COMPLIANCE INFORMATION

UL Listed
C-UL Listed (Canada)
CISPR/EN55022 Class A
EN55024

FCC Regulations

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Regulations

Warning
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung !
Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in weichen Fällen der Benutzer für entsprechende Gegenmaßnahmen werantwortlich ist.

Attention !
Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées

CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

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TRANSITION networks

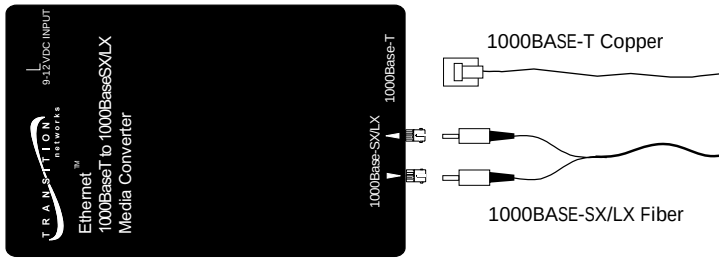
1000BASE-TX to 1000BASE-SX/LX

Media Converters

SGETF10xx-100

USER'S GUIDE

TRANSITION Networks SGETF10xx series Gigabit Ethernet™ media converters connect 1000BASE-TX shielded or unshielded twisted-pair copper cable to 1000BASE-SX or 1000BASE-LX multimode or singlemode fiber-optic cable.



SGETF1013-100

Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***SC*** *connector to* ***850 nm*** *1000BASE-SX* ***multimode*** *fiber-optic cable.*

SGETF1014-100

Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***SC*** *connector to* ***1300 nm*** *1000BASE-LX* ***singlemode*** *fiber-optic cable.*

SGETF1015-100

Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***SC*** *connector to* ***1300 nm*** *1000BASE-LX* ***singlemode*** *fiber-optic cable.*

SGETF1017-100

Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***SC*** *connector to* ***1550 nm*** *1000BASE-LX* ***singlemode*** *fiber-optic cable.*

SGETF1018-100

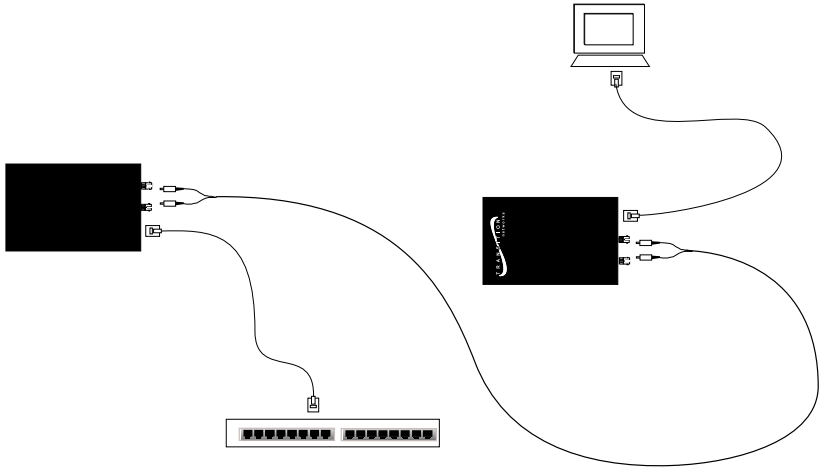
Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***MT-RJ*** *connector to* ***850 nm*** *1000BASE-SX* ***multimode*** *fiber-optic cable.*

SGETF1025-100

Provides an RJ-45 twisted-pair copper 1000BASE-T connector and an RX (receive) and TX (transmit) ***MT-RJ*** *connector to* ***1300 nm*** *1000BASE-LX* ***singlemode*** *fiber-optic cable.*

SGETF10xx IN THE NETWORK

Install two SGETF10xx series media converters in series to extend, over fiber, the distance between two 1000BASE-TX devices.



Use one SGETF10xx media converter to connect a 1000BASE-TX terminal device and a 1000BASE-SX/LX hub, switch, or router.

NOTE: A TRANSITION Networks stand-alone media converter can be installed in series with a TRANSITION Networks chassis media converter that has a related model number, such as an SGETF10xx with a CGETF10xx.

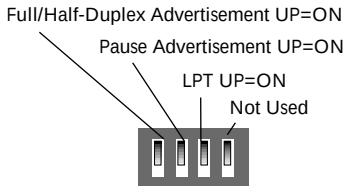
INSTALLATION

Set 4-Position Switch

Use small flatblade screwdriver or similar device to set recessed switches. Refer to drawing for four-position switch locations.

Full/Half-Duplex Advertisement (UP=Enabled) Allows full-duplex mode. (DOWN) Allows half-duplex mode.

Pause Advertisement (UP=Enabled) Allows auto-negotiation pause. (DOWN) Allows NO auto-negotiation pause.



NOTE: If the *Pause* feature is present on all network devices attached to the media converter(s), enable *Pause* on the media converter(s). Otherwise, disable *Pause* on the media converter(s).

LPT (UP=Enabled) Allows a fault EITHER on the copper OR on the fiber side of the media coverter to stop signal and data transmission on the other side. (DOWN) Disables LPT.

TECHNICAL SPECIFICATIONS

Standards	IEEE 802.3ab, IEEE 802.3 1998
Data Rate	1000 Mb/s
Dimensions	3.4" x 0.86" x 5.0" (86mm x 22mm x 127mm)
Weight	8 oz (approximate)
Delay	300 nsec
Power Consumption	6.5 Watts

Power Supply Requirements Replace power supply with only the equivalent input rating (see below) and output rating (unregulated 9-24VDC, 5.5W).

TN PN	Requirement	Location
12 V, 1.5 A		
3507	240 volts, 50 hertz	United Kingdom
3342	230 volts, 50 hertz	Europe
3340	120 volts, 60 hertz	USA/Canada/Mexico
3346	100 volts, 50-60 hertz	Japan
3511	240 volts, 50 hertz	Australia
3537	IEC320 (with power cord: 3522)	South Africa
9 V, 1 A		
25039	IEC320, 90-250VAC input	NOTE: Requires appropriate IEC320 power cord for location
25040	120 volts, 60 hertz	USA/Canada/Mexico

Environment	Typical Operating Temperature*:	0° to 50°C (32° to 122°F)
	Storage Temperature:	-20° to 85°C (-4° to 185°F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
Warranty	Lifetime	

TRANSITION networks

DECLARATION OF CONFORMITY

Name of Mfg: **Transition Networks**
6475 City West Parkway, Minneapolis MN 55344 USA

Model: **SGETF10xx-100 Series Media Converters**

Part Number(s): **SGETF1013-100, SGETF1014-100, SGETF1015-100, SGETF1017-100**

Regulation: **EMC Directive 89/336/EEC**

Purpose: To declare that the ***SGETF10xx-100*** to which this declaration refers is in conformity with the following standards.

EMC-CISPR 22: 1985 Class A&B; EN 55022: 1988 Class A&B; EN 50082-1:1992; EN 60950 A4:1997; IEC 801.2, IEC 801.3, and IEC 801.4; IEC 950

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Stephen Anderson, Vice-President of Engineering

January 6, 2001
Date

CABLE SPECIFICATIONS

Fiber Cable

MULTIMODE

Fiber Optic Cable Recommended:	62.5 / 125 µm multimode fiber	
Optional:	100 / 140 µm multimode fiber	
	85 / 125 µm multimode fiber	
	50 / 125 µm multimode fiber	
SGETF1013	850 nM	
Fiber Optic Transmitter Power:	min: -10.0 dBm	max: -4.0 dBm
Fiber Optic Receiver Sensitivity:	min: -17.0 dBm	max: -0.0 dBm
Link Budget:	7.0 dB	
Typical Maximum Cable Distance*:	220 meters	
SGETF1018	850 nM	
Fiber Optic Transmitter Power:	min: -9.5 dBm	max: -4.0 dBm
Fiber Optic Receiver Sensitivity:	min: -17.0 dBm	max: -0.0 dBm
Link Budget:	7.0 dB	
Typical Maximum Cable Distance*:	220 meters	

SINGLEMODE

Fiber Optic Cable Recommended:	9 µm singlemode fiber	
SGETF1014	1300 nM	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm	max: -3.0 dBm
Link Budget:	7.0 dB	
Typical Maximum Cable Distance*:	5 kilometers	
SGETF1015	1300 nM	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: -0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm	max: -3.0 dBm
Link Budget:	15.0 dB	
Typical Maximum Cable Distance*:	25 kilometers	
SGETF1017	1550 nM	
Fiber-optic Transmitter Power:	min: -3.0 dBm	max: -2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -23.0 dBm	max: -3.0 dBm
Link Budget:	20.0 dB	
Typical Maximum Cable Distance*:	65 kilometers	
SGETF1025	1550 nM	
Fiber-optic Transmitter Power:	min: -9.5 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm	max: -3.0 dBm
Link Budget:	20.0 dB	
Typical Maximum Cable Distance*:	65 kilometers	

*Actual distance dependent upon physical characteristics of network installation.

Copper Cable

Category 5 twisted-pair copper wire is required. Either shielded twisted-pair (STP) or unshielded twisted-pair (UTP) can be used. DO NOT USE FLAT OR SILVER SATIN WIRE.

CATEGORY 5:

Gauge	24 to 22 AWG
Attenuation	22.0 dB /100m @ 100 MHz
Maximum Cable Distance:	100 meters

The Gigabit Ethernet™ network uses all four wire pairs. The active pairs are pins 1 & 2, pins 3 & 6, pins 4 & 5, and pins 7 & 8. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins. NOTE: Straight-through/crossover configuration is automatic.

Install Cable

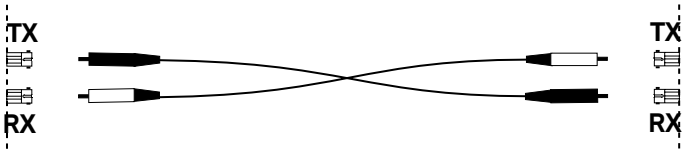
COPPER

NOTE: The SGETF10xx series media converter *auto-negotiation* feature allows the media converter to bring up the copper link in the highest mode possible for ALL the attached network devices.

1. Locate or build 1000BASE-TX-compliant cables with male RJ-45 connectors installed at both ends.
2. Connect RJ-45 connector at one end of cable to media converter RJ-45 port connector.
3. Connect RJ-45 connector at other end of cable to 1000BASE-TX-compliant device RJ-45 port connector.

FIBER

1. Locate or build 1000BASE-SX/LX-compliant fiber cable with male two-stranded TX to RX connectors installed at both ends.



2. Connect cable with connector installed at TX location on media converter to RX location on attached device.
3. Connect cable with connector installed at RX location on media converter to TX location on attached device.

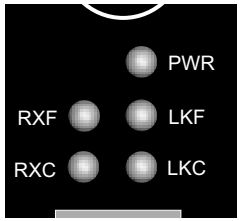
Power the Media Converter

1. Install power adapter cord at back of media converter.
2. Connect power adapter plug to AC power.
3. Verify that media converter is powered by observing illuminated LED(s).

OPERATION

Using Status LEDs

Use the status LEDs to monitor media converter operation in the network.



P(o)W(e)R Steady LED indicates connection to external AC power.

RXF (Fiber receive) Flashing LED indicates reception of data on fiber link.

LKF (Fiber link) Steady LED indicates fiber link connection.

RXC (Copper receive) Flashing LED indicates reception of data on copper link.

LKC (Copper link) Steady LED indicates copper link connection.

FAULT ISOLATION and CORRECTION

If the media converter fails, isolate and correct the fault by determining the answers to the following questions and then taking the indicated action:

1. Is the *P(o)W(e)R* LED on the media converter illuminated?

NO

- Is the power cord properly installed in the media converter and at the external power source?
- Does the external power source provide power?
- Contact Technical Support: (800) 260-1312.

YES

- Proceed to step 2.

2. Is the *LKC* LED on the media converter illuminated?

NO

- Check twisted-pair cables for proper connection.
- Check twisted-pair cables for connection of ***all four pairs***.
- Contact Technical Support: (800) 260-1312.

YES

- Proceed to step 3.

3. Is the *LKF* LED on the media converter illuminated?

NO

- Check fiber cables for proper connection.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on other device.
- Contact Technical Support: (800) 260-1312.

YES

- Proceed to step 4.

4. Is the *RXC* LED on the media converter flashing?

NO

- If there is ***NO*** *ACTIVITY* on the 1000BASE-TX port, proceed to step 5.
- If there is *ACTIVITY* on the 1000BASE-TX port, disconnect and reconnect the 1000BASE-TX cable to restart the initialization process.
- Restart the workstation to restart the initialization process.
- Contact Technical Support: (800) 260-1312.

YES

- Proceed to step 5.

5. Is the *RXF* LED on the media converter flashing?

NO

- If there is ***NO*** *ACTIVITY* on the 1000BASE-SX/LX port, continue below
- If there is *ACTIVITY* on the 1000BASE-SX/LX port, disconnect and reconnect the fiber cable to restart the initialization process.
- Restart the workstation to restart the initialization process.
- Contact Technical Support: (800) 260-1312.

YES

- Contact Technical Support: (800) 260-1312.