

Cable Specification - SpotCell 100 & 200 Series System

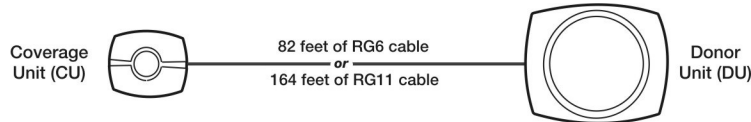
The following specification and its associated drawings are intended to provide a set of instructions and materials needed to furnish and install cables for Spotwave SpotCell equipment.

Minimum Cable Lengths

To ensure proper operation and prevent equipment damage, minimum cable lengths must be used to interconnect the SpotCell equipment, as follows:

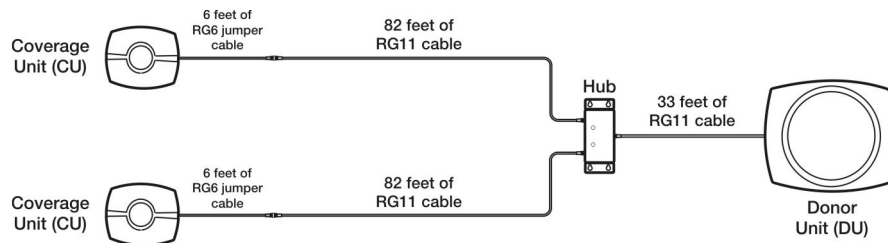
SpotCell 100, 111, or 112 - Coverage Unit to Donor Unit

The minimum cable length (CU → DU) for a SpotCell 100 system is 82 feet (25m) of RG6 or 50m (164ft) of RG11.



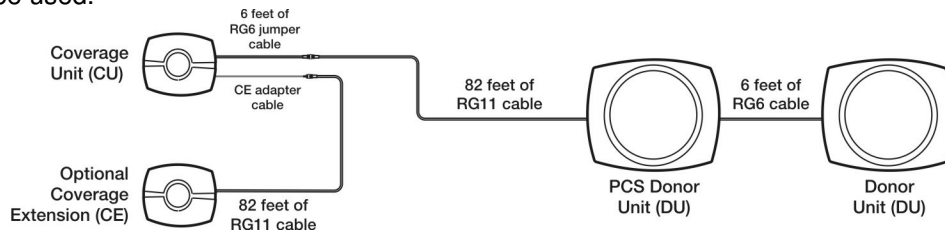
SpotCell 200, 211, or 212 - Donor Unit to Hub + Hub to Coverage Unit

The minimum combined cable length (CU → hub → DU) for a SpotCell 200 system is 115 feet (35m) and only RG11 cable should be used.



SpotCell 142 - Coverage Unit to Donor Units + Coverage Unit to Coverage Extension

The minimum cable length (CU → DUs) for a SpotCell 142 system is 25m (82ft) only RG11 cable should be used.



Note: All cable is rated for outdoor use, however plenum cable is not UV resistance and must be shielded from sunlight if installed outdoors.

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RG6, 25 METER (82 FEET), NON-PLENUM

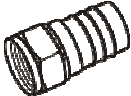
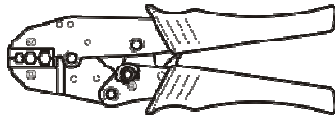



(SPOTWAVE PART 100-10005-01)

Performance Requirements

Attenuation*	< 6.25 dB for a 1.0V _{RMS} @ 800-1000MHz swept test signal < 9.25 dB for a 1.0V _{RMS} @ 1700-2000MHz swept test signal *Measured at standard temperature and pressure.
Characteristic Impedance	Return Loss shall be > 20 dB when measured with a 1.0V _{RMS} @ 800-1000MHz swept test signal and a 75 ohm load Return Loss shall be > 20 dB when measured with a 1.0V _{RMS} @ 1700-2000MHz swept test signal and a 75 ohm load
DC resistance	Center Conductor: < 0.55 ohm Shield: < 0.55 ohm

Interface Connectors

The cable assembly shall use connectors as per the table below:

Connector Type	Connector Manufacturer's Part Number	Connector Compression Tool	Compression Tool Model Name
Crimp 	Holland Electronics: F56-324GWP or equivalent		RG6 crimping tool
Seal Tite 	Paladin tools: 9612 or equivalent		SealTite RG6 Compression Tool
			Pocket TerminX Compression Tools

Cable

The cable assembly shall use quad-shielded RG-6 cable as per the table below:

Cable	Manufacturer's Part Number	Cable Jacket Color
25 meter coaxial	Belden Cable - Part # 5339Q5 or equivalent	WHITE - The cable jacket color shall be WHITE

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RG6, 25 METER (82 FEET), PLENUM

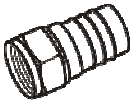
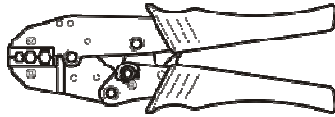



(SPOTWAVE PART 100-10005-02)

Performance Requirements

Attenuation*	<p>< 7 dB for a 1.0V_{RMS} @ 800-1000MHz swept test signal</p> <p>< 12 dB for a 1.0V_{RMS} @ 1700-2000MHz swept test signal</p> <p>*Measured at standard temperature and pressure.</p>
Characteristic Impedance	<p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 800-1000MHz swept test signal and a 75 ohm load</p> <p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 1700-2000MHz swept test signal and a 75 ohm load</p>
DC resistance	<p>Center Conductor: < 0.55 ohm</p> <p>Shield: < 0.55 ohm</p>

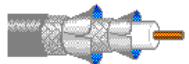
Interface Connectors

The cable assembly shall use connectors as per the table below:

Connector Type	Connector Manufacturer's Part Number	Connector Compression Tool	Compression Tool Model Name
<p>Crimp</p> 	Holland Electronics: F56-324GWP or equivalent		RG6 crimping tool
<p>Seal Tite</p> 	Paladin tools: 9612 or equivalent		SealTite RG6 Compression Tool
			Pocket TerminX Compression Tools

Cable

The cable assembly shall use quad-shielded RG-6 cable as per the table below:

Cable	Manufacturer's Part Number	Cable Jacket Color
25 meter coaxial	<p>Belden Cable - Part # 6339Q8 or equivalent</p> 	WHITE - The cable jacket color shall be WHITE

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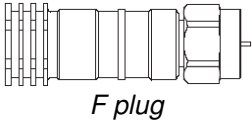
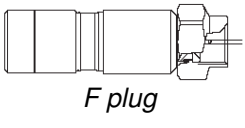

RG11, 50 METER (164 FEET), NON-PLENUM (SPOTWAVE PART 100-10005-03)

Performance Requirements



Attenuation*	<p>< 7.25 dB for a 1.0V_{RMS} @ 800-1000MHz swept test signal</p> <p>< 9.75 dB for a 1.0V_{RMS} @ 1700-2000MHz swept test signal</p> <p>*Measured at standard temperature and pressure.</p>
Characteristic Impedance	<p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 800-1000MHz swept test signal and a 75 ohm load</p> <p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 1700-2000MHz swept test signal and a 75 ohm load</p>
DC resistance	<p>Center Conductor: < 0.4 ohm</p> <p>Shield: < 0.4 ohm</p>

Interface Connectors and matching Cable

The cable assembly shall use the following cable/connector combinations as per the table below:

Connector Type	Connector Manufacturer's Part Number	Cable	Cable Manufacturer's Part Number	Cable Jacket Color
 <i>F plug</i>	Corning Gilbert GAF-360-11 or equivalent	50 meter double shielded RG11 coaxial	Gepco Part # VHD1100 or equivalent	Jacket color shall be BLACK
 <i>F plug</i>	Corning Gilbert GAF-UST-11Q or Holland F11460W0L	50 meter double shielded RG11 coaxial	Belden Cable Part # 7731A or equivalent 	Jacket color shall be BLACK

RG 11 Crimp Tool and Cable Stripper

RG11 Connector Compression Tool	Compression Tool Model Name	Cable Stripper	Cable Stripper Manufacturer's Part Number
	CR 611Q2 Hex Crimp tool (Ripley – Cablematic)		Cable Prep CPT-6590 RG6 Coax and CPT-1100 for RG11 Coax

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RG11, 50 METER (164 FEET), PLENUM

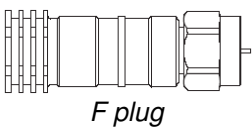
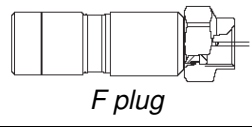
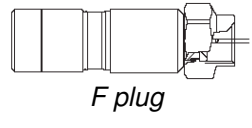
(SPOTWAVE PART 100-10005-04)

Performance Requirements



Attenuation*	<p>< 8.75 dB for a 1.0V_{RMS} @ 800-1000MHz swept test signal</p> <p>< 14.25 dB for a 1.0V_{RMS} @ 1700-2000MHz swept test signal</p> <p>*Measured at standard temperature and pressure.</p>
Characteristic Impedance	<p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 800-1000MHz swept test signal and a 75 ohm load</p> <p>Return Loss shall be > 20 dB when measured with a 1.0V_{RMS} @ 1700-2000MHz swept test signal and a 75 ohm load</p>
DC resistance	<p>Center Conductor: < 0.4 ohm</p> <p>Shield: < 0.4 ohm</p>

Interface Connectors and Cable

The cable assembly shall use the following cable/connector combinations:

Connector Type	Connector Manufacturer's Part Number	Cable	Cable Manufacturer's Part Number	Cable Jacket Color
 <i>F plug</i>	Corning Gilbert GAF-360-11 or equivalent	50 meter double shielded RG11 coaxial	Gepco Part # VHD1100TK or equivalent	Jacket color shall be NATURAL or BLACK
 <i>F plug</i>	Corning Gilbert GAF-UST-11 or equivalent			
 <i>F plug</i>	Corning Gilbert GAF-UST-11Q or equivalent			

RG 11 Crimp Tool and Cable Stripper

RG11 Connector Compression Tool	Compression Tool Model Name	Cable Stripper	Cable Stripper Manufacturer's Part Number
	CR 611Q2 Hex Crimp tool (Ripley – Cablematic)		Cable Prep CPT-6590 RG6 Coax and CPT-1100 for RG11 Coax

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