

**GVN 53 SERIES
PRODUCT SPECIFICATIONS - 4/12/07**



The GVN 53 series products are the next generation “black box” models in GARMIN’s Vehicle Navigation series. The GVN 53 is designed to interface with an existing display in a vehicle. It is customizable with different audio/video and input/output configurations for specific OEMs.

The main updates from GVN52 are:

- 1) High sensitivity GPS
- 2) Simultaneous RGB and Composite video output option.

Below are some customizable options. The best video quality is available with analog RGB video.

Maps	Video	Dead Reckoning	TTS	RF Remote	Serial Interface	Line Level Audio	5V Speaker Level Audio	Mute	Park Brake	GXM30 capable	GTM10 capable	Manuals
Preprogrammed in unit or on SD card	Analog RGB, NTSC composite, or both	No	Yes	Yes or No	Yes or No	Stereo or Mono	Yes or No	Yes or No	Yes or No	Yes or No	Yes or No	Translated into multiple languages

GENERAL SPECIFICATIONS

Operating Temperature: -15C to 70C
 Storage Temperature: -40C to 85C
 Operating Voltage: 9.5V-25V (Note: Designed to operate over 40V continuously)
 Current Consumption: 0.12A typical at 13V (Max 1.0 A at 13V)
 ACC off Current: 70uA typical at 13V
 Height: 30 mm
 Width: 120 mm base (100 mm nominal)
 Length: 117 mm
 Weight: 157 g

The unit is not waterproof.

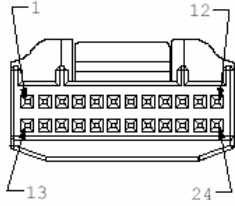
SIGNAL PINOUT

Note: Exact configuration depends on OEM requirements. Features not desired are not populated and those signals are not used.

J600 Main			
Pin	Signal	Function	Note
13	Composite Video NTSC (PAL optional)	Composite Video Output	Output: NTSC, 1Vpp ±10%, AC coupled, 75Ω external termination
1	Composite Video Ground	Video Ground	
14	RGB Video Ground	Video Ground	
2	Video Blue	Blue color output	Output: 0.7Vpp±10%, AC coupled, 75Ω external termination
15	Video Green	Green color output	Output: 0.7Vpp±10%, AC coupled, 75Ω external termination
3	Video Red	Red color output	Output: 0.7Vpp±10%, AC coupled, 75Ω external termination
16	Serial RX	RX data Data → GVN53	Input: 0~5V TTL, 115.2kbps max V(input high) min= 3.5V V(input low) max = 0.7V
4	Video Sync	RGB composite sync	Output: 0~3.3V TTL, V(output high) min=0.9V V(output low) max = 0.4V 1V typical into 75Ω external termination
17	Digital Ground	Digital Ground	
5	Serial TX	TX data GVN53 →Data	Output: 0~5V TTL, 115.2kbps max V(ouput high) min= 3.5V V(output low) max = 0.7V
18	IR remote data in	Transceiver NEC data at ~1.4kHz	Input: 0~3.3V or 0~5V TTL, 115.2kbps max V(input high) min= 2.0V V(input low) max = 0.3V
6	Audio R	Line level right audio output	Output: 1.0Vrms, 10KΩ internal termination, Adjustable with volume control
19	Audio Ground	Audio Ground	
7	Audio L	Line level left audio output	Output: 1.0Vrms, 10KΩ internal termination, Adjustable with volume control
20	Video Active	Signal indicating that GPS needs the display	Output: Open Collector Requires 10K ~ 100KΩ external pullup
8	Mute	Audio mute output	Output: Open Collector Requires 10K ~ 100KΩ external pullup
21	Speaker +	Amplified audio speaker +	Output: 2.5W max, minimum 4Ω speaker
9	Speaker -	Amplified audio speaker -	Output: 2.5W max, minimum 4Ω speaker
22	Not Used		
10	Park Brake Sensor	Park Brake On/Off	Input: Disengaged: floating, 100KΩ internal pullup Engaged: grounded, V(input low) max =0.7V
23	Not Used		
11	Power Ground	Power Ground	
24	Ignition Accessories Power (ACC)	12V switched Power	Input: 2A Fused switched power On: 9.5~25V <1mA @13V Off: V(input low) max = 2.0V * Designed to run at 40V DC
12	Battery Power	12V constant power	Input: 2A Fused main power 9.5~25V 120mA typical @13V Clock backup power 9.5~25V 70uA typical @13V *Designed to run at 40V DC

MATING CONNECTOR

24 Pin Plug: AMP 1318917 (or equivalent)
Contact Pins: AMP 1123343 (or equivalent)



NAVIGATION SPECIFICATIONS

Receiver: SiRF Star III high-sensitivity GPS receiver
Receiving frequency: 1575.42MHz (C/A code)
Acquisition Times Cold: < 38 sec
Factory Reset: < 45 sec
*On average for a stationary receiver with a clear view of the sky
Update Rate: 1/second, continuous
Accuracy: Position: < 10 meters, typical
Velocity: 0.05 meter/sec RMS
Positioning Method: GPS
Antenna: External 3.3V GPS Antenna - requires 3" metal plate behind antenna

GVN 53 INCLUDES

- City Navigator data – full coverage, pre-programmed maps internal to unit (not on SD card)
- Text-to-speech, including turn-by-turn guidance with street names
- External GPS antenna and ground plane magnet mount
- GARMIN RF remote (does not require line of sight like IR remote)
- Owners manual and installation guide
- Wire harness to connect to vehicle
- 4 mounting screws
- Hook and loop fasteners (similar to Velcro®)
- Compatible with GTM 10 - TMC traffic receiver
- Compatible with GXM 30 – XM traffic and data receiver

MAP UPDATES

Map updates are typically available once per year and are available on a pre-programmed SD card.