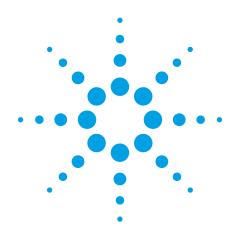
Agilent 11713B/C Attenuator/Switch Drivers

Configuration Guide





This configuration guide will assist you through the process of configuring a switching system using the Agilent 11713B/C attenuator/switch drivers.



Key Features

The 11713B attenuator/switch driver is a GPIB compatible instrument that concurrently drives up to two four-section programmable step attenuators and two microwave coaxial switches, or up to 10 SPDT switches². The 11713B is fully backward compatible with the 11713A in terms of functionality and fit. Connectivity using USB and LAN are optional.

The 11713C attenuator/switch driver is a GPIB/USB/LAN compatible instrument that concurrently drives up to four programmable step attenuators and four microwave coaxial switches, or up to 20 SPDT switches². The 11713C comes with tri-voltage selection of 5 V, 15 V and 24 V and also permits user-defined voltage supply capability.

- Programming via GPIB/USB can be accomplished in simple one-line statements.
- Control the attenuator/switch drivers through LAN using a web-based interface.
- An integrated LCD display eases menu selection and instrument configuration.
- Inclusion of solenoid arc suppression diodes with three pre-defined common terminal supplies allow the instrument to be used with wide variety of attenuators and switches.

Key features	11713B	11713C
Manually-controlled using front panel pushbuttons	Yes	Yes
Automatically-control through:	Yes Optional Optional	Yes Yes Yes
Integrated LCD display	Yes	Yes
Self-contained power supply with current limiting	Yes	Yes
Common terminal supplies of +5 Vdc +15 Vdc +24 Vdc User-defined	No No Yes No	Yes Yes Yes Yes
TTL control	No	Yes

Note 1: 11713B/C attenuator/switch drivers output continuous current and do not support pulse drive. Please ensure your switching devices can withstand continuous current or have a built-in current interrupt feature.

Note 2: The amount of switches and attenuators that can be driven will depend on the type of switch configuration and attenuator section configuration.

The 11713C can drive twice as many devices as the 11713B; however, the total load current that can be consumed is still 1.7 A.

Specifications

Drive power supply specifications

Specifications below describe warranted performance over the temperature range of 0 to 50 °C after one hour of continuous operation, unless otherwise noted.					
	+24 ± 8% Vdc				
Voltage	+5 ± 5% Vdc				
	+15 ± 12% Vdc				
	1.7 A maximum continuous current				
Current	Contact pairs 1 through 8, 9 and 0, maximum current of 0.7 A per contact				

Supplemental characteristics

Supplemental characteristics are intended to provide useful information and are typical but non-warranted performance parameters.					
Power	100 or 240 Vac, automatic selection, 50/60 Hz				
i owei	100 VA maximum				
Response time	100 µs maximum for contact pairs 1 through 8				
nesponse time	20 ms maximum for contact pairs 9 and 0				
Driver life	2,000,000 switchings at 0.7 A for contact pairs 9 and 0				
Maximum load inductance 500 mH					
Maximum load capacitance < 0.01 μF for contact pairs 9 and 0					

Physical specifications

Net weight	3.2 kg (7.1 lbs)
Dimensions (H \times W \times D) with handle and rubber bumper	130 mm x 250 mm x 462 mm (5.1 inches x 9.8 inches x 18.2 inches)
Dimensions (H \times W \times D) without handle and rubber bumper	88 mm x 212 mm x 348 mm (3.5 inches x 8.5 inches x 13.7 inches)

Product Configurations

The 11713B/C attenuator/switch drivers can be configured easily. The connection between the driver and switching devices is intuitive and direct. Simply select the appropriate interface cable and you can make point-to-point connection from the driver to the attenuator(s) and/or switch(es). Details such as pin numbers and wires color are provided in the tables found in *Configuration Information for Switches* and *Configuration Information for Attenuators* sections.

- Note 1: The maximum quantity orderable for each cable option is 9.
- Note 2: The length of cables below is 60 inches (5 ft).

11713B		
Connectivity option	s	
Option STD		Standard configuration, full backward compatibility to 11713A
Option LXI		LXI Class-C configuration, additional USB/LAN connectivity, full backward compatibility to 11713A
Cable options	Part number	
Option 001	11764-60004	Viking connector to 10-pin DIP connector
Option 101	8120-2703	Viking connector to viking connector
Option 201	5061-0969	Viking connector to 12-pin conductor cable, bare wire
Option 301	11761-60001	Viking connector to 4 ribbon cables
Option 401	11713-60042	Dual-viking connector to 16-pin DIP connector
Option 501	11713-60043	Viking connector to (4) 9-pin Dsub connectors
Option 502	11717-60049	Viking connector to (2) 9-pin Dsub connectors
Option 601	11713-60044	Viking connector to 16-pin DIP connector
Option 701	5064-7848	Viking connector to 14-pin DIP connector
Option 801	11713-60047	Viking connector to (4) 10-pin DIP connectors
Rack mount kit	Part number	
options (optional)		
Option 908	5063-9240	Rack mount kit for one instrument
Option 909	5061-9694	Rack mount kit for two instruments
	& 5063-9212	

11713C		
Cable options	Part number	
Option 001	11764-60004	Viking connector to 10-pin DIP connector
Option 101	8120-2703	Viking connector to viking connector
Option 201	5061-0969	Viking connector to 12-pin conductor cable, bare wire
Option 301	11761-60001	Viking connector to 4 ribbon cables
Option 401	11713-60042	Dual-viking connector to 16-pin DIP connector
Option 501	11713-60043	Viking connector to (4) 9-pin Dsub connectors
Option 502	11713-60049	Viking connector to (2) 9-pin Dsub connectors
Option 601	11713-60044	Viking connector to 16-pin DIP connector
Option 701	5064-7848	Viking connector to 14-pin DIP connector
Option 801	11713-60047	Viking connector to (4) 10-pin DIP connectors
Rack mount kit	Part number	
options (optional)		
Option 908	5063-9240	Rack mount kit for one instrument
Option 909	5061-9694	Rack mount kit for two instruments
	& 5063-9212	

Cable and rack mount kit can l	oe ordered separately with the part numbers below.
11713B-001/11713C-001	Viking connector to 10-pin DIP connector
11713B-101/11713C-101	Viking connector to viking connector
11713B-201/11713C-201	Viking connector to 12-pin conductor cable, bare wire
11713B-301/11713C-301	Viking connector to 4 ribbon cables
11713B-401/11713C-401	Dual-viking connector to 16-pin DIP connector
11713B-501/11713C-501	Viking connector to (4) 9-pin Dsub connectors
11713B-502/11713C-502	Viking connector to (2) 9-pin Dsub connectors
11713B-601/11713C-601	Viking connector to 16-pin DIP connector
11713B-701/11713C-701	Viking connector to 14-pin DIP connector
11713B-801/11713C-801	Viking connector to (4) 10-pin DIP connectors
11713B-908/11713C-908	Rack mount kit for one instrument
11713B-909/11713C-909	Rack mount kit for two instruments

Five Simple Steps to Configure your Switching System

1. Determine the switching device's model and option (DC connector).

Example

Model: 87104A (SP4T switch)
Option: 100 (solder terminal)

Determine the attenuator/switch driver's model and option (interface cable).

Example

Model: 11713B

Option: 201 (Viking connector to 12-pin conductor cable, bare wire)

Use the selection guide, Table A (page 6) for switches and Table B (page 7) for attenuators, to determine which configuration table to use for further reference.

Example

Selection guide: Table A (for switches)

Configuration table: Table F-1

Table A: Selection guide for switches

Switch							11713B/C			2	
family	number	option	Option 001	Option 101	Option 201	Option 301	Option 401	Option 501	Option 601	Option 701	Option 801
Bypass	8763A/B/C	No option			Table D-2						
	8764A/B/C	No option			Table D-3						
	N1811TL	202			Table 0-3						
	INTOTTIL	201				v		Table 0-4			
	N1812UL	202			Table 0-1						
	INTOTZUL	201						Table 0-2			
SPDT	8761A/B1	No option			Table C-1						
	8762A/B/C/F	No option			Table D-1						
	8765A/B/C/D/F	3xx			Table E-1						
	0/00A/B/G/D/F	3xx				Table E-2					
	NITOTOLII	202		Į	Table 0-1						
	N1810UL	201						Table 0-2			
	N1810TL	202			Table 0-3						
	MIGIUIL	201				5		Table 0-4			
SP3T	8766K	016	Table J-1								
	0/001	060		Table J-2							
SP4T	87104A/B/C/D	100			Table F-1						
	0/104A/B/G/D	161							Table F-2		
	87204A/B/C	100			Table G-1						
	0/ZU4A/B/C	161							Table G-2		

4. Configure your switching system using Table F-1 (page 16) as a reference.

Table F-1: Configuration of 11713B/C (Option 201) to 87104A/B/C/D, L7104A/B/C & L7204A/B/C SP4T switches (Option 100)

	From 1171	3B/C (Option 201)		To 87104A/B/C/D, L7104A/B/C & L7204A/B/C (Option 100)			
Front panel pu	ushbutton	Interfac	ce cable	10 8/104A/B/C/D, L/104A/B/C & L/204A/B/C (Option 100)			
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path		
_	_	1 (VCC)	Red	1			
=	_	2 (GND)	White/Brown	15	12		
1	OFF	5	Violet	5	2 to C closed		
2	OFF	7	Black	7	3 to C closed		
3	OFF	9	Orange	11	5 to C closed		
4	OFF	11	Brown	13	6 to C closed		

5. Operate your system.

Table A: Selection guide for switches

Switch	Switch model						1171	3B/C				
family	number	Switch option	Option 001	Option 101	Option 201	Option 301			Option 502	Option 601	Option 701	Option 801
Bypass	8763A, 8763B,	011/015/024	·		Table D-2		'	·		·		·
	8763C	T15/T24			Table D-5							
	8764A, 8764B, 8764C	011/015/024 T15/T24			Table D-3 Table D-6							
	07040	202			Table 0-11							
	N1811TL ²	201						Table 0-12				
		202/401 201/401			Table 0-15				Table 0-16			
		202			Table 0-9				Table 0-10			
	N1812UL ²	201						Table 0-10				
		202/401 201/401			Table 0-13				Table 0-14			
SPDT	8761A, 8761B1	No option			Table C-1				Tubic O 14			
	8762A, 8762B,	011/015/024			Table D-1							
	8762C, 8762F	T15/T24 305/310/315/			Table D-4 Table E-1							
	8765A, 8765B,	324			Table E-1							
	8765C, 8765D, 8765F ³	005/010/015/				Table E-2						
	0703F	024			T.I. 0.1							
		202 201			Table 0-1			Table 0-2				
	N1810UL ²	202/401			Table 0-5			Tubic 0 2				
		201/401							Table 0-6			
		202 201			Table 0-3			Table 0-4				
	N1810TL ²	202/401			Table 0-7			Table 0-4				
		201/401							Table 0-8			
SP3T	8766K	016	Table J-1									
		060		Table J-2								
SP4T	87104A, 87104B,	100			Table F-1					T.I. F.O.		
	87104C, 87104D	161			T-LL- C 1					Table F-2		
	87204A, 87204B, 87204C	100 161			Table G-1					Table G-2		
		100			Table F-1					Table G-Z		
	L7104A, L7104B, L7104C	161			Table F-1					Table F-2		
	L7204A, L7204B,	100			Table F-1					TUDIC 1 Z		
	L7204A, L7204B,	161								Table F-2		
		016	Table J-1									
	8767K	060		Table J-2								
	8767M	No option	Table L									
SP5T	07001/	016	Table J-1									
	8768K	060		Table J-2								
	8768M	No option	Table L									
SP6T	87106A, 87106B,	100			Table H-1							
	87106C, 87106D	161					Table H-2					
	87206A, 87206B,	100			Table I-1		-					
	87206C	161			T11 011		Table I-2					
	L7106A, L7106B,	100			Table H-1		Table U.O.					
	L7106C	161			Table H-1		Table H-2					
	L7206A, L7206B, L7206C	100 161			Iable H-I		Table H-2					
	8769K	060		Table K			IANIE U-Z					
	8769M	No option		IUDIC IX							Table M	
Matrix		100			Table H-1							
auin	87406B	161					Table H-2					
		100			Table I-1							
	87606B	161					Table I-2					
Transfer	87222C, 87222D,	100			Table N-1						İ	
	87222E	161										Table N-2
	L7222C	100			Table N-1							
	LIZZZU	161										Table N-2

^{1.} Refer to Table C-2 if a cable with banana jacks is used to make a connection between 8761A/B and 11713B/C.

^{2. 8765}A/B/C/D/F require continuous current to latch. The number of switches for connection depends on option selection.

Switch Option Descriptions

011: 5 Vdc 015: 15 Vdc 024: 24 Vdc

T15: TTL/5V CMOS compatible logic with 15 Vdc supply T24: TTL/5V CMOS compatible logic with 24 Vdc supply

201: D-submini 9 pin (f)

202: Solder lug

401: TTL/5V CMOS compatible
305: 5 Vdc with solder terminals
310: 10 Vdc with solder terminals
315: 15 Vdc with solder terminals
324: 24 Vdc with solder terminals
005: 5 Vdc with 3-inch ribbon cable
010: 10 Vdc with 3-inch ribbon cable

016: 16-inch ribbon cables
060: Viking cable connector
100: Solder terminals
161: Ribbon receptacle

Table B: Selection guide for attenuators

Associated model number	Assemble anti-	1171	13B/C
Attenuator model number	Attenuator option	Option 001	Option 101
0404C 0404H	016	Table P-1	
8494G, 8494H	060		Table P-2
04050 040511	016	Table P-1	
8495G, 8495H	060		Table P-2
04000 040011	016	Table P-1	
8496G, 8496H	060		Table P-2
04051	016	Table P-1	
8495K	060		Table P-2
8497K	016	Table P-1	
049/K	060		Table P-2
84904K, 84904L, 84904M	No option	Table Q	
84905M	No option	Table Q	
84906K, 84906L	No option	Table Q	
84907K, 84907L	No option	Table Q	
84908M	No option	Table Q	

Attenuator Option Description

Option 060: 12-pin Viking connector

Option 016: 16-inch ribbon cable with 14-pin DIP plug

Configuration Information for Switches

Note 1: Each table below illustrates the configuration of two switches to the 11713B/C.

Note 2: For 8761A, V = 15 V.

Note 3: For 8761B, V = 24 V.

Note 4: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table C-1: Configuration of 11713B/C (Option 201) to 8761A/B SPDT switches

From 11713B/C (Option 201)				To 8761A/B				
Front panel pus	hbutton	Interfac	e cable					
Switches	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
	OFF	Cable 1-3	Gray	<+>	24-0-11			
0		Cable 1-4	White/Red	<->	2 to C closed	DUT 1		
9	ON	Cable 1-3	Gray	<+>	1 4 - 0 - 1 1	DUT 1		
		Cable 1-4	White/Red	<->	1 to C closed			
	OFF	Cable 2-3	Gray	<+>	0.01			
		Cable 2-4	White/Red	<->	2 to C closed	2		
0	ON	Cable 2-3	Gray	<+>	4. 6.1. 1	DUT 2		
		Cable 2-4	White/Red	<->	1 to C closed			

Table C-2: Configuration of 11713B/C (any option) to 8761A/B SPDT switches

	From 1171	I3B/C (any option)		To 8761A/B			
Front panel pus	Front panel pushbutton Banana jack (rear panel)		(rear panel)	10 070 IA/ B			
Switches	LED	Pin number	Voltage	Solder terminal number	RF path	Device under test (DUT)	
	OFF	S9-A	+V	<+>	2 to C closed		
9	OFF	\$9-B	0	<->		DUT 1	
9	ON	S9-A	0	<+>	1 to C closed		
	UN	S9-B	+V	<->	T to C closed		
	OFF	S0-A	+V	<+>	2 to C closed		
0	UFF	S0-B	0	<->	2 to C closed	DUT 2	
0	ON	S0-A	0	<+>	14-0-1	501 2	
	UN	S0-B	+V	<->	1 to C closed		

- Note 1: Each table below illustrates the configuration of five switches to the 11713B/C.
- Note 2: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 3: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table D-1: Configuration of 11713B/C (Option 201) to 8762A/B/C/F SPDT switches (Option 005/011/024)

F	rom 11713	B/C (Option 201)		To 8762A/B/C/F (Option 005/011/024)			
Front panel push	button	Interface	cable	10 0702H/ D/ G/T (Option 003/ 011/ 024)			
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)	
_	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs	
1	OFF	5	Violet	1	1 to C closed, 2 terminated	DUT 1	
'	ON	6	Yellow	2	2 to C closed, 1 terminated]	
2	OFF	7	Black	1	1 to C closed, 2 terminated	DUT 2	
2	ON	8	Green	2	2 to C closed, 1 terminated	5012	
3	OFF	9	Orange	1	1 to C closed, 2 terminated	DUT 3	
3	ON	10	Blue	2	2 to C closed, 1 terminated		
4	OFF	11	Brown	1	1 to C closed, 2 terminated	DUT 4	
4	ON	12	White	2	2 to C closed, 1 terminated		
9	OFF	4	Gray	1	1 to C closed, 2 terminated	DUT 5	
3	ON	3	White/Red	2	2 to C closed, 1 terminated		

Table D-2: Configuration of 11713B/C (Option 201) to 8763A/B/C bypass switches (Option 005/011/024)

F	rom 11713	B/C (Option 201)		To 8763A/B/C (Option 005/011/024)				
Front panel push	button	Interface	cable	10 07007/7 D7 0 (option 0007 0117 024)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
_	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs		
1	OFF	5	Violet	1	1 to 2 closed, 3 to 4 closed	DUT 1		
'	ON	6	Yellow	2	1 terminated, 2 to 3 closed, 4 open			
2	OFF	7	Black	1	1 to 2 closed, 3 to 4 closed	DUT 2		
2	ON	8	Green	2	1 terminated, 2 to 3 closed, 4 open] 5012		
3	OFF	9	Orange	1	1 to 2 closed, 3 to 4 closed	DUT 3		
3	ON	10	Blue	2	1 terminated, 2 to 3 closed, 4 open	5010		
4	OFF	11	Brown	1	1 to 2 closed, 3 to 4 closed	DUT 4		
4	ON	12	White	2	1 terminated, 2 to 3 closed, 4 open	1 5014		
9	OFF	4	Gray	1	1 to 2 closed, 3 to 4 closed	DUT 5		
9	ON	3	White/Red	2	1 terminated, 2 to 3 closed, 4 open	ל וטע		

Table D-3: Configuration of 11713B/C (Option 201) to 8764A/B/C bypass switches (Option 005/011/024)

F	rom 11713	B/C (Option 201)		To 8764A/B/C (Option 005/011/024)				
Front panel push	button	Interface	cable	10 070777/ B7 0 (Option 003/ 011/ 024)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
-	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs		
1	OFF	5	Violet	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 1		
'	ON	6	Yellow	2	1 to 2 closed, 3 to 4 closed, 5 open	DOTT		
2	OFF	7	Black	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 2		
۷	ON	8	Green	2	1 to 2 closed, 3 to 4 closed, 5 open	D012		
3	OFF	9	Orange	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 3		
3	ON	10	Blue	2	1 to 2 closed, 3 to 4 closed, 5 open	D013		
4	OFF	11	Brown	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 4		
4	ON	12	White	2	1 to 2 closed, 3 to 4 closed, 5 open	рот 4		
9	OFF	4	Gray	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 5		
3	ON	3	White/Red	2	1 to 2 closed, 3 to 4 closed, 5 open	5010		

- Note 1: Each table below illustrates the configuration of five switches to the 11713B/C.
- Note 2: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 3: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table D-4: Configuration of 11713B/C (Option 201) to 8762A/B/C SPDT switches (Option T15/T24)

	From 11713	BB/C (Option 201)		To 8762A/B/C (Option T15/T24)			
Front panel push	button	Interface cable		о годин ду с (оршон 1187 121)			
Attenuator X	LED	Viking Connector Pin Number	Bare Wire Color	Solder Terminal Number	RF Path	Device Under Test (DUT)	
-	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs	
_	-	2 (GND)	White/Brown	2	_	GND for all 5 DUTs	
1	OFF	5	5 Violet	1 -	1 to C closed, 2 terminated	- DUT 1	
'	ON				2 to C closed, 1 terminated		
2	OFF	7	7 Black	1	1 to C closed, 2 terminated	DUT 2	
2	ON	/			2 to C closed, 1 terminated		
3	OFF	9	0,,,,,,,	1	1 to C closed, 2 terminated	- DUT 3	
S	ON	y	Orange		2 to C closed, 1 terminated		
4	OFF	11	Drown	1	1 to C closed, 2 terminated	DUT 4	
4	ON	1 11	Brown	1	2 to C closed, 1 terminated	4 וטע	
9	OFF	4	Gray	1	1 to C closed, 2 terminated	DUT 5	
9	ON	+	Gray		2 to C closed, 1 terminated	2010	

Table D-5: Configuration of 11713B/C (Option 201) to 8763A/B/C bypass switches (Option T15/T24)

	From 11713	BB/C (Option 201)		To 8763A/B/C (Option T15/T24)				
Front panel push	button	Interface	cable		10 0703A7 B7 0 (Option 1137 124)			
Attenuator X	LED	Viking Connector Pin Number	Bare Wire Color	Solder Terminal Number	RF Path	Device Under Test (DUT)		
-	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs		
-	-	2 (GND)	White/Brown	2	_	GND for all 5 DUTs		
1	OFF	г	E	5 Viole	Violet	1	1 to 2 closed, 3 to 4 closed	DUT 1
'	ON	ົນ	violet	'	1 terminated, 2 to 3 closed, 4 open	DOT 1		
2	OFF	7	Black	1	1 to 2 closed, 3 to 4 closed	DUT 2		
2	ON	/			1 terminated, 2 to 3 closed, 4 open			
3	OFF	9	0,,,,,,,	1	1 to 2 closed, 3 to 4 closed	DUT 3		
3	ON	9	Orange		1 terminated, 2 to 3 closed, 4 open			
4	OFF	11	Drown	1	1 to 2 closed, 3 to 4 closed	DUT 4		
4	ON	1 11	Brown	1	1 terminated, 2 to 3 closed, 4 open	שטו 4		
9	OFF	4	Gray	1	1 to 2 closed, 3 to 4 closed	DUT 5		
9	ON	4	uray		1 terminated, 2 to 3 closed, 4 open] 5013		

Table D-6: Configuration of 11713B/C (Option 201) to 8764A/B/C bypass switches (Option T15/T24)

ı	From 1171:	3B/C (Option 201)		To 8764A/B/C (Option T15/T24)			
Front panel push	button	Interface cable					
Attenuator X	LED	Viking Connector Pin Number	Bare Wire Color	Solder Terminal Number	RF Path	Device Under Test (DUT)	
_	-	1 (VCC)	Red	С	_	VCC for all 5 DUTs	
-	-	2 (GND)	White/Brown	2	_	GND for all 5 DUTs	
1	OFF	5	Violet	1 -	1 open, 2 to 3 closed, 4 to 5 closed	DUT 1	
'	ON	3			1 to 2 closed, 3 to 4 closed, 5 open	5011	
2	OFF	7	Black	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 2	
2	ON	/	DIACK		1 to 2 closed, 3 to 4 closed, 5 open		
3	OFF	9	Orongo	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 3	
S	ON	9	Orange		1 to 2 closed, 3 to 4 closed, 5 open		
4	OFF	11	Brown	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 4	
4	ON	"	Brown	1	1 to 2 closed, 3 to 4 closed, 5 open	7 0014	
9	OFF	4	Gray	1	1 open, 2 to 3 closed, 4 to 5 closed	DUT 5	
3	ON	+	Glay		1 to 2 closed, 3 to 4 closed, 5 open	2310	

- Note 1: Each table below illustrates the configuration of five switches to the 11713B/C.
- Note 2: The number of switches available for connection depends on option selection.
- Note 3: Five switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 4: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table E-1: Configuration of 11713B/C (Option 201) to 8765A/B/C/D/F SPDT switches (Options 3xx)

	From 117'	13B/C (Option 201)		To 8765A/B/C/D/F (Option 305/310/315/324)			
Front panel pushbutton Interface cable			10 8709A7 B7 G7 D7 F (Option 3097 3107 3197 324)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)	
-	-	1 (VCC)	Red	2 and 3	-	VCC for all 5 DUTs	
1	OFF	5	Violet	1	2 to C closed, 1 open	DUT 1	
'	ON	6	Yellow	4	1 to C closed, 2 open	ווטם	
2	OFF	7	Black	1	2 to C closed, 1 open	DUT 2	
2	ON	8	Green	4	1 to C closed, 2 open	DUT 2	
3	OFF	9	Orange	1	2 to C closed, 1 open	DUT 2	
ა	ON	10	Blue	4	1 to C closed, 2 open	DUT 3	
4	OFF	11	Brown	1	2 to C closed, 1 open	DUT 4	
4	ON	12	White	4	1 to C closed, 2 open	DU14	
9	OFF	4	Gray	1	2 to C closed, 1 open	DUT 5	
9	ON	3	White/Red	4	1 to C closed, 2 open	2010	

Table E-2: Configuration of 11713B/C (Option 301) to 8765A/B/C/D/F SPDT switches (Options 0xx)

	From 117	13B/C (Option 301)		To 8765A/B/C/D/F (Option 005/010/015/024)				
Front panel push	Front panel pushbutton Interface cable			10 0703A7 B7 C7 D7 1 (Option 1037 0107 0137 024)				
Attenuator X	LED	ED Viking connector pin number/banana jack (rear panel) 5-pin receptacle pin number		Ribbon cable connector pin number	RF path	Device under test (DUT)		
-	-	1 (VCC)/VDC COM	3 and 4	3 and 4	-	VCC for all 5 DUTs		
1	OFF	5	1	1	2 to C closed, 1 open	DUT 1		
'	ON	6	5	5	1 to C closed, 2 open	ווטע		
2	OFF	7	1	1	2 to C closed, 1 open	DUT 2		
2	ON	8	5	5	1 to C closed, 2 open	ן טע צ		
3	OFF	9	1	1	2 to C closed, 1 open	DUT 3		
ა	ON	10	5	5	1 to C closed, 2 open	ט וטע		
4	OFF	11	1	1	2 to C closed, 1 open	DUT 4		
4	ON	12	5	5	1 to C closed, 2 open	DUT 4		
9	OFF	S9-A	_	1	2 to C closed, 1 open	DUT 5		
Я	ON	S9-B	_	5	1 to C closed, 2 open	5013		

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: For switches with Option 161, ground pin 16 opens all paths. Use S9 for Attenuator X or S0 for Attenuator Y.*
 - * Do not close any path and ground pin 16 simultaneously as this makes the switch buzz.
- Note 3: For switches with Option 100, there are no solder terminals available to open all paths.
- Note 4: Solder terminal/DIP connector with pin numbers 6, 8, 12 & 14 provides indicator function.
- Note 5: Applies to both Option 024 (standard/non-TTL drive) and Option T24 (TTL drive).
- Note 6: One additional switch can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table F-1: Configuration of 11713B/C (Option 201) to 87104A/B/C/D, L7104A/B/C & L7204A/B/C SP4T switches (Option 100)

	From 1171	3B/C (Option 201)		To 87104A/B/C/D, L7104A/B/C & L7204A/B/C (Option 100)		
Front panel p	Front panel pushbutton Interface cable				20 m/ B/ 8 (Spasii 188)	
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	
-	-	1 (VCC)	Red	1	-	
_	-	2 (GND)	White/Brown	15	-	
1	OFF	5	Violet	5	2 to C closed	
2	OFF	7	Black	7	3 to C closed	
3	OFF	9	Orange	11	5 to C closed	
4	OFF	11	Brown	13	6 to C closed	

Table F-2: Configuration of 11713B/C (Option 601) to 87104A/B/C/D, L7104A/B/C & L7204A/B/C SP4T switches (Option 161)

	From 1171	3B/C (Option 601)		To 87104A/B/C/D, L7104A/B/C & L7204A/B/C (Option 161)
Front panel pushbutton		Interface cable		
Attenuator X	LED	Viking connector pin number	16-pin DIP pin number	RF path
_	-	1 (VCC)	1	-
-	-	2 (GND)	15	-
1	OFF	5	5	2 to C closed
2	OFF	7	7	3 to C closed
3	OFF	9	11	5 to C closed
4	OFF	11	13	6 to C closed

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: For switches with Option 161, ground pin 16 opens all paths. Use S9 for Attenuator X or S0 for Attenuator Y.*
 - * Do not close any path and ground pin 16 simultaneously as this makes the switch to buzz.
- Note 3: For switch with Option 100, no solder terminal available to open all paths.
- Note 4: Applies to both Option 024 (standard/non-TTL drive) and Option T24 (TTL drive).
- Note 5: One additional switch can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table G-1: Configuration of 11713B/C (Option 201) to 87204A/B/C SP4T switches (Option 100)

	From 1171	13B/C (Option 201)	To 87204A/B/C (Option 100)		
Front panel pushb	Front panel pushbutton Interface			10 072047/ 0	o (option 100)
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path
_	-	1 (VCC)	Red	1	_
-	-	2 (GND)	White/Brown	15	_
1	OFF	5	Violet	5	2 to C closed
'	ON	6	Yellow	6	2 to C opened
2	OFF	7	Black	7	3 to C closed
Δ	ON	8	Green	8	3 to C opened
0	OFF	9	Orange	11	5 to C closed
3	ON	10	Blue	12	5 to C opened
4	OFF	11	Brown	13	6 to C closed
4	ON	12	White	14	6 to C opened

Table G-2: Configuration of 11713B/C (Option 601) to 87204A/B/C SP4T switches (Option 161)

	From 1171	3B/C (Option 601)	To 87204A/B/C (Option 161)	
Front panel pushb	utton	Interface	cable	15 5/25 m/ 2/ 5 (Opinom 101)
Attenuator X	LED	Viking connector pin number	16-pin DIP pin number	RF path
-	-	1 (VCC)	1	-
-	-	2 (GND)	15	-
1	OFF	5	5	2 to C closed
l	ON	6	6	2 to C opened
2	OFF	7	7	3 to C closed
2	ON	8	8	3 to C opened
3	OFF	9	11	5 to C closed
ა	ON	10	12	5 to C opened
4	OFF	11	13	6 to C closed
4	ON	12	14	6 to C opened

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: For switches with Option 161, ground pin 16 opens all paths. Use S9 for Attenuator X or S0 for Attenuator Y.*
 - * Do not close any path and ground pin 16 simultaneously as this makes the switch to buzz.
- Note 3: For switch with Option 100, no solder terminal available to open all paths.
- Note 4: Solder terminal/DIP connector with pin numbers 4, 6, 8, 10, 12 & 14 provides indicator function.
- Note 5: Applies to both Option 024 (standard/non-TTL drive) and Option T24 (TTL drive).

Table H-1: Configuration of 11713B/C (Option 201) to 87106A/B/C/D, L7106A/B/C & L7206A/B/C SP6T switches (Option 100) and 87406B matrix switch (Option 100)

Froi	ո 11713B/C (Օր	otion 201 - quantity 2	To 87106A/B/C/D, L7106A/B/C, L7206A/B/C			
Front panel pu	shbutton	Interfac	e cable	and 87406B	6B (Option 100)	
Attenuator X/Y	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	
-	-	1 (VCC)	Red	1	-	
-	-	2 (GND)	White/Brown	15	_	
1	OFF	Cable 1-5	Violet	3	1 to C closed	
2	OFF	Cable 1-7	Black	5	2 to C closed	
3	OFF	Cable 1-9	Orange	7	3 to C closed	
4	OFF	Cable 1-11	Brown	9	4 to C closed	
5	OFF	Cable 2-5	Violet	11	5 to C closed	
6	OFF	Cable 2-7	Black	13	6 to C closed	

Table H-2: Configuration of 11713B/C (Option 401) to 87106A/B/C/D, L7106A/B/C & L7206A/B/C SP6T switches (Option 161) and 87406B matrix switch (Option 161)

	From 11713B.	/C (Option 401)	To 87106A/B/C/D, L7106A/B/C, L7206A/B/C	
Front panel pus	shbutton	Interfac	e cable	and 87406B (Option 161)
Attenuator X/Y	LED	Viking connector pin number	16-pin DIP pin number	RF path
-	-	1 (VCC)	1	-
-	-	2 (GND) 15		-
1	OFF	P1-5	3	1 to C closed
2	OFF	P1-7	5	2 to C closed
3	OFF	P1-9	7	3 to C closed
4	OFF	P1-11	9	4 to C closed
5	OFF	P2-5 11		5 to C closed
6	OFF	P2-7	13	6 to C closed

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: For switches with Option 161, ground pin 16 opens all paths. Use S9 for Attenuator X or S0 for Attenuator Y.*
 - * Do not close any path and ground pin 16 simultaneously as this makes the switch to buzz.
- Note 3: For switch with Option 100, no solder terminal available to open all paths.
- Note 4: Applies to both Option 024 (standard/non-TTL drive) and Option T24 (TTL drive).

Table I-1: Configuration of 11713B/C (Option 201) to 87206A/B/C SP6T switches (Option 100) & 87606B matrix switch (Option 100)

	From 11713B/C (Option	To 87206A/B/C & 87606B (Option 100)			
Front panel	pushbutton	Interfa	ce cable	10 07200A/ B/ 0 a 0	order (option ree)
Attenuator X/Y	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path
-	-	1 (VCC)	Red	1	-
-	-	2 (GND)	White/Brown	15	-
1	OFF	Cable 1-5	Violet	3	1 to C closed
l	ON	Cable 1-6	Yellow	4	1 to C opened
2	OFF	Cable 1-7	Black	5	2 to C closed
2	ON	Cable 1-8	Green	6	2 to C opened
3	OFF	Cable 1-9	Orange	7	3 to C closed
ა	ON	Cable 1-10	Blue	8	3 to C opened
4	OFF	Cable 1-11	Brown	9	4 to C closed
4	ON	Cable 1-12	White	10	5 to C opened
5	OFF	Cable 2-5	Violet	11	5 to C closed
o T	ON	Cable 2-6	Yellow	12	5 to C opened
6	OFF	Cable 2-7	Black	13	6 to C closed
O	ON	Cable 2-8	Green	14	6 to C opened

Table I-2: Configuration of 11713B/C (Option 401) to 87206A/B/C SP6T switches (Option 161) & 87606B matrix switch (Option 161)

	From 11713B/C	To 87206A/B/C & 87606B (Option 161)		
Front panel	Front panel pushbutton		ce cable	το 07200Α/ Β/ ο α 07000Β (Ομασία 101)
Attenuator X/Y	LED	Viking connector pin number	16-pin DIP pin number	RF path
-	-	1 (VCC)	1	-
-	-	2 (GND)	15	-
1	OFF	P1-5	3	1 to C closed
'	ON	P1-6	4	1 to C opened
2	OFF	P1-7	5	2 to C closed
۷	ON	P1-8	6	2 to C opened
3	OFF	P1-9	7	3 to C closed
S	ON	P1-10	8	3 to C opened
4	OFF	P1-11	9	4 to C closed
4	ON	P1-12	10	4 to C opened
5	OFF	P2-5	11	5 to C closed
Э	ON	P2-6	12	5 to C opened
6	OFF	P2-7	13	6 to C closed
0	ON	P2-8	14	6 to C opened

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: With assumption that the initial state of switch's RF path is thru.
- Note 3: One additional switch can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table J-1: Configuration of 11713B/C (Option 001) to 8766K, 8767K & 8768K switches (Option 016)

	From 11713E	3/C (Option 001)		To 8766K, 8767K & 8768K (Option 016)		
Front panel pus	hbutton	Interfac	Interface cable		8767K	8768K
Attenuator X	LED	Viking connector pin number	10-pin DIP pin number	RF path	RF path	RF path
-	-	1 (VCC)	10	-	_	-
1	OFF	5	1	Bypass 1	Bypass 3	Bypass 4
'	ON	6	2	1 to C closed	3 to C closed	4 to C closed
2	OFF	7	5	Bypass 2	Bypass 1	Bypass 2
Δ	ON	8	8	2 to C closed	1 to C closed	2 to C closed
2	OFF	9	4	-	Bypass 2	Bypass 3
3	ON	10	9	-	2 to C closed	3 to C closed
4	OFF	11	6	-	-	Bypass 1
4	ON	12	7	_	-	1 to C closed

Table J-2: Configuration of 11713B/C (Option 101) to 8766K, 8767K & 8768K switches (Option 060)

	From 11713E	3/C (Option 101)		To 8766K, 8767K & 8768K (Option 060)		
Front panel pus	hbutton	Interfac	e cable	8766K	8767K	8768K
Attenuator X	LED	Viking connector pin number	Viking connector pin number	RF path	RF path	RF path
_	-	1 (VCC)	1	-	-	-
1	OFF	5	5	Bypass 1	Bypass 3	Bypass 4
'	ON	6	6	1 to C closed	3 to C closed	4 to C closed
2	OFF	7	7	Bypass 2	Bypass 1	Bypass 2
Z	ON	8	8	2 to C closed	1 to C closed	2 to C closed
3	OFF	9	9	_	Bypass 2	Bypass 3
3	ON	10	10	-	2 to C closed	3 to C closed
4	OFF	11	11	-	-	Bypass 1
4	ON	12	12	_	-	1 to C closed

- Note 1: Each table below illustrates the configuration of one switch to the 11713B/C.
- Note 2: With assumption that initial state of switch's RF path is thru.
- Note 3: One additional switch can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

 Use S0 for Attenuator Y and S9 for Attenuator X.

Table K: Configuration of 11713B/C (Option 101) to 8769K SP6T switch (Option 060)

	From 11713B	/C (Option 101)	To 8769K (Option 060)	
Front panel pus	hbutton	Interfac	e cable	is system (Spiton 355)
Attenuator X	LED	LED Viking connector Viking co		RF path
-	-	1 (VCC)	1	-
S9	OFF	4	4	Bypass 5
29	ON	3	3	5 to C closed
1	OFF	5	5	Bypass 4
I	ON	6	6	4 to C closed
2	OFF	7	7	Bypass 2
Δ	ON	8	8	2 to C closed
3	OFF	9	9	Bypass 3
ა	ON	10	10	3 to C closed
4	OFF	11	11	Bypass 1
4	ON	12	12	1 to C closed

Table L: Configuration of 11713B/C (Option 001) to 8767M & 8768M switches

	From 11713B.	C (Option 001)	To 8767M and 8768M		
Front panel pus	shbutton	Interfac	e cable		0700111
Attenuator X	LED	Viking connector pin number	10-pin DIP pin number	RF path	RF path
-	-	1 (VCC)	10	_	_
1	OFF	5	1	Bypass 3	Bypass 4
1	ON	6	2	3 to C closed	4 to C closed
2	OFF	7	5	Bypass 1	Bypass 2
2	ON	8	8	1 to C closed	2 to C closed
2	OFF	9	4	Bypass 2	Bypass 3
3	3 ON		9	2 to C closed	3 to C closed
4	OFF	11	6	-	Bypass 1
4	ON	12	7	_	1 to C closed

Table M: Configuration of 11713B/C (Option 701) to 8769M SP6T switches

	From 11713B	/C (Option 701)	To 8769M	
Front panel pus	hbutton	Interface cable		10 0700111
Attenuator X	LED	Viking connector pin number	14-pin DIP pin number	RF path
_	-	1 (VCC)	12	-
S9	OFF	4	14	Bypass 5
39	ON	3	13	5 to C closed
1	OFF	5	3	Bypass 4
1	ON	6	4	4 to C closed
2	OFF	7	7	Bypass 2
2	ON	8	10	2 to C closed
3	OFF	9	6	Bypass 3
3	ON	10	11	3 to C closed
4	OFF	11	8	Bypass 1
4	ON	12	9	1 to C closed

- Note 1: Each table below illustrates the configuration of four switches to the 11713B/C.
- Note 2: For standard/non-TTL drive only.
- Note 3: Four additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.
- Note 4: Do not drive using S9 or S0 outputs from either the banana plug outputs, or from pins 3 or 4 within the Attenuator X and Y Viking sockets, both located on the rear panel of the 11713B/C

Table N-1: Configuration of 11713B/C (Option 201) to L7222C & 87222C/D/E DPDT switches (Option 100)

	From 11713	BB/C (Option 201)		To L7222C & 87222C/D/E (Option 100)				
Front panel push	button	Interfac	e cable	•	10 L72226 & 072226/ D/ L (Option 100)			
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
-	_	1 (VCC)	Red	1	_	VCC for all 4 DUTs		
-	-	2 (GND)	White/Brown	9	_	GND for all 4 DUTs		
1	OFF	5	Violet	3	1 to 2 closed, 3 to 4 closed	DUT 1		
'	ON	6	Yellow	5	1 to 4 closed, 2 to 3 closed	ווטע		
2	OFF	7	Black	3	1 to 2 closed, 3 to 4 closed	DUT 2		
۷	ON	8	Green	5	1 to 4 closed, 2 to 3 closed	D012		
3	OFF	9	Orange	3	1 to 2 closed, 3 to 4 closed	DUT 2		
3	ON	10	Blue	5	1 to 4 closed, 2 to 3 closed	DUT 3		
4	OFF	11	Brown	3	1 to 2 closed, 3 to 4 closed	DUT 4		
4	ON 12		White	5	1 to 4 closed, 2 to 3 closed	DUI 4		

Table N-2: Configuration of 11713B/C (Option 801) to L7222C & 87222C/D/E DPDT switches (Option 161)

	From 11713	BB/C (Option 801)		To L7222C & 87222C/D/E (Option 161)		
Front panel push	button	Interfac	e cable			
Attenuator X	LED	Viking connector pin number	10-pin DIP pin number	RF path	Device under test (DUT)	
-	-	1 (VCC)	1	-	VCC for all 4 DUTs	
-	-	2 (GND)	9	-	GND for all 4 DUTs	
1	OFF	5	3	1 to 2 closed, 3 to 4 closed	DUT 1	
ı	ON	6	5	1 to 4 closed, 2 to 3 closed	DUT 1	
2	OFF	7	3	1 to 2 closed, 3 to 4 closed	DUT 2	
Z	ON	8	5	1 to 4 closed, 2 to 3 closed	DUT 2	
2	OFF	9	3	1 to 2 closed, 3 to 4 closed	DUT 2	
3	ON	10	5	1 to 4 closed, 2 to 3 closed	DUT 3	
4	OFF	11	3	1 to 2 closed, 3 to 4 closed	DUT 4	
4	ON	12	5	1 to 4 closed, 2 to 3 closed	DUT 4	

- Note 1: Each table below illustrates the configuration of five switches to the 11713B/C.
- Note 2: For standard/non-TTL drive only.
- Note 3: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 4: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table 0-1: Configuration of 11713B/C (Option 201) to N1810UL SPDT switch (Option 202)

Fi	rom 1171	13B/C (Option 201)		To N1810UL (Option 202)			
Front panel pushbu	tton	Interface	cable		10 1410100E (Option 202	1	
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)	
-	-	1 (VCC)	Red	+V	_	VCC for all 5 DUTs	
_	-	2 (GND)	White/Brown	GND	_	GND for all 5 DUTs	
1	OFF	5	Violet	А	1 to C closed, 2 open	DUT 1	
'	ON	6	Yellow	В	2 to C closed, 1 open	ווטע	
2	OFF	7	Black	А	1 to C closed, 2 open	DUT 2	
Δ	ON	8	Green	В	2 to C closed, 1 open	שטוע	
3	OFF	9	Orange	А	1 to C closed, 2 open	DUT 3	
S	ON	10	Blue	В	2 to C closed, 1 open	ן טטו א	
4	OFF	11	Brown	А	1 to C closed, 2 open	DUT 4	
4	4 ON 12		White	В	2 to C closed, 1 open	DUT 4	
9	OFF 4		Gray	А	1 to C closed, 2 open	DUT 5	
3	ON	3	White/Red	В	2 to C closed, 1 open	2010	

Table 0-2: Configuration of 11713B/C (Option 501) to N1810UL SPDT switch (Option 201)

F	rom 117 [.]	13B/C (Option 501)		To N1810UL (Option 201)		
Front panel pushbu	tton	Interface	cable	ν		
Attenuator X	LED	Viking connector pin number/banana jack (rear panel)	9-Pin Dsub pin number	RF path	Device under test (DUT)	
-	_	1 (VCC)/VDC COM	5	_	VCC for all 5 DUTs	
-	_	2 (GND)/GND	1	_	GND for all 5 DUTs	
1	OFF	5	4	1 to C closed, 2 open	DUT 1	
'	ON	6	3	2 to C closed, 1 open		
2	OFF	7	4	1 to C closed, 2 open	DUT 2	
۷	ON	8	3	2 to C closed, 1 open	DOT 2	
3	OFF	9	4	1 to C closed, 2 open	DUT 3	
ა	ON	10	3	2 to C closed, 1 open	0013	
4	OFF	11	4	1 to C closed, 2 open	DUT 4	
4	4 ON 12 3		3	2 to C closed, 1 open	0014	
9	OFF	S9-B	4	1 to C closed, 2 open	DUT 5	
9	ON	S9-A	3	2 to C closed, 1 open	001 0	

- Note 1: Each table below illustrates the configuration of five switches to the 11713B/C.
- Note 2: For standard/non-TTL drive only.
- Note 3: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 4: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table 0-3: Configuration of 11713B/C (Option 201) to N1810TL SPDT (Option 202)

	From 1171	3A/B/C (Option 20	1)	To N1810TL (Option 202)				
Front panel pu	panel pushbutton Interface cable		ce cable	ιο Μιστοτε (υμασίι 202)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
_	-	1 (VCC)	Red	+V	-	VCC for all 5 DUTs		
_	_	2 (GND)	White/Brown	GND	_	GND for all 5 DUTs		
1	OFF	5	Violet	А	1 to C closed, 2 terminated	DUT 1		
'	ON	6	Yellow	В	2 to C closed, 1 terminated	DUT 1		
2	OFF	7	Black	А	1 to C closed, 2 terminated	DUT 2		
2	ON	8	Green	В	2 to C closed, 1 terminated	DOLZ		
3	OFF	9	Orange	А	1 to C closed, 2 terminated	DUT 3		
3	ON	10	Blue	В	2 to C closed, 1 terminated	טטוט		
4	OFF	11	Brown	А	1 to C closed, 2 terminated	DUT 4		
4	ON	12	White	В	2 to C closed, 1 terminated	DUT 4		
9	OFF	4	Gray	А	1 to C closed, 2 terminated	DUT 5		
3	ON	3	White/Red	В	2 to C closed, 2 terminated	2010		

Table 0-4: Configuration of 11713B/C (Option 501) to N1810TL SPDT switch (Option 201)

Fro	m 11713	A/B/C (Option 501)		To N1810TI	(Option 201)	
Front panel push	button	Interface of	able	10101012	(Option 201)	
Attenuator X	LED	Viking connector pin number/banana jack (rear panel)		RF path	Device under test (DUT)	
-	-	1 (VCC)/VDC COM	5	-	VCC for all 5 DUTs	
_	-	2 (GND)/GND	1	_	GND for all 5 DUTs	
1	OFF	5	4	1 to C closed, 2 terminated	DUT 1	
1	ON	6	3	2 to C closed, 1 terminated		
2	OFF	7	4	1 to C closed, 2 terminated	DUT 2	
2	ON	8	3	2 to C closed, 1 terminated	0012	
3	OFF	9	4	1 to C closed, 2 terminated	DUT 2	
3	ON	10	3	2 to C closed, 1 terminated	DUT 3	
4	OFF	11	4	1 to C closed, 2 terminated	DUT 4	
4	ON 12 3 2 to C closed, 1 te		2 to C closed, 1 terminated	0014		
9	OFF	S9-B	4	1 to C closed, 2 terminated	DUT 5	
9	ON	S9-A	3	2 to C closed, 2 terminated	0015	

- Note 1: Each table below illustrates the configuration of two switches to the 11713B/C.
- Note 2: For Option 401 (TTL drive) only.
- Note 3: Two additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table 0-5: Configuration of 11713B/C (Option 201) to N1810UL SPDT (Option 202/401)

	From 117	13B/C (Option 201)			To N1810UL (Option 202/401)				
Front panel	pushbutton	Interfac	e Cable	10 Μ10100Ε (σμισιί 202/ 401)					
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)			
-	-	1 (VCC)	Red	+V	_	VCC for all 2 DUTs			
-	-	2 (GND)	White/Brown	GND	_	GND for all 2 DUTs			
1	OFF	5	Violet	А	1 to Calaged 2 apar	DUT1			
2	ON	7	Black	В	1 to C closed, 2 open				
1	ON	5	Violet	А	2 to C closed, 1 open	DUT1			
2	OFF	7	Black	В	2 to C closed, 1 open				
3	OFF	9	Orange	А	14-0-1				
4	ON	11	Brown	В	1 to C closed, 2 open	DUTO			
3	ON	9	Orange	А	2 to Coloned 1 anon	DUT2			
4	OFF	11	Brown	В	2 to C closed, 1 open				

Table 0-6: Configuration of 11713B/C (Option 502) to N1810UL SPDT switch (Option 201/401)

	From 117	13B/C (Option 502)		To N1810UL (Option 201/401)		
Front panel	Front panel pushbutton Interface Cable			10 1410100E (Option 2017 401)		
Attenuator X	LED	Viking connector pin number/ banana jack (rear panel)	9-pin Dsub pin number	RF path	Device under test (DUT)	
-	-	1 (VCC)/VDC COM	5	-	VCC for all 2 DUTs	
-	-	2 (GND)/GND	1	-	GND for all 2 DUTs	
1	OFF	5	4	1 to C closed, 2 open		
2	ON	7	3	i to Giosea, 2 open	DUT1	
1	ON	5	4	2 to Colored 1 and	DUT1	
2	OFF	7	3	2 to C closed, 1 open		
3	OFF	9	4	14-0-1		
4	ON	11	3	1 to C closed, 2 open	DUT2	
3	ON	9	4	2 to Colored 1 and	- DU12	
4	OFF	11	3	2 to C closed, 1 open		

- Note 1: Each table below illustrates the configuration of two switches to the 11713B/C.
- Note 2: For Option 401 (TTL drive) only.
- Note 3: Two additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table 0-7: Configuration of 11713B/C (Option 201) to N1810TL SPDT switch (Option 202/401)

	From 117	13A/B/C (Option 20	01)		Fo N1810TL (Option 202/401)			
Front panel p	ushbutton	Interfa	ce cable	10 1010101E (Option 2027 401)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
_	-	1 (VCC)	Red	+V	_	VCC for all 2 DUTs		
-	-	2 (GND)	White/Brown	GND	_	GND for all 2 DUTs		
1	OFF	5	Violet	А	1 to C closed, 2 terminated	DUT1		
2	ON	7	Black	В	1 to 6 closed, 2 terminated			
1	ON	5	Violet	А	2 to C closed, 1 terminated	ווטע		
2	OFF	7	Black	В	2 to 0 closed, 1 terminated			
3	OFF	9	Orange	A	1 to C closed, 2 terminated			
4	ON	11	Brown	В	1 to 6 closed, 2 terminated	DUTO		
3	ON	9	Orange	А	2 to C closed, 1 terminated	DUT2		
4	OFF	11	Brown	В	2 to 0 diosca, i terrimiatea			

Table 0-8: Configuration of 11713B/C (Option 502) to N1810TL SPDT switch (Option 201/401)

	From 117	13A/B/C (Option 50	12)	To N1810TL (Option 201/401)		
Front panel p	Front panel pushbutton Interface cable			io Miotore (opuon 201/401)		
Attenuator X	LED	Viking connector pin number/ banana jack (rear panel)	9-pin Dsub pin number	RF path	Device under test (DUT)	
-	-	1 (VCC)/VDC COM	5	ı	VCC for all 2 DUTs	
-	-	2 (GND)/GND	1	-	GND for all 2 DUTs	
1	OFF	5	4	1 to C closed, 2 terminated		
2	ON	7	3	1 to 6 closed, 2 terminated	DUT1	
1	ON	5	4	2 to Colored 1 townsingted	0011	
2	OFF	7	3	2 to C closed, 1 terminated		
3	OFF	9	4	1 to C aloned 2 townsingted		
4	ON	11	3	1 to C closed, 2 terminated	DUT2	
3	ON	9	4	2 to Coloned 1 terminated	DUT2	
4	OFF	11	3	2 to C closed, 1 terminated		

- Note 1: Each table below illustrates configuration of five switches to 11713B/C.
- Note 2: For standard/non TTL drive only.
- Note 3: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.

Table 0-9: Configuration of 11713B/C (Option 201) to N1812UL bypass switch (Option 202)

	From 117	713B/C (Option 201)		To N1812TL (Option 202)			
Front panel pu	shbutton	Interfa	ce cable	io morete (opiion 202)				
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)		
-	-	1 (VCC)	Red	+V	-	VCC for all 5 DUTs		
_	-	2 (GND)	White/Brown	GND	_	GND for all 5 DUTs		
1	OFF	5	Violet	А	1 to open, 2 to 3, 4 to 5	DUT 1		
'	ON	6	Yellow	В	1 to 2, 3 to 4, 5 to open	DUT 1		
2	OFF	7	Black	А	1 to open, 2 to 3, 4 to 5	DUT 2		
2	ON	8	Green	В	1 to 2, 3 to 4, 5 to open	DU1 2		
3	OFF	9	Orange	А	1 to open, 2 to 3, 4 to 5	DUT 3		
ა	ON	10	Blue	В	1 to 2, 3 to 4, 5 to open	טטו א		
4	OFF	11	Brown	А	1 to open, 2 to 3, 4 to 5	DUT 4		
4	ON	12	White	В	1 to 2, 3 to 4, 5 to open	DUT 4		
9	OFF	4	Gray	А	1 to open, 2 to 3, 4 to 5	DUT 5		
3	ON	3	White/Red	В	1 to 2, 3 to 4, 5 to open	2310		

Table 0-10: Configuration of 11713B/C (Option 501) to N1812UL bypass switch (Option 201)

Fi	rom 1171	13B/C (Option 501)		To N1912TI	(Ontion 201)	
Front panel push	button	Interface of	able	To N1812TL (Option 201)		
Attenuator X	LED	Viking connector pin number/banana jack (rear panel)	9-pin Dsub pin number	RF path	Device under test (DUT)	
_	_	1 (VCC)/VDC COM	5	_	VCC for all 5 DUTs	
-	_	2 (GND)/GND	1	_	GND for all 5 DUTs	
1	OFF 5		4	1 to open, 2 to 3, 4 to 5	DUT 1	
'	ON	6	3	1 to 2, 3 to 4, 5 to open	DOT 1	
2	OFF	7	4	1 to open, 2 to 3, 4 to 5	DUT 2	
2	ON	8	3	1 to 2, 3 to 4, 5 to open	0012	
3	OFF	9	4	1 to open, 2 to 3, 4 to 5	DUT 3	
S	ON	10	3	1 to 2, 3 to 4, 5 to open	0013	
4	OFF	11	4	1 to open, 2 to 3, 4 to 5	DUT 4	
4	4 ON 12		3	1 to 2, 3 to 4, 5 to open	0014	
0	OFF	S9-B	4	1 to open, 2 to 3, 4 to 5	DUTE	
9	ON	S9-A	3	1 to 2, 3 to 4, 5 to open	DUT 5	

- Note 1: Each table below illustrates configuration of five switches to 11713B/C.
- Note 2: For standard/non TTL drive only.
- Note 3: Five additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7, 8 & 0) using the same configuration as Attenuator X.
- Note 4: 2,000,000 switching cycles at 0.7 A for contact pairs 9 and 0. For more details, please refer to the "Supplemental characteristics" table on page 3.

Table 0-11: Configuration of 11713B/C (Option 201) to N1811TL bypass switch (Option 202)

	From 117	713B/C (Option 201)		To N1812UL (Option 202)		
Front panel pu	shbutton	Interfa	ce cable		io irroizoz (option zoz)		
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)	
_	_	1 (VCC)	Red	+V	_	VCC for all 5 DUTs	
_	-	2 (GND)	White/Brown	GND	_	GND for all 5 DUTs	
1	OFF	5	Violet	Α	1 to 2, 3 to 4	DUT 1	
1	ON	6	Yellow	В	1 terminated, 2 to 3, 4 to open	DUT 1	
2	OFF	7	Black	А	1 to 2, 3 to 4	DUT 2	
2	ON	8	Green	В	1 terminated, 2 to 3, 4 to open	D012	
3	OFF	9	Orange	Α	1 to 2, 3 to 4	DUT 3	
3	ON	10	Blue	В	1 terminated, 2 to 3, 4 to open	סוטם	
4	OFF	11	Brown	А	1 to 2, 3 to 4	DUT 4	
4	ON	12	White	В	1 terminated, 2 to 3, 4 to open	DUT 4	
9	OFF	4	Gray	Α	1 to 2, 3 to 4	DUT 5	
9	ON	3	White/Red	В	1 terminated, 2 to 3, 4 to open		

Table 0-12: Configuration of 11713B/C (Option 501) to N1811TL bypass switch (Option 201)

F	rom 1171	13B/C (Option 501)		To N1812III	(Ontion 201)	
Front panel push	ont panel pushbutton Interface cable		To N1812UL (Option 201)			
Attenuator X	LED	Viking connector pin number/banana jack (rear panel)	9-pin Dsub pin number	RF path Device under test (DUT)		
-	_	1 (VCC)/VDC COM	5	_	VCC for all 5 DUTs	
-	_	2 (GND)/GND	1	_	GND for all 5 DUTs	
1	OFF	5	4	1 to 2, 3 to 4	DUT 1	
'	ON 6		3	1 terminated, 2 to 3, 4 to open	0011	
2	OFF	7	4	1 to 2, 3 to 4	DUT 2	
2	ON	8	3	1 terminated, 2 to 3, 4 to open	0012	
3	OFF	9	4	1 to 2, 3 to 4	DUT 3	
3	ON	10	3	1 terminated, 2 to 3, 4 to open	0013	
4	OFF	11	4	1 to 2, 3 to 4	DUT 4	
4	4 ON 12 3 1 terminate		1 terminated, 2 to 3, 4 to open	DUT 4		
9	OFF	S9-B	4	1 to 2, 3 to 4	DUT 5	
9	ON	S9-A	3	1 terminated, 2 to 3, 4 to open	5 100	

- Note 1: Each table below illustrates configuration of two switches to 11713B/C.
- Note 2: For Option 401 (TTL drive) only.
- Note 3: Two additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table 0-13: Configuration of 11713B/C (Option 201) to N1812UL bypass switch (Option 202/401)

	From 11	713B/C (Option 201)		o N1812UL (Option 202/401)		
Front panel pu	ushbutton	Interfac	ce cable		o 11101202 (option 202/ 101/		
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)	
_	-	1 (VCC)	Red	+V	_	VCC for all 2 DUTs	
_	-	2 (GND)	White/Brown	GND	_	GND for all 2 DUTs	
1	OFF	5	Violet	А	1 to open 2 to 2 4 to 5		
2	ON	7	Black	В	1 to open, 2 to 3, 4 to 5	DUT1	
1	ON	5	Violet	А	140 2 240 4 540 0000	ווטע	
2	OFF	7	Black	В	1 to 2, 3 to 4, 5 to open		
3	OFF	9	Orange	А	140 0000 240 2 440 5		
4	ON	11	Brown	В	1 to open, 2 to 3, 4 to 5	BUTO	
3	ON	9	Orange	А	1 to 2, 3 to 4, 5 to open	DUT2	
4	OFF	11	Brown	В	1 to 2, 0 to 4, 0 to opon		

Table 0-14: Configuration of 11713B/C (Option 502) to N1812UL bypass switch (Option 201/401)

	From 11	713B/C (Option 502	2)	To N1812UL (Option 201/401)	
Front panel p	Front panel pushbutton Interface cable			10 10101	LOL (Option 2017 401)
Attenuator X	LED	Viking connector pin number/ banana jack (rear panel)	9-pin Dsub pin number	RF path	Device under test (DUT)
-	-	1 (VCC)/VDC COM	5	1	VCC for all 2 DUTs
_	-	2 (GND)/GND	1	_	GND for all 2 DUTs
1	OFF	5	4	1 to onen 2 to 2 4 to E	
2	ON	7	3	1 to open, 2 to 3, 4 to 5	DUT1
1	ON	5	4	1 40 2 2 40 4 5 40 0000	0011
2	OFF	7	3	1 to 2, 3 to 4, 5 to open	
3	OFF	9	4	1 to one 2 to 2 4 to E	
4	ON	11	3	1 to open, 2 to 3, 4 to 5	DUT2
3	ON	9	4	1 40 2 2 40 4 5 40 0000	DUT2
4	OFF	11	3	1 to 2, 3 to 4, 5 to open	

- Note 1: Each table below illustrates configuration of two switches to 11713B/C.
- Note 2: For Option 401 (TTL drive) only.
- Note 3: Two additional switches can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table 0-15: Configuration of 11713B/C (Option 201) to N1811TL bypass switch (Option 202/401)

	From 11	713B/C (Option 201)		To N1812UL (Option 202/401)	
Front panel p	ushbutton	Interfac	ce cable		o 11101202 (option 202/ 101/	
Attenuator X	LED	Viking connector pin number	Bare wire color	Solder terminal number	RF path	Device under test (DUT)
_	-	1 (VCC)	Red	+V	_	VCC for all 2 DUTs
_	-	2 (GND)	White/Brown	GND	_	GND for all 2 DUTs
1	OFF	5	Violet	А	1 to 2, 3 to 4	DUT1
2	ON	7	Black	В	1 10 2, 3 10 4	
1	ON	5	Violet	А	1 terminated, 2 to 3, 4 to	
2	OFF	7	Black	В	open	
3	OFF	9	Orange	А	1 to 2. 3 to 4	
4	ON	11	Brown	В	1 10 2, 3 10 4	
3	ON	9	Orange	А	1 terminated, 2 to 3, 4 to	DUT2
4	OFF	11	Brown	В	open	

Table 0-16: Configuration of 11713B/C (Option 502) to N1811TL bypass switch (Option 201/401)

	From 11	713B/C (Option 502	2)	To N1812UL (Option 201/401)	
Front panel pu	Front panel pushbutton Interface cable		10 141012	ECE (Option 2017 401)	
Attenuator X	LED	Viking connector pin number/ banana jack (rear panel)	9-pin Dsub pin number	RF path	Device under test (DUT)
-	-	1 (VCC)/VDC COM	5	-	VCC for all 2 DUTs
-	ı	2 (GND)/GND	1	ı	GND for all 2 DUTs
1	OFF	5	4	1 to 2, 3 to 4	
2	ON	7	3	1 to 2, 3 to 4	DUT1
1	ON	5	4	1 *************************************	DOTT
2	OFF	7	3	1 terminated, 2 to 3, 4 to open	
3	OFF	9	4	1 to 2, 3 to 4	
4	ON	11	3	1 to 2, 3 to 4	DUT2
3	ON	9	4	1 +	שטונ
4	OFF	11	3	1 terminated, 2 to 3, 4 to open	

Configuration Information for Attenuators

Note 1: Each table below illustrates the configuration of one attenuator to the 11713B/C.

Note 2: One additional attenuator can be driven by Attenuator Y (front panel pushbuttons 5, 6, 7 & 8) using the same configuration as Attenuator X.

Table P-1: Configuration of 11713B/C (Option 001) to 8494G/H, 8495G/H, 8495G/H, 8495K & 8497K programmable attenuators (Option 016)

From 11713B/C (Option 001)				To attenuators (Option 016)				
Front panel pu	ushbutton	Interface (cable	8494G/H	8495G/H	8496G/H	8495K	8497K
Attenuator X	LED	Viking connector pin number	10-pin DIP pin number	Attenuation (dB)				
_	-	1 (VCC)	10	-	_	_	-	_
1	OFF	5	1	0	0	0	0	0
'	ON	6	2	1	10	10	10	10
2	OFF	7	5	0	0	0	0	0
2	ON	8	8	2	20	20	20	20
3	OFF	9	4	0	0	0	0	0
3	ON	10	9	4	40	40	20	30
4	OFF	11	6	0	_	0	0	0
4	ON	12	7	4	-	40	20	30

Table P-2: Configuration of 11713B/C (Option 101) to 8494G/H, 8495G/H, 8495G/H, 8495K & 8497K programmable attenuators (Option 060)

From 11713B/C (Option 101)				To attenuators (Option 060)				
Front panel p	ıshbutton	Interface (cable	8494G/H	8495G/H	8496G/H	8495K	8497K
Attenuator X	LED	Viking connector pin number	Viking connector pin number	Attenuation (dB)				
_	-	1 (VCC)	1	_	_	_	_	_
1	OFF	5	5	0	0	0	0	0
'	ON	6	6	1	10	10	10	10
2	OFF	7	7	0	0	0	0	0
2	ON	8	8	2	20	20	20	20
2	OFF	9	9	0	0	0	0	0
3	ON	10	10	4	40	40	20	30
4	OFF	11	11	0	_	0	0	0
4	ON	12	12	4	-	40	20	30

Table Q: Configuration of 11713B/C (Option 001) to 84904K/L/M, 84905M, 84906K/L, 84907K/L & 84908M programmable attenuators

	From 11713B/C (Option 001)					To attenuators		
Front panel pu	shbutton	Interface	cable	84904K/L/M	84905M	84906K/L	84907K/L	84908M
Attenuator X	LED	Viking connector pin number	10-pin DIP pin number		ļ	Attenuation (dB)		
_	-	1 (VCC)	10	-	_	_	-	_
1	OFF	5	1	0	0	0	0	0
1	ON	6	2	1	10	10	10	5
2	OFF	7	5	0	0	0	0	0
۷	ON	8	8	2	20	20	20	10
3	OFF	9	4	0	0	0	0	0
S	ON	10	9	4	30	30	40	20
4	OFF	11	6	0		0		0
4	ON	12	7	4		30		30

Interface Cable Drawings

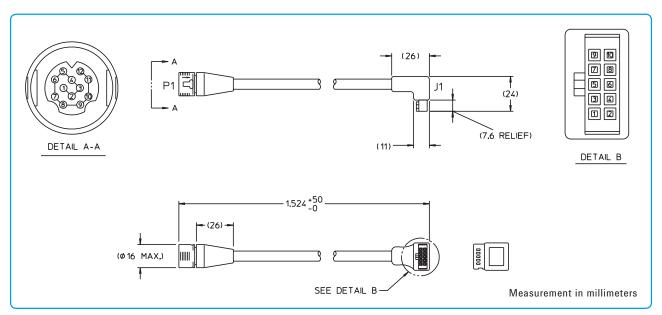


Figure 1. Option 001 viking connector to 10-pin DIP connector

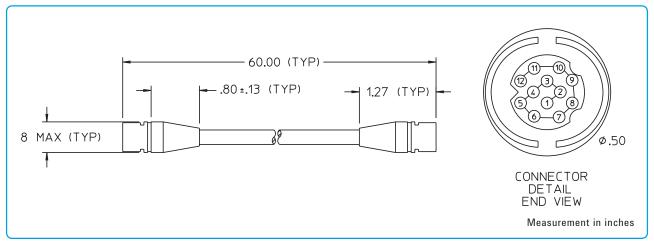


Figure 2. Option 101 viking connector to viking connector

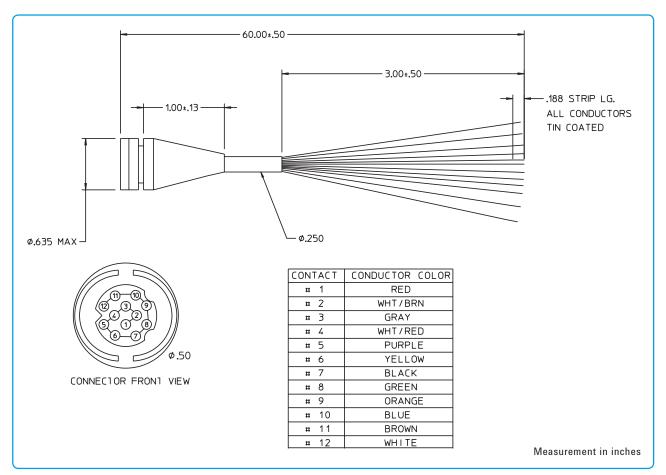


Figure 3. Option 201 viking connector to 12-pin conductor cable, bare wire

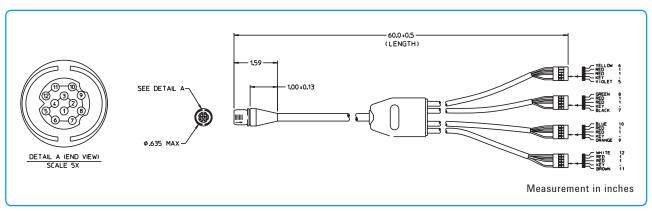


Figure 4. Option 301 viking connector to 4 ribbon cables

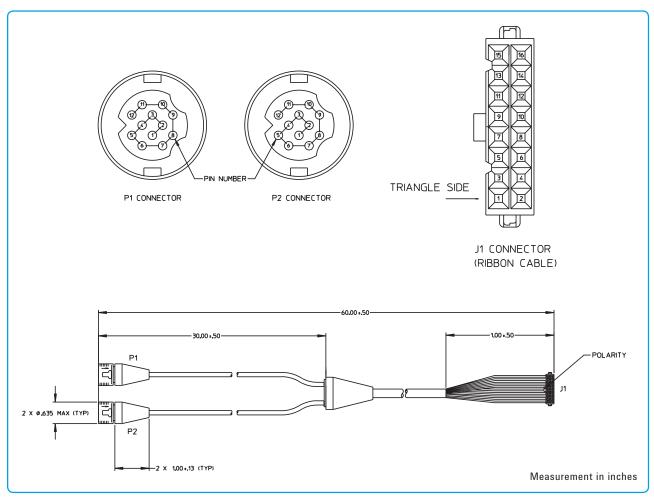


Figure 5. Option 401 dual-viking connector to 16-pin DIP connector

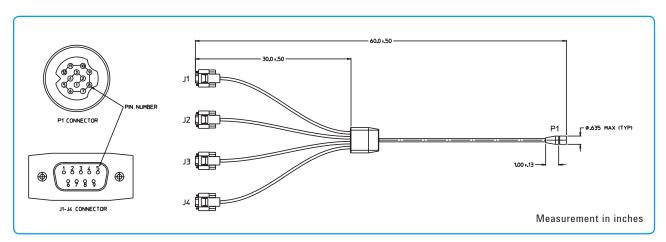


Figure 6. Figure 6. Option 501 viking connector to (4) 9-pin Dsub connectors

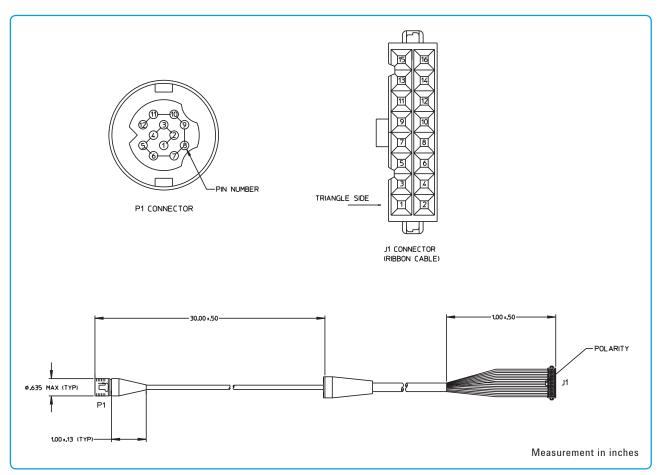


Figure 7. Option 601 viking connector to 16-pin DIP connector

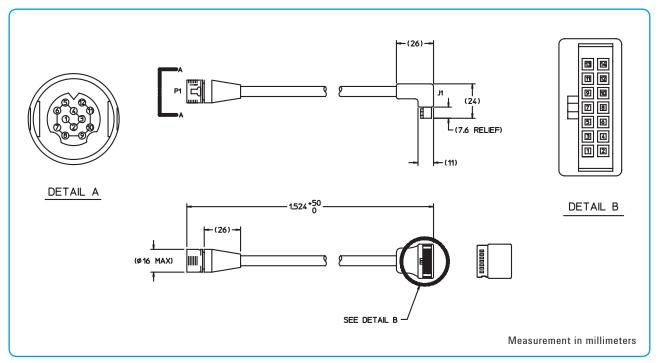


Figure 8. Option 701 viking connector to 14-pin DIP connector

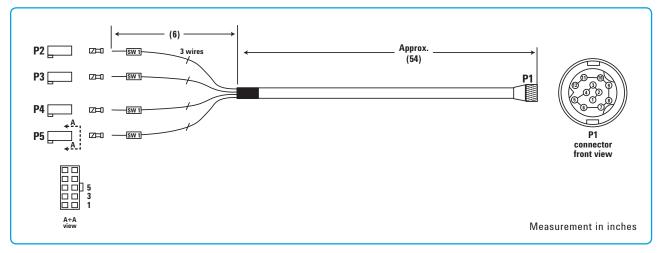


Figure 9. Option 801 viking connector to (4) 10-pin DIP connectors

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Spain	34 (91) 631 3300			
Sweden	0200-88 22 55			
Switzerland	0800 80 53 53			
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Other European Countries:				

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