



"Results You Can Count On"

G.hn Rate vs Reach Automated Testing Over Coaxial Cable

Automated switching of 1 GAM port and 1 GNT into 16 coax cables of various types and lengths. Option to inject noise for realistic testing of scenarios where cable shielding is improperly installed. Setup can be controlled via remote commands to eliminate the need for manual cable changes on-site in the lab.

- **Ideal for automated switching of multiple COAX lines**
- **High performance transparent switches**
- **75 Ohm terminations for unused pairs**
- **Short Range 2 & 3 Reverse Power Feed support**
- **Bidirectional**
- **Low crosstalk**
- **Very low insertion loss**
- **Modular architecture allows for expansion**
- **Can be controlled remotely via Ethernet or 600 Universal GUI software**

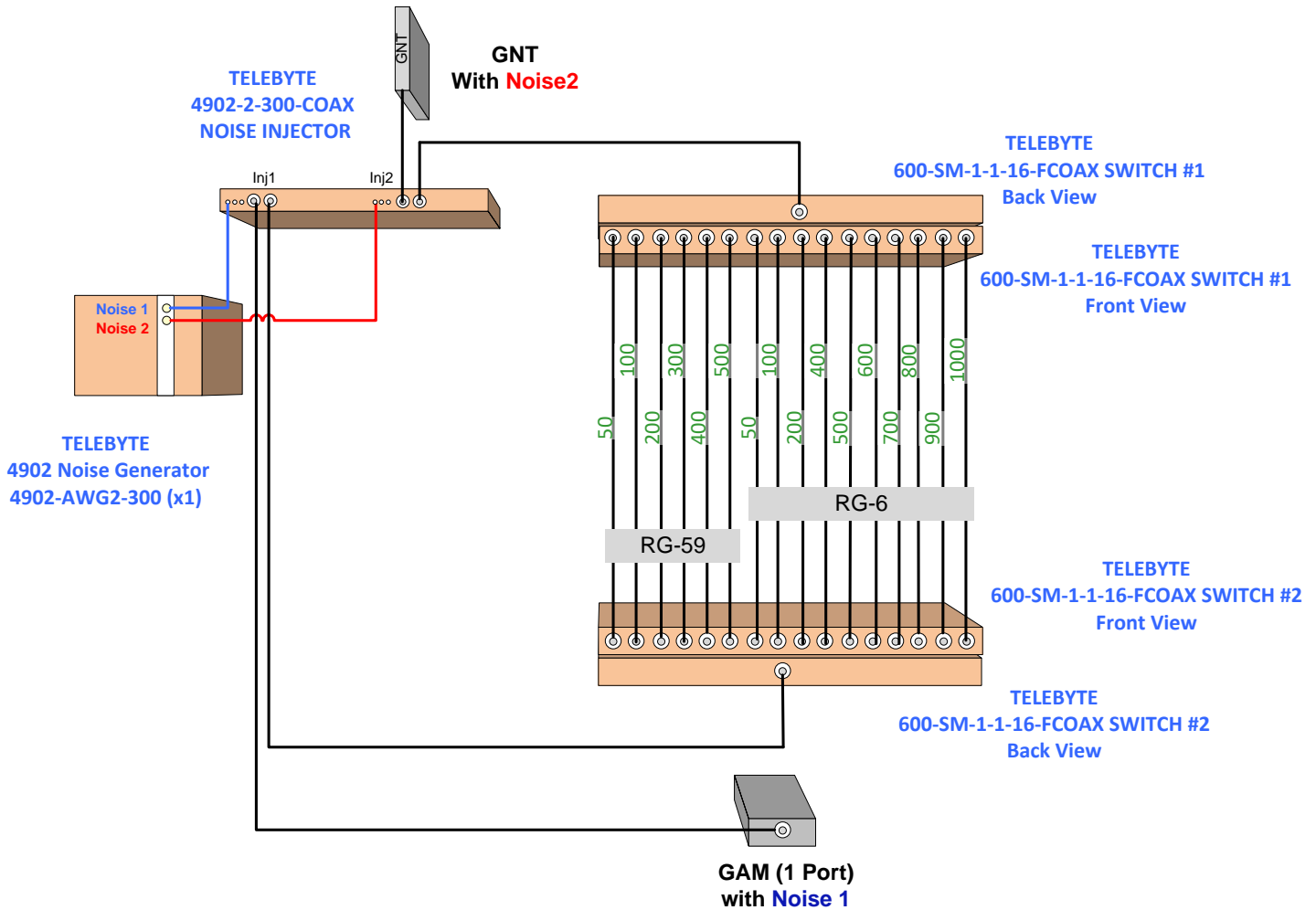


*Two Model 600-SM-1-1-16-FCOAX switch modules installed in the Model 600-6SL chassis.
Up to six switch modules may be installed in each chassis.*

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Switching 1 GAM Port TO 1 GNT. Noise Injected on both sides.
16 COAX Cables (RG-6 and RG-59) of various lengths.

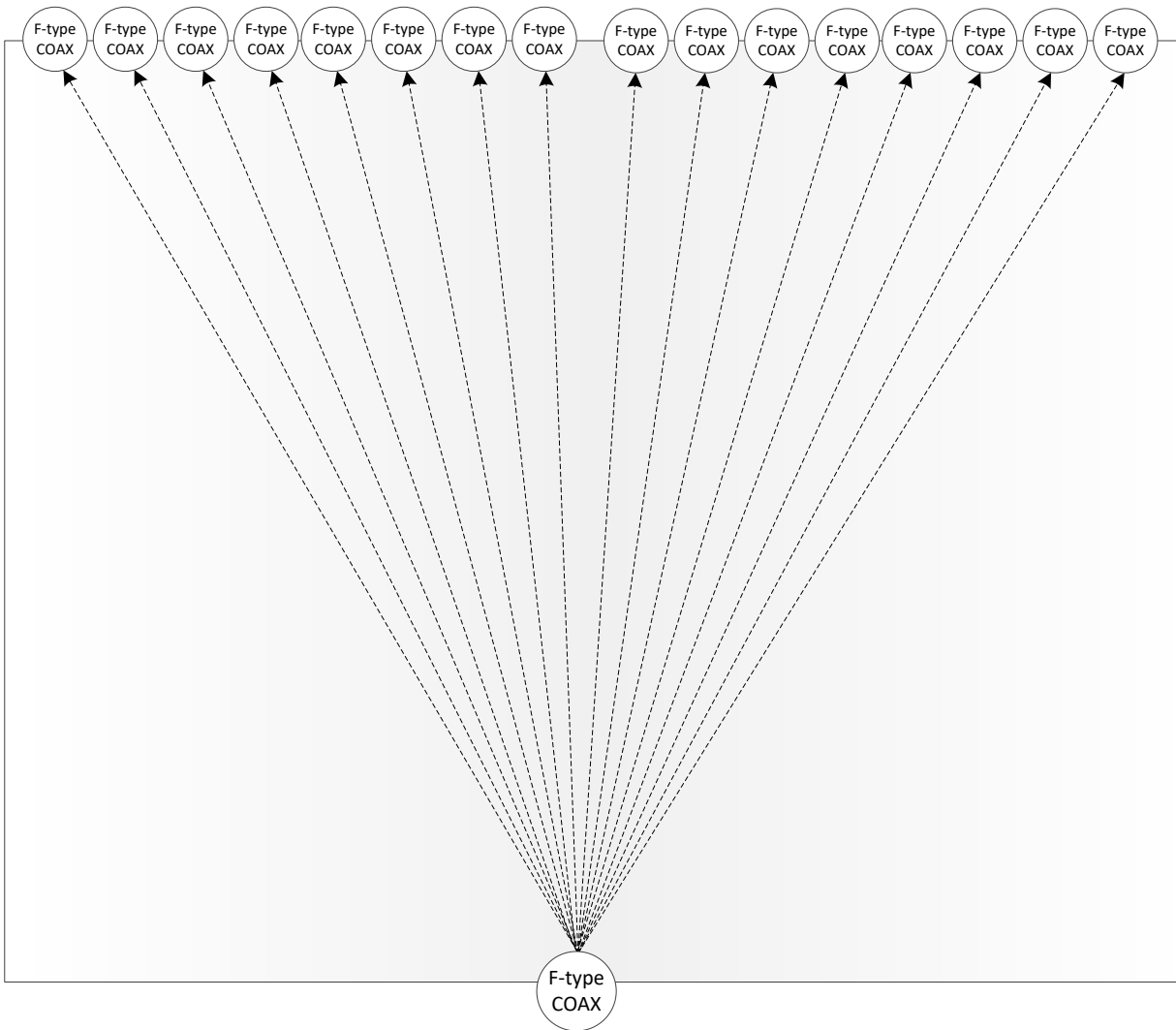


The above example shows one GAM port and one GNT being switched into two cable types: RG-59 (6 cables) and RG-6 (10 cables); at various lengths. Noise is injected on both sides of the cable segment. The entire setup can be automated using Telebyte remote commands.

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600-SM-1-1-16-FCOAX Matrix Diagram

Input Signal Channels (Front of Unit)



Output Channel (Back of Unit)

The Model 600-SM-16-1-2-TP-100 switching matrix allows 16 lines to be switched to any 1 of 2 connections. Six of these modules may be installed in the Model 600-6SL chassis.

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Solution Components

Model	Quantity	Description
600-SM-1-1-16-FCOAX	2	Transparent Switching Matrix Module (1, 1x16) Coax Cable (F-Type connector)
600-6SL	1	Chassis accepts six 600 series modules. Required for control of modules. Includes web browser-based graphical user interface or CLI control
Optional Noise Generation / Injection		
4902-Portable OR; 4902-HD*	1	Telebyte Portable computer w/built-in display & keyboard. Includes Noise Generation Software. Accepts 1-4, 4902-AWGx cards.
4902-AWGx-300	1	2-Port AWG Card - 600 MS/s, supports 30 kHz to 300MHZ
4902-2-300-COAX	1	2-Channel 300 MHz COAX Noise Injector

*See separate datasheet for full details



Component Specifications – Coax Switch and Chassis

600-SM-1-1-16-FCOAX Transparent Switching Matrix Module	
Bidirectional Signal Switching Capability	1 output channel to any one of 16 input signal channels 1 of 16 input signal channels to 1 output channel
Insertion Loss	25 kHz to 30 MHz: 0.36dB (maximum) 30 MHz to 200 MHz: 0.49dB (maximum)
Signal Connectors	<ul style="list-style-type: none"> 16 F-Type Coax connectors on front 1 F-Type Coax connector on back
Noise Floor	less than -150 dBm/Hz
Impedance	75 ohms
Relay Cycles of Operation	More than 5,000,000 cycles
600-6SL 6-Slot Chassis	
Capacity	Accepts 1-6, 600 Series modules
Remote Control	Web Interface, or remote commands via Telnet
Mounting Options	Desktop or mount in 19" inch rack
Dimensions	[4U] 19 in W x 6 in D x 7 in H (482.6 mm W x 152 mm D x 177.8 mm H)
Power Supply Requirements	88 to 264 VAC, 50 or 60 Hz

Specifications are subject to change without notice. Made in USA. See separate datasheet for full details.

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Component Specifications – Noise Generator & Injector



Model 4902-Portable Universal Noise Generator and Model 4902-2-300-Coax 2-Channel Noise Injector

4902-Portable Universal Noise Generator**	
Remote Commands	Telnet
Included Software	Telebyte Universal Gfast Noise Generator Software
Power supply	AC 90 V to 264 V, 47 to 63 Hz
Operating Temperature Range	0 to 50 ° C
Operating Relative Humidity	5% - 95% non-condensing
Mechanical Dimensions	DxWxH: 9.5" D x 13.5" W x 17.5" H
Weight	32 lbs.
Connectors	10 USB 3.0 Ports, 4 USB 2.0 Ports (2 front), 2 RJ-45 Gigabit LAN
Display	Integrated 17.3-in WUXGA+ (1920 x 1080) display

4902-AWGx-300 2 or 4-Port AWG Card	
Bandwidth	1 kHz to 300 MHz
Noise Outputs	4902-AWG2-300: 2 4902-AWG4-300: 4
Interference Profile Accuracy	≤ 0.5 dB mean absolute error (MAE) for Crosstalk PSD
AWGN Crest Factor	> 5
AWGN Gap	< 10%
Output Impedance	50Ω unbalanced
SMA Connectors	4902-AWG2-300: 2 4902-AWG4-300: 4

4902-2-300-COAX 2-Channel Noise Injector	
Bandwidth	20 kHz to 300 MHz continuous frequency response of signal path
Injection Type	Single Ended
Insertion Loss of Noise Injection Path	0 dB ± 0.5dB
Maximum RMS Output	+5 dBm
Crest Factor	Greater than 5
Noise Floor	Below -150 dBm/Hz as measured at the output of the noise injector
Connectors	<ul style="list-style-type: none"> SMA: (3) Female Connectors per channel for Independent Differential Mode noise from 4902-Portable or 4902-HD; 4 F-Type Coax Connectors on front (2 Input/Outputs for each channel)

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**Also available in rack-mounted version. See separate datasheet for full details.