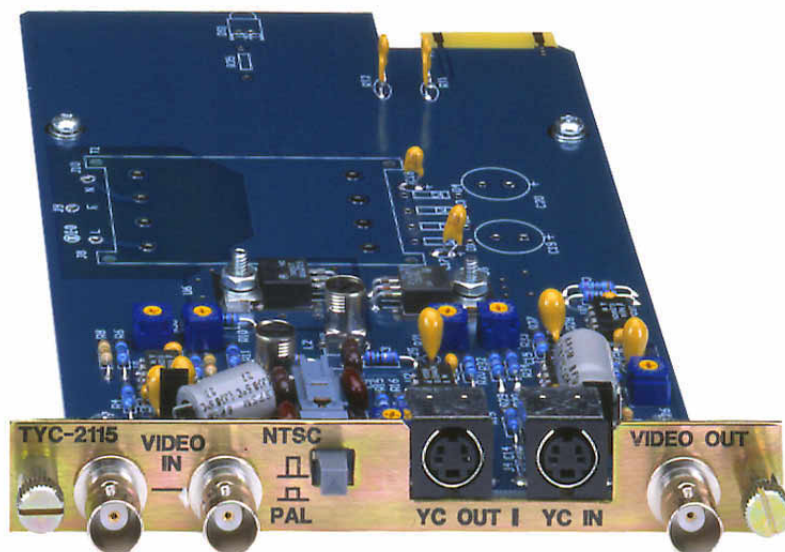


TYC-2115
MODULE

TYC-26
STAND-ALONE

TRANSCODER
COMPOSITE / YC
BI-DIRECTIONAL

INSTRUCTION MANUAL



SIGMA ELECTRONICS, INC.
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COMPOSITE / YC TRANSCODER

GENERAL:

The Sigma Electronics TYC-2115 and TYC-26 transcoders allow conversion between composite video and YC (SVHS) video. The transcoders are designed for applications of either NTSC or PAL video standard. The NTSC/PAL mode switch on the rear of the unit is for the Composite to YC section. The YC to Composite section transcodes NTSC or PAL without a mode selection switch. This allows simultaneous transcoding of NTSC and PAL video in the two sections of these transcoders.

The TYC-2115 is a single card slot module which is compatible with any of the 2100 Series mounting frames. This module can be combined with other 2100 Series modules to form a custom system solution or as an add-on to a pre-existing 2100 Series system.

The TYC-26 is a stand-alone configuration. The stand-alone unit is a desktop box which also allows for rack mounting with an optional rack mount kit, RMK-26. This 1RU model provides the same transcoding performance as the TYC-2115 with a wide voltage range power supply.

A five year warranty provides assurance of low long term operating cost. The 2100 Series modular designs provide solutions to diverse applications and offer reconfiguration to meet future requirements.

POWER:

TYC-2115: This model operates from bus voltages of unregulated +20 VDC and -20 VDC. The voltages are supplied by the Sigma frame / power supply. The module regulates the bus voltages to +5 VDC via regulator U5 and -5 VDC via regulator U6. Circuit protection is provided by RT1 and RT2. These PTC Thermistors (Positive Temperature Coefficient Thermal Resistors) serve as permanent, self resetting, fuse devices. In the event of excessive current draw, on either of the bus lines, the PTC on the line will open. Upon correction of the fault, the PTC Thermistor will cool to an operational temperature and reset.

TYC-26: This model operates from line voltage via the line cord provided. The module has a power transformer which is rectified by the bridge made up of D1, D2, D3 and D4. The bridge supplies the regulators as mentioned above. An external fuse is provided for over current protection.

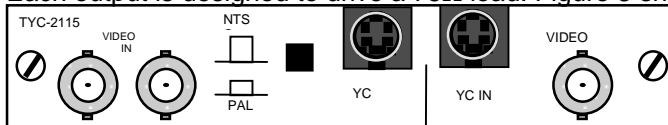
FRAMES:

The TYC-2115 module can reside in any of four (4) different frames. The TYC-26 is a Stand-Alone box. If the TYC-2115 module is purchased as a component of a system, please refer to the SERIES 2100 FRAMES Instruction Manual. If the module was purchased separately, a preexisting frame must be present. Sigma would like to emphasize the flexibility of the Series 2100 family of modules for system solutions within the Series 2100 frames.

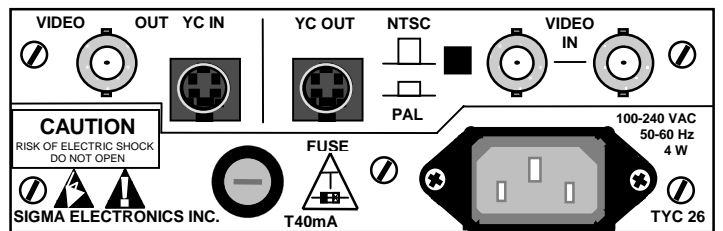
- ◆ The SS-2100-2 frame is designed for desk-top applications of the TYC-2115. This frame provides two (2) card slots. An optional tray (RMT-2100-2A) is available for rack installations.
- ◆ The SS-2100-6 frame is designed for 19 inch EIA rack installations. It provides six (6) slots for modules in 1 RU.
- ◆ The SS-2100-12+ frame provides a redundant power supply in a 3 RU frame for 19 inch EIA rack installations. This frame has thirteen (13) slot positions for modules.
- ◆ The SS-2100-16+ frame is also available for installations in a 19 inch EIA rack. This frame provides seventeen (17) slots for module within 3 RU.

CONNECTIONS:

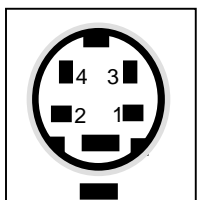
The rear panel indicates the function of each BNC and 4 pin connector. The TYC-2115 is shown in figure 1 and the TYC-26 is shown in figure 2. The composite video input is a looping configuration which requires a 75Ω termination. Each output is designed to drive a 75Ω load. Figure 3 shows the YC 4 pin connector layout.



TYC-2115 REAR PANEL
Figure 1



TYC-26 REAR PANEL
Figure 2



Panel Rear View
Figure 3

Pin #	Designation
1	Luminance Ground
2	Chroma Ground
3	Luminance
4	Chroma

COMPOSITE / YC TRANSCODER

CONFIGURATION:

The units are factory adjusted for typical applications. If the unit requires special setup, the following adjustments and jumpers are provided.

Composite to YC Circuit

J6: Input Coupling. Default = AC, Position 2&3.
Optional DC = Position 1&2.
L1: Residual subcarrier adjust (see R36).
L2: Chroma peak adjust (see R9)
R9: Chroma peak gain (see L2).
R14: ... Luminance Gain.
R21: ... Chroma Gain.
R36: ... Subcarrier Notch Filter adjust (see L1).
S1: NTSC / PAL Switch. Out = NTSC, In = PAL.

YC to Composite Circuit

C26: ... Frequency Response
J7: Input Coupling. Default = AC, Position 2&3.
Optional DC = Position 1&2.
R26: ... Luminance Gain.
R33: ... Chroma Gain.

SPECIFICATIONS:

Applies to TYC-2115 and TYC-26 except as noted:

COMPOSITE TO YC VIDEO:

Input: 1, Looping, Composite
Input Impedance: High Z
Input Return Loss: >30dB to 5 MHz
Output: 1, YC
Input to Output Gain: Set for Unity \pm 0.5%
Hum and Noise (YorC): <0.2 mV rms
Differential Phase: <0.2° @ 3.58 MHz C channel
Differential Gain: <0.2% @ 3.58 MHz C channel
All Linear Distortions: <1%

YC TO COMPOSITE VIDEO:

Input: 1, YC
Input Impedance: 75 Ω , terminated
Input Return Loss: >35dB to 5 MHz
Output: 1, Composite
Input to Output Gain: Set for Unity \pm 0.5%
Hum and Noise (YorC): <0.2 mV rms
Differential Phase: <0.2° @ 3.58 MHz
Differential Gain: <0.2% @ 3.58 MHz
All Linear Distortions: <0.5%

POWER:

TYC-2115 Provided by Sigma modular frame.
TYC-26
Voltage: 100 to 240 VAC (-10%,+6%)
Line Frequency: 50/60 Hz. (\pm 5%)
Consumption: 4 Watts, typical
8 Watts, maximum

MECHANICAL:

TYC-2115
Dimensions: 1 Card Slot required per module
Weight: 1 lb. (0.45 kg)
Shipping Weight: 2 lb. (0.9 kg)
Connectors: Composite Video; BNC
YC Video; 4 Pin Miniature Circular
Power; Card Edge Connector
TYC-26
Dimensions: 1.75" H x 5.5" W x 8.5" D
(44.5 x 140 x 216 mm)
Weight: 2.5 lb. (1.2 kg)
Shipping Weight: 3.0 lb. (1.4 kg)
Connectors: Composite Video; BNC
YC Video; 4 Pin Miniature Circular
Power; IEC-320 includes cord

TECHNICAL MANUAL: A manual including schematics and service information is available upon request.

All specifications, drawings, dimensions, weights and other details are subject to change without notification. Information is intended to give a general performance and operation guideline of the product.

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