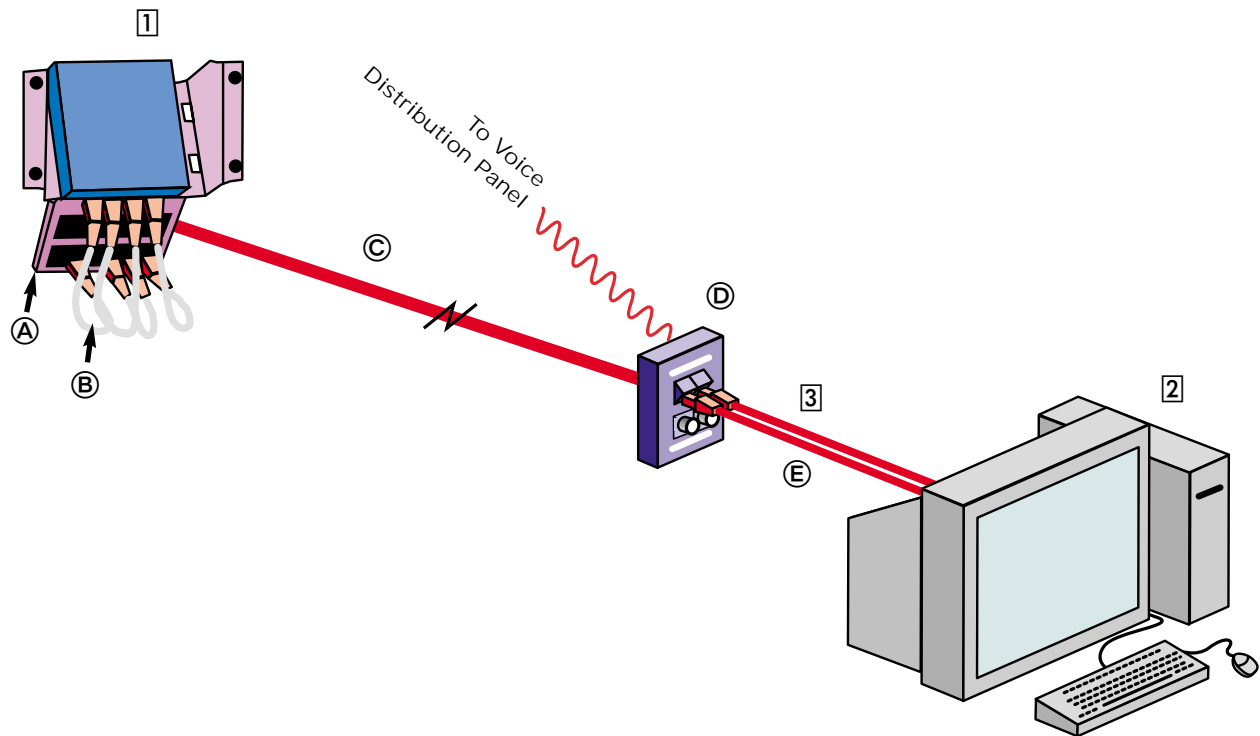
25-Pair Interface

Siemon Product	Modular Solution	25-Pair Solution
Ⓐ Patch/Hydra Cable	MC5-8T-(XX)-B(XX)	HYD-(X)-24-(XX)
Ⓑ Modular S110 Panel	HC-110-JP12-80	HC-110-JP12-80
Ⓒ Distribution Panel	HC-110-80 or HC-110T-80	HC-110-80 or HC-110T-80
Ⓓ Category 5e Cable	9C5R4-(XX)	9C5R4-(XX)
Ⓔ Multimedia Outlet	HC-MM-2-(XX)	HC-MM-2-(XX)
Customer Supplied		
1 Phone System	✓	✓
2 Telephone	✓	✓
3 Phone Cord	✓	✓

DATA DISTRIBUTION/BASIC DIAL-UP INTERNET SERVICE

Basic Dial-Up Internet Service is accommodated by connecting a computer modem to the voice distribution system. The data network consists of a central hub that is connected in a star-wired configuration to individual workstations containing a network interface card.

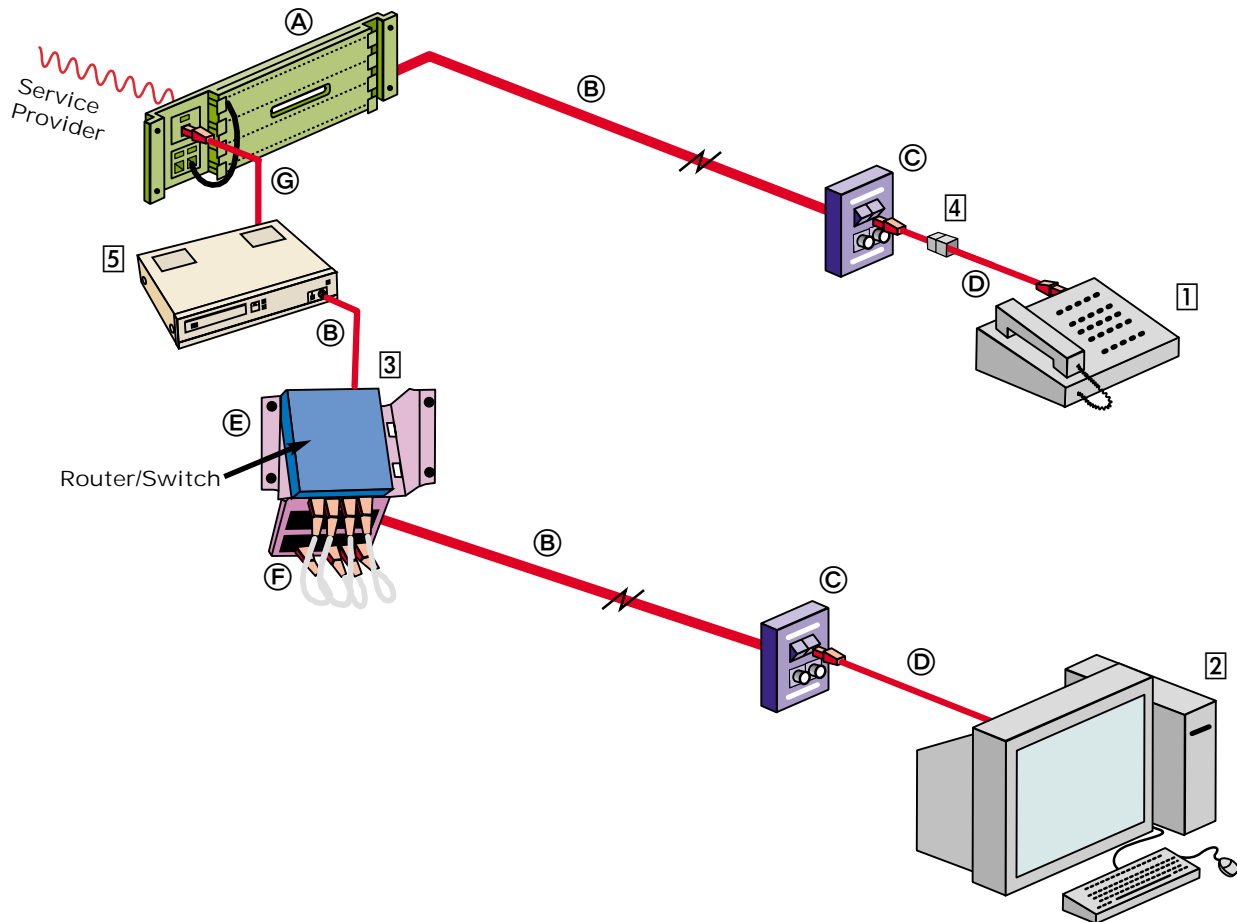
The Siemon Company recommends the use of category 5e (or higher) UTP cabling for a 100BASE-T network.



Siemon Product	Siemon Solution
(A) Distribution Panel	HC-MOD12-80 or HC-MOD36-80
(B) Modular Cord	HC-MX5-FK-01
(C) Category 5e Cable	9C5R4-(XX)
(D) Multimedia Outlet	HC-MM-2-(XX)
(E) Patch Cord	MC5-8T-(XX)-B(XX)
Customer Supplied	
(1) Hub	✓
(2) Computer w/Network Card & Modem	✓
(3) Phone Cord	✓

DISTRIBUTION OF DSL /CABLE MODEM

Distribution of a Digital Subscriber Line (DSL) or a cable modem can be easily accommodated within The Siemon Home Cabling System™. High-speed internet service can be shared by multiple computers, DSL or cable modem to the computer network through a router. If internet service is only to be used by one computer, then a router and network are not necessary.



Siemon Product	DSL Solution	Cable Modem Solution
(A) Voice Distribution Panel	HC-110-80 or HC-110T-80	HC-110-80 or HC-110T-80
(B) Category 5E Cable	9C5R4-(XX)	9C5R4-(XX)
(C) Multimedia Outlet	HC-MM-2-(XX)	HC-MM-2-(XX)
(D) UTP Patch Cord	MC5-8T-(XX)-B(XX)	MC5-8T-(XX)-B(XX)
(E) Data Panel	HC-MOD12-80	HC-MOD12-80
(F) Modular Jacks	HC-MX5-FK-01	HC-MX5-FK-01
(G) DSL Kit	HC-DSL-K	CT-FA-80 & RG59-(XX)
Customer Supplied		
(1) Telephone	✓	✓
(2) Computer	✓	✓
(3) Router/Switch	✓	✓
(4) DSL Filter	✓	
(5) DSL/Cable Modem	✓	✓

DISTRIBUTION OF ONE CATV SIGNAL (AMPLIFIED)

The Siemon Home Cabling System™ includes products for the distribution of CATV to any point in the home. Usually a CATV can be split into a few connections without degrading signal. However, if signal quality is poor, amplification may be required.

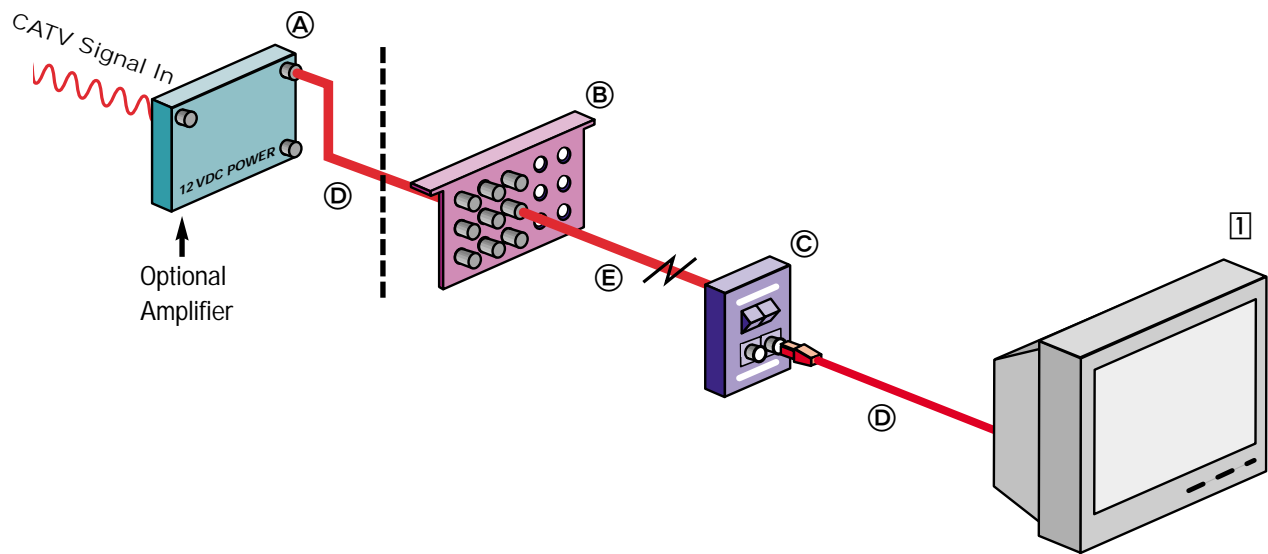


Table 1—Typical CATV Signal in: 15 db

Splitter	Insertion Loss (-dB)
8-way Splitter/Combiner	11.0

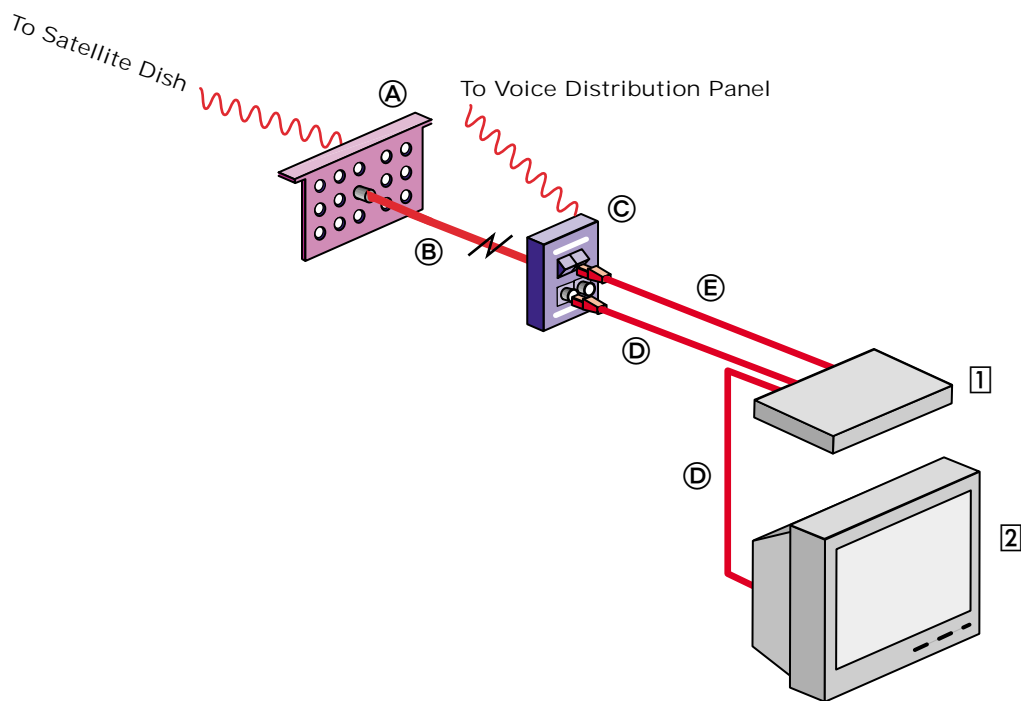
Cable	Attenuation (-dB)
100 ft. RG6	4.0

Siemon Product	Siemon Solution
Ⓐ Amplifier Panel	HC-RF-1HA-80
Ⓑ Distribution Panel	HC-RF-8HS-80 or HC-RF-8VS-80
Ⓒ Multimedia Outlet	HC-MM-2-(XX)
Ⓓ Coax Jumper	RG59-(XX)
Ⓔ Coax Cable	RG6-(XX)
Customer Supplied	
Ⓘ TV	✓

BASIC SATELLITE INSTALLATION (SINGLE OR DUAL LNB)

In this type of installation the RG6 quad shield cable is installed from the satellite dish to the Command Center™. The RG6 cables continue from the RF Distribution Panel to the multimedia outlet.

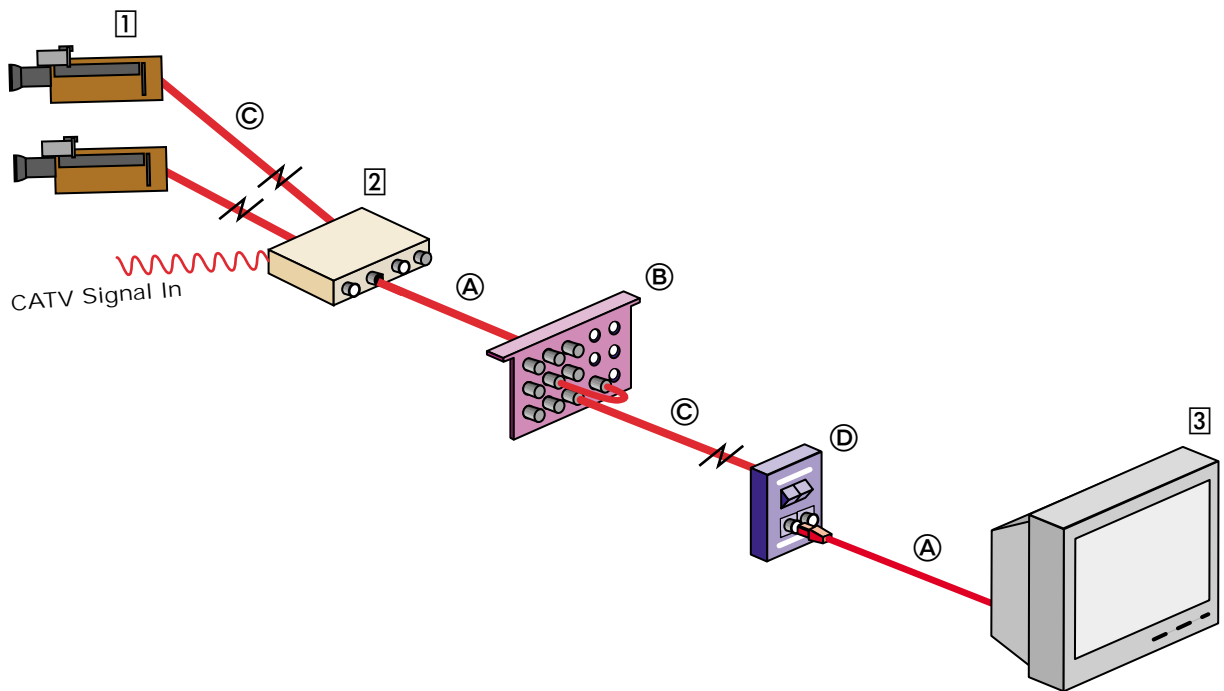
- Caution must be observed as the satellite receivers send 13V and 18V at 500mA to the dish, therefore standard video splitters and equipment cannot be used. Equipment and cables designed specifically for satellite distribution are required.
- Do not use termination caps on satellite distribution cables.



Siemon Product	Siemon Solution
(A) RF Distribution Panel	HC-RF-HP-80 & HC-FB
(B) Coax Cable	RG6-(XX)
(C) Multimedia Outlet	HC-MM-2-(XX)
(D) Coax Jumper	RG59F-(XX)
(E) Modular Cord	MC5-8T-(XX)-B(XX)
Customer Supplied	
1 Receiver	✓
2 TV	✓

DISTRIBUTION OF ONE CATV SIGNAL AND TWO SECURITY CAMERAS

This application will allow multiple locations to receive signals from multiple sources. The diagram shows two cameras, but other sources such as DVD, VCR or Satellite may be used. The modulator assigns each video source to separate unused channels on the cable TV system.



Siemon Product	Siemon Solution
Ⓐ Coax Jumper	RG59F-(XX)
Ⓑ RF Distribution Panel	HC-RF-8HS-80 or HC-RF-8VS-80
Ⓒ Coax Cable	RG6-(XX)
Ⓓ Multimedia Outlet	HC-MM-2-(XX)
Customer Supplied	
① Camera	✓
② Modulator/Combiner	✓
③ TV	✓