Using SmartBits SMB-2000 Traffic Generator/Analyzer with SmartWindows Application

CONNECTING TO THE DEVICE

1. Select SMB-2000 by clicking on the icon:



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Urc Error Mode→ Speed→	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Ö	
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SmartBits	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	#3	
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						(For	SMB	-200	and !	SMB-	2000)										
				_	R	emote	e Hos	st 1	32.17	7.12	138				-							
	TCP Port: 16385 Ping																					
												OK		Ca	ncel							

2. Verify the Connection Setup (device IP address and port) under Options menu:

3. Connect the application to the device:

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Smarti	Bits	61 0	22	2.5	24	2.5	20	-r 0	20	23	30	31	32	35	34 0	35	30	51	30	33		π2 Ω	
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4. Remember to disconnect when done:

🖬 S	🖀 SmartWindow - (Untitled)														×				
File	Edit	Actions	Options	Tests	Admin	View	/ He	lp											
T <u>rans</u> State	smit us	Layer IGMP	'3 ARP				0	0	0	0	0	0	0	0	0	0	0	S	^
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Cro El Mod	rror te⇒ H	Stop /	All Cards	F6			f Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Half	Ö	
Spee	ed⊸ / nk→ Li	Smart	tCounters.	F9		9	10	10	10	10	10	10	10	10	10	10	10	Ŋ	
CardT	Type 77	Clear	All Counte	rs Alt+	-Shift+C	1	0 7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	F	
Smart	Bits	Conne	ect	F8		- 9	10	11	12	13	14	15	16	17	18	19	20	#1	
	St	Discor	nnect	Shift	t+F8	ne	t Start	Start	Start	Start	Start	Start	Start	Start	Start	Start	Start	Start	~
Disco	nnect	Updat	te	Ctrl	+H		(DnLin	ie IF	°=132	2.177.	012.1	138 F	ort=1	6385	j			//

HOW TO SETUP LAYER 3 PROPERTIES:

1. Select Layer 3 Setup (menu opens by clicking on the interface card).



2. Fill the Layer 3 details. Make sure to check box Reply to all ARP requests

Ŀ	ayer 3 Setup - S	mart\	Window P	ort 01	×
[_	
	MAC Address:	00 00	00 00 00 1a		
	IP Address:	192.1	68.001.001		
	Netmask:	255.2	55.255.000		
	Gateway:	000.0	00.000.000		
	Ping Target:	000.0	00.000.000		
	Ping frequency:	0	(1/10th sec	onds)	
	SNMP frequency:	0	(1/10th sec	onds)	
	RIP frequency:	0	(1/10th sec	onds)	
	Inter ARP Gap:	0	-	uSec 💌	
	Reply to all AR	P requ	ests (do not i	use for on-line testi	ng)
			OK	Cance	9

HOW TO ENABLE ARP PROTOCOL

1. To send ARP requests check SmartMetrics Mode (the menu appears after clicking on the interface card).

₩ML-7710 SmartMetrics 10/100Mb Ethernet TP
Transmit Setup Alternate Transmit Setup Trigger Setup
100 Megabit Full Duplex
Layer 3 Setup
 SmartMetrics Mode
Layer 3 Send ARP Requests IGMP
Port Setup
MII Registers
Capture
Display Counters
Clear Counters
Copy Port Data
Paste Port Data
✔ Group Member
Update This Port
SmartCard Open
SmartCard Save

2. Then select Layer 3 Send ARP Requests

ML-7710 SmartMetrics 10/100Mb Ethernet TP
Transmit Setup Alternate Transmit Setup Trigger Setup
100 Megabit Full Duplex
Layer 3 Setup ✓ SmartMetrics Mode
Layer 3 Send ARP Requests
Port Setup
MII Registers
Capture
Display Counters
Clear Counters
Copy Port Data
Paste Port Data
✔ Group Member
Update This Port
SmartCard Open
SmartCard Save

3. Ping the SmartBits interface card from the router. This will add an ARP entry for the card to the ARP table of the router.

HOW TO SETUP A UDP STREAM

1. Select Transmit Setup for the card from which the data are to be transmitted.



2. Select the stream and then click on Edit

Se	lect I	the Str	reams. Use th	ie 'Ctrl' key for mult	iple select	tions.			- Selected It	ems
#		Len	MAC Destination	Source	VLAN	Pri	CFI	VID	Activa	te
	1	60	ff ff ff ff ff ff	00 00 00 00 00 00 0	1				Deactiv	ate
									Delete.	
									Сору	
									Paste	;
									Undo	
									Add	
									Edit Setting	is for
									This Po	ort
									Edit	
									Options	÷
<]				>	OK	

3. Select UDP protocol and then click on Edit:

Fixed Random Protocol UDP Edit Edit VLAN tpid pri cfi vid 0x8100 0 0 0 0 0 1 Counce Address 1 Protocol IP Source Address 0 IP Destination Address IP Address: IP Address: Protocol IP Address: I	Length (bytes) (without 4 byte CRC)	Enable IP Flows-
Protocol UDP Edit Edit UDP Edit Ethernet Protocol Change MAC Address MAC Address: MAC Address: Parameters Step: Step: Occurrent Count	Fixed Fixed Fixed Fixed Fixed	C IP Source Address C IP Destination Address
UDP Image: Ethernet Protocol Edit Image: Change MAC Address VLAN MAC Address: tpid pri Ox8100 O Ox8100 O Operation Image: Construction Image: Construction Image: Construction Image: Construction <th>Protocol</th> <th>IP Address:</th>	Protocol	IP Address:
VLAN Mode Parameters tpid pri cfi vid 0x8100 0 0 0 0 0 0 0	Edit	Ethernet Protocol Change MAC Address MAC Address
	tpid pri cfi vid	Mode Parameters C Increment Step: 1

4. Edit UDP header fields for the stream. Make sure to enter correct MAC destination address, MAC source address, TTL, Protocol type (17 = UDP), source IP address, destination IP address. Unlike the values in the figure, the source and destination port numbers should be set to non-zero values.

🖬 Protocol Edi	t 🔳 🗗 🔀
File Edit View	Help
🖬 🍯 🎒 👗	🖻 🛍 🗙 🌬
UDP	1
MAC Dest	00 10 1f 87 00 24
MAC Src	00 00 00 00 00 1a
Precedence	0
MinDelay	0
MaxThrPut	0
MaxReliable	0
MinCost	0
ID	0
TTL	30
prot	17
SourceIP	192.168.001.002
DestIP	192.168.002.002
SIC	0
dst	0

5. Close all the stream setup windows and hit the Start button on the card. If everything is correct, you would see green transmit light for the transmitting card and green receive light for the receiving card.

🖬 SmartWindow - (Untitled)												×										
File Ed	File Edit Actions Options Tests Admin View Help																					
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Receive	0	٥	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	G	
Mode→ Speed→	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half <i>10</i>	Half	Half <i>10</i>	Ü	
Link→ Card Tupe	Link 7710	Link 7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	7710	Ρ	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	#1	
\$mart8its	6top	Start	Start	Start	Start	~																
Continuous OnLine IP=132.177.012.138 Port=16385																						

HOW TO SEE DATA TRANSMISSION RATES

1. Start the transmission of data from the card and select Display Counters.



📲 SmartWi... 📥 🗖 🖬 SmartWindow - (Untitled) Þ 🚮 😭 🚯 File Edit Actions Options Tests Admin View Help SmartBits Transmit ^ S M B a Status Trigger (*** D G Receive, ۲ R O U Dro Erro Mode→ Half Half Half Half Half Speed→ *10 10 10 10 10* Link→ Link Link Half Half Half Half Half Half Half Half *10* Half *10* Half Half *10 10* Half Half Half Half Ρ SMB-2000 13 01 03 04 05 06 07 08 09 10 11 12 14 15 16 17 18 #1 02 19 20 Smart80s [top] Start Star OnLine IP=132.177.012.138 Port=16385 SMB-600(B) X Counters - SmartWindow Port 01 Counters - SmartWindow Port 02 Show Events Show Events Events Events Rates Rates Show Rates Show Rates Tmt. Packets 1,960,614 14,881 Tmt. Packets 0 Rcv. Packets Rcv. Packets 1,958,486 82 0 14,881 0 Collisions 63 Collisions • 0 • CRC Errors 0 0 CRC Errors 0 • • 0 0 0 Align. Errors • Align. Errors Ŧ 0 OverSize Ŧ 0 OverSize -0 Frag/UnderSize 0 Frag/UnderSize Ŧ 0 Ŧ 0 9,130 952,384 Rx Bytes 0 Rx Bytes 125,346,716 • Ŧ Trig 1 0 0 Trig 1 Ŧ Ŧ 0 0 Tx Packets 0 Tx Packets 0 • Ŧ 1,958,406 Tags 0 Tags Ŧ 0 •

6

Close

Tx from stack

-

Clear Counters

0

2. The counters for the receiving card are invoked in the same way.

Tx from stack

•

Clear Counters

X

0

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0

0

1

Close

3.	You can select	different events	s/rates to monito	or from the dr	op down men
5.	1 ou cuil select	uniforent events	"iaco to monito	i nom me u	op down mei

Counters - SmartWindow Port 01											
Show Events Show Rates	Events	Rates									
Tmt. Packets	3,032,025	14,881									
Rov. Packets	90	0									
Collisions 🗨	74	0									
Frag/UnderSize	0	0									
Collisions	0	0									
Tags Tx from stack	0	0									
Rx to stack	0	0									
ARP requests sent	9,943	0									
ARP replies rovd	0	0									
PING requests sent	0	0									
PING requests rovd	0	0									
Tx from stack 📃 💌	6	0									
Clear Cour	iters Close										