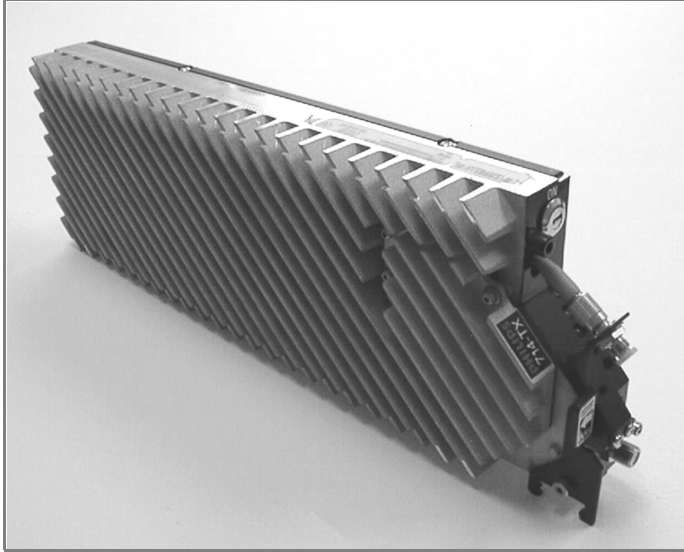


Diamond Transport Headend System



Diamond Transport 1310 nm Transmitters

These Diamond™ Transport transmitters convert RF input to 1310 nm optical output.

- Space-efficient modules occupy one universal slot in Diamond Transport Shelf.
- Modules operating to 200, 750 or 862 MHz support most broadband transport applications.
- Unique thermal design provides superior heat dissipation, increasing the reliability of your system.
- Automatic gain control helps maintain constant RF drive level to laser for consistent performance.

Compact and modular, Philips Diamond Transport 1310 nm broadcast transmitters come in a range of models to meet the forward and return path requirements of your broadband transport system.

- **Forward broadcast transmitters:** 1310 nm broadcast transmitters for 750 MHz and 862 MHz transport systems.
- **Return transmitters:** 1310 nm transmitters with a 5 to 200 MHz return bandwidth.

Each Diamond Transport transmitter uses high-performance optical electronics, making them some of the most reliable in the broadband

transport industry. For maximum design flexibility, Philips Diamond Transport 750 and 862 MHz forward transmitters support a range of channel loading and optical output power requirements.

Plus, both the forward and return broadcast transmitters are available with automatic gain control to maintain a constant RF drive level to the laser.

All Diamond Transport transmitters plug into Philips' 3U-high Diamond Transport Shelf, occupying one universal module slot.

Like other Diamond Transport equipment, Diamond Transport

transmitters are easy to install and maintain. You will make optical connections on the unit's front panel, using a bulkhead that provides access to both sides of the connection for inspection and cleaning. Front panel access to test points makes these modules easy to install and operate.

To monitor transmitter performance with Philips element management system, install an optional network interface card (NIC) on the back of each Diamond Transport Shelf.

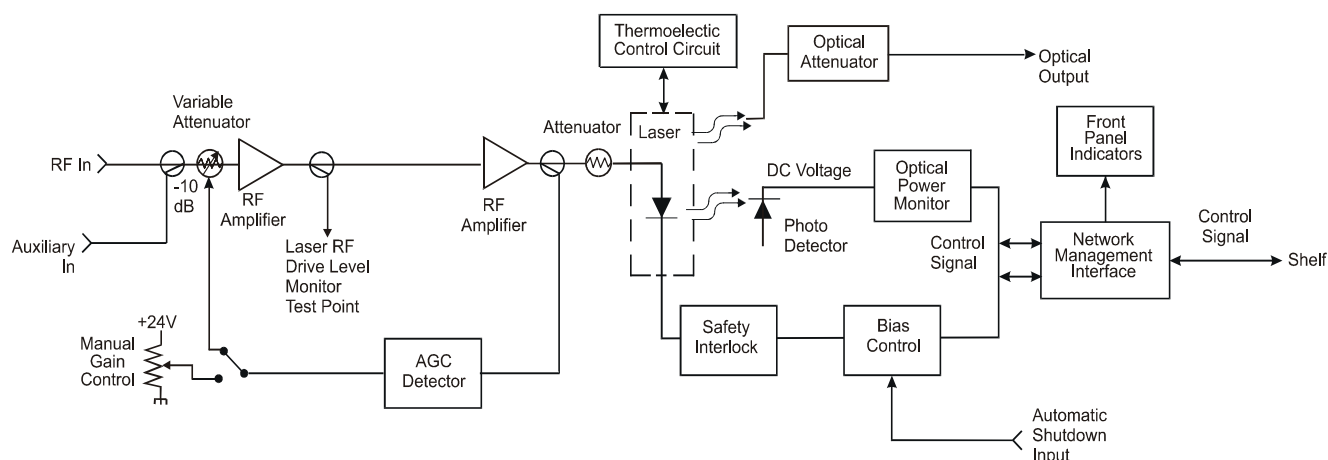


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Diamond Transport Headend System

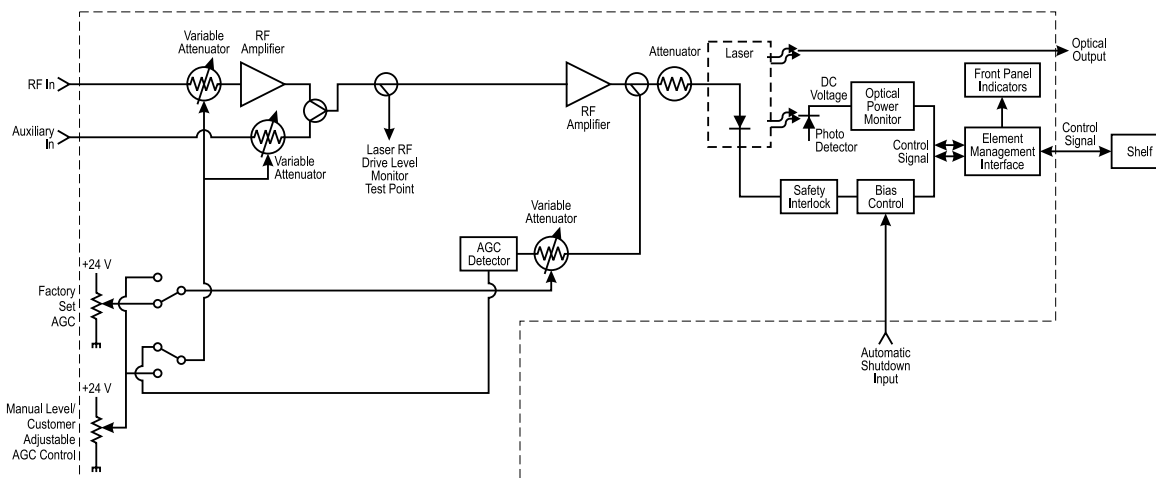
Functional Block Diagrams

200-TX, 700-TX, and 800C-TX Transmitters



200-TX, 700-TX, and 800C-TX series transmitters process signals as shown above.

800E-TX and 800G-TX Transmitters



800E-TX and 800G-TX series transmitters process signals as shown above.

DT-TX series plug-in transmitters convert radio frequency (RF) input into an optical signal and send it to optical receivers in a hybrid fiber-coaxial network.

The **200-TX series** modules transmit return signals while the **700-TX and 800-TX series** modules transmit forward broadcast signals. Letters in the model name help you determine which special features each model offers.

High Isolation (E and G models)

The 800E-TX and 800G-TX series transmitters offer high isolation on the auxiliary RF input to facilitate local insertion of targeted video channels.

Gain Control (Automatic or Manual)

DT-TX series transmitters allow you to control RF drive levels manually or automatically.

In manual mode, you can adjust this level with front panel control. In automatic mode, activated by a front-panel switch, the module will automatically compensate for minor fluctuations in the RF signal to maintain a constant RF drive level to the laser.

When in automatic mode, the 800E-TX and 800G-TX transmitters allow you to optimize the optical modulation index (OMI) setting.

Diamond Transport Headend System

Specifications

700-TX and 800*-TX Series 1310 nm Forward Transmitters

	700-TX	800C-TX	800E-TX	800G-TX	Units
Bandwidth					
Operational	45 to 750	45 to 862	45 to 862	45 to 862	MHz
Analog	45 to 550	45 to 862	45 to 650	45 to 862	MHz
Optical Wavelength (all series)	1310 (± 10)				nm
Optical Output Power (± 0.25 dB)—all series					
705-TX or 805*-TX		3			dBm
706-TX or 806*-TX		4			dBm
707-TX or 807*-TX		5			dBm
709-TX or 809*-TX		6			dBm
710-TX or 810*-TX		7			dBm
711-TX or 811*-TX		8			dBm
712-TX or 812*-TX		9			dBm
713-TX or 813*-TX		10			dBm
714-TX or 814*-TX		11			dBm
715-TX or 815*-TX		12			dBm
Safety Power Shutdown (all series)	Yes				
Input RF Power, Main (± 0.1 dB)					
40 Channels NTSC/42 channels CENELEC	18	18	—	—	dBmV
60 Channels NTSC	16	16	20	20	dBmV
77 Channels NTSC	15	15	19	19	dBmV
94 Channels NTSC	—	—	18	18	dBmV
110 Channels NTSC	—	13	—	—	dBmV
128 Channels NTSC	—	13	—	17	dBmV
Auxiliary Input (± 0.5 dB relative to main)					
550 to 862 MHz for 800C-TX (550 to 750 MHz on 700-TX)	−10	−10	—	—	dBc
45 to 862 MHz for 800E-TX and 800G-TX	—	—	−18	−18	dBc
Isolation, Auxiliary to Main Input	—	—	−32	−32	dBc
Automatic Gain Control (AGC) Input Range	± 3	± 3	± 3	± 3	dB
Response Flatness (maximum)	± 0.75	± 0.75	± 0.75	± 0.75	dB
Response Slope)	0 to +0.5	0 to +0.5	0 to +0.5	0 to +0.5	dB
Input Impedance	75	75	75	75	Ω
Input Return Loss					
45 to 550 MHz	16	16	16	16	dB
550 to 862 MHz (550 to 750 MHz on 700-TX)	15	15	15	15	dB
RF Test Point (± 1.0 dB)	−20	−20	−20	−20	dB

[*continued*](#)

Specifications are subject to change without notice.



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Diamond Transport Headend System

700-TX and 800*-TX Series 1310 nm Forward Transmitters

	700-TX	800C-TX	800E-TX	800G-TX	Units
Carrier-to-Noise Ratio (CNR)—all series	See “Link Budget” starting on page 75.				
Composite Second Order (CSO)—all series	See “Link Budget” starting on page 75.				
Composite Triple Beat (CTB)—all series	See “Link Budget” starting on page 75.				
Powering (all series)	+24, +5, –5				VDC
Power Consumption (maximum)	25	25	25	25	W
Mechanical Specifications					
Optical Connector (all series)	FC/APC, SC/APC, or E2000				
RF Connector (all series)	F-Type				
Dimensions (height x width x depth)—all series ^a	12.1 x 4.6 x 41.3 4.75 x 1.81 x 16.25				cm in.
Weight (all series)	1.6 3.5				kg lb.
Environmental Specifications					
Ambient Temperature ^b	See note ^b				
Thermal Shutdown for Laser	75 167				°C °F

Specifications are subject to change without notice.

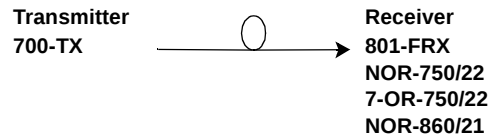
a. Depth includes shield.

b. See [“Diamond Transport System Operating Temperature Range” on page 61](#) of this product catalog.



Diamond Transport Headend System

Link Budget



750 MHz, 77 NTSC Channels

	705-TX	706-TX	707-TX	709-TX	710-TX	711-TX	712-TX	713-TX	714-TX	715-TX
Optical Output Power (dBm)	3	4	5	6	7	8	9	10	11	12
Fiber Length (km)	6	10	10	15	15	15	15	15	20	20
Optical Loss Budget (dB)	Carrier-to-Noise (in dB) for links carrying 77 NTSC analog channels 45 to 550 MHz plus digital 550 to 750 MHz (10 dB below analog) over a single fiber.									
0	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—
2	54.1	—	—	—	—	—	—	—	—	—
3	53.5	54.1	—	—	—	—	—	—	—	—
4	52.8	53.5	54.1	—	—	—	—	—	—	—
5	52.0	52.8	53.5	54.1	—	—	—	—	—	—
6	51.0	52.0	52.8	53.5	54.1	—	—	—	—	—
7	49.9	51.0	52.0	52.8	53.5	54.1	—	—	—	—
8	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—	—	—
9	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—	—
10	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—
11	—	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1
12	—	—	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5
13	—	—	—	—	47.4	48.7	49.9	51.0	52.0	52.8
14	—	—	—	—	—	47.4	48.7	49.9	51.0	52.0
15	—	—	—	—	—	—	47.4	48.7	49.9	51.0
16	—	—	—	—	—	—	—	47.4	48.7	49.9
17	—	—	—	—	—	—	—	—	47.4	48.7
18	—	—	—	—	—	—	—	—	—	47.4

Specifications are subject to change without notice.

Composite Triple Beat (CTB) is –70 dB typical (all models)

Composite Second Order (CSO) is –65 dB typical (all models)

Notes:

- C/N values shown in **BOLD** are guaranteed. Other numbers are extrapolated and represent typical performance.
- Performance shown is for standard 77 NTSC channel allocation (45 to 550 MHz) operating on a single fiber. For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per NCTA recommendations by standard RF test methods. Performance shown represents typical performance for ≥ 85% of production units tested over Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 2 dB from typical.
- Typical optical input power is –3 dBm for 709-TX through 715-TX series transmitters and –2 dBm for 705-TX through 707-TX series transmitters.
- Performance to a node is specified from the transmitter's RF main input through receiver RF output. In the Diamond Net optical station, this is the NOR module. To determine link performance all the way to the housing outputs, add noise and distortion contributions of additional amplifier stages.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over the full temperature range.



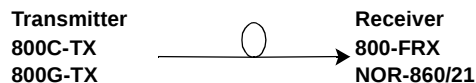
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Diamond Transport Headend System

Link Budget



862 MHz, 128 NTSC Analog Channels

	805C(G)- TX	806C(G)- TX	807C(G)- TX	809C(G)- TX	810C(G)- TX	811C(G)- TX	812C(G)- TX	813C(G)- TX	814C(G)- TX	815C(G)- TX
Optical Output Power (dBm)	3	4	5	6	7	8	9	10	11	12
Fiber Length (km)	6	10	10	15	15	15	15	15	20	20
Optical Loss Budget (dB)	Carrier-to-Noise (in dB) for links carrying 128 NTSC analog channels 45 to 862 MHz over a single fiber.									
0	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—
2	51.4	—	—	—	—	—	—	—	—	—
3	50.8	51.4	—	—	—	—	—	—	—	—
4	50.1	50.8	51.4	—	—	—	—	—	—	—
5	49.3	50.1	50.8	51.4	—	—	—	—	—	—
6	48.3	49.3	50.1	50.8	51.4	—	—	—	—	—
7	47.2	48.3	49.3	50.1	50.8	51.4	—	—	—	—
8	46.0	47.2	48.3	49.3	50.1	50.8	51.4	—	—	—
9	44.7	46.0	47.2	48.3	49.3	50.1	50.8	51.4	—	—
10	—	44.7	46.0	47.2	48.3	49.3	50.1	50.8	51.4	—
11	—	—	44.7	46.0	47.2	48.3	49.3	50.1	50.8	51.4
12	—	—	—	44.7	46.0	47.2	48.3	49.3	50.1	50.8
13	—	—	—	—	44.7	46.0	47.2	48.3	49.3	50.1
14	—	—	—	—	—	44.7	46.0	47.2	48.3	49.3
15	—	—	—	—	—	—	44.7	46.0	47.2	48.3
16	—	—	—	—	—	—	—	44.7	46.0	47.2
17	—	—	—	—	—	—	—	—	44.7	46.0
18	—	—	—	—	—	—	—	—	—	44.7

Specifications are subject to change without notice.

Composite Triple Beat (CTB) is –70 dB typical (all models)

Composite Second Order (CSO) is –65 dB typical (all models)

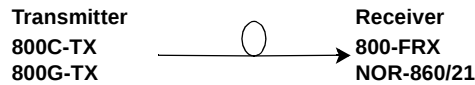
Notes:

- C/N values shown in **BOLD** are guaranteed. Other numbers are extrapolated and represent typical performance.
- Performance shown is for standard 128 NTSC channel allocation (45 to 862 MHz) operating on a single fiber. For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per NCTA recommendations by standard RF test methods. Performance shown represents typical performance for $\geq 85\%$ of production units tested over Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 2 dB from typical.
- Typical optical input power is –3 dBm for 809C- or 809G-TX through 815C- or 815G-TX series transmitters and –2 dBm for 805C- or 805G-TX through 807C- or 807G-TX series transmitters.
- Performance to a node is specified from the transmitter's RF main input through receiver RF output. In the Diamond Net optical station, this is the NOR module. To determine link performance all the way to the housing outputs, add noise and distortion contributions of additional amplifier stages.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over full temperature range.



Diamond Transport Headend System

Link Budget



862 MHz, 42 CENELEC Channels

	805C(G)- TX	806C(G)- TX	807C(G)- TX	809C(G)- TX	810C(G)- TX	811C(G)- TX	812C(G)- TX	813C(G)- TX	814C(G)- TX	815C(G)- TX
Optical Output Power (dBm)	3	4	5	6	7	8	9	10	11	12
Fiber Length (km)	6	10	10	15	15	15	15	15	20	20
Optical Loss Budget (dB)	Carrier-to-Noise (in dB) for links carrying 42 CENELEC analog channels 45 to 862 MHz over a single fiber.									
0	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—
2	55.1	—	—	—	—	—	—	—	—	—
3	54.5	55.1	—	—	—	—	—	—	—	—
4	53.8	54.5	55.1	—	—	—	—	—	—	—
5	53.0	53.8	54.5	55.1	—	—	—	—	—	—
6	52.0	53.0	53.8	54.5	55.1	—	—	—	—	—
7	50.9	52.0	53.0	53.8	54.5	55.1	—	—	—	—
8	49.7	50.9	52.0	53.0	53.8	54.5	55.1	—	—	—
9	48.4	49.7	50.9	52.0	53.0	53.8	54.5	55.1	—	—
10	—	48.4	49.7	50.9	52.0	53.0	53.8	54.5	55.1	—
11	—	—	48.4	49.7	50.9	52.0	53.0	53.8	54.5	55.1
12	—	—	—	48.4	49.7	50.9	52.0	53.0	53.8	54.5
13	—	—	—	—	48.4	49.7	50.9	52.0	53.0	53.8
14	—	—	—	—	—	48.4	49.7	50.9	52.0	53.0
15	—	—	—	—	—	—	48.4	49.7	50.9	52.0
16	—	—	—	—	—	—	—	48.4	49.7	50.9
17	—	—	—	—	—	—	—	—	48.4	49.7
18	—	—	—	—	—	—	—	—	—	48.4

Specifications are subject to change without notice.

Composite Triple Beat (CTB) is –68 dB typical (all models)

Composite Second Order (CSO) is –62 dB typical (all models)

Notes:

- C/N values shown in **BOLD** are guaranteed. Other numbers are extrapolated and represent typical performance.
- Performance shown is for standard 42 CENELEC channel allocation (45 to 862 MHz) operating on a single fiber. For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per CENELEC recommendations by standard RF test methods. Performance shown represents typical performance for ≥ 85% of production units tested over Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 1 dB from typical.
- Typical optical input power is –3 dBm for 809C- or 809G-TX through 815C- or 815G-TX series transmitters and –2 dBm for 805C- or 805G-TX through 807C- or 807G-TX series transmitters.
- Performance to a node is specified from the transmitter's RF main input through receiver RF output. In the Diamond Net optical station, this is the NOR module. To determine link performance all the way to the housing outputs, add noise and distortion contributions of additional amplifier stages.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over full temperature range.



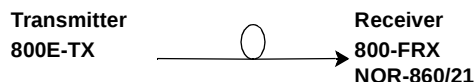
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Diamond Transport Headend System

Link Budget



862 MHz, 94 NTSC Analog Channels

	805E-TX	806E-TX	807E-TX	809E-TX	810E-TX	811E-TX	812E-TX	813E-TX	814E-TX	815E-TX
Optical Output Power (dBm)	3	4	5	6	7	8	9	10	11	12
Fiber Length (km)	6	10	10	15	15	15	15	15	20	20
Optical Loss Budget (dB)	Carrier-to-Noise (in dB) for links carrying 94 NTSC analog channels 45 to 650 MHz plus digital 650 to 862 MHz (10 dB below analog) over a single fiber.									
0	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—
2	53.1	—	—	—	—	—	—	—	—	—
3	52.5	53.1	—	—	—	—	—	—	—	—
4	51.8	52.5	53.1	—	—	—	—	—	—	—
5	51.0	51.8	52.5	53.1	—	—	—	—	—	—
6	50.0	51.0	51.8	52.5	53.1	—	—	—	—	—
7	48.9	50.0	51.0	51.8	52.5	53.1	—	—	—	—
8	47.7	48.9	50.0	51.0	51.8	52.5	53.1	—	—	—
9	46.4	47.7	48.9	50.0	51.0	51.8	52.5	53.1	—	—
10	—	46.4	47.7	48.9	50.0	51.0	51.8	52.5	53.1	—
11	—	—	46.4	47.7	48.9	50.0	51.0	51.8	52.5	53.1
12	—	—	—	46.4	47.7	48.9	50.0	51.0	51.8	52.5
13	—	—	—	—	46.4	47.7	48.9	50.0	51.0	51.8
14	—	—	—	—	—	46.4	47.7	48.9	50.0	51.0
15	—	—	—	—	—	—	46.4	47.7	48.9	50.0
16	—	—	—	—	—	—	—	46.4	47.7	48.9
17	—	—	—	—	—	—	—	—	46.4	47.7
18	—	—	—	—	—	—	—	—	—	46.4

Specifications are subject to change without notice.

Composite Triple Beat (CTB) is –70 dB typical (all models)

Composite Second Order (CSO) is –65 dB typical (all models)

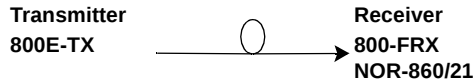
Notes:

- C/N values shown in **BOLD** are guaranteed. Other numbers are extrapolated and represent typical performance.
- Performance shown is for standard 94 NTSC channel allocation (45 to 650 MHz) operating on a single fiber. For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per NTSC recommendations by standard RF test methods. Performance shown represents typical performance for > 85% of production units tested over Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 1 dB from typical.
- Typical optical input power is –3 dBm for 809E-TX through 815E-TX series transmitters and –2 dBm for 805E-TX through 807E-TX series transmitters.
- Performance to a node is specified from the transmitter's RF main input through receiver RF output. In the Diamond Net optical station, this is the NOR module. To determine link performance all the way to the housing outputs, add noise and distortion contributions of additional amplifier stages.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over full temperature range.



Diamond Transport Headend System

Link Budget



862 MHz, 77 NTSC Channels

	805E-TX	806E-TX	807E-TX	809E-TX	810E-TX	811E-TX	812E-TX	813E-TX	814E-TX	815E-TX
Optical Output Power (dBm)	3	4	5	6	7	8	9	10	11	12
Fiber Length (km)	6	10	10	15	15	15	15	15	20	20
Optical Loss Budget (dB)	Carrier-to-Noise (in dB) for links carrying 77 NTSC analog channels 45 to 550 MHz plus digital 550 to 862 MHz (10 dB below analog) over a single fiber.									
0	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—
2	54.1	—	—	—	—	—	—	—	—	—
3	53.5	54.1	—	—	—	—	—	—	—	—
4	52.8	53.5	54.1	—	—	—	—	—	—	—
5	52.0	52.8	53.5	54.1	—	—	—	—	—	—
6	51.0	52.0	52.8	53.5	54.1	—	—	—	—	—
7	49.9	51.0	52.0	52.8	53.5	54.1	—	—	—	—
8	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—	—	—
9	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—	—
10	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1	—
11	—	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5	54.1
12	—	—	—	47.4	48.7	49.9	51.0	52.0	52.8	53.5
13	—	—	—	—	47.4	48.7	49.9	51.0	52.0	52.8
14	—	—	—	—	—	47.4	48.7	49.9	51.0	52.0
15	—	—	—	—	—	—	47.4	48.7	49.9	51.0
16	—	—	—	—	—	—	—	47.4	48.7	49.9
17	—	—	—	—	—	—	—	—	47.4	48.7
18	—	—	—	—	—	—	—	—	—	47.4

Specifications are subject to change without notice.

Composite Triple Beat (CTB) is –70 dB typical (all models)

Composite Second Order (CSO) is –65 dB typical (all models)

Notes:

- C/N values shown in **BOLD** are guaranteed. Other numbers are extrapolated and represent typical performance.
- Performance shown is for standard 77 NTSC channel allocation (45 to 550 MHz) operating on a single fiber. For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per NCTA recommendations by standard RF test methods. Performance shown represents typical performance for > 85% of production units tested over Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 2 dB from typical.
- Typical optical input power is –3 dBm for 809E-TX through 815E-TX series transmitters and –2 dBm for 805E-TX through 807E-TX series transmitters.
- Performance to a node is specified from the transmitter's RF main input through receiver RF output. In the Diamond Net optical station, this is the NOR module. To determine link performance all the way to the housing outputs, add noise and distortion contributions of additional amplifier stages.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over the full temperature range.



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Diamond Transport Headend System

200-TX Series 1310 nm Return Transmitters

	200-TX	Units
Bandwidth	5 to 200	MHz
Optical Wavelength	1310 (± 10)	nm
Optical Output Power		
210-TX	6 (± 0.25)	dBm
212-TX	8 (± 0.25)	dBm
214-TX	10 (± 0.50)	dBm
Safety Power Shutdown	Yes	
Input RF Power, Main (20 channels)	18 (± 0.1 dB)	dBmV
Input RF Level, Auxiliary (± 0.5 dB)	-10	dBmV
Isolation, Auxiliary to Main Input	-10	dBc
Auxiliary Input Bandwidth	5 to 200	MHz
Automatic Gain Control (AGC)—Input Range	± 3	dB
Response Flatness ^a	± 0.75	dB
Response Slope	0 to +0.5	dB
Input Impedance	75	Ω
Input Return Loss: 5 to 200 MHz	16	dB
RF Test Point (± 1.0 dB)	-20	dB
Carrier-to-Noise Ratio (20 NTSC channels)	See “Link Budget” on page 81.	
Composite Second Order (20 NTSC channels)	See “Link Budget” on page 81.	
Composite Triple Beat (20 NTSC channels)	See “Link Budget” on page 81.	
Powering (± 0.5 V)	+24, +5, -5	VDC
Power Consumption (maximum)	25	W
Mechanical Specifications		
Optical Connector	FC/APC, SC/APC	
RF Connector	F-Type	
Dimensions (height x width x depth) ^b	12.1 x 4.6 x 41.3 4.75 x 1.81 x 16.25	cm in.
Weight	1.6 3.5	kg lb.
Environmental Specifications		
Ambient Temperature	See “Diamond Transport System Operating Temperature Range” on page 61.	
Thermal Shutdown for Laser	75 167	$^{\circ}\text{C}$ $^{\circ}\text{F}$

Specifications are subject to change without notice.

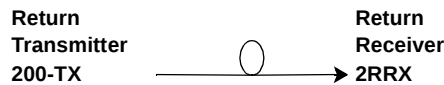
a. When used with a 2RRX return receiver.

b. Depth includes shield.



Diamond Transport Headend System

Link Budget



5 to 200 MHz, 20 NTSC Channels

	210-TX	212-TX	214-TX
Optical Output Power (dB)	6	8	10
Fiber Length (km)	15	20	35
Carrier-to-Noise (in dB) for links carrying 20 analog channels 5 to 200 MHz over a single fiber when served by the listed 2**-TX transmitters			
Optical Loss Budget (dB)			
9	52	—	—
10	51	—	—
11	50	52	—
12	49	51	—
13	48	50	52
14	—	49	51
15	—	48	50
16	—	—	49

Specifications are subject to change without notice.

Notes:

- Performance shown is for 20 NTSC channels (5 to 200 MHz) operating on a single fiber (Corning SMF-28 or equivalent). For other channel allocation schemes, contact your Philips representative.
- Distortions are measured using CW carriers per NCTA recommendations by standard RF test methods. Composite Second Order is –63 dB minimum (all models). Composite Triple Beat is –67 dB minimum (all models).
- Noise is measured in a 4 MHz bandwidth.
- Typical optical input power is –4 dBm for all models.
- Transmitters operate within ambient temperature range of 0 °C to 50 °C (32 °F to 122 °F). Performance shown is 21 °C (70 °F) ambient; subtract 1 dB C/N for performance over full temperature range.



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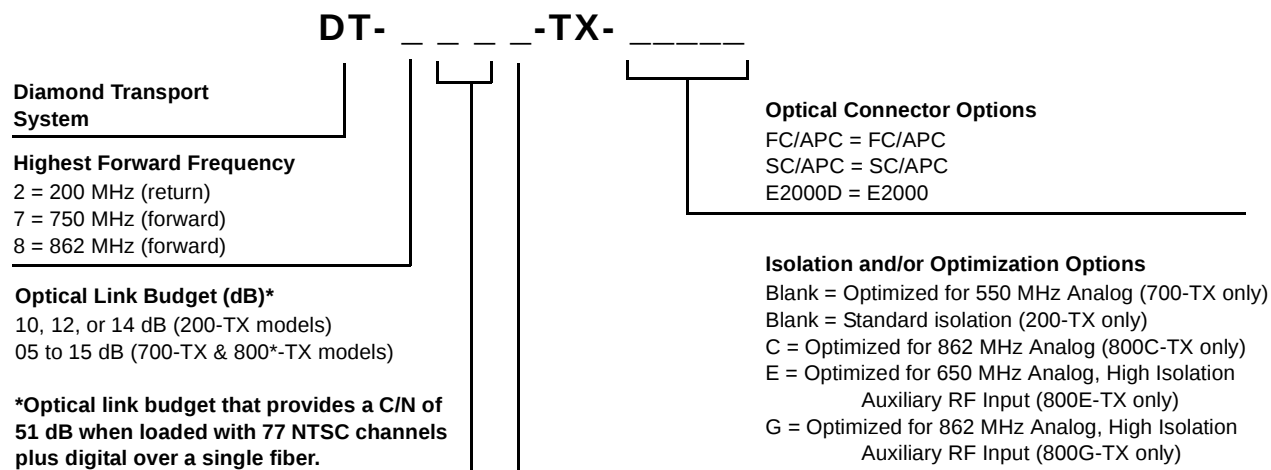
Diamond Transport Headend System

Ordering Information

 To order, call your sales representative. See the Introduction section for a list of [Philips Broadband Networks Representatives](#).

Diamond Transport 1310 nm Transmitters

Philips Diamond Transport transmitters are available in models optimized for specific analog channels loading. Use the key below to interpret model names.



700-TX and 800*-TX Series Forward Transmitters

750 MHz Models	862 MHz Models	Optical Output Power in dBm (± 0.25 dB)
705-TX	805*-TX	3
706-TX	806*-TX	4
707-TX	807*-TX	5
709-TX	809*-TX	6
710-TX	810*-TX	7
711-TX	811*-TX	8
712-TX	812*-TX	9
713-TX	813*-TX	10
714-TX	814*-TX	11
715-TX	815*-TX	12

* = C, E, or G

200-TX Series Return Transmitters

200-TX Models	Optical Output Power in dBm
210-TX	6 (± 0.25 dB)
212-TX	8 (± 0.25 dB)
214-TX	10 (± 0.5 dB)

